

ACTIVITIES: LeMoine-Darwent NSF 2008-09

Between June 26 and August 4, 2008, members of the Inglefield Land Archaeology Project conducted research at Cape Grinnell, located in central Inglefield Land on the northwest coast of Greenland (Figure 1). On a visit to the site in 2004 we recorded over 100 features (e.g., sod houses, tent rings, caches) and determined that people had lived at Cape Grinnell sporadically over about 4000 years. In addition, this location was named by Elisha Kent Kane in the 1850s, who noted “recently abandoned Eskimaux houses” (Figure 2). Our aim for the 2008 season was to focus on the Thule occupation, to help us understand how prehistoric Thule and historic Inughuit adapted to the increasing presence of Euro-American whalers and explorers in their midst. In addition to this main focus, and in part at the request of the Greenland National Museum, we also excavated select Paleoeskimo features.

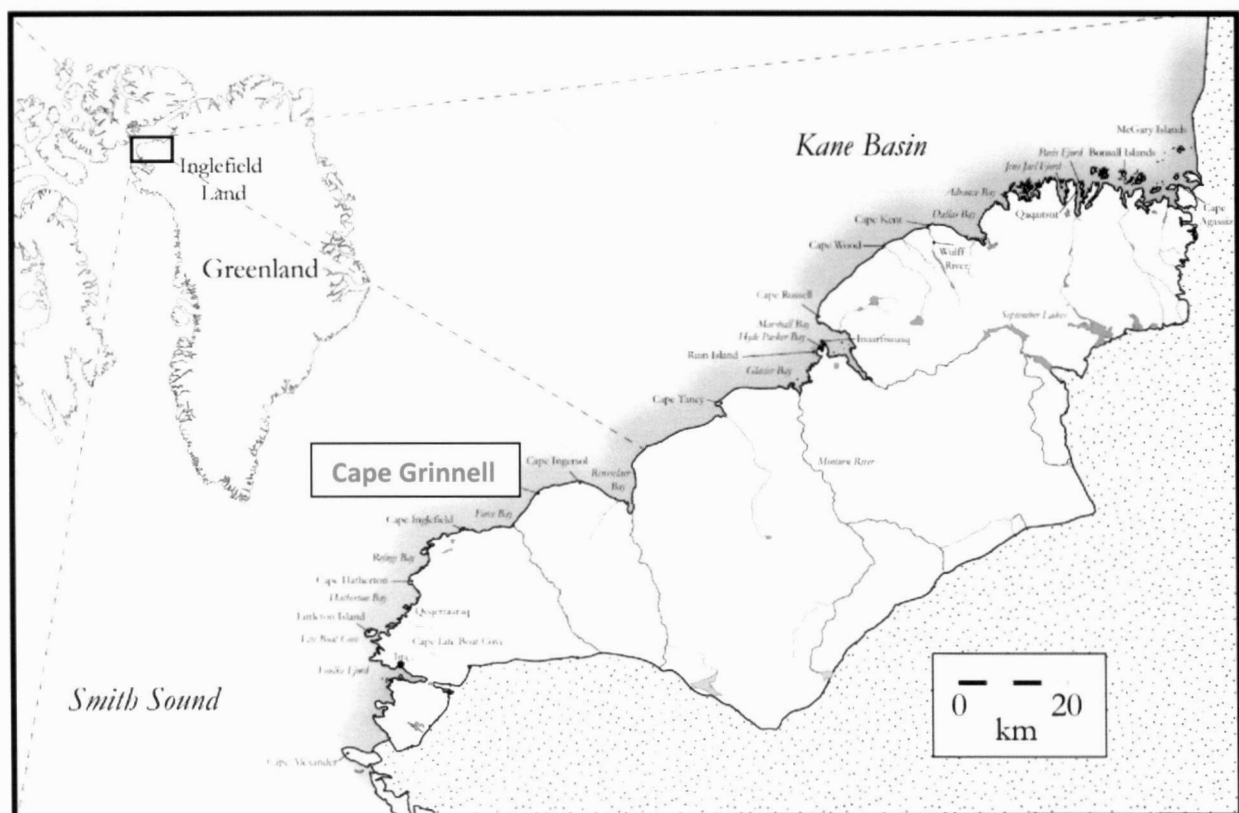


Figure 1. The location of Cape Grinnell, site of the 2008 ILAP field investigations.



Figure 2. Cape Grinnell in 1853 (left) and in 2008 (right).

Over the course of six weeks we completed an inventory and map of the entire Cape, and excavated three Thule/Inughuit, sod and stone-block winter houses; one Qarmat (spring/fall house); one Dorset, or late Paleoeskimo, semi-subterranean dwelling; and one early Paleo-Eskimo mid-passage structure. We were assisted in our excavations by graduate and undergraduate students from UC Davis (Joanne Goodsell, Trine Johansen, Morgan Wampler) and Bowdoin College (Eli Bossin) along with two high-school students from Siorapaluk (Martha and Qulutanguaq Simigaq) and an elder from Qaanaaq (Navarana Kavigak Sorensen). In addition, Dr. Owen Mason (GeoArch Alaska) conducted geomorphological studies of the site in order to determine how and when the raised beach terraces formed, Frédéric Dussault of Université Laval collected modern and archeological entomological specimens, and Dr. John Darwent (UC Davis) created a detailed map of the site, recording 150 cultural features and local topography with a total station. Two brief foot surveys were conducted along the coast toward Cape Ingersoll to the northeast and Force Bay to the southwest of the site. Further survey was curtailed by ice conditions preventing the use of a boat, and high water preventing river crossings in either direction.

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Excavation Results

Since returning from the field our efforts have been focused on cataloguing the collections (over 500 objects), analyzing the lithic artifacts and debitage, sorting and identifying the faunal remains (over 3000 specimens), processing soil samples for archaeo-entomological analysis, and generating an overall map of the Cape Grinnell site, as well as digitizing all of the planviews and profiles from the six excavation blocks. Radiocarbon samples ($n = 21$) were submitted to Arizona AMS for dating in the fall; however, at this point we have received dates from the geological samples only ($n = 10$) and not from any of our cultural samples. Preliminary results of

the 2009 field season are promising. Below we briefly summarize the results from each house excavation, as well as more general results.

House 38. Excavation was undertaken on a well-preserved early Paleoeskimo midpassage situated approximately 20 masl. Based on stylistic similarities to structures excavated by Eigil Knuth (1967) in Peary Land, and its elevation above sea level, this house likely dates to initial occupation of Cape Grinnell approximately 4000 years ago. A 3.5 m-diameter structure, with extensive floor-paving stones and the remains of upright stones delineating an axial or midpassage (often interpreted as a cooking/preparation area), was revealed after excavation of 14-1x1 m units. The midpassage was oriented N-S, or perpendicular to the orientation of the coast. No artifacts were recovered, but a few burned and unburned ringed seal bones were found under the central midpassage uprights.



Figure 3. House 38, an early Paleoeskimo "midpassage" structure.

House 88. This Late Dorset, or late Paleoeskimo, semi-subterranean midpassage structure is reminiscent of those excavated by Helmer and LeMoine (1995, 1996) on Little Cornwallis Island in the Canadian High Arctic, being rather roughly constructed of boulders and, unlike House 38, it was entirely lacking floor pavement. A total of 24-1x1m units were excavated in the house and adjacent midden area, which produced a small assemblage of typically Late Dorset tools including ivory carvings (e.g., bear head), a harpoon head with iron endblade, and twelve pieces of additional iron (all probably meteoritic, but awaiting further chemical-sourcing analyses). Preliminary results of a lithic analysis suggest extensive re-use of tools, indicating, perhaps, a stressful period with limited useable raw material at their disposal. Faunal analysis indicates that this structure was likely used during the warm season, as over 24% of the remains are bird, 5% arctic char, and 10% walrus (a migratory species). The other remains are species found year-round in the region (e.g., seal, caribou/muskox, fox and hare).



Figure 4. Late Dorset house structure with mid-passage oriented N-S, or perpendicular to the coastline.

Pauline Knudson and Hans Lange (both of the Greenland National Museum) have also examined this collection currently stored at Bowdoin College, with support from a grant from the Home Rule Government, and will be preparing a paper in the coming months on Late Dorset in Inglefield Land and the High Arctic region.

House 16. A total of 17-1x1m units were placed over what was initially thought to be a late Thule (post 1700s) winter house structure. Severe slumping of the beach ridge inundated the structure from above and sand from coastal storms served to both destroy and protect this particular winter house.

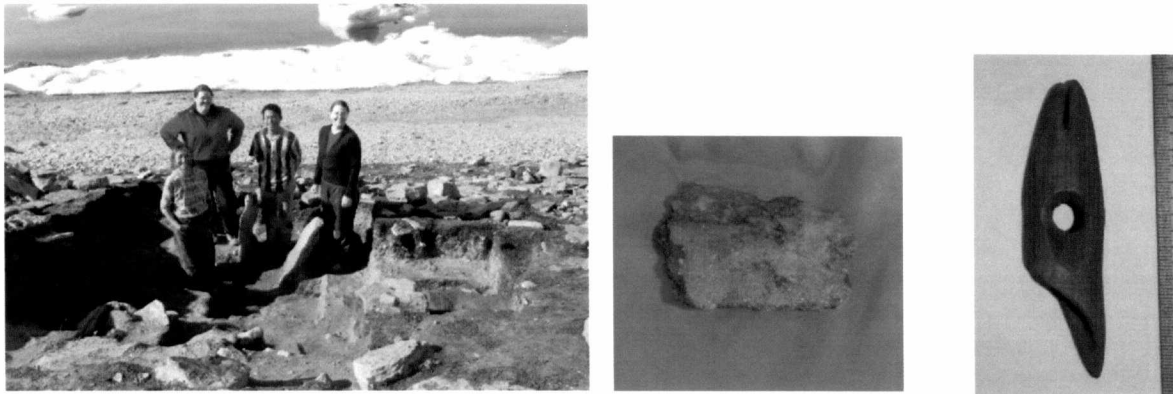


Figure 5. House 16, post excavation, with its excavators (l-r): Navarana Kavigak Sorensen, Christyann Darwent, Qulutanguaq Simigaq, and Morgan Wampler. Coiled pottery fragment and early Thule-style harpoon head.

The living floor and entrance tunnel of this house were buried under shell-laden beach terrace deposits from above, overlain by sand washed up from the beach below. Although slumping entirely destroyed the back of the house, the living area in front and to the west of the tunnel were intact and yielded the remains of burned bone and fat, which turned the sand beneath into a cement-like consistency. Crude, coiled pottery fragments were recovered both from this

burned area and from the tunnel. Although we are currently awaiting the results of samples submitted for radiocarbon dating, pottery is only associated with early Thule sites in the Eastern Arctic (termed “Ruin Island phase”), as the pottery was brought with initial Thule migrants out of the Western Arctic approximately 1000 years. These pottery fragments along with a harpoon head whose form is an early Thule style means that we may be able to document the entire history of Thule occupation at Cape Grinnell from the first Alaskan migrants to early contact. Faunal remains from this house are dominated by ringed seal (80%), followed distantly by caribou/muskox (7%), walrus and bearded seal (5.3%), and a few hare, fox, whale and bird remains, which supports the supposition that this was a winter structure.

House 18. This is a poorly preserved Thule House, with only the entrance tunnel intact. A total of 16-1x1-m units were excavated. Slumping had obscured the walls and floors of the house although artifact distribution suggests the location of key activity areas such as cooking. The tunnel walls were lined with large (~1m long) stone slabs, while the floor was covered with numerous strips of baleen, as well as burned and unburned bone, dog hair, scat, and feathers. Artifacts recovered from House 18 include one square nail, a single ring of chain mail, a Thule-type harpoon head, a caribou metacarpal “beamer” or hide-scraping tool, a soapstone pot-rim fragment, an ulu with meteoritic iron blade inset, and a whale-bone sled shoe. Faunal remains from House 18 are dominated by 60% ringed seal, followed by 17% bird, 10% walrus, and 5% fox/hare. This mixed seasonal assemblage suggests the house may have been occupied in fall and spring as well as winter. A few dog bones, extensive carnivore gnawing, hair and scat indicate the use of dogs by the past occupants.

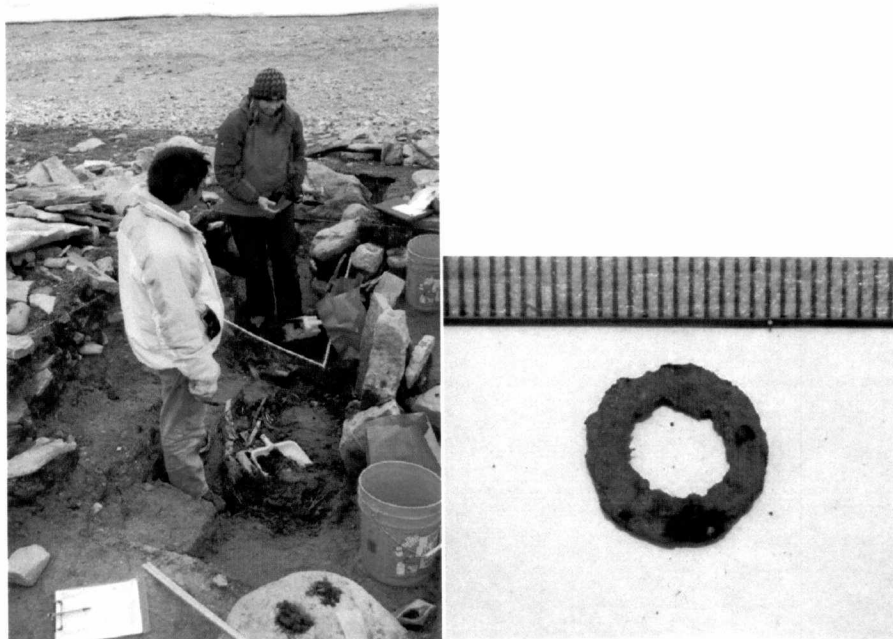


Figure 6. Qulutanguaq Simigaq and Joanne Goodsell excavating the whale baleen and other debris lining House 18's tunnel.
Chain mail recovered from House 18

House 20. This is a moderately well preserved semi-subterranean winter house with an entrance tunnel, flagstone floor, remnants of a sleeping platform, and a single side alcove. A total of 15-1x1m units were excavated to completely uncover the remains of this house. Like houses 16 and 18, the tunnel is oriented with its entrance to the coast. Slumping from the slope behind the house has destroyed the back wall, but some stone uprights, presumably to support the sleeping platform still remained. One bowhead-whale mandible upright was also found at the southeast (back) corner of the house. Some stone slabs which had lined the walls of the main house, the alcove, and the entrance tunnel were present as well, although often somewhat displaced by continued slumping of the sandy soil. Artifacts recovered from this house include typical Thule/Inughuit tools, ranging from soapstone lamp and pot fragments to components of hunting equipment (e.g., Thule type-4 harpoon head and socket), a tiny iron (presumably meteoritic) and antler ulu, a toy sledge and doll made from baleen, a number of drilled fox and seal canines, a caribou metacarpal beamer, and numerous baleen cords. The faunal assemblage from House 20 has the highest relative frequency of ringed seal remains (84%), and includes the remains of a foetal ringed seal, which is consistent with a winter house occupation. Hare/fox, bearded seal, walrus, and bird were recovered in approximately the same relative frequency (3%) followed distantly by caribou/muskox (1%). No dog remains were recovered, but moderate gnawing of the bones has been documented.

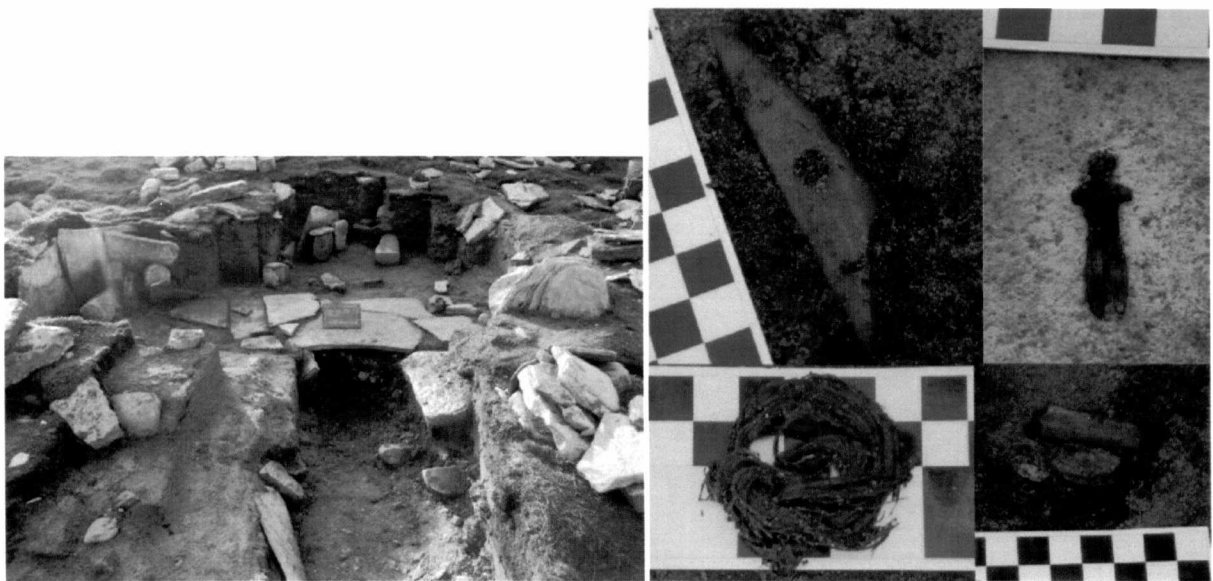


Figure 7. House 20, post excavation with tunnel in foreground, sleeping platform in background, and large flagstones marking house floor. Harpoon head (upper left), baleen cording (lower left), baleen doll (upper right), and ulu with iron blade (lower right)

Survey and Mapping

Foot survey was limited by time, ice cover that prevented boating, and high water that prevented river crossings. However, two forays produced a number of newly identified features between Force Bay (n = 4) and Cape Ingersoll (n = 12). Dr. John Darwent spent most of his time photo-documenting and total-station mapping 150 archaeological features at Cape Grinnell, ranging from early Palaeoeskimo tent rings (ca. 2000 BC) to historic/modern caches and hunters beds. A monograph is currently being prepared for publication on all survey results from 2004-08.

Geoarchaeology

Dr. Owen Mason is preparing a detailed report on his geoarchaeological studies at Cape Grinnell in 2008. He spent nearly four weeks at the site collecting samples and excavating small test units and soil cores to determine the history of the beach terraces. The beach terraces on which the earliest human occupants settled formed approximately 8,000 years ago according to AMS dates of shells embedded in the beach matrix. His findings also suggest periods of significantly less ice cover at various times in the last 8000 years, perhaps coinciding with cultural occupation of the site.

Archaeoentomology

Analysis of insect remains from the site is ongoing, and will form a component of Frédéric Dussault's Master's thesis at Université Laval (Quebec City) under the direction of Dr. Allison Bain. Preliminary results indicate a largely cultural assemblage of insects (lice, fleas), with their remains concentrated in such locations as the entrance tunnels.

TRAINING, DEVELOPMENT & MENTORING: LeMoine-Darwent NSF 2008-09

Field work during the summer of 2008 included introductory training for two high-school students from the local community of Siorapaluk, one elder from Qaanaaq and two undergraduates (one from UC Davis and one from Bowdoin) with no previous field experience. One undergraduate student from Laval, and one graduate student from UC Davis with some previous archaeological field experience were introduced to working in the Arctic. This winter and spring an additional five undergraduate students (three at Bowdoin and two at UC Davis) are learning archaeological lab techniques, which include basic artifact and faunal sorting, cataloguing and data entry. Several elementary students from North Davis also learned to clean and sort animal bones. One of the UC Davis undergraduate students is currently undertaking a digital reconstruction of House 20, including identification of the faunal remains and analysis of their spatial distribution within the house structure. He will be presenting a

poster of his findings at the UC Davis Undergraduate Research Conference on April 25, synthesizing his results in the form of an honors thesis, and will be accompanying the ILAP project in 2009 to eastern Inglefield Land before he starts graduate school in the fall.

Darwent and LeMoine organized an *International Polar Year* Symposium at the Society for American Archaeology in Atlanta (April 22-26), which was promoted in the SAA magazine *Archaeological Record*, Fall edition. This symposium includes an ILAP poster highlighting the 2008 findings from Cape Grinnell (LeMoine, Darwent, Darwent & Lange), one on the insect remains from house deposits at Cape Grinnell, and one on the faunal remains from previous ILAP excavations at Iita in Foulke Fjord (2006), which is forming the basis of a doctoral dissertation. Other participants in this symposium are from UIC Science in Barrow, Memorial University in Newfoundland, Laval University and the Universities of Calgary, Toronto and Waterloo, and their IPY research ranges from Alaska to the Keewatin District of Nunavut to Labrador.