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The Pembroke Site: Thule Inuit Migrants on Southern Victoria Island

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ABSTRACT. This paper presents description and interpretation of the Pembroke site, the earliest known Thule Inuit occupation in the southeastern Victoria Island region, Nunavut. The site has 11 extant dwellings, including five heavy tent rings, five light semi-subterranean dwellings, and a *qalgiq* (large communal structure). The site's economy revolved mainly around the acquisition of caribou, Arctic char, and lake trout, with minimal consumption of sea mammals. Radiocarbon dates, reinforced by artifact analyses, indicate an occupation around AD 1400. Based on several lines of evidence, including the extremely small artifact samples, the site is interpreted as having been occupied relatively briefly. It represents the first colonization of the region by Thule people, approximately 200 years after the initial Thule migration from Alaska into the eastern Arctic. Thus, it documents a second migration wave: an expansion of Thule peoples from their initially occupied territories to other, in some ways less optimal, regions.

Key words: archaeology; Thule; Inuit; migration; Nunavut; zooarchaeology

RÉSUMÉ. Cet article présente la description et l'interprétation du site de Pembroke, le plus ancien lieu d'occupation des Inuits thulés dans le sud-est de la région de l'île Victoria, au Nunavut. Ce site compte 11 habitations historiques, dont cinq cercles de tentes imposantes, cinq habitations légères enterrées et un *qalgiq* (grande structure collective). L'économie du site reposait surtout sur l'acquisition du caribou, de l'omble chevalier et de la truite de lac. La consommation de mammifères marins était minime. La datation au carbone 14, renforcée par l'analyse d'artefacts, indique que l'occupation a eu lieu vers 1400 apr. J.-C. D'après plusieurs sources de données, dont les échantillons d'artefacts extrêmement petits, le site est interprété comme ayant été occupé pendant une période relativement brève. Il représente la première colonisation de la région par le peuple des Thulés, environ 200 ans après la toute première migration des Thulés de l'Alaska jusqu'à l'est de l'Arctique. Ce site témoigne donc d'une deuxième vague migratoire : l'expansion des peuples de Thulés depuis les territoires qu'ils occupaient initialement jusqu'à d'autres régions, parfois moins optimales.

Mots clés : archéologie; Thulé; Inuit; migration; Nunavut; zooarchéologie

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INTRODUCTION

The history of Inuit settlement in the eastern North American Arctic is one of near-constant movement. Following the initial Thule Inuit migration from Alaska to Arctic Canada and Greenland around AD 1200, many new areas were explored and settled over time. When contact was first made with post-Norse Europeans, Inuit were expanding southward in several regions of Canada and Greenland. The great variety of population movements, combined with the excellent preservation and high visibility of archaeological sites in the Arctic, presents an opportunity to achieve a detailed understanding of the nature of migration in the archaeological record.

This paper contributes to the understanding of Inuit migration by describing and interpreting the Pembroke site (NgNc-2) on southeastern Victoria Island in Nunavut, Arctic Canada. Pembroke is a relatively small and not particularly rich site, but it tells the story of the initial settlement of a region by people on the move.

MIGRATION IN INUIT ARCHAEOLOGY

Migration, the movement of human populations into new territories, has been central to archaeological explanation since the origin of the discipline (Trigger, 2006). Migration has been linked to the peopling of continents, sudden changes in the archaeological record of sites or regions, and the appearance or disappearance of specific material culture traits. Reliance on migration in archaeological explanation is influenced by the great variety of migration episodes in the historic and ethnographic records (and continuing today), which indicate that it is a common strategy, on many scales, used by people in search of a better life or to escape famine, war, poverty, or other social challenges. The last few decades have seen a reinvigoration of migration theory in archaeology, leading to a renewed focus on the economic and social factors affecting colonization of new territories. Recent research has centred on understanding the process of colonizing, moving through, and inhabiting new ecological and social landscapes and how this process

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may be reflected in the archaeological record (Anthony, 1990; Spiess et al., 1998; Burmeister, 2000; Golledge, 2003; Kelly, 2003; Mandryk, 2003; Meltzer, 2003, 2004; Rockman, 2003, 2009; Fitzhugh, 2004). Such studies have approached both small-scale movements (within known territories) and large-scale movements (into new territories) (Rockman and Steele, 2003; Barnard and Wendrich, 2008).

In the North American Arctic, migrations over long and short distances have always been a part of archaeological interpretation (e.g., Steensby, 1917; Mathiassen, 1927; Giddings, 1967; Knuth, 1967; McCartney, 1977; McGhee, 1979; Maxwell, 1985). Because many Inuit groups moved over great distances in the relatively well-documented historic period, both within known territories (e.g., Jenness, 1922; Burch, 2006) and on occasion into new, distant territories (e.g., Mary-Rousselière, 1991; Krupnik and Chlenov, 2009), migration has always seemed a reasonable explanation for a variety of archaeological patterns. A particularly noteworthy example is seen in the Paleo-Inuit (Palaeoeskimo) prehistory of the eastern North American Arctic, in which large regions were periodically abandoned and then repopulated (Maxwell, 1985; Schledermann, 1990; McGhee, 1996; Fitzhugh, 1997). These repopulation episodes must represent movements over great distances, though the numbers of people involved and many aspects of the process are often difficult to reconstruct.

This paper concerns one aspect of migration by Thule Inuit. The "Thule migration," in the strictest sense, normally refers to the initial movement of Inuit people from Alaska into the eastern Arctic beginning around AD 1200. The speed and scale of this migration have been the focus of much research, with recent interpretation suggesting an extremely rapid initial migration from the Amundsen Gulf region to northwestern Greenland and points in between (Morrison, 1999, 2000; McGhee, 2000; Friesen and Arnold, 2008). The factors leading to this migration have variously been attributed to "pulls" such as availability of bowhead whales (Mathiassen, 1927; McGhee, 1969; Bockstoce, 1976; Morrison, 1999, 2000) and meteoritic or Norse iron (McGhee, 1984, 2009; Gulløv and McGhee, 2006) in the east, and to "pushes" such as demographic stress or conflict in Alaskan homelands (Arnold and McCullough, 1990; Mason, 1998; Mason and Barber, 2003; Friesen and Arnold, 2008). Although the issue is not fully resolved, the migration was likely a result of multiple social and environmental factors that led to a rapid and almost continuous advance of Thule Inuit (Friesen, 2013). Whatever the factors that led to the initial migration, pioneering Thule Inuit groups settled in areas where they could acquire large amounts of storable food during the summer months, to allow sedentary winter settlement. Areas with large populations of bowhead whales, and to a lesser extent, walrus, were probably favoured for economic, social, and ideological reasons (Morrison, 1999; Friesen and Arnold, 2008).

Following the initial Thule migration, a process of settling in and regionalization occurred (e.g., McGhee, 1972; Sabo, 1991; Schledermann and McCullough, 2003), during which initially homogeneous Thule Inuit populations began to differentiate as a result of specific constraints and opportunities in each region, as well as factors such as isolation and simple cultural "drift" over time. This process is not fully understood, at least in part because early occupations are often mixed with later ones, making chronologically limited components difficult to differentiate. As a final related issue, following the initial migration, further population movements occurred as initial settlements grew, or as people continued to search for better places to live or to escape social or economic problems. In particular, a general southward movement occurred in several regions, including the barrenlands west of Hudson Bay (Burch, 1978), parts of coastal Greenland (Gulløv, 1997), and through Labrador (Kaplan, 1985), eventually as far as the Quebec Lower North Shore (Fitzhugh, 2006). The Pembroke site fits into this latter category of sites likely to have been occupied as part of a second wave of migration.

THE PEMBROKE SITE: REGIONAL CONTEXT

The Pembroke site is situated just north of the town of Cambridge Bay on the southeast coast of Victoria Island in western Nunavut (Fig. 1). This location places it on one of two possible routes taken by the earliest Thule migrants from Alaska, via Amundsen Gulf, into the eastern Arctic. Amundsen Gulf contains a well-documented series of sites dated to the pioneering Thule period on the basis of radiocarbon dates and diagnostic artifacts (Morrison, 2000; Friesen and Arnold, 2008). The first populations, likely traveling mainly by umiak (open skin boat), but perhaps at times by komatik (dog sled), would have had to travel either north or south of Victoria Island in order to reach the rich environments of the eastern Arctic, particularly around Lancaster Sound, Prince Regent Inlet, Foxe Basin, Smith Sound, and neighbouring areas. These latter areas all contain large and in many cases early Thule sites; and all of them held relatively dense populations of marine mammals that were probably highly ranked by Thule hunters, particularly bowhead whales and walrus.

It is not currently clear whether the northern or southern route around Victoria Island was taken, because early sites have not been found in significant numbers in either region. Their rarity could result from the fact that the first migrants travelled through the area very rapidly, perhaps in a single year, thus not creating any highly visible winter sites; or it could result from the lack of comprehensive archaeological survey in both regions. Given current knowledge of the region, the route south of Victoria Island through Coronation Gulf seems the better one, since there are more subsistence resources in the form of caribou, ringed seal, and Arctic char. However, it is unlikely that the earliest Thule migrants had a detailed understanding of either route, so they may not have known of these resources. Another relevant factor is that Late Dorset people already occupied parts of this southern route when the early Thule migration

FIG. 1. Pembroke site location.

occurred (Friesen, 2004). Dorset settlements may have represented a social barrier to Thule migrants that was not present in the completely or largely unpopulated route north of Victoria Island.

Previous archaeological research in the Coronation Gulf region has been relatively limited. Field research conducted primarily by Taylor (1972), McGhee (1972), and Morrison (1983) has led to the recording of at least 20 Thule sites; however, most have not been studied intensively. At the west end of Coronation Gulf, only Clachan, Beulah, Nuvuk (Morrison, 1983), Bloody Falls (McGhee, 1972), and Lady Franklin Point (Taylor, 1963, 1972) have been studied enough to allow an assessment of their chronological placement. Of these, only Lady Franklin Point has yielded diagnostically early artifacts in the form of Sicco and Natchuk harpoon heads, which place parts of the site in the earliest "pioneering" phase of the Thule migration. At the east end of Coronation Gulf, Thule-related fieldwork has been largely restricted to the limited Cambridge Bay/Ekalluk River region in which the Pembroke site is located (Taylor, 1967, 1972; Friesen, 2009, 2010). This fieldwork has been intensive enough that it is unlikely that early "pioneering" Thule settled in this region, since we have encountered neither sites nor isolated artifacts that are diagnostic of the earliest Thule migrants. To the east of Coronation Gulf, the closest large Thule site is Malerualik on southern King William Island (Mathiassen, 1927). There, extensive excavations did not produce any diagnostically early artifacts. However, many parts of the region remain unsurveyed.

As a result, while we do not know whether the earliest Thule migrants (around AD 1200–1250) passed through the southeastern Victoria Island region, we do know that sites associated with them have not yet been found there. The closest site with early artifacts is Lady Franklin Point, located on southwestern Victoria Island (Taylor, 1963). However, it is not clear that this site was occupied by pioneering Thule people who continued to migrate through Coronation Gulf; the alternative is that Lady Franklin Point was simply the easternmost extension of Amundsen Gulf early Thule populations who did not venture farther east into Coronation Gulf. Thus, whether pioneering Thule passed through the Cambridge Bay area or not, they appear not to have settled there, and Pembroke stands as the earliest currently known site in the eastern Coronation Gulf region, likely dating to a secondary population movement occurring around AD 1400.

2008 EXCAVATIONS

This paper outlines renewed fieldwork at the Pembroke site in 2008, which was a part of the broader International Polar Year project "Dynamic Inuit Social Strategies in Changing Environments: A Long-Term Perspective," whose general goals included understanding the dynamics of past Inuit populations relating to movement, communication, and social flexibility (Friesen, 2010). Pembroke was chosen because of its status as the earliest known Thule site in the region, with the potential to provide insights into Inuit population movements as well as the "learning" of new landscapes.

Pembroke was originally excavated in 1963 and 1965 by William Taylor (1967, 1972). In 1963, he excavated a single house (House 1), a description of which, with house plan, photos, and artifact photos, was later published (Taylor, 1972). The 1965 excavations were more extensive, apparently involving excavation of four additional dwelling features (Taylor, 1965), but were considered unimportant enough to warrant only two dismissive sentences in the published account of that field season (Taylor, 1967:228). Remarkably, the complete or near-complete excavation of these five dwellings yielded a total of only 26 artifacts, 12 of which were undiagnostic worked antler fragments.

During the 2008 field season, an accurate site map was produced, and four features were completely mapped and excavated (Fig. 2). In choosing features to excavate, we attempted to represent as much variability as possible among the remaining features that had not been excavated by Taylor. All deposits were screened through 3 mm (1/8") mesh, in order to obtain relatively complete faunal and artifact samples.

The Pembroke site is located on the southeast-facing slope of a steep knoll that rises approximately 7 m above the surrounding land (Fig. 3). About 20 m northwest of the site is the main channel of Freshwater Creek, the most important char fishing river in the vicinity. When the site was occupied, there may have been a second channel of Freshwater Creek running to the east of the site; this channel no longer contains a significant flow as a result of recent road construction.

Pembroke has been significantly affected by recent activity. Most obviously, the modern road runs beside the northwest margin of the site, and part of the land surface has been completely destroyed; an earlier, less heavily built road passed directly over the top of the knoll. This latter road passes within a few centimeters of the very large Feature 8, but probably because Feature 8 was too large to

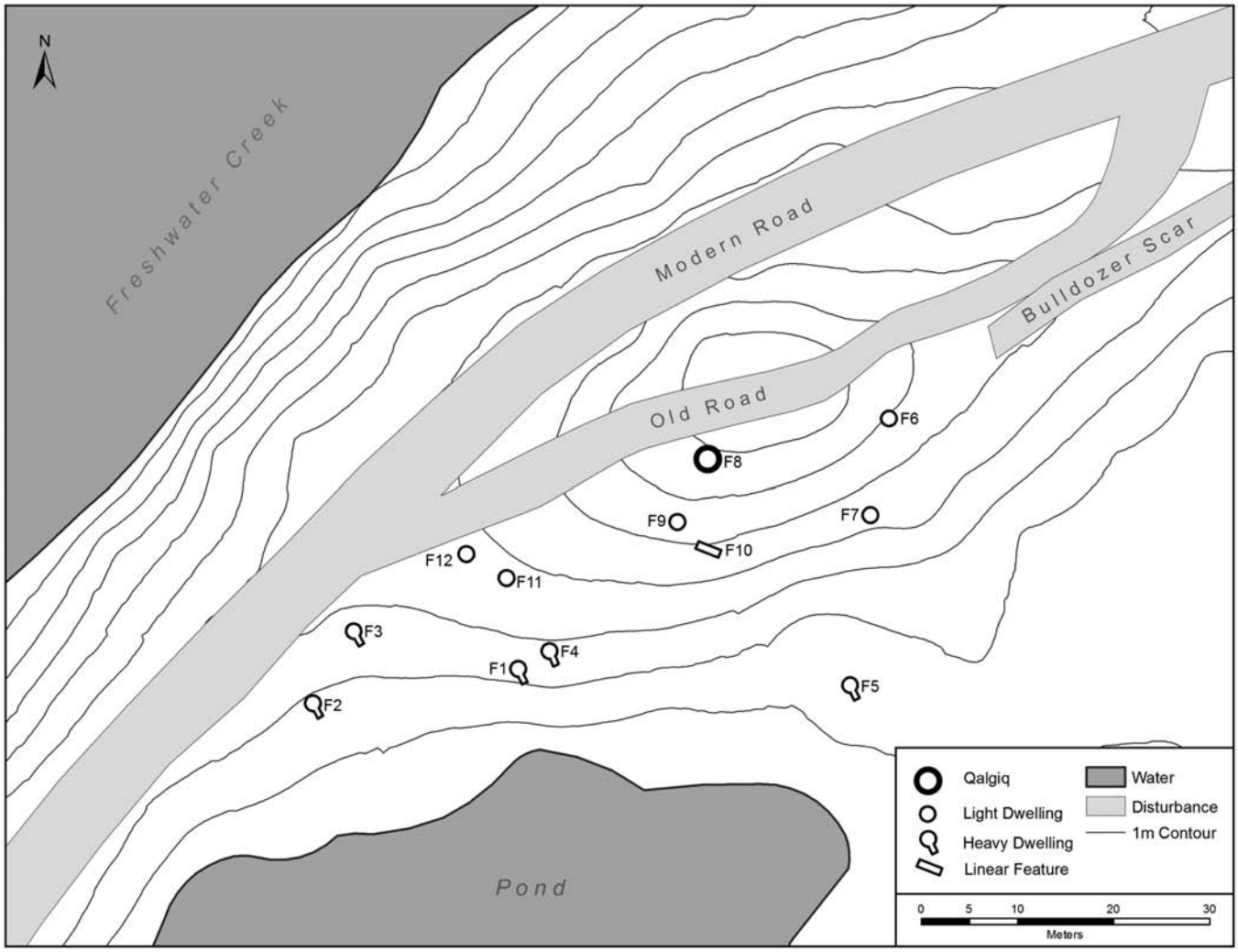

FIG. 2. Map of the Pembroke site.

move, it appears not to have been significantly disturbed. One dwelling structure may have been destroyed by construction of the road, judging by a discrepancy between Taylor's (1972) feature counts and the number visible at present. However, close observation of the ground surface on both sides of the road did not reveal any evidence of partial or destroyed features, so it is unlikely that many additional features were destroyed.

The site is very simple by Thule Inuit standards, with only 12 features currently extant. This number includes 11 dwellings and one feature of unknown function. A 13th feature recorded by Taylor (1972:44), representing a 12th dwelling, was apparently destroyed (Table 1). The one non-dwelling feature, Feature 10, is a linear structure of unknown function, though it could be the disturbed remains of a kayak storage structure. One of the extant dwellings, Feature 8, is a *qalgiq* (Inuit communal structure, also sometimes spelled "*karigi*"), to be described more fully below. The 10 additional dwelling features, which are generally small and variably robust, represent a continuum from substantial tent rings to semi-subterranean houses.

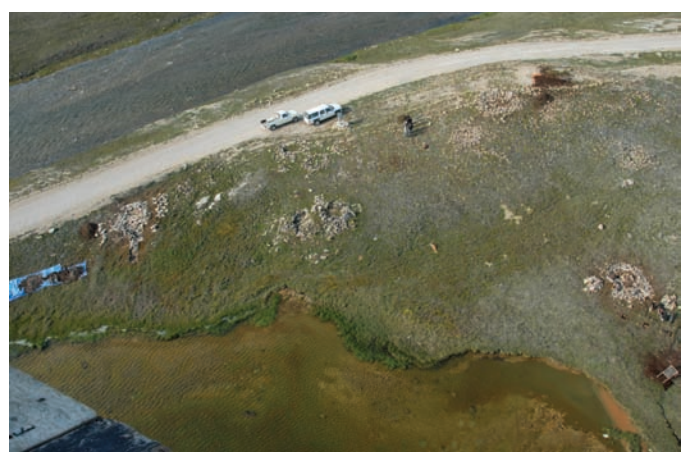

FIG. 3. Air photo of the Pembroke site. For orientation with the Figure 2 site map, Feature 2 is at centre left, Feature 5 is at lower right, and trucks are parked behind Features 11 and 12. Stone cairn located next to truck is modern.

These features occur in clusters across the site. From west to east, the five heavier dwellings occur in two sets of two (F2 and F3 together, F1 and F4 together) and F5, which

TABLE 1. Pembroke site features.

Feature	Brief description
1	Small oval semi-subterranean house with partially separated kitchen alcove. Short entrance faces downhill. Taylor's House 1, excavated in 1963.
2	Semi-subterranean house. Described further in text.
3	Semi-subterranean house. Deeply buried, difficult to determine original outline.
4	Round semi-subterranean house. Probable short entrance faces downhill, internal hearth. Taylor's House 5, excavated in 1965.
5	Semi-subterranean house. Described further in text.
6	Round heavy tent ring. Rear half possibly paved with flagging stones, slightly excavated into slope.
7	Heavy tent ring/*qarmaq*. Partially paved at rear, internal hearth near front wall. Slightly excavated into slope. Taylor's House 2, excavated in 1965.
8	Warm season *qalgiq* (communal structure/men's house). Described further in text.
9	Heavy tent ring/*qarmaq*. Described further in text.
10	Linear stone feature. Possible kayak storage structure.
11	Round heavy tent ring/*qarmaq*. Possible entrance facing downslope. Appears to have been excavated, but does not match any of Taylor's house descriptions.
12	Round to oval heavy tent ring/*qarmaq*. Small hearth in interior, slightly excavated into slope. Taylor's House 7, excavated in 1965.
13	Dwelling feature no longer visible, inferred from Taylor's field notes—possibly destroyed by road construction after 1965. Taylor's House 8.

is isolated from the others. The lighter dwellings occur as one set of two (F11 and F12), with the other three (F6, F7, and F9) occurring individually. Additionally, it should be noted that F9 is located quite close to, and just downhill from the *qalgiq* (F8), though it is unclear whether these two features have any special relationship. The *qalgiq* must have been intended to accommodate people from multiple dwellings, so could not have been exclusively associated with F9, though it is possible that an important family with a strong connection to the *qalgiq* occupied F9. Below are descriptions of the four features excavated in 2008.

Feature 2

Feature 2, the westernmost dwelling at the site, was classified as a winter house on the basis of surface observations. It was originally visible as a roughly oval outline composed of large, rounded or blocky stones (Fig. 4), with a linear scatter of additional stones extending downhill to the south. This scatter was considered the likely remains of an entrance tunnel.

Excavation revealed a subrectangular room measuring approximately 2.5 m wide by 3.5 m long (measurements are approximate because the multi-coursed walls had collapsed and slumped in a way that did not allow precise definition of the lower course). The front (downslope) portion had been paved with flagstones, while approximately 1 m at the rear was unpaved. This rear area undoubtedly served as a sleeping area and was probably covered with plant material and skins; however, it was raised only slightly above the main floor. The original builders had excavated the house into the sandy matrix by approximately 10 – 15 cm at the back and 20 cm at the front.

The front of the house proved difficult to reconstruct accurately, since a significant number of wall stones had collapsed and slumped into the area and may have been further disturbed by subsequent activities. However, on the left side ("left" and "right" designations assume the viewer is standing in front of the entrance facing the house), we encountered a clear cooking area/kitchen, indicated by a greasy matrix with a high frequency of charcoal and burnt bone fragments. What was not clear was the degree to which this cooking area was separated from the main floor area as a distinct alcove, although a narrow band of sterile soil between the two indicates that it might have been at least partially separated. The entrance was also difficult to define. The initial assumption that the cluster of stones at the front of the house covered an entrance tunnel was proven wrong through excavation. There was no deep trench in this area, and in fact most of these stones were sitting on sterile soil; it seems most likely that they were some sort of attached or related feature, such as a cache. However, a flagged entrance leading downhill for approximately 1 – 1.5 m was encountered on the right side of house. Thus, the house contained a well-defined entrance, which was lower than the remainder of the house and acted as a partial cold trap, but not a formal "tunnel." No clear evidence for the nature of the roof, such as post molds, was encountered in this house. It is likely that a driftwood and skin superstructure was removed when the house was abandoned. A thin midden downslope from the front of the house was partially excavated.

Artifacts were extremely sparse in this feature, particularly when one considers that the entire house was excavated and all materials were screened through 3 mm mesh. One Thule Type 2 harpoon head and two antler arrowheads were the only finished, diagnostic specimens (Table 2; Fig. 5). The square shoulders on the arrowheads indicate that the site is not from the very earliest, pioneering phase of Thule, but beyond that there are no useful chronological indicators.

Feature 5

Feature 5 was the second semi-subterranean house excavated in 2008 (Fig. 6). It is the southeasternmost feature on the site and was deeply buried on relatively flat ground, below the knoll on which the remainder of the site is located. Upon excavation, Feature 5 proved to be approximately 2.4 m in width and 2.9 m in length. A large, deep frost crack extended from the centre of the rear wall to the left front wall, disturbing much of the interior, particularly the floor flagging. As in Feature 2, the front part of the house had been paved with flagstones, and in much of

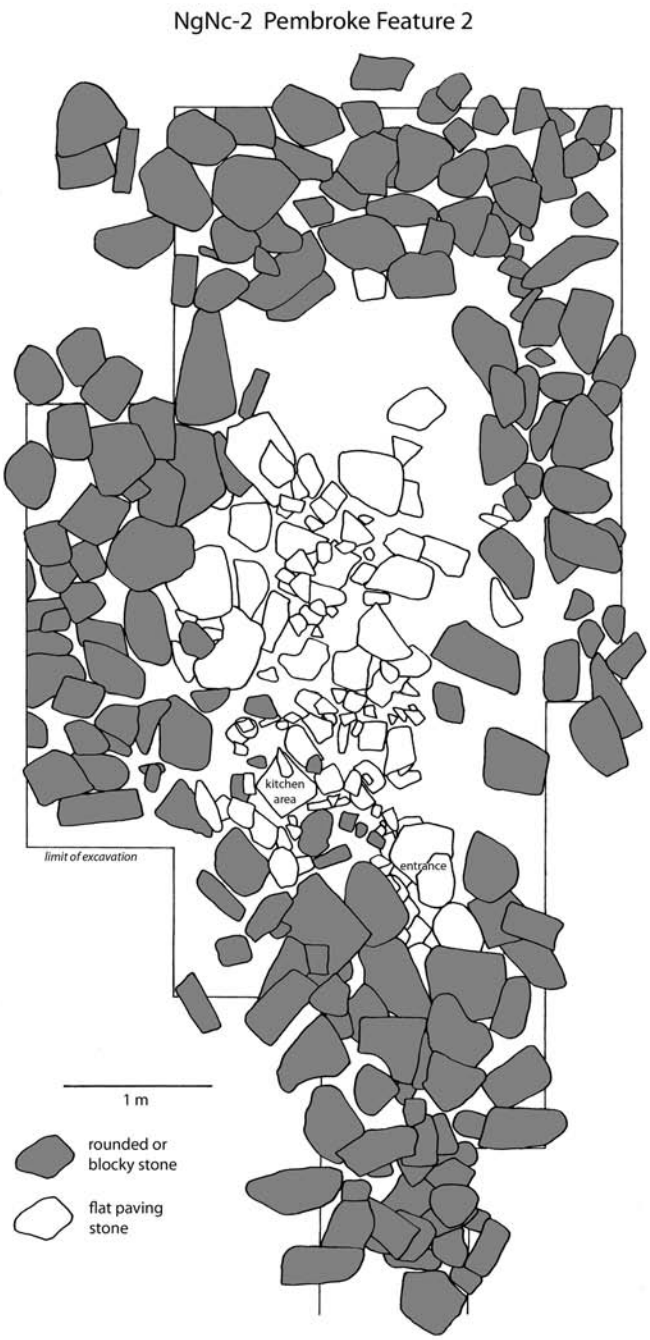

FIG. 4. Pembroke Feature 2.

the front area two layers were recorded, indicating at least one episode of reconstruction or repaving. A partially articulated Tundra Swan was found under a large flat stone in the rear of Feature 5; it is interpreted to represent a ritual event, probably associated with the final abandonment of the house.

The main floor was excavated approximately 20 cm below the original ground surface. Near the right wall, the builders of the house encountered a large buried boulder and left it in place. The front of the house showed evidence of both disturbance and rebuilding. An entrance was situated on the right side, with a well-made flagged 1.5 m long floor flanked by large boulders. Beside the entrance, a particularly large boulder originally defining one side had fallen over, blocking the entrance. On the left side at the front of the house was a cooking area, indicated by burnt bone, ash, and grey, greasy soil. Much of the burning appeared to have taken place on a large, tabular stone. When encountered, this cooking area was overlain by large, structural boulders, which appear to represent a rebuilding episode in which the kitchen area was covered and the overall size of the house was slightly reduced. This likely occurred at the same time that the floor was rebuilt. No direct evidence for the form of the roof was encountered. In front of the house, we found a shallow midden, significantly more substantial than the one associated with Feature 2.

TABLE 2. Artifacts from the 2008 excavations at Pembroke, with recent intrusive artifacts excluded.

Artifact category	Feature 2	Feature 5	Feature 8	Feature 9
arrowhead, antler	2	2		1
harpoon head, Thule 2, antler	1			
harpoon endblade, slate				3
ice pick, antler				2
snow probe tip, antler				1
Dorset foreshaft (?), antler				1
kakivak (leister) prong (?), antler				2
barb/prong, antler				1
ulu blade, slate		2		
trace buckle, whale bone				1
sled shoe, antler		3		1
tube, bone		1	1	4
shaft fragment, antler		2		
model knife/amulet, antler				1
fragment, iron				1
fragment, skin		19		
fragment, wood		60		3
ground fragment, slate		1		4
flake, slate	2		1	17
preform, slate				5
flake, chert	2			1
flake/core fragment, quartz		6		3
flake, other stone				1
debitage/unidentified, antler	9	19	59	15
Total	16	115	61	68

The artifact sample from Feature 5 was relatively small. Two arrowheads attest to the importance of caribou hunting, and three sled shoe fragments indicate the use of sleds, though they are silent on whether significant numbers of dogs were involved in their use. Two ulu blade fragments and a bone tube fragment are the only other diagnostic artifacts. Feature 5 included a number of skin and wood fragments, probably because its depth is greater than that of Feature 2.

Feature 8

Feature 8 is the most prominent feature at the site, not only because it is the largest, but also because it is located at the greatest elevation—almost on the summit of the knoll. Given its exposed position, it must have been intended for warm-season use. This feature was assumed from the outset to be a likely *qalgiq* (communal structure) because of its

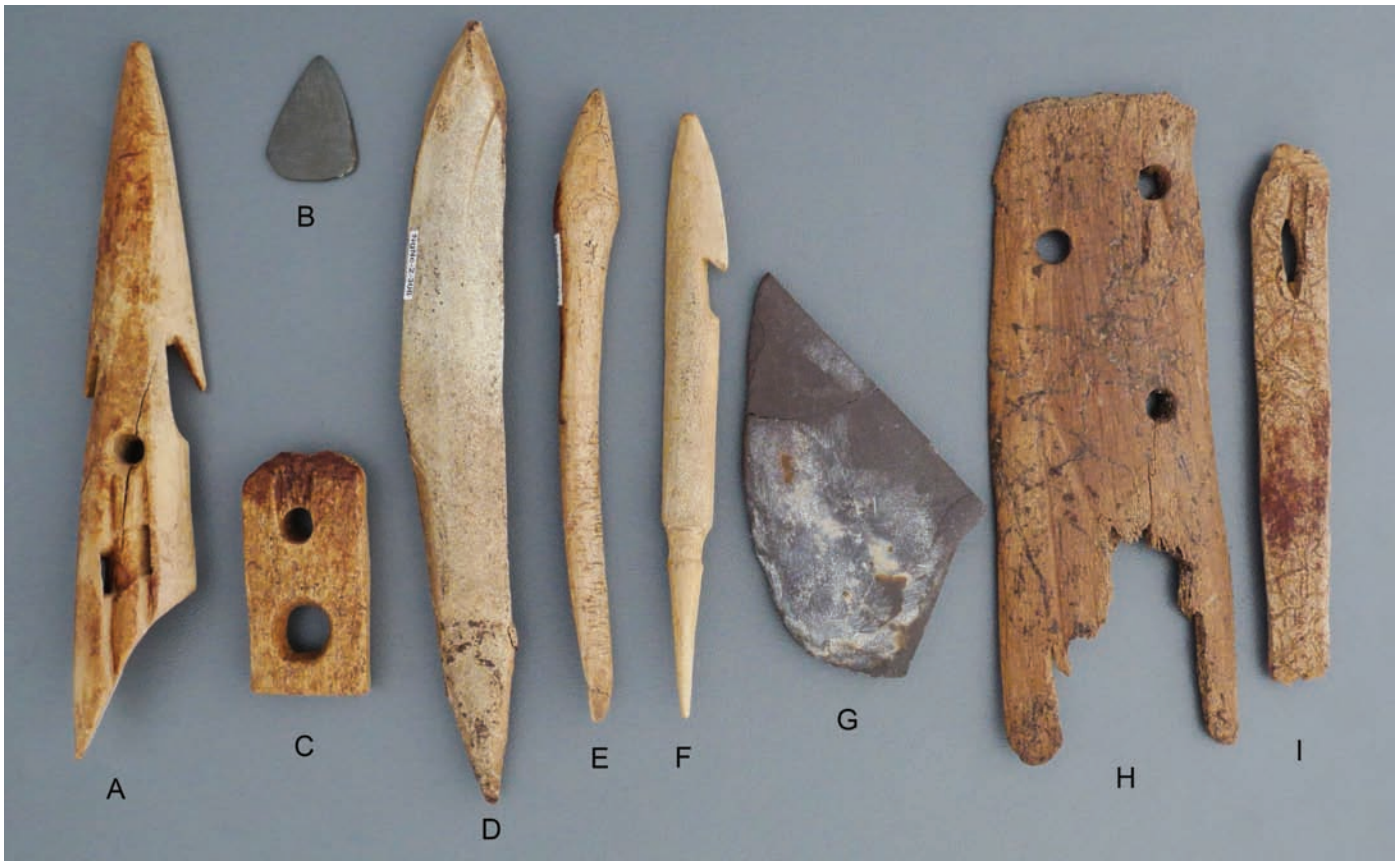

FIG. 5. Selected artifacts from the 2008 Pembroke excavation. A) Thule type 2 harpoon head, B) harpoon end blade, C) trace buckle, D) ice pick, E) snow probe tip, F) arrowhead, G) ulu blade fragment, H) sled shoe fragment, I) possible reworked Dorset foreshaft. All are antler except B and G, which are slate, and C, which is whale bone.

size and its apparent lack of the internal features normally associated with dwelling structures, such as a clear division between a sleeping area at the rear and a work/cooking area at the front. *Qalgiit* (plural of *qalgiq*) are relatively common in the Thule archaeological record, and they occur in both warm- and cold-season forms (e.g., McCullough, 1989; Friesen and Stewart, 1994; Savelle, 2002).

Excavation of Feature 8 was very straightforward: the feature contained little in the way of artifacts and bones on its floor, and significant amounts of sediment were found only near the walls. The fully excavated structure confirmed its status as a *qalgiq* (Figs. 7, 8). When originally occupied, the structure almost certainly had a bench running around its entire margin—remaining parts of this bench are clearly visible everywhere except to the right of the entrance, which has been disturbed. Benches are indicated by blocky, flat stones, all at the same height of around 20 cm above floor level, and in some cases built up in more than one course. The builders of the *qalgiq* had excavated the rear of the floor into the hillside, probably to reduce the slope in order to create a relatively flat floor. An entrance, indicated by a partial gap in the ring, faced downslope. Some slumping of the walls has occurred, but the interior diameter varied from 3.25 to 3.5 m. Thus its total floor area was at least 1.5 times that of any other structure on the site.

The artifact sample from Feature 8 was notable for its complete lack of diagnostic artifacts (with the partial exception of a single bone tube fragment), indicating relatively light overall use. However, it does contain an extremely high frequency of antler debitage fragments (primarily shavings). This pattern is consistent with the functioning of this *qalgiq* as a men's house, in which tool manufacture and maintenance and information exchange were the primary daily functions, though this function was likely combined with occasional use for community-wide events.

Feature 9

The final feature excavated, Feature 9, appeared from the surface to be a relatively simple tent ring (Fig. 9). However, excavation yielded a number of surprises, including a relatively deep matrix, a larger artifact sample than was present in any other feature, and a rebuilt floor at the front of the dwelling. Feature 9 was circular, and approximately 2.5 m in interior diameter. It is surrounded by blocky stones, which are generally fewer and smaller than those from the three other excavated features. Three additional substantial stones aligned across its middle probably differentiate a sleeping area at the rear from an activity and cooking area at the front. On the left side, a possible niche of approximately 50 × 50 cm extends outward from the wall. The

FIG. 6. Pembroke Feature 5.

FIG. 7. Pembroke Feature 8.

FIG. 8. Pembroke Feature 8 fully excavated. Lauren Norman, Sean Desjardins, Brendan Griebel, and Talena Stevenson are all sitting on in situ bench stones against the walls of the *qalgiq*.

FIG. 9. Pembroke Feature 9.

front of the floor was almost fully flagged, while the rear was largely devoid of flagging. Furthermore, the flagged area at the front covered a relatively dense bone and artifact cluster, indicating that the feature had been rebuilt or reoccupied at least once. At the front interior, to the right of the probable entrance, was a cooking area, indicated by greasy grey soil, charcoal, and burnt bone.

Feature 9 has a larger and more diverse artifact sample than any other feature, which includes an array of hunting,

fishing, transportation-related, and other implements. A probable Dorset foreshaft fragment (indicated by a gouged line hole) may indicate that an ephemeral Dorset occupation preceded the arrival of Thule, which may also account for some of the lithic flakes in several of the excavated features. Finally, an iron fragment that may be part of a blade and a trace buckle made of whale bone (part of a dog harness) are the only two exotic materials at the site. They may represent trade, or alternatively were transported to the site when its occupants first arrived from elsewhere.

FAUNA

High-resolution faunal samples, recovered through 3 mm mesh screening, were obtained from all features. Table 3 shows the taxonomic distribution from the four features and two associated middens, expressed as number of identified specimens (NISP). One of the most striking features in all assemblages is the high proportion of fish remains, ranging from 42% in Feature 8 to 85% in the Feature 5 midden (Fig. 10). Also noteworthy is the low frequency of sea mammals, which make up only 1% to 9% of the identified mammals, with the lowest numbers in the middens and higher proportions in the feature interiors. Caribou (*Rangifer tarandus*) dominates the identified mammal taxa, contributing between 47% and 94% of mammal specimens in all features. Bird bones are present in all assemblages and range from 3% of NISPs in the Feature 5 midden to 20% in Feature 8.

Feature 2

The Feature 2 midden and house assemblages were broadly similar, though not identical. In both assemblages, Salmonidae make up a majority of the fish remains. In all site assemblages, nearly equal proportions of Arctic char (*Salvelinus alpinus*) and lake trout (*Salvelinus namaycush*) indicate that fishing occurred not only during warm season char runs, but also at other times of the year. Winter fishing through the ice for lake trout was probably an important part of the overall subsistence strategy. One difference between house and midden is that the house has a low proportion of Gadidae and Greenland cod (*Gadus ogac*) remains. The presence of Greenland cod suggests that the house was occupied in the late winter or early spring, when these small cod move into the brackish onshore waters (Mikhail and Welch, 1989). At this time of year, people can jig for cod through the ice close to shore. For both the house and the midden, caribou make up most of the mammalian assemblage (93% for both), with foxes (*Vulpes* spp.) and ringed seal (*Pusa hispida*) composing the rest of the remains. Birds make up a slightly greater percentage of the house assemblage than the midden assemblage; most of the bird remains are waterfowl, with a few gulls found in the house.

The modification frequencies in Feature 2 distinguish the house and midden assemblages from other features (Table 4). Modifications show that neither the midden nor the house was affected greatly by carnivore gnawing; the Feature 2 house and midden show the lowest frequency of gnaw marks at the site, with the exception of Feature 8. This absence of carnivore gnawing on midden bones suggests that the feature was buried quickly. Feature 2 also shows a very low proportion of cut marks. The only other modification recorded was burning; the Feature 2 house includes an extremely high proportion of burnt bone (78%). Most of this burnt bone represents small fragments unidentifiable to class. These unidentifiable remains comprise a large portion of the total number of specimens (NSP) at around 83%. This large proportion of unidentifiable burnt remains is different from that of any other house; it increases the total specimen count, but lowers the proportion of bones identified. Most of the small burnt material comes from the kitchen area, but some of it also comes from the tunnel. As described above, the kitchen was not distinctly separate from the house, and post-depositional processes likely moved some of the burnt material into the front floor and tunnel.

Feature 5

Prior to describing the faunal assemblage as a whole, it is important to note that there was a partially articulated Tundra Swan (*Cygnus columbianus*) found under a large flat stone in the rear of Feature 5. The articulated head, neck, and two wings were present. This one bird accounts for 255 Tundra Swan specimens in the house, and probably represents a ritual event, perhaps associated with the final abandonment of the house. The faunal analyses exclude these bones, since they would drastically skew the taxonomic results; their removal has little impact on the overall interpretation of the site.

Again, fish remains dominate the assemblages; the Feature 5 midden shows the highest proportion of fish in any assemblage, at 84% of NISP. Consequently, the midden shows a reduced proportion of mammal remains in comparison to any other assemblage (12%) (Fig. 10). In the house, fish and mammal remains contribute fairly evenly to the assemblage, with a slightly greater number of fish specimens. In both the house and the midden, birds make up small proportions of the assemblage. The fish composition in the house is similar to that of the house and midden of Feature 2; Salmonidae make up around 99% of the fish assemblage, with a few Greenland cod specimens. The midden is quite different; although Salmonidae make up a majority of the remains, Gadidae make up 43% of the midden fish assemblage. Greenland cod is the only identified gadid species, and therefore it is assumed that the unidentified gadid elements are mostly Greenland cod. Again, the presence of this species suggests that Feature 5 was occupied in the late winter and early spring, when Greenland cod were feeding in brackish waters. The house and midden have broad similarities but slight differences in their mammalian taxonomic composition. Although caribou dominates both mammalian assemblages (88% of

TABLE 3. Taxonomic frequencies by feature. Class %NISP is the percentage of each class within specimens identified to class and lower; taxon %NISP is the percentage of each taxon within its class.

	Feature 2				Feature 5							
	House		Midden		House		Midden		Feature 8		Feature 9	
Taxon	NISP	%NISP	NISP	%NISP	NISP	%NISP	NISP	%NISP	NISP	%NISP	NISP	%NISP
Gastropoda/Bivalvia	1		0		0		0		0		0	
Mollusca (Shell) Total	**1**		**0**		**0**		**0**		**0**		**0**	
Salvelinus alpinus (Arctic char)	15	5.40	11	5.95	25	8.12	31	6.84	1	4.00	84	11.07
Salvelinus namaycush (lake trout)	11	3.96	22	11.89	22	7.14	33	7.28	0	0.00	70	9.22
Salmonidae (salmonids)	248	89.21	152	82.16	257	83.44	192	42.38	24	96.00	605	79.71
Gadus ogac (Greenland cod)	2	0.72	0	0.00	4	1.30	72	15.89	0	0.00	0	0.00
Gadidae (cod)	2	0.72	0	0.00	0	0.00	125	27.59	0	0.00	0	0.00
Actinopterygii	1260		582		987		1148		55		1579	
Actinopterygii (Ray-finned fish) Total	**1538**	**60.05**	**767**	**72.98**	**1295**	**48.74**	**1601**	**84.80**	**80**	**41.67**	**2338**	**72.63**
Anser albifrons (Greater White-fronted Goose)	2	6.06	0	0.00	0	0.00	0	0.00	0	0.00	2	4.26
Branta canadensis (Canada Goose)	1	3.03	0	0.00	10	33.33	0	0.00	0	0.00	7	14.89
Goose	10	30.30	2	40.00	11	36.67	5	33.33	0	0.00	7	14.89
Cygnus columbianus (Tundra Swan)	3	9.09	1	20.00	4[2]	13.33	1	6.67	0	0.00	15	31.91
Anas acuta (Northern Pintail)	1	3.03	1	20.00	0	0.00	1	6.67	2	40.00	2	4.26
Somateria spectabilis (King Eider)	1	3.03	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Somateria mollissima (Common Eider)	0	0.00	1	20.00	0	0.00	0	0.00	0	0.00	0	0.00
Somateria spp. (eider)	0	0.00	0	0.00	2	6.67	2	13.33	0	0.00	2	4.26
Clangula hyemalis (Long-tailed Duck)	0	0.00	0	0.00	2	6.67	1	6.67	1	20.00	2	4.26
Duck	12	36.36	0	0.00	1	3.33	0	0.00	1	20.00	1	2.13
Stercorarius spp. (jaeger)	1	3.03	0	0.00	0	0.00	1	6.67	0	0.00	1	2.13
Larus hyperboreus (Glaucous Gull)	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	2.13
Laridae (gull)	2	6.06	0	0.00	0	0.00	2	13.33	0	0.00	1	2.13
Sterna paradisaea (Arctic Tern)	0	0.00	0	0.00	0	0.00	2	13.33	1	20.00	6	12.77
Plectrophenax nivalis[1] (Snow Bunting)	0		0		0		0		0		2	
Small bird	1		0		0		0		0		3	
Small-medium bird	7		18		1		0		2		1	
Medium bird	6		0		1		1		1		8	
Medium-large bird	28		13		13		19		4		16	
Large bird	9		0		11		0		1		14	
Aves	104		1		81		25		26		20	
Aves (Bird) Total	**188**	**7.34**	**37**	**3.52**	**137**	**5.16**	**60**	**3.18**	**39**	**20.31**	**109**	**3.39**
Cricetidae[1] (voles/lemmings/mice)	12		0		20		1		13		32	
Canis lupus (dog/wolf)	0	0.00	0	0.00	0	0.00	1	1.23	0	0.00	4	1.09
Vulpes spp. (fox)	17	5.23	5	6.10	14	3.20	8	9.88	0	0.00	10	2.72
Vulpes/Lepus (fox/hare)	0	0.00	0	0.00	0	0.00	0	0.00	9	47.37	0	0.00
Pusa hispida (ringed seal)	7	2.15	1	1.22	39	8.90	1	1.23	1	5.26	8	2.18
Rangifer tarandus (caribou)	301	92.62	76	92.68	385	87.90	71	87.65	9	47.37	345	94.01
Small land mammal	0		0		2		13		0		7	
Large land mammal	47		23		195		21		39		254	
Land mammal	0		0		7		2		0		0	
Marine mammal	1		0		0		0		1		2	
Mammalia	462		142		328		110		14		142	
Mammalia (Mammal) Total	**835**	**32.60**	**247**	**23.50**	**970**	**36.51**	**227**	**12.02**	**73**	**38.02**	**772**	**23.98**
Indeterminate	12358		324		2896		624		147		1094	
Total NSP	14919		1375		5298		2512		339		4313	
Total NISP	636		272		776		549		49		1173	

[1] Probable intrusive taxa; excluded from all calculations.
[2] Excludes 255 bones from a single articulated individual; see text for details.

the mammalian assemblage for both), the house has significantly more seal remains than the midden or any other assemblage (9%). Both the house and midden also have low proportions of fox remains, with one dog/wolf (*Canis lupus*) element in the midden.

Feature 5 house and midden have low absolute frequencies (but average relative frequencies) of gnaw marks, cut marks, and burning. The house has a slightly higher proportion of cut marks and burning, while the midden has slightly higher proportions of gnaw marks. The differences in gnaw marks may be due to the greater exposure of the midden to carnivores. Burning affects 13% to 17% of the Feature 5 house and midden assemblages. In the house, most of this burnt material comes from the kitchen area.

TABLE 4. Modification frequencies on faunal remains for all features and middens, expressed as %NSP.

	Feature 2		Feature 5			
	House	Midden	House	Midden	Feature 8	Feature 9
Cut marks	0.02	0	0.16	0.08	0.29	0.09
Gnaw marks	0.01	0	0.07	0.12	0	0.14
Burning	78.42	5.60	17.09	13.22	0	0.58

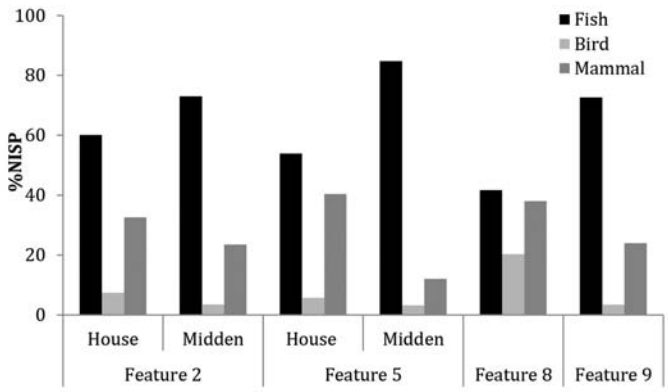

FIG. 10. Vertebrate class proportions for all features and middens.

Feature 8

Feature 8 had the lowest number of bones recovered (NSP = 399) and the lowest number identified to family or lower (NISP = 49). This low number of identified specimens limits the meaningfulness of many analyses. However, some faunal indicators suggest that Feature 8 was unique. In particular, class frequencies are distinct, with the highest proportion of birds (20%) and almost equal representation of fish and mammals (Table 3; Fig. 10).

Modification frequencies in Feature 8 are different from those in the other features as well. For example, in contrast to all other assemblages, no burning is evident on Feature 8 specimens (Table 4). Additionally, the proportion of cut marks is higher than in any other assemblage (Table 4). However, cut marks are still absolutely very low, with only 0.3% of the bones affected; the high overall frequency may result from the small sample size.

Feature 9

Only the dwelling feature was excavated at Feature 9, since there did not appear to be an associated concentrated midden. As in Features 2 and 5, fish dominated the assemblage, followed by mammals, with a low number of bird specimens. However, the fish assemblage is slightly different from those at the Feature 2 or 5 houses, with no gadid remains identified. Feature 9 has the highest frequency of caribou of any dwelling assemblage, with low amounts of fox, dog/wolf, and seal. The birds, although they form a small proportion of the assemblage, represent a greater diversity of species than is the case for any other feature (Table 3).

Feature 9 had the highest frequency of gnaw marks of any assemblage. This modification evidence may indicate that parts of this feature were not buried quickly, since it is shallower than the Feature 2 and 5 houses and middens. The cut mark frequency is average, but the burning modification frequency is very low; burning affects less than 1% of the Feature 9 assemblage. In this connection, an area of burnt bones was found in Feature 9, but these were mostly large bones, unlike the small, unidentifiable burnt remains in Features 2 and 5. Also, the burnt remains were not concentrated in a separate area, but were located in the main living area of Feature 9.

Summary of Faunal Interpretations

Overall, the Pembroke faunal assemblages indicate a clear reliance on fish and caribou across all features. All of the assemblages also include small numbers of furbearers, ringed seals, and a variety of birds. Despite these overall similarities, the features are distinct in a number of ways.

The taxonomic and modification frequencies in Feature 8 correspond to the architectural and artifactual differences indicating that this was a *qalgiq* (communal structure). This feature yielded a much smaller faunal assemblage than any other, with the most equal distribution of faunal classes. The modifications were also distinctly different, with the highest frequency of cut marks and an absence of burning. Despite the small sample size, these modification and taxonomic frequencies suggest a number of interpretations. First, the lack of burning indicates that this feature was probably not used for food preparation. Second, the low overall number of bones in the assemblage suggests that bones did not enter Feature 8 as frequently as they entered the other features, or that it was cleaned more frequently and thoroughly than Features 2, 5, and 9. Likely both factors contributed to the small assemblage. Ethnographically, the *qalgiq* was a place where people, specifically men, sometimes ate (Burch, 2006:54, 255–256). However, it was also a gathering place for the whole community (Burch, 2006: 264), which would potentially be cleaned for rituals, dances, and other communal activities. Butchery and food preparation did not usually occur in the *qalgiq*; instead, food was typically cooked in domestic dwellings by women and then brought into and consumed in the *qalgiq* (Burch, 2006:98, 264). The relatively high frequency of bird remains may relate to the fact that bird bones are often used as raw materials in tool manufacture. Bird limb bones are most frequently used for tool production; in Feature 8, 80% (31 of 39) of bird specimens are limb bones, while in

TABLE 5. Caribou bone mineral density rank order correlation coefficients for each context, calculated using Spearman's rho. Bone mineral density values are the BDM2 values (Lam et al., 1999, 2003). Highest density values for each element class were compared to caribou survivorship, expressed as %MAU.

	Feature 2		Feature 5			
	House	Midden	House	Midden	Feature 8	Feature 9
Density	$r_s = 0.60$ $p < .05$	$r_s = 0.28$ not sig.[1]	$r_s = 0.34$ $p = .16$	$r_s = 0.29$ $p = .24$	$r_s = 0.21$ not sig.[1]	$r_s = 0.76$ $p < .05$

[1] For cases with fewer than 10 pairs, significance at the .05 level is based on a table of critical values for r_s.

all other contexts, limb bones make up only 23% to 47% of the bird remains. The bird frequencies and high frequency of antler debitage correspond to the interpretation that the *qalgiq* was used as a workspace where tools were produced from hard organic materials.

For Features 2 and 5, midden areas were excavated in addition to the house interiors. However, as recorded by ethnographers and archaeologists, middens and associated dwellings often have quite different faunal assemblages resulting from their functional differences (Stefansson, 1914; Rasmussen, 1932; Binford, 1978; Friesen and Betts, 2006; Darwent and Foin, 2010). Analyses of the two middens revealed some interesting similarities and differences between the middens themselves and between the middens and the houses. Both middens had slightly greater proportions of fish remains, and consequently slightly lower proportions of mammal and bird remains, than their respective houses. The middens also had less evidence of burning than either house, with a large difference between the Feature 2 house and midden and a much smaller difference between the Feature 5 house and midden. This difference is likely due to the fact that the burnt remains were not remnants of an outside hearth, but rather the remains of household cleaning activities that would move some burnt material from the interior to the midden. Despite these similarities, the middens differed in relation to other modifications. There were no gnaw or cut marks on the material from the Feature 2 midden, while there were low frequencies of both at Feature 5. The higher frequency of gnaw marks on the Feature 5 midden material may indicate that this midden was not buried as quickly as some of the other assemblages. Alternatively, dogs may have been kept near the Feature 5 midden, leading to increased evidence of gnawing.

The fish taxonomic composition was quite different in the middens as well. Feature 5 had the highest frequency of Gadidae of any assemblage, with no Gadidae identified for the midden at Feature 2. This fact may be related to butchery, cleaning, or consumption practices. As has been discussed elsewhere (Norman and Friesen, 2010), Greenland cod may have been used as an emergency resource at the end of winter. This implies that the occupants of Feature 5 may have experienced at least one year of hardship, leading to the increased use and discard of Greenland cod in the Feature 5 midden.

Since there can be significant differences between dwellings and their associated midden faunal assemblages (Friesen and Betts, 2006), the following section will compare only the dwelling structures for Features 2, 5, and 9. Overall, the three assemblages are very similar; fish and caribou dominate, with other mammals and birds contributing to the remainder of the assemblage. More specifically, the fish frequencies are slightly different; both Feature 2 and Feature 5 have small amounts of Gadidae identified in their houses, while Feature 9 has none. As described above, this was likely a cold-season resource. There are no other distinct markers of seasonality in the faunal record, as all identified birds are migratory and there are fairly equal ratios of Arctic char and lake trout in the three features. The only other difference is in the greater proportion of ringed seals in Feature 5. Here, seals make up about 9% of the mammal assemblage, while in Features 2 and 9 they only make up around 2% of the mammal assemblage. Reasons for this difference are not clear.

This difference in seal proportions between Feature 2 and Feature 5 may account for the difference in unidentifiable burnt remains between the two. If people in Feature 5 were able to acquire more seals, they would have had access to more oil for lamps for lighting, heating, and cooking. When seals were less available, people would have had to turn to other sources of fuel, with bone as a potential fuel source. Once the marrow has been removed from long bones, cancellous bones are the most useful for fuel as they contain the most fat (Théry-Parisot and Costamagno, 2005; Théry-Parisot et al., 2005). These bones could be broken prior to burning or during the fire; in either case, the less dense cancellous bones were likely destroyed to a greater degree than the denser cortical bone (Costamagno et al., 2010; Vaneeckhout et al., 2010, 2013). In Feature 2, caribou bone survivorship correlates positively and significantly with bone mineral density (Table 5), which is consistent with the use of bones for fuel. This use may have resulted in the high proportions of both burnt and unidentifiable remains found in Feature 2.

In general, the faunal remains corroborate the artifactual and architectural interpretations of the site. Feature 8 was distinctive in taxonomic and modification frequencies as a direct result of its status as a *qalgiq*. There is no evidence for food preparation, but possible evidence for the introduction of bird bones as raw materials in tool manufacture. Though Features 2, 5, and 9 are quite similar in overall taxonomic frequencies, subtle patterns are consistent with Feature 9 being occupied in the warm season, while Features 2

TABLE 6. Radiocarbon dates from Pembroke. I-2059 is a conventional date run on bone collagen of unknown species. All others are AMS dates on caribou bone.

Lab no.	Feature	Radiocarbon age BP	Calibrated age ranges AD, 1 sigma
I-2059	Feature 4	785 ± 120	1049–1084, 1124–1136, 1150–1300, 1369–1381
Beta 270116	Feature 1	590 ± 40	1310–1360, 1387–1405
UCIAMS 104993	Feature 2	460 ± 20	1432–1445
UCIAMS 104994	Feature 5	530 ± 20	1406–1425
UCIAMS 104995	Feature 9	555 ± 20	1328–1341, 1395–1415
UCIAMS 118879	Feature 5	515 ± 15	1413–1427
UCIAMS 118880	Feature 2	495 ±1 5	1421–1434

and 5 were occupied in the cold season. Most notable are the complete absence of gadid remains in Feature 9 and the significant diversity of bird species, despite a relatively small sample size. Finally, analysis of the Feature 2 and 5 house and midden samples indicates some small differences relating to seal remains, burning frequencies, and gadid remains. The people of Feature 5 seem to have acquired seals and Greenland cod more frequently over the course of the house occupation. The people of Feature 2 did not acquire as much seal or cod and likely had to use bone as a fuel source more often. In both houses, Greenland cod may have been used as an emergency resource at the end of winter.

CHRONOLOGY

The artifact sample from the 2008 Pembroke excavations is very small and has only limited value in providing a typological date for the site. However, the few arrowheads, harpoon head, and other finished artifacts are all consistent with a "Classic Thule" age, post-dating the initial Thule migration from Alaska. Importantly in this context, Taylor (1972) identified a Natchuk harpoon head, associated with pioneering Thule, from his House 1. However, subsequent reanalysis indicates that this artifact lacks the vestigial sideblade slot found on most Natchuks, and it has only one barb because of a resharpening episode during which a second barb was removed. Thus, it is a reworked Thule 2 harpoon head, which fits better with the remainder of the assemblage and also with the radiocarbon dates.

Seven radiocarbon dates have been obtained for the Pembroke site (Table 6). Date I-2059 was based on bone collagen of unknown taxa and can be rejected as too old. If we use dates based on 1-sigma probability distributions and ignore early 14th century intercepts for two of the dates (due to a "wiggle" in the calibration curve, Beta 270116 and UCIAMS 104995 intercept both early in the 14th century and around cal AD 1400), the other six appear to indicate an occupation span of perhaps two to three decades, during the early 15th century. This conclusion should not be taken to indicate that the entire site was occupied for this full span, a point that will be taken up further below.

DISCUSSION

Because of the observed surface condition and spatial layout of the Pembroke site, the 2008 excavations were conducted with a working hypothesis that the site represents a very short-term occupation by a migrating group, who moved from lighter, warm season dwellings to heavier winter dwellings—perhaps over the course of a single year or a very few years—before the site was abandoned and the population moved on. Excavation and analysis have upheld aspects of this interpretation, but have also added elements of complexity and ambiguity.

The duration of occupation is still considered to be relatively short because of the tight clustering of radiocarbon dates, very small artifact samples, shallow or almost nonexistent middens, and lack of multiple floors and complex rebuilding episodes in most excavated dwellings. However, the original assumption that the site represents as little as a year or two of occupation is negated by the fact that the radiocarbon dates appear to represent a slightly longer occupation for the site as a whole (though not necessarily for all of its dwellings), and the fact that Features 5 and 9, a heavier and lighter dwelling, respectively, had evidence for at least one rebuilding episode each, and somewhat larger artifact samples than the other excavated dwellings. These two features may have been occupied for much or all of the entire chronological span of the site, overlapping with other features for only parts of their occupation. In contrast, the slightly later dates from Feature 2 may indicate that it was built near the end of the site's overall chronological span and occupied perhaps for only a year or two, given its very sparse artifact inventory. However, the dates do not allow too detailed an interpretation. Since there are only six usable dates for the entire site, and each date represents a range, they cannot be expected to capture the precise duration of occupation of each feature or the site as a whole. Furthermore, the fact that all features are complete (none apparently had stones removed for building other features, as might be expected if earlier features had been abandoned) argues for most of each type of dwelling (light or heavy) having been occupied contemporaneously at some point in the site's overall span. This pattern would indicate the presence of perhaps four or five families, or about 20–25 people.

Also somewhat ambiguous are the differences between the lighter and heavier dwellings. In this respect, the most

important observation remains the fact that the five dwellings which appear to be lighter are all located significantly higher on the hill, as would be expected if they were situated to take advantage of the wind in the summer, while the heavier dwellings are at the base of the hill, where they would be protected from prevailing winds during the winter (Cambridge Bay Elders, cited in Griebel, 2013:227). The lighter dwellings are also more nearly circular in outline form (with the exception of Feature 4, a relatively round semi-subterranean house), which is consistent with most Inuit tent rings, as opposed to the generally elongated and oval-to-rectangular forms of the heavier dwellings. The light dwellings are also made with smaller and fewer stones than are the heavy dwellings. However, it is also clear that the division between the types is not that great, given that the "heavy" dwellings are less robust than most Thule winter houses, and the "light" dwellings are quite substantial and variable. Furthermore, even the lighter dwellings were at least slightly excavated into the surface by their builders. Probably this was done in part simply to make them level, given that they were constructed on a slope; however, it also suggests that they were intended for a relatively long-term occupation and resistance against wind, as opposed to simply being temporary summer dwellings. Feature 9 is particularly noteworthy in this respect, since on the surface it appeared to be a relatively straightforward tent ring, but excavation revealed some excavation into the hillside (to level the floor) as well as a rebuilt floor, which is unusual for tent rings. The artifact samples are not large enough to allow confident inference of different seasonal activities between the different dwelling features, and the faunal samples, as described above, are also somewhat ambiguous in relation to seasonality, though the small differences that do exist are consistent with a warm season/light dwelling vs. cold season/heavy dwelling difference. In sum, it is likely that these dwellings do represent two seasonal types, with families moving from light to heavy dwellings in late fall or early winter, though they were eating much the same mix of foods in warm and cold seasons because they relied on stored caribou and char in the winter. At the same time, it must be acknowledged that most features in both light and heavy categories could be considered variants of the broad class of dwellings referred to as *qarmat* (singular: *qarmaq*), a form intermediate between tent rings and winter dwellings, which encompasses a significant range of variability (e.g., Schledermann, 1976; Park, 1988; Lee and Reinhardt, 2003).

On the basis of these observations and inferences, the following interpretation can be offered for the occupation of this site. Around AD 1400, several families set out to find a new place to live. Perhaps they were driven out of their homeland by feuds or famine; perhaps they were simply seeking new opportunities. We cannot be sure if they came from east or west. The small sample of material culture shows strong similarities to Classic Thule sites to the east and northeast (e.g., Taylor and McGhee, 1979; McGhee, 1984), but also to some sites to the west in Amundsen Gulf (Morrison, 1990) and western Coronation Gulf (Morrison, 1983).

The migrants chose to come to the Coronation Gulf region, perhaps in part because other regions with higher prestige and larger-package resources such as whales and walrus were already occupied. Sea ice conditions in the Coronation Gulf/Queen Maud Gulf region are characterized by extensive annual ice which melts fully every summer, with very few leads and polynyas (recurring ice-free open water areas). Combined with the great distance of the central Arctic from Pacific and Atlantic Oceans, this means that large sea mammals dependent on open water, such as bowhead whales, beluga whales, and walrus, are almost completely absent from this region. Instead, local food sources consist mainly of ringed seals, caribou, and Arctic char, along with lesser numbers of secondary species (Jenness, 1922). While Thule people had always been capable of acquiring these species, and while caribou in particular were highly valued for skins and other raw materials in addition to their value for food, it is likely that the lack of socially and economically important large sea mammals made this region less attractive than some others to the earliest "pioneering" Thule migrants. Thus, the area appears not to have been permanently settled during the first wave of Thule immigration, making Pembroke the earliest Thule settlement in the region.

Perhaps four to five families arrived, choosing this spot as one with both a productive char river and regionally concentrated caribou, especially in the fall. Local resource conditions would have been gleaned from clues on the land and perhaps from Thule observation of the Middle Dorset middens at the nearby Newnham site (Taylor, 1972). They built heavy warm-season dwellings when they arrived, perhaps because they were uncertain how late into the fall they would occupy these structures in this new land. They also built a *qalgiq* near the top of the hill. While *qalgiit* are relatively common on Thule sites, it is noteworthy that in this small, potentially transient community a significant effort was made to construct and maintain one in such a prominent location. It likely functioned as a centre for information exchange as the site's occupants learned about this new region, a spatial anchor for their new social landscape, and perhaps a statement of claim to the region. They then set about learning the new landscape and acquiring enough food for their first winter. Winter subsistence, based mainly on stored caribou and char, may have been somewhat marginal—possibly the acquisition of Greenland cod represents a reaction to shortages or difficulties in subsistence during some of those early settlement years.

The duration of occupation of the site as a whole may have been on the order of two to three decades, though a shorter duration is possible given the shortcomings inherent in the interpretation of radiocarbon dates. It was not occupied by a demographically stable group, as indicated by longer occupations of some dwellings than others, and Feature 2 may date only to the later end of this range. The site was eventually abandoned, and the fact that the winter

houses were not constructed heavily and had very short entrances without deep cold traps may indicate that it was never intended as a long-term settlement. Another possible interpretation, which cannot be fully assessed from current evidence, is that the houses were lightly built because the inhabitants moved out onto the sea ice to hunt seals during some part of the winter. This interpretation is made less likely by the presence of Greenland cod, a late winter/early spring species, in Features 2 and 5. Likewise, the heavy nature of the warm season dwellings may result from the settlers' lack of clear knowledge as to how long they would stay in this new location. Instead, the site may have functioned as a temporary settlement from which to explore. Of course, the fact that it may have been occupied for several decades does indicate that the occupants made a concerted effort to settle here, even if it was ultimately unsuccessful.

This short occupation stands as an interesting portrait of a small-scale migration of the sort that must have happened frequently in the Arctic past. The very ambiguity that confounds easy interpretation may result from the fact that the newly arrived migrants adopted a flexible approach to dwelling construction and subsistence until the vagaries of the region were fully understood. In this case, the temporary settlement did not prove to be the best choice for a new home, and the site's occupants moved on after a short stay. However, despite the fact that the site was intended to be occupied only briefly, these early Inuit made significant efforts to impose their central social structures on the settlement and, by extension, the region. This effort is most prominently seen in the construction of the *qalgiq*. Probably a place where men repaired tools and discussed the hunt daily, the *qalgiq* would also have been the scene of drum dances for the whole community, and perhaps it was here that the decision was made to abandon the settlement in order to find a better place to live.

POSTSCRIPT

One of the reasons for choosing Pembroke for excavation was the proximity of the site to the town of Cambridge Bay. The project was intended to involve the community in several ways, through site visits and other means. While field-based interactions were modest in scope, the Pembroke excavation has had a second life in the community through the efforts of the Kitikmeot Heritage Society, and in particular its current Executive Director, Brendan Griebel.

More specifically, the Pembroke *qalgiq* was reimagined as a central part of the May Hakongak Community Library and Cultural Centre in Cambridge Bay. The *qalgiq* was recreated as a space within the community centre that can serve as a setting for meetings, performances, and celebrations (Fig. 11) (Griebel, 2013; Griebel and Kitikmeot Heritage Society, 2013; http://www.kitikmeotheritage.ca/qalgiq-theatre/about-qalgiq-theatre/).

FIG. 11. The interior of the reconstructed *qalgiq* in Cambridge Bay. Photo: Office of the Prime Minister of Canada.

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