



## SUBMISSION REPORT - PLACE

**TITLE:** KITJIGATTALIK – THE RAMAH CHERT QUARRIES  
**AUTHOR:** Marianne Stopp, Cultural Sciences Branch, Parks Canada

### 1. IDENTIFICATION OF PLACE:

**a) Proposed Name of Place:**  
kitjigattalik – the Ramah Chert Quarries<sup>1</sup>

**b) Also known as:**  
n.a.

**c) Significant date(s):**  
5,000 years ago to 600 years ago

**d) Address/Location:**  
Torngat Mountains National Park of Canada, Newfoundland  
and Labrador

**e) Category of Property:**  
Archaeological sites

**f) Components of Property:**

The nomination comprises three separate polygonal areas named Locus 1, Locus 2, and Locus 3 straddling both shores of Ramah Bay in Torngat Mountains National Park, in northernmost Labrador. The loci represent outcroppings of a unique type of stone known as Ramah chert. Each locus also contains evidence of early quarrying in the form of ancient tailings, camp sites, and extensive archaeological distributions of cultural material that include quarrying tools such as hammerstones. There is also evidence of tool production in the form of Ramah chert cores, pre-forms or tool blanks, flaking debris, and finished tools.

**g) Boundaries & Area of Site Proposed for Designation:**

<b>Area (m<sup>2</sup>) :</b> Locus 1: 523.0 Locus 2: 225.9 Locus 3: 173.7
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<sup>1</sup> Translated, “kitjigattalik” means “place where there is chert.” This name was chosen by the Co-Management Board (CMB) of Torngat Mountains National Park in 2012 (CMB Minutes, 29 July 2012)). The lower case is used in the spelling of “kitjigattalik,” conforming to Labrador Inuktitut rules of pronunciation wherein a small k is pronounced as in “kite” and a capitalized K has an “h” pronunciation.

“Chert” is a type of rock made up of mostly silica. Cherts of many colours and qualities are found all over the world and were used by ancient peoples for making tools. It is very hard and can be shaped by knocking off flakes. It is particularly useful for cutting tools because it maintains a sharp edge. Ramah chert is among the best quality cherts found in North America.

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***h) Designer/Builder:***

n.a.

***i) Previous Documentation on File:***

n.a.

***j) Theme(s)/Priorities:***

Thematic framework: Peopling the Land; Developing Economies

Strategic Priority: Commemoration of Aboriginal History

## **2. PARTIES INVOLVED**

***a) Owner(s):***

Federal Government: Torngat Mountains National Park became a park reserve in 2005 with the legislation that gave effect to the *Labrador Inuit Land Claims Agreement*. Because part of the park straddles the provincial boundary with Quebec, national park status came into effect with the *Nunavik Inuit Land Claims Agreement* in 2008. The park is managed by a seven member co-operative management board of Inuit from Parks Canada, Nunatsiavut Government, Makivik Corporation (representing Nunavik Government, QC), and an independent chair appointed jointly by all three parties. The Co-Management Board advises the federal Minister of Environment on all matters related to park management.<sup>2</sup>

***b) Place Submitted By/Purpose:***

Nunatsiavut Government, Nain, NL: nomination compiled jointly by Torngâsok Cultural Centre (J. Brake), Avataq Cultural Institute (P. Desrosiers), and Parks Canada, Cultural Sciences Branch (J. Curtis)

Letters of support are on file from:

- Parks Canada (M. Kent, Acting Superintendent, Western Newfoundland and Labrador)
- Torngat Mountains National Park of Canada Cooperative Management Board (J. Igloriorte, Chair)
- Avataq Cultural Institute (C. Arngak, President)

## **3. DESCRIPTION**

***a) Setting and Site Resources:***

The geological formation containing the Ramah chert outcrops is part of a north-south trending deposit exposed for 75 km between Nachvak Fiord southward to Saglek Bay and is known as the Nullataktok Formation. The three prehistoric quarry locales, Locus 1, Locus 2, and Locus 3, are found in a 40 km long stretch in the north and central part of a continuous geological bed known as the Ramah Group (Figures 1,

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<sup>2</sup> Torngat Mountains National Park of Canada, Park Management, at <http://www.pc.gc.ca/eng/pn-np/nl/torngats/plan.aspx> (accessed 1 November 2013). This research benefited from the generous and knowledgeable input of (in alphabetical order): A.L. Burke, Université de Montréal (external review); Jenneth Curtis, Parks Canada; Donalee Deck, Parks Canada; David Morrison, Canadian Museum of History (external review); Judy Rowell, Torngat Mountains National Park; and Sharon Thomson, Parks Canada.

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2, and 3). The loci are confined to the eastern edge of the Ramah Group and close to the coastline. The chert layer is at times 4.5 m thick, is readily accessible in places but elsewhere the outcrops are at high elevation. The continually eroding talus slopes bring sizeable pieces of chert to their bases, which can easily be collected.

Locus 1 on the north side of Ramah Bay lies within a dramatic bowl, also known as a glacial cirque, at the head of a valley. Hilda Creek creates a route into the cirque, which is bordered by a band of striking reddish, iron-rich rocks. Three quarry areas have been identified here named Ramah Bay-1, Ramah Bay-2, and Ramah Bay-3. Also recorded are five areas where tool manufacturing took place, and two other archaeological sites with stone features.

Locus 2 is on the southern shore of Ramah Bay, and comprises a broad valley with a view towards Locus 1. Overlooking the valley is a large quarry area known as the Shale Bay Quarry and along the coast are two tool manufacturing areas, one of them with recognizable Dorset objects.

Locus 3 is the furthest south, at the Little Ramah Bay Narrows. Here the chert outcrop is high above the shoreline in a steep ridge and access to the chert is gained by collecting cobbles from talus slope deposits. One extensive quarry site was recorded here known as Little Ramah Narrows-6 as well as four tool manufacture areas with Dorset artifacts, all situated close to the shore of the narrows.

Table 1 provides a complete listing of the archaeological sites recorded in each of the loci in this nomination. Site information came from Parks Canada site record forms (for Locus 2 and Locus 3) as well as a detailed 90-page report on the archaeological and geological resources of all sites in Locus 1 and of the Locus 2 quarry.<sup>3</sup>

***b) Determination of Historic Place Boundaries:***

The boundaries of the three loci forming the nomination are demarcated on the orthophoto of Figure 3 and described below. Each locus is anchored to a central latitude/longitude reading and includes the confirmed locations of archaeologically documented cultural material in association with, or in the vicinity of, quarried Ramah chert outcrops. There are many outcrop locations of Ramah chert in the Nullataktok Formation, but the nominated loci are distinguishable as areas of human activity.<sup>4</sup>

**Locus 1** (centre at lat. N58° 54' 34" / long. W63° 12' 45"): Beginning at its southwest corner, the boundary is defined by the high point of the cirque in which chert quarries are located. The boundary follows the natural contour of the top of the cirque northwards of identified archaeological sites. It then continues east across the valley to the ridge-top before heading southeast to the coast. Along its eastern edge, the boundary follows the coast southwards to include related archaeological sites, until it meets the southernmost boundary line which runs in an east-west direction towards the southwest corner at the high point of the cirque.

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<sup>3</sup> J. Curtis, J. Brake, P.M. Desrosiers, and A.L. Burke, TMNPR-2009-3232, *Ramah Bay Quarry Archaeological Research Project Permit Report* (2010). On file, Parks Canada.

<sup>4</sup> J. Curtis, Cultural Sciences Branch, Parks Canada, e-mail of 21 October 2013.

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**Locus 2** (centre at lat. N58° 50' 09" / long. W63° 12' 45"): The boundary for this locus starts at the southwest corner of Shale Bay, on the south side of the mouth of Ramah Bay. It heads inland and southward following the east bank of a stream to an outcrop where Ramah chert is exposed near the top of the slope. The boundary then follows the contour around the top of the ridge continuing south. It heads east to a ridge that bounds the valley where the quarry area, known as the Shale Bay Quarry, is located. The boundary follows the ridge north to the coast where it follows the coast westward to the southwest corner of Shale Bay.

**Locus 3** (centre at lat. N58° 48' 35" / long. W63° 10' 54"): This locus is on the west side of the narrows in Little Ramah Bay. The boundary begins at an unnamed cove at the northwest end of the narrows and extends directly west to the top of the ridge overlooking the Nullataktok Formation. It follows the top of the ridge southwards, turning east to meet with the coast at the narrows and immediately south of the archaeological site known as 240A-Little Ramah Narrows 6. The boundary follows the coastline north to the unnamed cove at the northwest end of the narrows.

#### 4. JUSTIFICATION

***a) Applicable HSMBC Criteria/Guidelines:***

This submission report is prepared for the HSMBC under Criteria 1(a) and 1(b) and the Specific Guidelines (3.4) for archaeological sites that recommend that a declaration of national significance be based on one or more of the following: a) substantive evidence that a particular site is unique, or b) that it satisfactorily represents a particular culture, or a specific phase in the development of a particular cultural sequence, or c) that it is a good typical example, or d) that it otherwise conforms to general Board guidelines for the selection of historic sites for national recognition.

***b) Historic Values of the Place:***

The nominated place of “kitjigattalik-Ramah Chert Quarries” is the source of the most widely traded and symbolically imbued toolstone<sup>5</sup> known in the Canadian Northeast (Figure 4). The cultures who used Ramah chert between 5,000 and 600 years ago were all highly mobile hunter-gatherers who hunted, fished, and gathered foods across large expanses of coast and interior landscapes, moved according to the seasons to different places and into different types of homes, and held a deep knowledge of their environment that included where to find sources of good stones for making tools. Beginning with the first known humans in northern Labrador 5,000 years ago, Ramah chert was prized by a succession of cultures that lived both in the north and also far to the southward. Ramah chert was used for the manufacture of everyday tools but also for ceremonial objects often associated with mortuary, or burial, practices. The importance of the quarries is most clearly revealed, when one considers the distances that Ramah chert was exchanged and the many cultures across the Northeast who valued it, at times to the exclusion of all other toolstones. The study of the quarries and of Ramah chert has shown us the complexity of ancient exchange systems and hunter-gatherer economy in the Northeast and the role that exchange must have played in cultural sustainability. We also glimpse long-distance travel capabilities and the inter-connectedness of peoples often assumed to be isolated.

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<sup>5</sup> Toolstone is the term used throughout to refer to stone or “lithic” material that was shaped into tools such as arrowheads, harpoon heads, blades of various uses, scrapers, boring tools, and other objects. Precontact peoples of all periods used many types of toolstones including different cherts, also slates, jasper, nephrites, quartzes and quartzites, among others.

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For the cultures that sought Ramah chert, the distance to travel to the quarries and to transport the material southward once obtained were evidently factors of less importance than its desirability. Artifacts of Ramah chert have been found as far south as New England and as far north as Greenland. There is no comparable distribution of this breadth known in the Northeast for other quarry sites and toolstones. It has been found on archaeological sites of different periods along the entire length of the Labrador coast, in smaller quantities in the interior of Labrador and of Quebec, on the Island of Newfoundland, along the Quebec North Shore, in Ungava Bay, on Southampton Island, Baffin Island, in the Maritimes, and at many sites in New England. One piece has been recovered as far south as Maryland, while the westernmost find was in Peterborough, Ontario, and dates to the Archaic period. Remarkably, one specimen was found at Sandnes in the Western Settlement of Greenland in the early 1930s (Figure 5).<sup>6</sup>

Ramah chert held symbolic meaning at different periods and it is very likely that the outcrops themselves were similarly imbued with meaning. This is reflected in the unusual caches of carefully made Ramah chert objects that have been discovered in southernmost Labrador, which appear to have had no practical purpose. Symbolism is equally evident in the Ramah chert objects found in late Archaic burials in Maine, or, in the Late Dorset period in northern Labrador when Ramah chert became the *only* toolstone used, despite the availability of many other high quality stone types.

The sub-sections that follow begin with an overview of, first, the chronological terms and framework frequently referred to throughout the paper, followed by an overview of the geology of the quarries. These are followed by sub-sections that present the defining elements of “kitjigattalik - the Ramah Chert Quarries” and why they are central to our understanding of hunter-gatherer societies in the Northeast.

#### Overview of the chronological framework

Labrador chronology is complex but for the purposes of this paper it is sufficient to cover the groups known to have used Ramah chert. Labrador was peopled by two genetically distinguishable populations. One was Amerindian with origins in boreal and coastal regions in southern Labrador, the St. Lawrence, and the Maritimes. The other population was Palaeoeskimo<sup>7</sup> who settled the eastern Arctic and Labrador in a series of migration pulses from the western and central Arctic. Each group arrived in Labrador at different times, their presence overlapping in certain regions and at certain periods.

The general time frame for the groups who are known to have used Ramah chert is as follows:

<sup>6</sup> J. Meldgaard, “Fra Brattalid til Vinland,” *Naturens Verden* (1961), 353-358, in W.W. Fitzhugh, *Environmental Archaeology and Cultural Systems in Hamilton Inlet, Labrador: A Survey of the Central Labrador Coast from 3000 B.C. to the Present*, Smithsonian Contributions to Anthropology 16 (Washington, D.C.: Smithsonian Institution Press, 1972), 40; S. Loring, ““And They Took Away the Stones from Ramah’: Lithic Raw Material Sourcing and Eastern Arctic Anthropology,” *Honoring Our Elders: A History of Eastern Arctic Archaeology* (Washington, D.C.: Smithsonian Institution, 2002), 163-185; M.E.C. Lazenby, “Ramah Chert Use Patterns During the Maritime Archaic Period in Labrador,” M.A. thesis, Dept. of Anthropology, Bryn Mawr College (1984), 73.

<sup>7</sup> Sometimes also “Paleoeskimo” or hyphenated, as in “Palaeo-eskimo”

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- 5,000-3,500 years ago: the earliest wave of Amerindian settlement in northern Labrador occurred during the Archaic period and Ramah chert was used throughout this time.<sup>8</sup> Ramah chert has been found at sites of the late Archaic period ranging from northern Labrador to south-central Maine (where the period is known as the Moorehead Phase), and as far south as Rhode Island;
- 4,000-1,000 years ago: Palaeoeskimo peoples came to settle the length of the Labrador coast, also coastal Newfoundland, and the Quebec North Shore. These included the Pre-Dorset (4,000-3,000 years ago), the Groswater (3,000-2,000 years ago), and the Dorset (2,500-1,000 years ago). From their earliest arrival in Labrador, the Palaeoeskimo made Ramah Bay one of their settlement areas, possibly controlling access to the outcrops;
- 1,800-450 years ago: A significant wave of Amerindian settlement takes place throughout the Labrador peninsula at this time. During this Late Precontact period, Ramah chert is found in trace amounts in the interior but is prevalent at coastal sites and on the Island of Newfoundland. It also continues to appear at sites along the Quebec North Shore, the Maritimes, and in New England.

As the dates show, Palaeoeskimo settlement overlapped with both earlier Archaic peoples and with Late Precontact Amerindian settlement. Notable is that Ramah chert was rarely used during an extensive period of Amerindian occupation of coastal and interior Labrador known as the Intermediate period (3,500 to 2,000 years ago) when local quartzites were preferred. As well, Ramah chert was not used by the ancestors of today's Labrador Inuit, the Thule, who preferred slates and nephrite for their harpoon and spear heads. Very occasionally in northern Labrador, Ramah chert has been found at early Inuit sites but it may have come from older Dorset layers since many Thule/Inuit sites are found in the same places as Dorset camps. In 1916, Geological Survey of Canada geologist A.P. Coleman noted that the Inuit of the Torngat region had once, "made use of three important mineral products for various purposes, cherty quartzite, like that of Ramah, for arrowheads and scrapers, soapstone for lamps and pots, and pyrite for producing fire." Of these, soapstone lamps were still in use at that time, while pyrite had been replaced by matches introduced through trade with the Moravian missions, the Hudson's Bay Company, and private traders, as well as fishermen. He may have seen shaped objects of Ramah chert while in the area and assumed they were Inuit but by the early 20<sup>th</sup> century in Labrador stone had largely been replaced by European metals for making tools.<sup>9</sup>

#### Overview of the Geology of Ramah Bay

Before the establishment of the Moravian mission in 1871, Ramah Bay was known as Nullataktok Bay by the Inuit who lived on the islands and in the many fjords of northeastern Labrador. The first recorded observations of the geology, geomorphology, and flora of Ramah Bay were made in 1811 by the Moravian missionaries B. Kohlmeister and G. Kmoch during an exploratory voyage from Okak to Ungava Bay. They

<sup>8</sup> Archaic peoples, known as the Maritime Archaic, were living in southern Labrador as early as 9,000 years ago but there is no evidence that these earliest settlers used Ramah chert. The oldest known human burial in North America with preserved skeletal material is found at L'Anse Amour, Strait of Belle Isle (NHS, 1978), and dates to this early period, around 7,500 years ago.

<sup>9</sup> A.P. Coleman. *Northeastern Part of Labrador, and New Quebec*, Geological Survey Memoir 124. (Ottawa: Dept. of Mines 1921), 50.

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referred to the place as Nullatartok Bay and also Slate Bay on account of the abundant slates.<sup>10</sup> The first comprehensive geological study and mapping of northeastern Labrador, and of the Ramah Group, was in the early 1970s, by W.C. Morgan of the Canadian Geological Survey whose map is still in use. Until then, the only geological observation of the area had been by R.A. Daly in 1900 and by A.P. Coleman in 1915 and 1916.<sup>11</sup>

The Ramah chert quarries are geologically unique, and are one component of a remarkably well-preserved 2 billion year-old (Proterozoic era) sequence of sedimentary rocks known as the Nullataktok Formation, one of several formations that make up the Ramah Group (Figures 6, 7, 8).<sup>12</sup> The formation is characterized by pyrite-rich slates that are high in graphite, interbedded with sandstones and limestones, and other deposits. The age of the Torngat Mountains as a whole encompasses a remarkable 80% of the earth's geological history. The Ramah Group has the potential to be the type area for understanding ocean chemistry and tectonic conditions of the start of "normal" atmospheric oxygen conditions (known as the Earth System), and in effect the evolution of biological life on earth. The geographic setting of the Ramah chert outcrops contributes to the significance of the place, which is isolated in the extreme and far from the settlement areas of the many ancient cultures who used this material. Some of the outcrops are easily accessible while others are at high elevation. Although Ramah chert can be effortlessly collected in sizeable chunks at the base of talus slopes it is best not to underestimate the effort required to obtain quality pieces; chert found in a talus slope is deteriorated by humidity from snow/rain and freeze-thaw cycles and is generally not as good to use for tools as is chert that is "freshly" removed from the bedrock.<sup>13</sup>

The first reference to a "peculiar light-grey translucent quartzite" was made in 1889 by antiquarian Sir Daniel Wilson who gave reasons for suggesting that its origins were somewhere in northernmost Labrador.<sup>14</sup> By the early 1900s, it was recognized in the collections of a number of archaeological sites in New England. "Labrador stone" was being found in grave contexts in the form of beautifully made stemmed points and other finished objects that archaeologists refer to as blades or bifaces. Harvard's Peabody Museum held collections with Ramah chert objects from both Newfoundland and Maine and, in the late 1920s, anthropologist William Duncan Strong was the first to collect it from sites in northern Labrador, giving credibility to the idea that its origins lay far from southern find-spots.<sup>15</sup>

The mystery of where Ramah chert was to be found was solved in the early 1960s by Dartmouth College archaeologist Elmer Harp. This came about through sample comparisons of his finds from the Strait of Belle

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<sup>10</sup> B. Kohlmeister and G. Kmoch, "Journal of a Voyage from Okkak on the Coast of Labrador, to Ungava Bay, Westward of Cape Chudleigh," *Religion, Society & Culture in Newfoundland and Labrador*, H. Rollmann, editor, <http://www.mun.ca/rels/morav/texts/ungava/chapter4.html>, accessed 15 October 2013.

<sup>11</sup> W.C. Morgan. *Geology of the Precambrian Ramah Group and Basement Rocks in the Nachvak Fiord-Saglek Fiord Area, North Labrador*, Geological Survey Paper 74-54 (Ottawa: Energy, Mines and Resources Canada, 1975); Coleman 1921.

<sup>12</sup> W.C. Morgan. *Map 1469A, Geology, Nachvak Fiord-Ramah Bay* (Ottawa: Natural Resources Canada, 1979), at <http://data.gc.ca/data/en/dataset/fb9430cb-7573-5ae0-8eb7-ad8e21740175>, accessed 1 November 2013; Nomination package (2012), on file, Historic Sites and Monuments Board of Canada Secretariat, Parks Canada.

<sup>13</sup> Nomination package; Information on the quality of talus deposits is from A.L. Burke, Dept. of Archaeology, Université de Montréal (e-mail to author, 20 November 2013).

<sup>14</sup> The earliest reference to Ramah chert in the literature was found by M. McCaffrey (Exec. Dir., Canadian Art Museum Directors' Organization), in Loring 2002, 185.

<sup>15</sup> Loring 2002, 168.

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Isle with those of geologists of the British Newfoundland Exploration Company who had recorded a broad band of this material in the region of Ramah Bay.<sup>16</sup>

### The Significance of Ramah Chert

Ramah chert was the only toolstone of choice for several different culture groups, described below. Its preference has been linked to cultural identity since it cannot be explained by easy availability occurring as it does at the northern extremity of most cultures' settlement range. To reach it required navigation along one of the most dangerous coastlines in Labrador. As well, other types of equally good quality, local toolstone occur throughout the length and breadth of the Labrador peninsula, further emphasising that preference for Ramah chert outweighed strictly practical choices.<sup>17</sup>

One of the reasons for its attraction was undoubtedly its visual appeal. Ramah chert has a distinctive translucent, ice-like appearance (Figure 4). It chiefly ranges in colour from white to grey but can also be blue-grey to charcoal. Yellow and green tones have at times been noted, as have specks of rust due to the iron lenses along fractures throughout the formation. Its distinctiveness has been established through visual comparison with other chert types, through petrographic examination of thin sections, and through geochemical techniques that involve x-ray fluorescence, and neutron activation analyses. It can be segregated from many look-alikes, such as some quartzes, with a measure of certainty. Like many chert sources, it does not have a single geochemical signature, or fingerprint, but several.<sup>18</sup>

### *The importance of the Ramah chert quarries to different culture groups through time*

The idea that certain material objects, styles, or other remains are closely or wholly tied to a particular group, to the extent that they can be used to identify that group, has long been used by archaeologists to distinguish one culture from another. These include, for example, pottery decoration, the shape of stone tools, the technique used to make a stone tool, or an architectural style. Archaeological analysis has suggested that Ramah chert is such a cultural marker, as are the tools made from it during particular periods and by different cultures. Difficult to ascertain, of course, is whether the people who used it also saw it that way. As more analysis is completed, however, it is becoming increasingly apparent that exceptional effort went into acquiring Ramah chert at certain periods, pointing to matters of preference and choice structured by cultural, social, and spiritual practices.<sup>19</sup>

<sup>16</sup> E. Harp, "Evidence of Boreal Archaic Cultures in Southern Labrador and Newfoundland," *National Museum of Canada Bulletin* 193(1), 255-256; Fitzhugh 1972, 42.

<sup>17</sup> Lazenby 1984, 74.

<sup>18</sup> Geochemical methods for establishing the provenance of stone materials found on archaeological sites require samples from quarries. In such studies, isotope ratios and trace element concentrations are the two most common measures relied upon in trying to match archaeological with quarry samples. The first studies to examine Ramah chert provenance were by Lazenby - M.E.C. Lazenby, "Prehistoric Sources of Chert in Northern Labrador: Field Work and Preliminary Analyses," *Arctic* (1980) 33 (3), and, Lazenby 1984; See also, D. LeBlanc and J.-F. Moreau, "Caractérisation géochimique d'artefacts et des sources du quartzite de Mistassini et du chert de Ramah, Québec septentrional," *Ancient Mines and Quarries-A Trans-Atlantic Perspective*, editors M. Brewer-LaPorta, A. L. Burke, D. Field (Oxford: Oxbow Books, 2008), 67-84; Ongoing research on the Ramah chert quarries is by A. L. Burke, Dept. of Archaeology, Université de Montréal.

<sup>19</sup> M. McCaffrey, "Ancient Social Landscapes in the Eastern Subarctic," *Hunter-Gatherer Archaeology as Historical Process*, K.E. Sassaman and D.H. Holly Jr., editors. (Tucson: The University of Arizona Press, 2011), 156.



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The following paragraphs describe the periods and cultures where archaeologists have observed a strong affinity or identification with Ramah chert.<sup>20</sup>

Ramah chert was first discovered and used by the earliest *Archaic period* settlers of northeastern Labrador, beginning 5,000 years ago. Their northern camps in the area of the quarries show a greater use of Ramah chert than contemporary sites further southwards but their main toolstones were actually local quartzites and slates. By the late Archaic, however, a shift occurs to nearly 100% use of Ramah chert for any tools made by the flaking technique both in northern and in southernmost Labrador and this continues for nearly a millennium (slates continued to be used for objects that were made by grinding and polishing, which created a smooth surface). The emphasis on a single material is clearly identifiable in archaeological collections and the significance of this switch to Ramah chert as the dominant material is thought to be tied to ideology and group identity.<sup>21</sup>

From their earliest arrival in northern Labrador 4,000 years ago, *Palaeoeskimo* cultures also used Ramah chert. It was used to make tools throughout the Palaeoeskimo, period, alongside other cherts. During the late Dorset period in northern Labrador, however, Ramah chert use peaks. It became the exclusive choice for flaked stone tools, with nearly 100% use observed on sites. This trend is reflected in late Dorset contexts further southward, with high quantities recorded in western Newfoundland.<sup>22</sup>

Ramah chert use peaked a third time during the *Late Precontact* period, which is considered ancestral to the Innu, Naskapi, and Cree who reside throughout the Labrador-Quebec peninsula today. Sites of this period dating as far back as 1,800 years ago are found in interior Labrador and along the coast from Nain to the Strait of Belle Isle. Sites in the interior are quite different from those on the coast. The former yield small quantities of Ramah chert but its use remains persistent over time.<sup>23</sup> Sites along the coast of Labrador are different, however, and are distinguished by large amounts of Ramah chert, which is used exclusively over all other stone materials.<sup>24</sup>

<sup>20</sup> Unless indicated otherwise, the information in this sub-section is from four key studies: Fitzhugh 1972; Lazenby 1984; S. Loring, "Princes and Princesses of Ragged Fame: Innu Archaeology and Ethnohistory in Labrador," Ph.D. thesis, Dept. of Anthropology, Univ. of Massachusetts (1992); Loring 2002.

<sup>21</sup> The significance of the switch to Ramah chert in the late Archaic has been recently considered in C. Hutchings, "Complexity and Continuity: Labrador Archaic Occupations at Nulliak Cove, Labrador." M.A. thesis, Dept. of Archaeology, Memorial University (2011).

<sup>22</sup> R.J. Anstey, M.A.P. Renouf, "Down the Labrador: Ramah Chert Use at Phillip's Garden, Port au Choix," *The Cultural Landscapes of Port au Choix – Precontact Hunter-Gatherers of Northwestern Newfoundland*. New York: Springer (2011), 189-207; Loring 2002, 172.

<sup>23</sup> McCaffrey 2011, 154; Key research on sites of the Late Precontact Innu period has been completed by G. Samson, "Contributions to the Study of the Mushuau Innuts and Their Territory, Nouveau-Quebec." M.A. Thesis, Laval University; Loring (1992) and (2002).

<sup>24</sup> Sites on the coast often have chunks of chert, and large primary flakes with cortex, indicating that raw material was being brought southwards. This all-Ramah signature along the coast has prompted questions about ethnicity, and whether these sites belong to a different Amerindian group than found in the interior; M. P. Stopp, "FbAx-01: A Daniel Rattle Hearth in Southern Labrador," *Canadian Journal of Archaeology* 32, 96-127.

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These early Amerindian peoples lived in Labrador at the same time as Middle and Late Dorset. Contact between the two has long been assumed (but unequivocal archaeological evidence for contact is lacking)<sup>25</sup> and it has also been assumed that an exchange system existed between the two groups since there is no evidence that Amerindian peoples settled anywhere near Ramah Bay – the northernmost late precontact Amerindian sites are in the Nain Bay region.

In addition to the near-total focus on Ramah chert by the culture groups described above, the discovery of three curious caches in the Strait of Belle Isle region dating to the Late Precontact period seems to be linked to Ramah chert's special value. Each cache consisted of a carefully placed collection of meticulously crafted objects of Ramah chert that were buried together. These objects do not resemble functional/working tools and appear to have had a different purpose. Briefly, the Stubbert cache of 29 large Ramah chert bifaces, which resemble large blades, was discovered in the 1970s in the village of Kegashka on the Quebec North Shore (Figure 9). The Spingle cache was discovered in L'Anse au Clair during gardening expansion in 1990 and consists of nine carefully crafted large and broad bifaces (Figure 10). In 1995, about 90 large Ramah chert pieces were found by a hunting party near Alexis Bay in southern Labrador (Figures 10).<sup>26</sup> The purpose of these pieces, and of their carefully buried manner, remains a mystery.

Ritualized use of Ramah chert has also been noted at a small site excavated in the Lower St. Lawrence, which consisted of bifaces that appear to have been “ritually killed,” or purposely broken, and burned. These pieces, found 1350 km distant from the quarries, are another expression of cultural value that extended beyond practical tool use.<sup>27</sup>

*The use of Ramah Chert in mortuary contexts throughout the Northeast*

Ceremonial or ritual practices are closely tied to culture and cover a wide range of social action. Mortuary practices (that is, practices associated with human burial) are visible examples of the ritual use and cultural value of Ramah chert.

As noted earlier, Ramah chert use peaked during the late Archaic period. At that time, there was an equally marked development of mortuary traditions throughout the Northeast where finished Ramah chert tools, but not flakes or other evidence of production, are found in burial contexts (along with objects of other materials).<sup>28</sup> One of the northernmost of these burial complexes was discovered at Nulliak Cove north of Hebron Fiord in the 1970s. Here, four burial mounds constructed of boulders were discovered, two of which were excavated. One was lined in red ochre and both contained Ramah chert projectile points and mica sheets, among other objects (Figure 11).

<sup>25</sup> P. Plumet, C. Lascombes, V. Elliot, M. Laurent, and A. Delisle, “La Question de la coexistence du Paléoesquimau et de l'Amérindien : recherches dans la région de Blanc-Sablon, Basse-Côte-Nord, Québec.” *Recherches amérindiennes au Québec*, Coll. *Paléo-Québec* 21 (1994); B. Hood, *Towards an Archaeology of the Nain Region, Labrador*, Contributions to Circumpolar Anthropology 7 (Washington: Smithsonian Institution, 2008), 319.

<sup>26</sup> Loring, 2002, 175-6.

<sup>27</sup> A.L. Burke, “Le site CjEd-5: Lieu d'habitation coutoumier et lieu de rituel dans le Bas-Saint-Laurent. *Recherches amérindiennes au Québec* (2006) 36(1), 23-36.

<sup>28</sup> Due to the acidic nature of soils throughout the Northeast, any skeletal material has generally decayed in these early deposits. Burial is suggested by other factors such as presence of red ochre staining, carefully placed artifacts, and an overburden or cover of stones.

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At the same time as the Nulliak burials were created, Archaic peoples elsewhere in the Northeast were also incorporating objects of Ramah chert into their burial, or mortuary, practices. Examples include:<sup>29</sup>

- Late Archaic burials recorded at a place named Rattlers Bight in Hamilton Inlet, 650 kilometres south of the quarries. This small cemetery consisted of nine pit burials painted with red ochre and dated to approximately 4,000-3,700 years ago. Poorly preserved human remains were found in one grave and all contained large chunks of Ramah chert, finished and unfinished implements, as well as sheets of mica and copper pendants. In all but one of the burials, Ramah chert made up 100% of the flaked stone burial objects;
- A burial complex identified at different places in south-central Maine dating to the Moorehead Phase, about 4,500 years ago. Ramah chert has been recovered, albeit in small numbers, almost exclusively from grave locations and not at the living sites of this period. Objects are in the form of carefully fashioned points. These artefacts are considered “a dramatic component of Late Archaic mortuary traditions in Maine,” and were “clearly manufactured in Labrador and traded south in a context that maintains their significant symbolic value and importance.”<sup>30</sup>
- Port aux Choix (NHS, 1970), the well-known Archaic-period cemetery in western Newfoundland, dating to around 3,800 years ago. Although no Ramah chert artifacts were recovered with the approximately 100 burials found here, a cache of 73 finely flaked Ramah chert objects was found in 1946 (during garden preparation) on a beach terrace just below the cemetery.

*The Ramah chert quarries and their ties to ancient, long-distance exchange systems*

The exchange and movement of Ramah chert from the quarries provides the best evidence presently known for the complex and extensive social networks that existed for millennia across the Northern Atlantic Coast and the St. Lawrence Valley.<sup>31</sup> The concept of exchange includes the trade transaction itself as well as communication and social interrelations. Exchange has been identified as “a key process in the creation and circulation of culture itself.”<sup>32</sup> Archaeological study of exchange systems advances understanding of early economies; we learn that exchange systems crosscut kinship, language, and territory, were central to dynamic societies that were far from isolated, and consistently illustrates the complexity of pre-European societies in North America. This is especially evident in the Northeast, where the Ramah chert quarries were the point of origin of a material that held a central role in inter-cultural contact over several millennia and across a wide expanse of territory. The following paragraphs summarise exchange systems during the late Archaic period, during the late Precontact period, and throughout the Palaeoeskimo period.

<sup>29</sup> J. Tuck, *Ancient People of Port aux Choix: The Excavation of an Archaic Indian Cemetery in Newfoundland* (St. John's: Institute of Social and Economic Studies, 1976); Lazenby 1984, 54, 88; W. W. Fitzhugh, “Maritime Archaic Cultures of the Central and Northern Labrador Coast,” *Arctic Anthropology* XV (1978), 61-95; B. Bourque, *Twelve Thousand Years – American Indians in Maine* (Lincoln: University of Nebraska Press, 2001), 51.

<sup>30</sup> Loring, 2002, 171.

<sup>31</sup> A.L. Burke, Dept. of Archaeology, Université de Montréal (e-mail to author, 20 November 2013).

<sup>32</sup> A.S. Agbe-Davies, A.A. Bauer, “Rethinking Trade as a Social Activity: An Introduction,” A.A. Bauer and A.S. Agbe-Davies, editors, *Social Archaeologies of Trade and Exchange: Exploring Relationships Among People, Places, and Things* (Walnut Creek, CA: Left Coast Press, 2010), 19; See also, T.G. Baugh and J.E. Ericson, editors, *Prehistoric Exchange Systems in North America* (New York: Plenum Press, 1994).

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By the late Archaic period in Labrador, quantities of Ramah chert appear at sites far from the quarries. Ramah chert flaking debris is found throughout coastal Labrador, on the Island of Newfoundland, in Quebec, in Nova Scotia, in New Brunswick, and in New England.<sup>33</sup> Finished Ramah chert tools also figured in these exchange systems, as noted above for the Moorehead burials where Ramah chert projectile points identical to types found in Labrador were brought southward for mortuary use.<sup>34</sup> The movement of large quantities of chert from the quarries to the southward, to be passed on to others, was central to social integration and interdependence, fundamental principles of reciprocity that in turn supported cultural continuity.

By the Late Precontact period, exchange systems throughout eastern North American demonstrate remarkable long-distance interconnectedness of cultures. In Labrador, quantities of Ramah chert were again widely transported and exchanged between Amerindian peoples (Figure 12). Flakes from these sites frequently retain cortex (the outside, lesser quality surface of a stone, often quite different in appearance to the inside), which tells us that unfinished pieces of Ramah chert were being moved southwards where they were turned into tools. Ramah chert has been recovered at archaeological sites along the entire length of the Labrador coast, in the interior of the Labrador-Québec peninsula, the Island of Newfoundland, the Maritime Provinces, and in New England. The Greenland object mentioned earlier may also date to this period (Figure 5). The southerly trend of Ramah chert distribution ends in southern New England and the mid-Atlantic states, but not, as archaeologist Stephen Loring points out, “before some surprising manifestations” occur, which include a lance-like biface of Ramah chert found in a cache at the mouth of the Connecticut River alongside twelve large jasper bifaces and several rolled copper beads; single pieces in New Jersey; and a “large, impressive biface” found in Maryland, which is presently the most southerly, confirmed occurrence of Ramah chert in North America, recovered 3,500 km from its source quarries in the Torngat Mountains.<sup>35</sup>

Another sphere of exchange that is less understood may have taken place in Ramah Bay itself. Here, there is good archaeological evidence that as early as 4,000 years ago Palaeoeskimo peoples settled in the bay and remained there until about 1,000 years ago. There is, moreover, little evidence of Archaic or later Precontact Amerindian presence in the vicinity. In other words, while the Palaeoeskimo inhabited the area, there is little evidence to suggest that other, contemporary peoples lived around Ramah Bay. Archaeologists have had to consider how Ramah chert came to be so prevalent on sites well beyond the quarries, when these cultures may not have had direct, easy access to it. Several explanatory models could apply, including the possibility that the Palaeoeskimo did not/could not prevent quarrying by others. Or, that the Palaeoeskimo controlled access to the quarries and traded Ramah chert to others in exchange for southern products. What the archaeology shows, however, is that social systems were in place that allowed for the distribution of Ramah chert, at times in small quantities, and at other periods in quite massive quantities.

**c) Integrity:**

The geographic setting and natural features are in good condition. The cultural features very likely undergo change as slopes shift or erosion occurs. There is nevertheless impressive evidence of human activity at the

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<sup>33</sup> Lazenby, 1984.

<sup>34</sup> Fitzhugh, 1972, 43-44.

<sup>35</sup> Loring, 2002, 179-180.

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quarries. One archaeologist has estimated that in Locus 1 alone, “20 to 40 million pieces of worked chert lie on the cirque floor, along with the evidence of quarrying tools.”<sup>36</sup>

Portions of the outcrop are visible and accessible and their relationship with surrounding geographical features is intact. Erosion and slumping are evident in many places, along shoreline, along slopes, and cultural material is present in stream beds where it is likely moved by water. The formation of talus, primarily shale, may have buried outcrops and cultural material over time. Cultural material is clearly associated with outcrops at quarry sites and the use of chert nodules is evident. Stratified deposits are preserved at Hilda Creek 1, a quarry-related site. The relationships among the sites and between archaeological sites and the geographic setting are evident.

No development has occurred within or adjacent to the proposed place and none is expected as the place is now within the boundaries of Torngat Mountains National Park.<sup>37</sup>

***d) Selection of Name:***

kitjigattalik – the Ramah Chert Quarries

***e) Comparative Context:***

Precontact peoples throughout Canada used a range of local and non-local stone types to produce tools and other objects of material culture. Archaeologists have only a limited understanding of where these materials came from and ancient quarries continue to be discovered. Quarries can be substantial deposits such as the Ramah chert outcrops or, for example, occur as beach cobbles along a shoreline. Chert sources can be difficult to find because they are often in extremely remote locations but also because the natural, weathered surface of unbroken stone – the cortex - has a different appearance than the inner core. In Labrador, the source locations of the many different types of toolstone found on archaeological sites remain unknown.<sup>38</sup> Finding these, and matching quarry locations to artefacts through techniques such as microscopic study of thin sections (petrography), or trace elements (neutron activation, X-ray fluorescence, and other approaches) remain research challenges because a single quarry area rarely has a single, unequivocal geochemical signature, obsidian being the exception (see below). Sourcing studies are nevertheless making great strides in recent years due to improvements in related technologies.

The following sub-section summarises quarries that have been designated as national historic sites. In comparing these to the Ramah chert quarries, it is evident that Ramah chert held a more significant role in early exchange systems. This is in turn followed by an overview of a selection of major but undesignated quarries.

***Designated quarry locations***

The Sheguiandah site (NHS, 1954) on Manitoulin Island, Ontario, served as a source of quartzite for 9,000 years, beginning in the late Palaeoindian period.

<sup>36</sup> R.M. Gramly, “Lithic Source Areas in Northern Labrador,” *Arctic Anthropology* (1978) 15 (2), 36-47.

<sup>37</sup> A pyrite mine operated in Rowsell Harbour about a century ago.

<sup>38</sup> Research pertaining to northern Labrador sourcing includes; Gramly 1978; C. Nagle, “Lithic Raw Materials Procurement and Exchange in Dorset Culture along the Labrador Coast.” Ph.D. thesis, Dept. of Anthropology, Brandeis University.

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The Cummins Precontact site (NHS, 1981) in Thunder Bay, Ontario, was a major quarry throughout the late Palaeoindian period (7,000-3,000 years ago) for a chert known as taconite. There is much evidence of stone tool production but also habitation.

Fleur de Lys Soapstone Quarry (NHS, 1982) at the tip of the Baie Verte Peninsula in western Newfoundland is attributed to Dorset Palaeoeskimo soapstone extraction for pots and lamps.

The Waapushukamikw (NHS, 2008) quartzite quarry, also known as Colline Blanche or the Mistassini quarry, is associated with 4,000 years of Amerindian occupation. It is located in interior Quebec, in the wildlife sanctuary of Lacs Albanel-Mistassini and Waconichi. Mistassini quartzite was used chiefly in interior Quebec, in particular in the central Labrador Trough region. The landscape associated with the quarry holds spiritual significance for today's Mistassini Cree.

*Other quarries not designated by the HSMBC*

Many ancient quarry sites are known in Canada. In Quebec, for instance, there are at least 25 more known quarry sites besides Waapushukamikw, mentioned above.<sup>39</sup> The following is not an exhaustive list but highlights a sample of important, known quarries from parts of the country not covered above. With the Some of these known quarries, such as Mount Edziza, were the source of toolstone that appears across relatively broad regions. None, however, show the range of distribution seen in the Ramah chert quarries, nor the same levels of cultural and symbolic importance.

The site of the Qajartalik Petroglyphs on Qikartaaluk Island, off the mainland shore of Hudson Strait, Nunavik, Quebec, has soapstone outcroppings where vessel removal is evident and over 175 ancient petroglyphs thought to have been created by the Dorset Palaeoeskimo are inventoried. This site was recommended for a submission report to the Board in 2009 and the report is in preliminary stages.

Obsidian, a volcanic glass, is a rare and visually striking toolstone. It was widely traded across the Canadian and American West and Mid-west from sources in Mexico, the American Southwest, the Rocky Mountains, Yukon, and Alaska. Using geochemical analysis, it is possible to make very accurate identification of where obsidian originates, and in this respect obsidian is ideal for tracking early exchange systems. Several obsidian sources quarried by precontact cultures have been found in northwestern Canada. Mount Edziza, located in the northwestern British Columbia above the Stikine River, was an important quarry. Its obsidian has been traced to the Yukon, Alaska, and to northern Alberta at sites that date to as early as 9,000 years ago.<sup>40</sup> Another important obsidian source occurs at Hoodoo Mountain in Kluane National Park, Yukon. Its obsidian has been found at sites in the Yukon, Alaska, northern Alberta, and northern British Columbia.<sup>41</sup>

<sup>39</sup> M. Kolhatkar, « Les Carrières Préhistoriques du Québec. » On file, Ministère de la Culture et des Communications du Québec, 2006.

<sup>40</sup> K.R. Fladmark, *Glass and Ice-The Archaeology of Mt. Edziza* (Burnaby: Dept. of Archaeology, Simon Fraser University, 1985), Publication No. 14.

<sup>41</sup> D. Arthurs, "All that Glitters-The Ancient Obsidian Sites of Hoodoo Mountain, Kluane National Park," at [http://westnet/archaeological\\_services/pdfrepts/All%20That%20Glitters.htm](http://westnet/archaeological_services/pdfrepts/All%20That%20Glitters.htm), accessed 12 November 2013; S. Thompson, Parks Canada, Winnipeg, (e-mail to author, 12 November 2013).

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Quarry of the Ancestors is an extensive orthoquartzite source along the Athabasca River north of Fort McMurray, Alberta. Precontact peoples of northern Alberta and Saskatchewan inhabited this area as early as 9,800 years ago in the wake of receding glaciations. Many archaeological sites throughout the Oil Sands region attest to its use at this early period through to the late precontact period.<sup>42</sup> The largest chert source in Alberta is the Livingstone chert quarries in Crowsnest Pass. Located in a relatively isolated and difficult-to-reach region, this chert was mined as early as 8,000 years ago and quite intensively between 3,000 and 1,500 years ago.<sup>43</sup>

Quartz from the Granville Lake quarries in northern Manitoba was used extensively by early peoples throughout the Churchill River basin, up to at least 200 km away from source. A reliable technique for establishing source provenance for quartz was successfully applied for the first time using samples from these quarries and from archaeological sites.<sup>44</sup>

Cherts quarried from the Onondaga Escarpment of the Niagara Peninsula in southern Ontario and western New York State were quarried as early as the Palaeoindian period, 11,000 years ago and were exchanged throughout the Great Lakes and as far as northern Michigan. Iroquoian peoples interpreted this stone as the blood of Tawiskaron, a legendary being who was killed by his brother.<sup>45</sup>

Finally, numerous small and large quarry locations have been recorded throughout the Maritimes, too many to describe. Among the better known is the site of Davidson Cove, an extensive workshop and source location for chalcedony, located in Scots Bay, Nova Scotia.<sup>46</sup>

## 5. CURRENT STATUS

### *a) Threat(s):*

The probability of illicit present-day quarrying and/or surface collection is high. Cobbles and small pieces of Ramah chert can be picked up quite easily. This poses a serious threat as public awareness of Ramah chert grows with media attention and as visitors come to Torngat Mountains National Park. Unmonitored visits can occur by helicopter or by vessels. It is illegal to collect or remove stones from the park, but the chert's obvious appeal to the ornamentation market should be foreseen and effective preventive measures be considered to monitor access to the quarries.

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<sup>42</sup> S. Robertson, "Quarry of the Ancestors Archaeological Site," at <http://www.thecanadianencyclopedia.com/articles/quarry-of-the-ancestors-archaeological-site>; also <http://www.historicplaces.ca/en/rep-reg/place-lieu.aspx?id=18869>, accessed 12 November 2013.

<sup>43</sup> "Crowsnest Pass Herald, Livingstone Chert Quarries," at <http://passherald.ca/archives/101026/index4.htm>, accessed 12 November 2013.

<sup>44</sup> R. ten Bruggencate, "A Combined Visual-Geochemical Approach to Establishing Provenance for Pegmatite Quartz Artifacts and Application within the Churchill River Basin of Manitoba and Saskatchewan." Ph.D. thesis, Dept. of Anthropology, Univ. of Manitoba, at <http://mspace.lib.umanitoba.ca/jspui/handle/1993/22192>, accessed 12 November 2013.

<sup>45</sup> R.F. Williamson, *Legacy of Stone: Ancient Life on the Niagara Frontier* (Toronto: Eastendbooks, 1998).

<sup>46</sup> M. Deal, "Vignette: Distribution and utilization of Scots Bay chalcedony" (2001), at <http://www.ucs.mun.ca/~mdeal/Anth3291/DavidsonCove.htm>, accessed 8 November 2013.

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There will be a natural inclination for visitors to climb the shale talus slopes. All such attempts will immediately cause environmental change through erosion. Such activity affects cultural materials by moving or burying them.

***b) Other Designations:***

n.a.

***c) Community Value:***

The quarries are an integral part of Torngat Mountains National Park and their heritage value is fully recognized by the park's Co-Management Board, which includes representatives from Labrador Inuit groups and from Inuit of Nunavik.

***d) Proposed Plaque Location:***

The plaque location has yet to be determined.

**6. SUMMARY OF SIGNIFICANCE**

The place known as “kitjigattalik – the Ramah Chert Quarries” is of historical significance because:

- it was actively quarried from 5,000 to 600 years ago for Ramah chert, a visually distinctive and important stone type used by several ancient cultures of the Northeast in the manufacture of tools and other objects of material culture. Ramah chert was the most widely traded toolstone known in the Canadian Northeast and was the basis of long-distance exchange networks that extended throughout easternmost Canada and into New England;
- first discovered by the earliest Archaic settlers of northern Labrador, Ramah chert was the only toolstone of choice at certain periods despite the remote location of the quarries, northern Labrador's forbidding northern coastline, and the availability of a range of other high-quality local stone types. At certain periods it appears to have been linked to cultural identity. This was the case during the late Archaic period in northern Labrador, the late Dorset period in northern Labrador, and throughout the Late Precontact period for Amerindian groups living along the length of the Labrador coast;
- Ramah chert is notably linked to early belief systems and burial practices. Ramah chert objects are found in Archaic burial complexes extending from northern Labrador to New England. It is quite likely that the quarries themselves were similarly symbolically imbued.

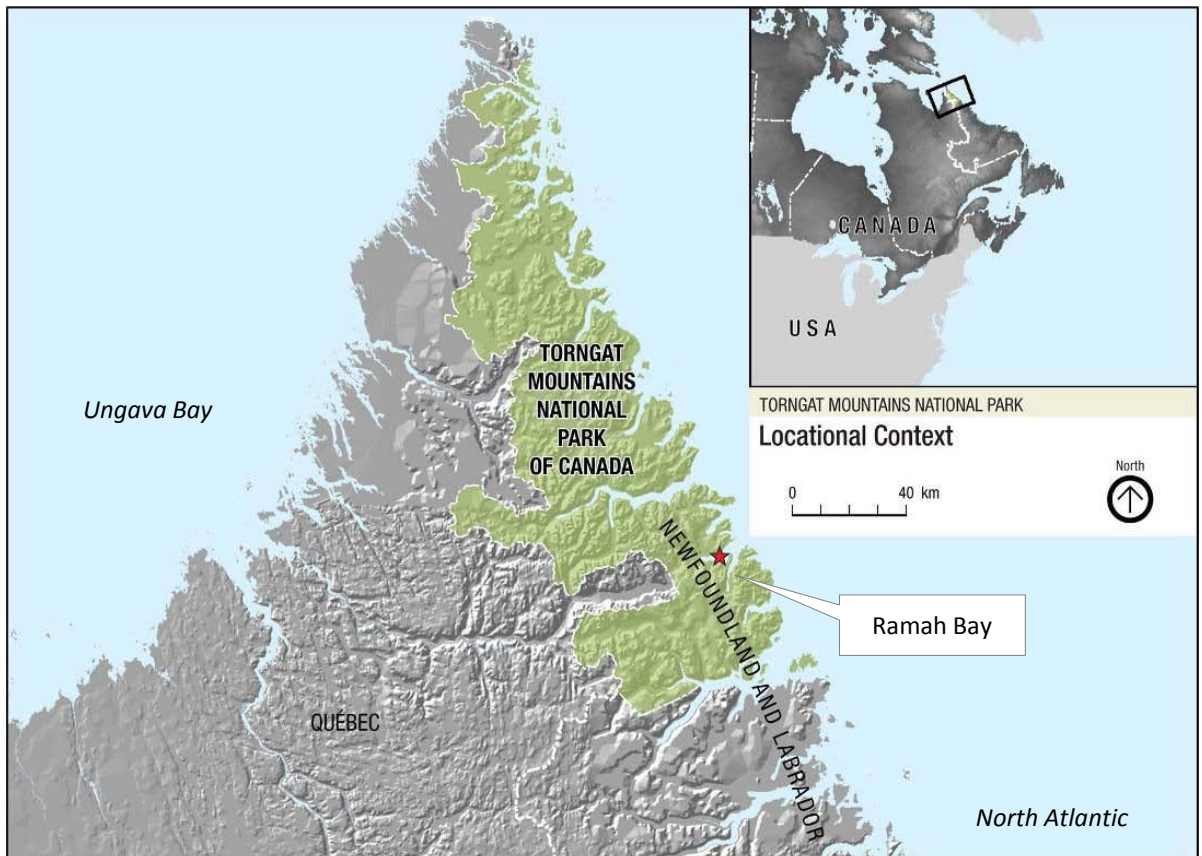


**TITLE:** KITJIGATTALIK – THE RAMAH CHERT QUARRIES

Table 1: Summary of the archaeological sites in Locus 1, Locus 2, and Locus 3 comprising the Ramah chert quarries nomination.

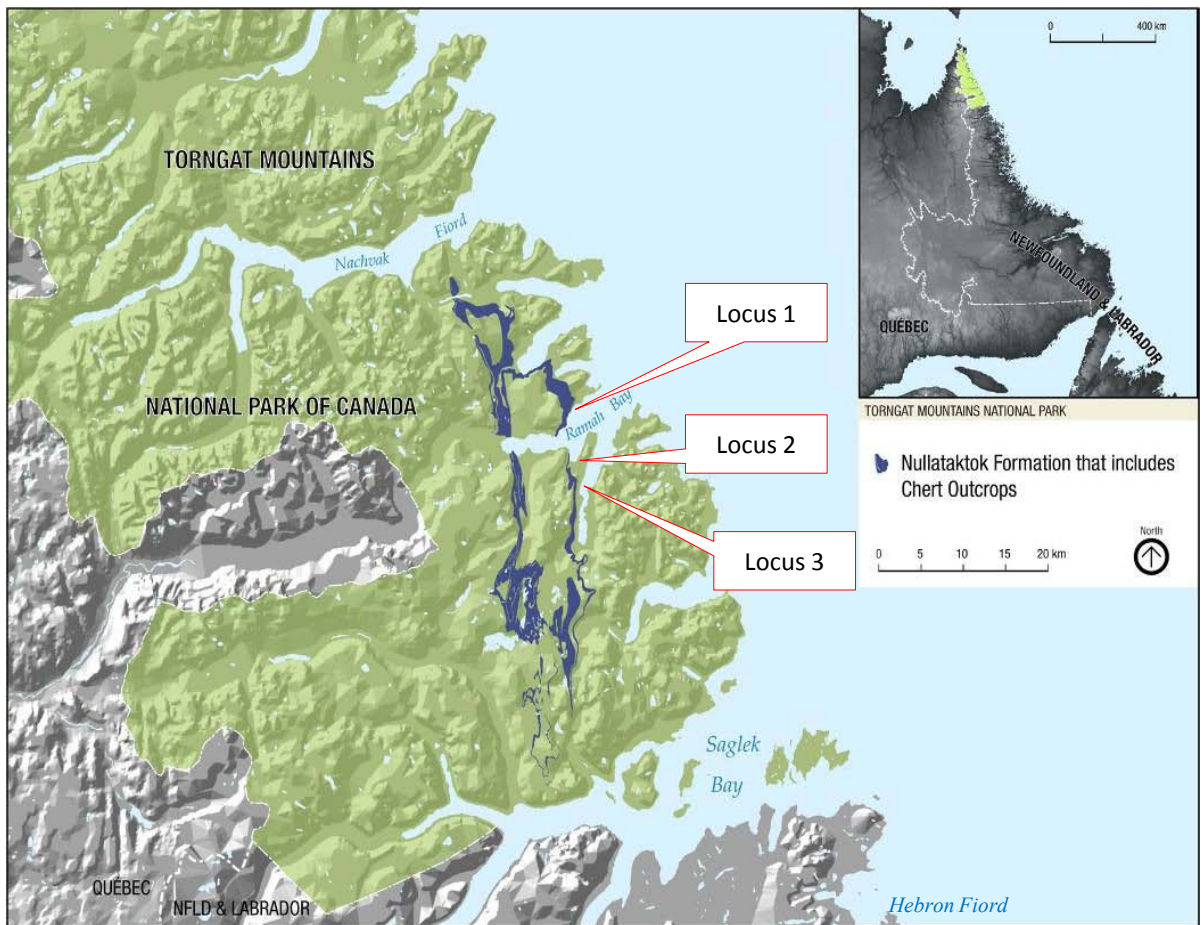
Site	Parks Canada Identifier #	Name	Borden #	Description
Locus 1				
	228A	Ramah Bay 1	IfCt-01	Quarry site and associated cultural material
	229A	Hilda Creek 2	IfCt-11	Evidence of tool manufacture; no outcrop
	230A	Hilda Creek 1	IfCt-02	Evidence of tool manufacture; no outcrop; Dorset & Inuit evidence noted
	415A	Hilda Creek 3	IfCt-13	Evidence of tool manufacture; no outcrop
	416A	Hilda Creek Terrace 1	IfCt-14	Evidence of tool manufacture; no outcrop
	417A	Ramah Bay 2	IfCt-15	Quarry site and associated cultural material
	418A	Ramah Bay 3	IfCt-16	Quarry site and associated cultural material
	419A	Ramah Bay 4	IfCt-17	Evidence of tool manufacture; no outcrop
	420A	Ramah Bay 5	IfCt-18	Unknown feature of arranged slate tablets
	425A	Hilda Creek 4	IfCt-19	Two small caches made of piled stone; one with Ramah chert
Locus 2				
	232A	Shale Bay 1	IfCt-4	Tool manufacturing
	233A	Shale Bay 2	IfCt-5	Dorset tool manufacturing
	234A	Shale Bay Quarry	IeCt-15	Quarry site and associated cultural material
Locus 3				
	236A	Little Ramah Narrows 7	IeCt-7	Dorset material; Two possible Inuit tent rings
	237A	Little Ramah Narrows 8	IeCt-8	Dorset artifacts
	238A	Little Ramah Narrows 9	IeCt-9	Dorset artifacts; remains of slab structures
	239A	Little Ramah Narrows 5	IeCt-5	Dorset artifacts
	240A	Little Ramah Narrows 6	IeCt-6	Large tool manufacturing site; unknown culture

## KITJIGATTALIK – THE RAMAH CHERT QUARRIES



**Figure 1.** Location of Ramah Bay within Torngat Mountains National Park of Canada. (*J. Curtis, J. Brake, P.M. Desrosiers, and A.L. Burke, TMNPR-2009-3232, Ramah Bay Quarry Archaeological Research Project Permit Report [2010], p. 6*)

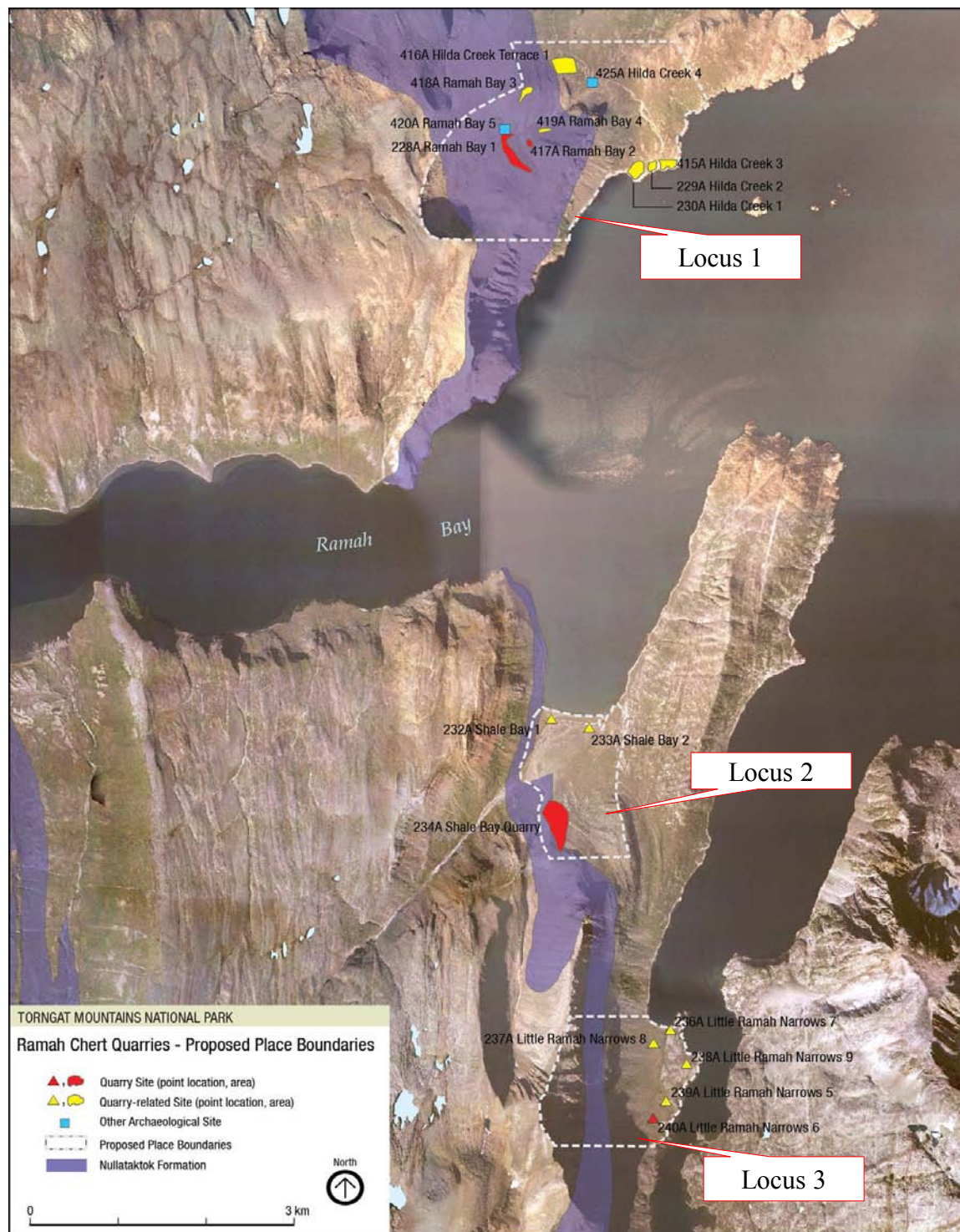
## KITJIGATTALIK – THE RAMAH CHERT QUARRIES



**Figure 2.** Position of Nullataktok Formation and position of nominated loci (*Nomination Package, “kitjigattalik (Ramah Chert Quarries,” on file, Historic Sites and Monuments Board Secretariat, Parks Canada [2012], Map 3)*)



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**Figure 3.** Proposed place boundaries of Locus 1, Locus 2, and Locus 3 in relation to Nullataktok Formation. (*Nomination package, Map 2*)



**Figure 4.** Artifacts from the Ramah Bay-1 site, Locus 1. Clockwise from top left: hammerstone of granite, flake core of Ramah chert, biface pre-form of Ramah chert, and large flake of Ramah chert. (*Photos by Avataq Cultural Institute, archive numbers: 2\_2009\_5\_D\_375, 2\_2009\_5\_D\_376, 2\_2009\_5\_D\_380, 2\_2009\_5\_D\_381; J. Curtis, et al., p. 15*)





**Figure 5.** This Ramah chert arrowhead found in 1930 at the edge of the Sandnes churchyard provided the first tangible evidence of Norse journeys to North America for Danish archaeologist Jørgen Meldgaard. Sandnes was a Norse chieftain's farm in the Western Settlement of Greenland inhabited from approximately AD 985-AD 1350. (C.K. Madsen, M. Appelt, Meldgaard's Vinland Vision [Government of Canada/Embassy of Canada and Nationalmuseum, 2010], 13, [http://nordligeverdener.natmus.dk/fileadmin/user\\_upload/temasites/nordlige\\_verdener/nordlige\\_verdener/meldgaard/Meldgaards\\_vinland\\_vision.pdf](http://nordligeverdener.natmus.dk/fileadmin/user_upload/temasites/nordlige_verdener/nordlige_verdener/meldgaard/Meldgaards_vinland_vision.pdf), accessed 15 November 2013)



**Figure 6.** Chert outcrop face at Ramah Bay-2 site, in Locus 1. Eli Merkuratsuk. (*Photo: A. Burke from: J. Curtis et al., 20*)



**Figure 7.** Chert outcrop face and view of Ramah Group landscape at Ramah Bay-3 site, in Locus 1. (*Photo: A. Burke from: J. Curtis et al., 20*)





**Figure 8.** View of Shale Bay Quarry site, in Locus 2. (*Photo: Parks Canada; from: J. Curtis et al., 25*)



**Figure 9.** Ramah chert bifaces from the Stubbert cache, Quebec Lower North Shore.  
(*Courtesy of Wilfred E. Richard, Smithsonian Arctic Studies Centre, 2012*)

## KITJIGATTALIK – THE RAMAH CHERT QUARRIES



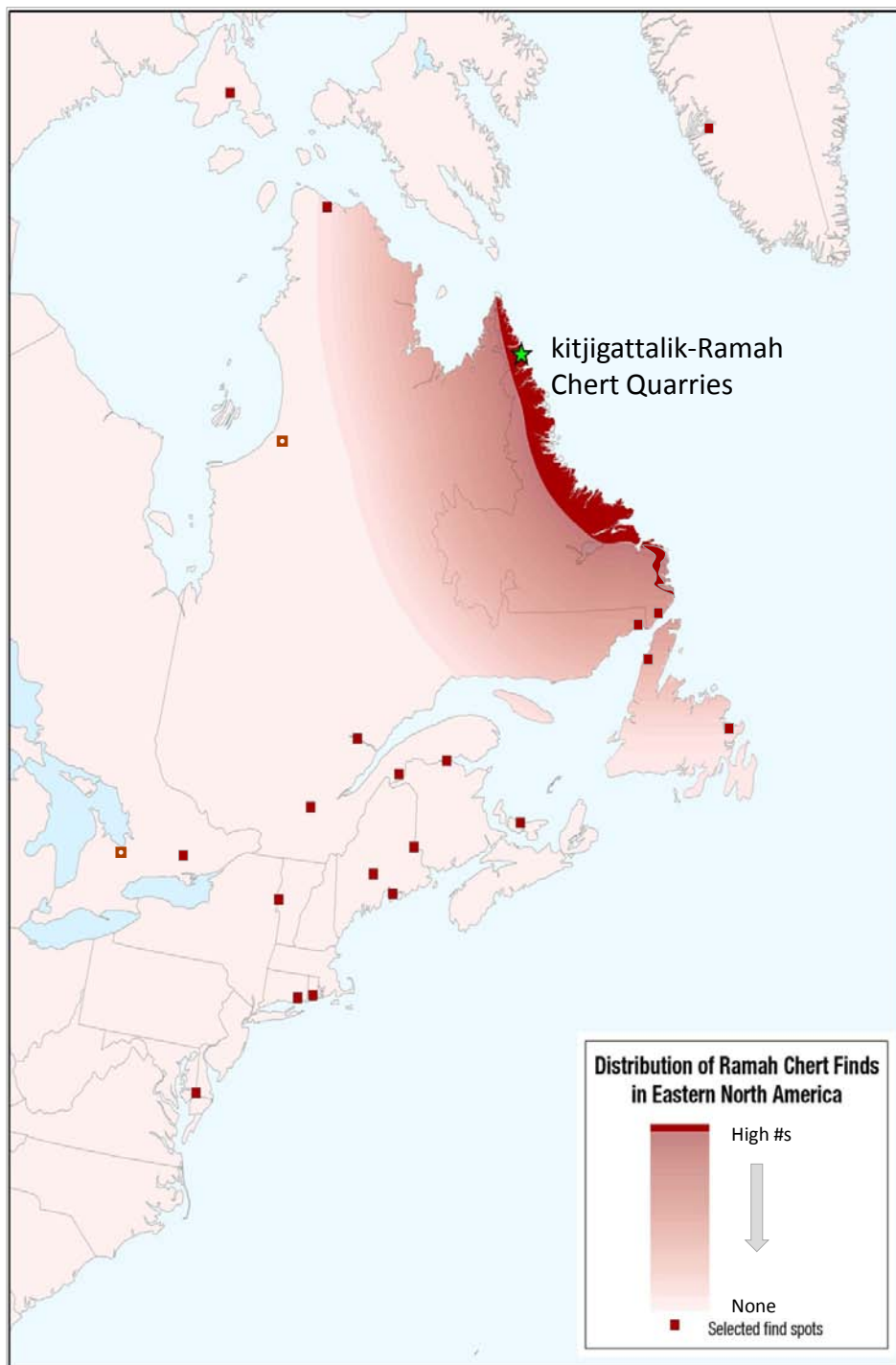
**Figure 10.** Upper image: Select Ramah chert bifaces from the Spingle cache. Lower image: Select Ramah chert bifaces from the Alexis Bay cache. (Courtesy of Stephen Hull, Provincial Archaeology Office, Government of Newfoundland and Labrador, November 2013)



**Figure 11.** Ramah chert bifaces from the late Archaic burials at Nulliak Cove, northern Labrador. (*Courtesy of Stephen Loring, Smithsonian Institution, 2012*)



## KITJIGATTALIK – THE RAMAH CHERT QUARRIES



**Figure 12.** The distribution of Ramah chert during the late precontact period (ca. 1,800-600 years ago). (*Adapted from Nomination Package, Map 4*)