

***GEOARCHAEOLOGICAL RESEARCH AT  
IGLOSIATIK ISLAND AND KOMAKTORVIK  
FIORD, NORTHERN LABRADOR***

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**D**uring July and August of 2007, I visited two Inuit sites in northern Labrador to collect soil samples for geochemical analysis, which will provide the basis for my M.A. research project. Specifically, my goal is to distinguish the geochemical signatures of winter dwelling features such as lamp areas, storage niches, floors, sleeping platforms, and entrance tunnels. This is useful for both taskscape prospection and strengthening interpretations of the spatial organization of activities performed inside winter dwellings. Under the supervision of Dr. Peter Whitridge, I collected soil samples from six dwellings: three from Iglosiatik Island and three from Komaktorvik Fiord.

Iglosiatik Island is approximately 50 km south of Nain in outer Voiseys Bay. Investigations began at Iglosiatik on July 13, focusing on HbCh-1, an early Labrador Inuit (Thule) habitation site on the west end of the island's south coast. The site consists of sixteen semi-subterranean sod dwellings built into an arc-shaped terrace. During our 17 day stay, the site was mapped using a total station and test units were excavated between houses 7 and 8, 10 and 11, and at the tunnel mouths of houses 9 and 16. Considering the contents of these units, such as high frequencies of ground slate blades, ground nephrite drill bits, the sporadic appearance of iron and copper, and an absence of ceramics, this site was likely occupied between the 15<sup>th</sup> and 17<sup>th</sup> centuries. Kaplan (2000: 5) also provides radiocarbon dates for this site between A.D. 1400 and 1642.



*HbCb-1 Facing West. (Butler)*

Locations for soil sampling were chosen according to similarities in surface vegetation, soil colour, and soil texture. Soil samples were extracted from houses 2, 12, and 13, and from an off-site control location using a stainless steel soil corer. The top 5 to 10 cm of each soil column was discarded to avoid testing surface horizons.

House 2, which is near the western extent of the site, was previously excavated by Kaplan (1983), and its size, shape, and interior arrangement are typical of early Labrador Inuit houses (Schlederman 1971: 68). This dwelling has an elliptical shape, an interior area of 16 m<sup>2</sup>, and a single rear sleeping platform measuring 7 m<sup>2</sup>. This house also has a kitchen niche adjacent to the eastern portion of the sleeping platform. The entrance tunnel opens to the south and measures 1 m wide by 5 m long. Soil columns were extracted from the floor, sleeping platform, lamp area, and entrance tunnel.

House 12 is near the middle of the main house row. It has a bilobate form, which was also common during the early Inuit occupation of northern Labrador (Whitridge 2004: 20-22). The west lobe's interior covers 18 m<sup>2</sup> and has a small rear sleeping platform measuring only 4 m<sup>2</sup>. The east lobe is much smaller, measuring only 8 m<sup>2</sup>. It has a small rear sleeping platform covering 3 m<sup>2</sup>. The entrance tunnel, which opens to the south,

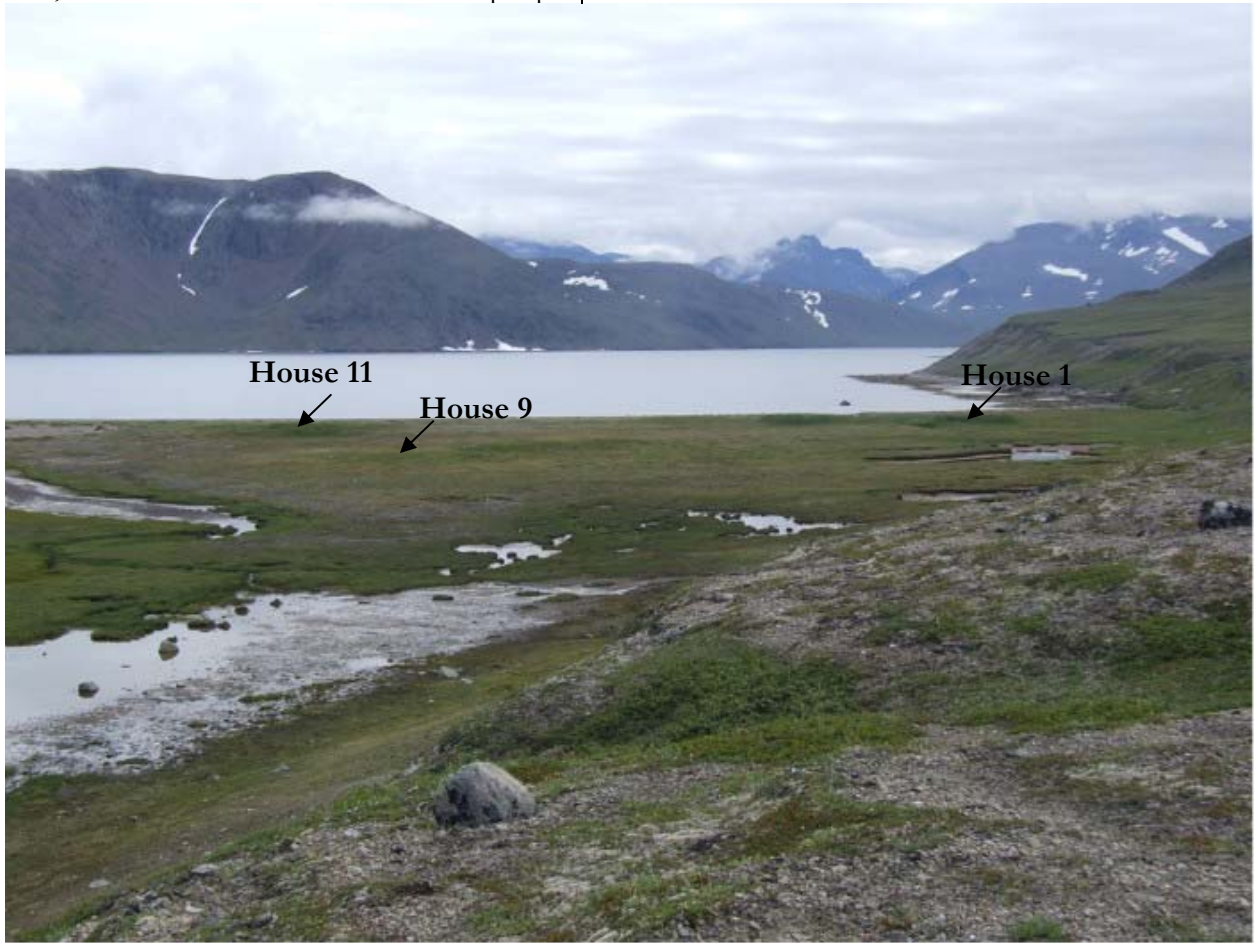
measures 1 m wide, 5 m long, and has a 3 m<sup>2</sup> alcove protruding from its west side. Soil columns were taken from the floors and sleeping platforms of both lobes, entrance tunnel, and tunnel alcove.

House 13 is displaced approximately 12 m north of the main house row. This dwelling is small, having an interior area of only 11 m<sup>2</sup> and a 3.5 m<sup>2</sup> rear sleeping platform. The entrance tunnel, which is 1 m wide and 4 m long, runs along a north-south axis, but turns southwest near its mouth. Soil samples were taken from the floor, sleeping platform, and entrance tunnel.

On July 30<sup>th</sup>, the crew was moved 350 km north to Komaktorvik Fiord, which is in the Torngat Mountains National Park. Specifically, we investigated the Inuit component of IhCw-1, which is located on the outer fiord's west coast on a small sandy spit. The Inuit component of the site consists of 13 semi-subterranean sod dwellings that are distinguishable from their surroundings by the lush grass growing around them, indicating anthropogenically derived chemical enrichment (McCartney 1979). During the month of August, the site was mapped using a total station and test units were excavated near houses 1, 2, 5, 9, and 11. Chipped Ramah chert endblades, bifaces, and scrapers suggest that early Dorset people initially occupied the area. Radiocarbon dates for this component range

between 2515+/-70 and 2110+/-70 B.P. (Anton 2004: 160). Additionally, high frequencies of ground stone tools, ceramics, and metals indicate that Inuit people

occupied the area from the early 15th to mid 19th century (Kaplan 1980: 648; 1983: 710, 741).



*IhCw-1 Facing South. (Butler)*

Soil sampling at IhCw-1 was conducted in the same manner as mentioned for HbCh-1. Since various phases of Inuit occupation are present at IhCw-1, houses representing early (15<sup>th</sup>-17<sup>th</sup> centuries), middle (18<sup>th</sup> century), and late (19<sup>th</sup> century) occupations were chosen for sampling. These were houses 9, 11, and 1 respectively.

House 9 is located at the east end of the site's northern house row, which consists of seven other dwellings. Its elliptical shape, interior area of 28 m<sup>2</sup>, 9 m<sup>2</sup> rear sleeping platform, and 1 m by 5 m entrance tunnel suggest that it is an early Labrador Inuit dwelling. Moreover, European materials were absent in the associated test units, suggesting that the dwelling was occupied during the pre-contact period. Soil samples were recovered from the floor, sleeping platform, and entrance tunnel of this dwelling.

House 11 is dissociated from the rest of the dwellings at IhCw-1. Its sub-quadrilateral shape, size, and sleeping platform arrangement suggest that it is an 18<sup>th</sup> century communal dwelling (Kaplan and Woollett 2000: 352). This house is rather large, having an interior area of 70 m<sup>2</sup>. It also has three sleeping platforms: one at the

rear and one on each side. The rear platform covers 9 m<sup>2</sup> and both side platforms measure 12 m<sup>2</sup> each. The entrance tunnel is 1 m wide, 4 m long, and opens northeast. Soil columns were taken from the floor, a possible lamp area, entrance tunnel, and each of the platforms.

Houses 1 and 2, which are located on the south-west portion of the site, represent the latest Inuit occupation of IhCw-1. The contents of test units associated with house 1, including banded annular wares, purple transfer printed wares, cartridge casings, rifle parts, and trapping equipment, suggests a 19<sup>th</sup> century occupation. This house has a sub-quadrilateral shape, a total interior area of 40.5 m<sup>2</sup>, and a single 9 m<sup>2</sup> rear sleeping platform. The lamp area is directly in front of the platform, roughly in the middle of the floor. House 1 also has a 6 m<sup>2</sup> alcove in its south-west corner. The entrance tunnel is 1.5 m wide, 8 m long, and opens to the southeast. Soil columns were removed from the floor, lamp area, sleeping platform, alcove, tunnel, and wall berm.

This fall, I processed fifty soil samples for x-ray fluorescence (XRF) and inductively coupled plasma –

mass spectroscopy (ICP-MS) analyses under the supervision of Pam King at the Memorial University Department of Earth Sciences Trace Element Laboratory. Sample processing and analyses were facilitated in accordance with procedures and standards discussed in Jenner et al. (1990), Longerich (1990; 1995), and Cook et al. (2004). In total, a suite of forty-three elements underwent measurement. XRF was used to measure sixteen common elements (Na, Al, Si, P, S, Cl, K, Ca, Mn, Fe, Ni, Cu, Zn, As, Ba, Pb) and ICP-MS was used to identify twenty-seven trace and rare-earth elements (Li, Rb, Sr, Y, Zr, Nb, Mo, Cs, La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Hf, Ta, Ti, Bi, Th).

Soils associated with particular dwelling spaces absorb liquid and particulate by-products from the tasks performed in them, which can be measured as elemental loadings such as increased concentrations of phosphorous. Essentially, the soilscape that specific cultural practices are enacted on serves as a chemical record for those practices, meaning that patterned elemental concentrations are reflections of socially structured behaviour. Thus far, partial results for house 9 at the Komaktorvik site are available. Compared to off-site control soil samples, soils from various spaces in this dwelling have significant increases in phosphorous, sulphur, scandium, copper, zinc, barium, and cerium, suggesting human sources. Once laboratory analysis is complete, I will identify the specific geochemical signatures of house floors, sleeping platforms, lamp areas, tunnels, and alcoves using multivariate statistics. Specifically, I will employ both correspondence and principle components analyses to determine the strength of association between elements and dwelling spaces, providing geoarchaeological insight into the spatial organization of Inuit households in northern Labrador.

	Control	Platform	Floor	Tunnel
Na <sub>2</sub> O	2.44%	2.17%	1.67%	2.57%
MgO	4.27%	3.05%	2.41%	3.21%
Al <sub>2</sub> O <sub>3</sub>	12.70%	12.26%	10.44%	13.04%
P <sub>2</sub> O <sub>5</sub>	0.11%	0.47%	0.61%	0.29%
K <sub>2</sub> O	1.23%	1.27%	1.15%	1.43%
CaO	4.83%	4.26%	4.16%	4.36%
Fe <sub>2</sub> O <sub>3</sub>	6.88%	5.38%	5.14%	4.78%
S	469	1321	3860	1125
Cl	202	320	473	237
Sc	LD	15	16	LD
Cu	7.16	6.75	8.89	5.38
Zn	7.01	7.92	10.27	LD
Ga	15.54	15.85	14.59	15.93
Rb	22.74	23.83	21.59	27.30
Sr	275.30	281.48	262.81	300.32
Y	16.93	11.18	10.94	10.55
Zr	82.48	71.98	72.70	80.02
Ba	531.21	648.32	729.98	609.10
Ce	52.22	88	68	68.10

#### *IbCw-1 House 9 Elemental Composition*

*(Oxides reported in % weight and elements in ppm). (Butler)*

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