

Document Front Sheet



NE-LCP Contractor/Supplier	Contract or Purchase Number and Description: LC-EV-102 Regulatory Compliance - Labrador		Contractor/Supplier Name: Stassinu Stantec Limited Partnership	
	Document Title: Lower Churchill Hydroelectric Development Project 2016 Historic Resources Assessment and Recovery Program			Total Number of Pages Incl. Front Sheet 341
	Contractor Document Number:			Revision Number:
	Supplier Document Number:			Revision Number:
	NE-LCP Document Number: LCP-SC-CD-0000-EV-RP-0125-01			NE-LCP Issue Number: B1
	Approver's Signature: <i>Deane Ingraham</i>		Date (dd-mmm-yyyy): 31-JUL-2017	Review Class:
Comments:			Equipment Tag or Model Number:	

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	This document has been reviewed & coded electronically via Aconex.			
	Lead Reviewer: Peter Madden	Date (dd-mmm-yyyy): 11-Oct-2017	Project Manager:	Date (dd-mmm-yyyy):
	NE-LCP Management:	Date (dd-mmm-yyyy):		
	<u>General Comments:</u>			

**Lower Churchill Hydroelectric
Development Project 2016
Historic Resources Assessment
and Recovery Program**



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Final Report

September 28, 2017

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Executive Summary

Fieldwork for the 2016 Historic Resources Management Program commenced in June 2016 and was completed at the end of September 2016. The 2016 program involved excavation and recovery at two archaeological sites in the Sandy Banks area along the Churchill River, midway between Muskrat Falls and Gull Lake.

Stage 3 (SDR) recovery operations are complete at the large multi-component, multi-locus site designated FgCg-01. Recovery work at this site included limited collection activities from Locus B and Locus C but primarily focused on the excavation of Locus D, the site of the historically-documented 19th century Hudson's Bay Company (HBC) outpost at Sandy Banks. Excavation uncovered the remains of four principal 19th century buildings. These log-built structures, embanked with earthen berms, were arrayed in a line along the banks of the Churchill River. Each of the two central structures contained evidence for deeply-excavated storage cellars. Construction attributes and artifact distributions indicate that these two central structures were the remains of two outpost dwelling houses, while the two flanking buildings served as stores. Archival evidence suggests that only two of these buildings would have been in use at any one time: one dwelling house, and one store. Additional archaeological features identified at the site included a privy, a deep storage pit, other mound and pit features, sheet middens, and several footpaths. One dwelling house and the privy appear to have been dismantled in the historic period, but the remaining three buildings appear to have burned to the ground. A small, localized precontact occupation area was also identified in the southwestern corner of the site. A large collection of historic artifacts was recovered during excavation. The collection is broadly comparable to assemblages recovered from excavation of contemporary HBC posts elsewhere in Canada, and includes many artifacts manufactured by companies known to have been suppliers of goods to the HBC.

Stage 3 (SDR) recovery operations are complete at the smaller site designated FgCg-04. FgCg-04 was situated 700 m downstream from FgCg-01. Excavations uncovered the remains of a 4 m x 4 m post-on-sill structure built of minimally-dressed horizontal logs embanked with low exterior earth berms, similar in construction to the structures excavated at FgCg-01. The artifact assemblage is also broadly comparable to that from FgCg-01 and indicates a 19th century occupation. However, there are some differences in the artifact assemblages, most notably greater evidence for later firearms technology, indicating that FgCg-04 post-dates the HBC post. FgCg-04 is interpreted as the remains of an early Settler trapping cabin, most likely constructed by Joseph Michelin in the 1890s. This site therefore appears to attest to the evolution of Settler trapping in central Labrador, as former HBC employees and their families came to operate as independent trappers.

Further work scheduled for 2017 includes the completion of recovery work at eight sites situated on Gull Lake, the last of the sites scheduled for recovery within the Muskrat Falls reservoir area.

Abbreviations

AFR	Alternative Field Recording
AMS	Accelerator Mass Spectrometry
asl	Above sea level
BP	Before present
ca.	Circa
cm	Centimetre
CPT	Cone Penetration Test
GIS	Geographic Information System or Geospatial Information System
GPS	Global Positioning System
HBC	Hudson's Bay Company
HVac	High Voltage Alternating Current
HVdc	High Voltage Direct Current
Km	Kilometre
kV	Kilovolt
m	Metre
m ²	Square metre
PAO	Provincial Archaeology Office of the Government of Newfoundland and Labrador
ROW	Right of Way
SDR	Systematic Data Recovery
SFR/SS	Systematic Field Recording and Subsurface Sampling
TL	Transmission Line

Glossary

A or Ae Horizon	Soil horizons are specific layers in the soil. The A Horizon is the topmost level of sediment beneath the organic (e.g., moss, leaf litter) layer. There are many variations but in northern forest soils a common type is "Ae," a leached grey horizon. The B Horizon lies beneath the A Horizon.
Aboriginal	A broad term referring to those peoples who have inhabited North America since before European contact.
Accelerator Mass Spectrometry (AMS)	A form of radiocarbon dating that gives more precise results than conventional radiocarbon dating and can be employed using smaller samples of carbon.
Adze	A bladed woodworking tool like an axe, but with the blade edge mounted perpendicular to the handle.
Alternative Field Recording (AFR)	Detailed photographic, videographic and illustrative recording of a site, possibly also including the collection and conservation of visible artifacts. AFR is normally implemented at sites, such as historic tilts, where features and artifacts are located on the surface and excavation is not required.
Amerindian	A broad term sometimes used to refer to the aboriginal inhabitants of North America, excepting the Arctic-adapted Inuit and Palaeo-Eskimo peoples. In Newfoundland and Labrador, it may refer to the Maritime Archaic, Intermediate and Late Precontact occupations, as well as to the historic Beothuk and the historic and contemporary Innu and Mi'kmaq people.
Archaeological Site	A location which contains the material remains of human land use in the past. Technically, only those sites which date to the historic or precontact periods and which are assigned Borden numbers are true archaeological sites. Sites with more recent remains are considered ethnographic sites and are assigned Ethno numbers by the PAO.
Archaic	In Labrador, the initial period of Amerindian occupation, dating from approximately 8,000 to 3,700 BP. In Newfoundland and Labrador, generally synonymous with Maritime Archaic.
Arris (pl. arrises)	In precontact lithic technology, the ridge or ridges running parallel to the edges of a blade or linear flake. These ridges mark the edges of blades or linear flakes previously removed from the core.

Artifact	A discrete object deliberately manufactured or modified by human activity.
Auger	A tool with a screw-like thread used for drilling.
Awl	A pointed instrument used to pierce cloth or leather.
Baulk	A strip or wall of earth left temporarily unexcavated between excavation units to study the stratigraphy across a site.
Bedrock	A general term for the rock, usually solid, that underlies soil or other unconsolidated superficial material.
Before Present (BP)	In radiocarbon dating, "Present" is arbitrarily fixed at the year 1950 AD.
Berm	A low raised earth ridge. In this study, the term refers to the ridge which flanks the foundation of a building.
B Horizon	A soil horizon is a specific layer in the soil. The B Horizon lies beneath the A Horizon and is commonly referred to as 'subsoil' It may be characterized by concentrations of minerals. In northern forest soils, the B Horizon is often rich in iron and is orange, red or reddish-black in colour.
Blade	In precontact archaeology, a type of stone tool consisting of long, narrow, parallel-sided flake deliberately detached from a prepared stone core, generally for use as an expedient disposable cutting tool. Blades exhibit one or more arrises, resulting from the repeated removal of blades from the core. See also Linear Flake.
Blank	A very early stage in the manufacture of a flaked stone artifact, usually a partly-worked piece of chert or other stone, made at a quarry for later use elsewhere. A blank can resemble a thick, wide biface and may serve as the basis for manufacturing almost any type of stone tool.
Block Lift	An archaeological excavation method in which an entire block of sediment is removed from the site, rather than individual artifacts. Generally employed when fragile artifacts are better excavated from their sediments in laboratory conditions.
Biface	In precontact archaeological sites, a lithic artifact chipped on both opposite sides is referred to as a biface, or bifacially-flaked tool.
Bodkin	A thick needle, often with a blunt tip and a large eye.

Borden Number	Archaeological sites in Canada are registered under a nationwide site registration system known as the Borden System, which assigns each site a unique Borden number. In Newfoundland and Labrador, the PAO assigns these numbers. Only true archaeological sites (those predating the mid-20 th century) receive a Borden number. More recent ethnographic sites are assigned an Ethno number.
Brimsherd	Fragment of a ceramic plate that includes not only the outermost lip (the rim) but also the entire perimeter surrounding the central bowl. See also Rimsherd.
Caplock Firearm	A muzzle-loading firearm in which the main charge is ignited by means of a percussion cap rather than a flint and steel (i.e. a flintlock).
Charles Complex	A culture-historical unit representing an early-middle period in the Intermediate Period of central Labrador, ca. 3000 to 2700 BP. Characterized by triangular and linear flakes, bifaces, and formal scrapers, many fashioned of banded rhyolite.
Chert	A fine-grained silica-rich sedimentary rock, often selected by precontact peoples for manufacturing chipped stone tools.
<i>Circa (ca.)</i>	Approximately (literally "around").
<i>Cladonia</i>	A white, moss-like lichen which grows abundantly on sandy soils in Labrador and serves as an important winter food source for caribou. See also Lichen Woodland.
Clinker-built	A boat-building method in which the bottom edges of the external planking (or strakes) overlap the top edges of the planks immediately below (similar to clapboard cladding). This method of boat-building (also referred to as lapstrake) contrasts with carvel construction, whereby all the external planks butt edge to edge.
Cone Penetration Test	A geotechnical investigation method in which a cone-tipped probe is inserted into sediments to determine the bearing capacity or other properties of soils.
Component	In an archaeological site, a component is a period of occupation. A site occupied at various times, for example, once 3,000 years ago and again less than 25 years ago, may be said to have a precontact component and a contemporary component.

Contemporary Site	A location which contains the material remains of human land use in the recent past (by convention, post-dating the mid-20 th century). As a category of land use sites, "contemporary" may be used interchangeably with "ethnographic." Contemporary sites may be important in interpreting the history of human land use in a region, but are not considered true archaeological sites, and are not assigned Borden numbers. Contemporary/recent sites are assigned Ethno numbers by the PAO.
Core	A piece of knappable stone used as the basis for producing flakes or blades for use as tools. Cores may be deliberately prepared to produce flakes of specific types. For example, blade cores are cores specifically prepared to produce narrow, straight-sided blades.
Cortex	The naturally-weathered outer surface of a rock, particularly a beach cobble.
Cortical Flake	A flake of stone whose dorsal surface is partly or entirely cortex. See also Primary Flake and Secondary Flake.
Corner-Notched	In precontact archaeology, a descriptive term applied to bifaces modified for hafting by chipping notches into the basal corners, forming drooping shoulders and an expanding base.
Cow Head Complex	A culture-historical unit representing the first period in the Late Precontact Period on the Island of Newfoundland, ca. 2000 to 1000 BP.
Cross Mend	Joining fragments of a single artifact recovered from different soil layers or features, or even from different sites. Crossmending indicates relationships among various sites or parts of a site.
Culture-Historical Sequence	In archaeology, the human history of a region, defined as a series of culture-historical units, each characterized by distinctive artifact styles.
Culture-Historical Unit	In archaeology, a division of the human history of a region. It consists of a period defined by diagnostic artifact and feature styles that distinguish it from earlier and later periods in a culture-historical sequence. Culture-historical units are equated with past human cultures and given distinctive names. They may be broad periods of time (e.g. Intermediate Period or Late Precontact Period) or finer chronological subdivisions (e.g. Daniel Rattle Complex, North West River Phase).

Daniel Rattle Complex	A culture-historical unit representing the first period in the Late Precontact Period of coastal Labrador, ca. 2000 to 1000 BP. Characterized by moderately large projectile points and large triangular-lanceolate bifaces fashioned almost exclusively of Ramah.
Dart	In precontact archaeology, a dart is a projectile larger and heavier than an arrow but shorter than a spear, usually projected using a spear-thrower.
Debitage	In precontact sites, the lithic waste flakes and shatter left over from the manufacture of stone tools.
Diagnostic Tool Type	A class of artifact with stylistic features that allow it to be assigned to a culture-historical unit.
Dorsal Surface	For precontact lithics, the "back", generally the most convex or most flake-scarred surface, on a flake or stone tool.
Dorset	The final period in the Palaeo-Eskimo occupation of the Island of Newfoundland and the Labrador coast, dating approximately 2,500 to 550 BP.
Duff	The layer of organic, and partly-decayed organic material, on the floor of a forest, overlying the mineral sediment.
Ethnographic site	A location that contains the material remains of human land use in the recent past (by convention, post-dating the mid-20 th century). As a category of land use sites, "ethnographic" may be used interchangeably with "contemporary." Ethnographic sites may be important in interpreting the history of human land use in a region, but are not considered true archaeological sites, and are not assigned Borden numbers. Ethnographic sites are assigned Ethno numbers by the PAO.
Ethno Number	The registration number assigned to an ethnographic site by the PAO.
Event	In an archaeological context, an activity, action or process, whether cultural or natural, that leaves recognizable physical evidence in the archaeological record (e.g. the deposition of horizontal soil layers). Essentially, an "Event" is a cultural and or natural depositional event detectable in a stratigraphic sequence. See also Lot.
Expedient Tool	In precontact archaeological sites, a retouched or utilized flake, or other stone tool that has been minimally-worked. Expedient tools were often disposable implements, intended to be used for very short periods of time and then discarded.

Feature	In archaeology, a feature is a group of related objects, which may include artifacts, and which reflect past human activity. Features differ from artifacts in that they are an assemblage of objects. As a result, while the individual objects within a feature may be collected and physically removed, the feature itself is a set of relationships between those objects, which can only be recorded in the field. An example would be a hearth, composed of interrelated rocks, artifacts, and soils.
Flake	In precontact archaeological sites, a flake is a sharp-edged piece of fine-grained rock left over from making stone tools. See also Debitage.
Flakepoint	A projectile point made from a flake, generally shaped with minimal retouch.
Friable	Easily crumbled or reduced to powder.
Froth Flotation	Method of collecting materials such as seeds and small animal remains from a soil sample. The sample is agitated in a liquid to which a frothing agent, such as a detergent, has been added and air bubbled through it, forming a froth in which lightweight materials collect.
Grit Temper	Coarse sand added to the paste of precontact Aboriginal ceramics in North America to strengthen clay vessels and prevent cracking during firing.
Groswater	A period in the Palaeo-Eskimo occupation of the Island of Newfoundland and the Labrador coast, dating approximately 2,800 to 2,100 BP.
Gunflint	An artifact found on historic sites. A gunflint is a prepared square or oval of flint used to strike the spark that ignites the powder in a flintlock musket. European flint is a type of chert, but is readily distinguishable from the North American cherts employed by precontact peoples in Labrador for the manufacture of stone tools.
Hearth	A campfire feature. In central Labrador archaeology, these generally take the form of distinct clusters of firecracked rocks and charcoal. However, sand-mound hearths and pit hearths are also known.
Historic Site	In Newfoundland and Labrador, an archaeological site dating between the initial period of European contact with Aboriginal peoples (approximately 500 BP) but before the mid-20 th century.

Historic Resources	In the context of environmental assessment, these include palaeontological, architectural and archaeological resources, but may also include ethnographic sites or other material evidence of past human land use.
Ice-Push Ridge	A ridge of sediment formed along the beach of a river, lake, or bay, when ice creeps shoreward and pushes rock and sediment into linear mounds.
Illuviation	In a soil layer, this refers to the percolation of water leaching out particles from one layer (e.g. the Ae Horizon) and redepositing them in an underlying soil layer (e.g. the B Horizon).
<i>In situ</i>	Literally "in place". <i>In situ</i> archaeological remains are those which are undisturbed and still found in the same place as when they were originally deposited through past human activities.
Intermediate Period	The middle period of the Amerindian occupation of Labrador, including the interior, from approximately 3,500 to 2,000 BP.
Kaolin	A soft, white clay employed in the manufacture of porcelain, and for the manufacture of clay tobacco pipes found on historic sites in North America.
Knapping	The chipping of fine-grained stone such as chert to fashion tools and other objects.
Labrador Trough Cherts	A group of cherts with highly variable colours and flaking properties derived from the iron-bearing sedimentary and volcanic rocks of the Labrador Trough in western Labrador.
Lanceolate	In precontact archaeology, a descriptive term applied to narrow, lance-shaped bifaces.
Late Precontact	The final precontact Amerindian occupation of Newfoundland and Labrador after the Intermediate period, beginning approximately 2,000 BP. This period is also referred to as "Recent Indian" in some archaeological literature. The Late Precontact period arbitrarily ends at the time of European contact, approximately 500 years BP, but the same people continued to inhabit Labrador and are directly ancestral to the Innu, while Late Precontact people on the Island of Newfoundland were ancestral to the Beothuk.
<i>Ledum</i>	The genus commonly known as "Labrador Tea." An ericaceous shrub now classified within the genus <i>Rhododendron</i> .

Lichen Woodland	An open woodland vegetation community which, in Labrador, generally consists of black spruce widely-spaced over a ground cover of <i>Cladonia</i> . This vegetation pattern is common in central Labrador and often associated with nutrient-poor, well-drained sandy terraces. See also <i>Cladonia</i> .
Line-Cutter	A deeply-notched cutting tool used for quickly cutting line or cordage. Deeply-notched unifacial stone tools may have been employed for this purpose.
Linear Flake	A flake with some attributes of a blade but lacking one or more of the attributes associated with blade technology, including evidence for the use of deliberately prepared blade cores.
Lithic	Literally, a term referring to stone. In the context of historic resources, lithic usually refers to stone tools and debitage found on archaeological sites once occupied by precontact peoples.
Loam	A soil composed of a mixture of sand and silt, possibly also containing smaller amounts of clay.
<i>Locus (pl. Loci)</i>	Literally a "place". In archaeological literature, a locus is a discrete concentration of artifacts and features that forms one part of a larger archaeological site.
Lots	A Lot is the local manifestation of a stratigraphic layer (and Event) within a 2 m x 2 m excavation unit. See also Event.
Macroblade	In precontact lithic technology, a large blade more than 11 mm wide.
Maritime Archaic	The first major period in the Amerindian occupation of the province, dating approximately 8,000 to 3,700 BP in Labrador, and from ca. 6,000 to 3,200 BP on the Island.
Metal Detector	A portable electronic instrument which detects the magnetic field of metal objects in the vicinity.
Metamorphic	In geology, normally refers to recrystallized minerals; rocks which have been transformed in the past by extreme temperature and/or pressure.
Microblade	In precontact lithic technology, a small blade less than 11 mm wide. Normally associated with Palaeo-Eskimo archaeological sites.
Midden	A deliberate, often concentrated, deposit of discarded waste, which may include animal bone, plant waste, and/or shell, along with tools, clothing, containers, and other artifacts. See also Sheet Midden.

Mistassini Quartzite	A very fine-grained, semi-translucent, waxy-finished quartzite derived from the Colline Blanche on the Témiscamie River in Québec and widely-used for stone tool manufacture in the northern Québec interior.
<i>Mokoshan</i>	A spiritually-important Innu communal feasting ceremony.
Mugford Chert	A semi-translucent stone from the Cape Mugford area of the north-central Labrador coast, south of Ramah Bay. Mugford, or "Cod Island Chert" often resembles Ramah but may have a greener colour. Widely used for stone tool manufacture in north-central Labrador.
North West River Phase	A culture-historical unit representing the final period in the Intermediate Period in Labrador, ca. 2000 BP. Characterized by ovate and leaf-shaped bifaces and preforms bifaces fashioned almost exclusively of local quartzite.
Ordovician Chert	On the Island of Newfoundland, Ordovician cherts are particularly abundant in the Cow Head Group of western Newfoundland. These cherts, often green, tan, or brown in colour, were widely used by precontact peoples on the island of Newfoundland for stone tool manufacture. In Labrador, Ordovician cherts from western Newfoundland were widely used in the Strait of Belle Isle in all periods, and, in sites of the Groswater Palaeo-Eskimo period are commonly found as far north as the north-central Labrador coast.
Palaeo-Eskimo	A term referring to a series of occupations of Newfoundland and Labrador by Arctic-adapted peoples arriving from the north. Although also deriving from the north, the Palaeo-Eskimo peoples were not directly ancestral to the later Inuit occupation.
Palimpsest	In archaeology, refers to a distribution of cultural materials that reflects multiple successive occupations and depositions of cultural material within a single location.
Paste	In ceramic technology, the clay mixture used to form the body of a ceramic vessel.
Planter	In 19 th century historic sources, "Planter" is a term sometimes used to refer to people of European or mixed descent who came to settle permanently in central Labrador. Their modern descendants may nowadays affiliate politically with Nunatsiavut, NunatuKavut, or neither. See also Settler.

Point Revenge Complex	A culture-historical unit representing the second and final period in the Late Precontact Period of coastal Labrador, ca. 1000 to 500 BP. Characterized by small projectile points and triangular bifaces fashioned almost exclusively of Ramah.
Podzol/Podzolic	Refers to the typical soil associated with coniferous forest in the subarctic, including central Labrador. Podzols are formed through the process of podzolisation, whereby organic material and soluble minerals (particularly iron) are leached from the upper levels of sediment, forming a white or grey A Horizon, and redeposited below, forming an orange, red or maroon B horizon.
Porcelain	In North American archaeology, a high-fired, hard, vitrified and translucent historic Chinese or European ceramic ware containing a high proportion of kaolin.
Portage	The practice of carrying boats or supplies around an obstacle to water travel, such as a falls or rapids. Also refers to the route or trail followed when doing so.
Precontact	The period of Aboriginal occupation in Newfoundland and Labrador that occurred before significant contact with Europeans, approximately 500 years BP.
Preform	An early stage in the reduction and manufacture of a flaked stone artifact. A preform may resemble a finished biface but will be larger, thicker and more roughly-worked.
Primary Flake	A flake of stone on which the dorsal surface is entirely cortex. See also Cortical Flake.
Primary Reduction	The initial removal of cortical flakes from a beach cobble or other cortical piece of fine-grained stone. The first stage in manufacturing stone tools.
Projectile point	The cutting and piercing end of a projectile, such as a spear, harpoon, dart or arrow. In precontact archaeological sites, projectile points are normally made of chert or other fine-grained stone.
Provincial Archaeology Office	The office of the Government of Newfoundland and Labrador which regulates and oversees the protection of historic resources within the province.
Quartz	An extremely common clear, glassy silicate occurring naturally in many forms. Both massive and crystalline varieties were used by precontact people in Labrador to make chipped stone tools.

Quartzite	A granular metamorphosed quartz which, despite its relatively coarse grain, is adequate for the manufacture of chipped stone tools. Quartzite is readily available in cobble form on beaches in the Muskrat Falls area.
Radiocarbon Dating	An absolute dating technique that dates the age of organic materials such as wood, bone, and charcoal by measuring the relative frequency of carbon isotopes present in a sample.
Ramah	A metamorphosed quartzite found on the Torngat coast of Labrador. Prized by precontact peoples for manufacturing chipped stone tools and widely traded across eastern North America in the precontact period.
<i>Réappropriation du Littoral</i>	A culture-historical unit in the Strait of Belle Isle, equivalent to the Intermediate Period in central Labrador, ca. 3500 to 2500 BP.
Red Ochre	A bright or rich red friable mineral soil composed of hematite-rich or dehydrated iron oxide. In powdered form, it has been widely used as a pigment from antiquity down to the present day. In eastern North America, red ochre pigments were used by Amerindian people in the contact period as body paints, as well as to paint clothing, canoes, and other objects.
Reduction (Lithic)	The process of chipping stone to produce stone tools, blanks, and preforms. Lithic reduction produces large quantities of debitage. See also Knapping.
Refined Earthenware	A broad category of historic ceramic wares originally developed in England in the 18 th century, and including creamware, pearlware, and "whiteware".
Reservoir	A body of water formed by damming a river or stream.
Retouch	The deliberate removal of flakes along the edge of a roughed-out stone tool or flake to produce a bifacial or unifacial working edge.
Rhyolite	A silicate-rich igneous rock. Fine-grained varieties are particularly suitable for manufacturing stone tools. Rhyolites visually identical to those found in central Labrador archaeological site have been identified in river cobble form on the upper-middle Churchill River upstream of Minipi Rapids, and as small cobbles in the Muskrat Falls area. Associated with sites of the Intermediate Period, in general, and the Charles Complex, in particular.
Rimsherd	Fragment of the outermost lip of a container or vessel, such as a plate, bowl, or drinking glass See also Brimsherd.
Rove	A small metal plate through which a rivet is passed before being flattened or chlenched

Sand	A granular sediment in which individual grains range from 0.0625 mm to 2 mm in size.
Saunders Complex	A culture-historical unit which comprises much of the Intermediate Period on the north-central Labrador coast, ca. 3500 to 2800 BP. Characterized by a wide variety of artifact types fashioned from Saunders Chert, rhyolite, and quartzite.
Saunders Chert	A colourful fine-grained opaque chert, generally pink, salmon-pink, red or purple in colour, derived from an as-yet unknown source, likely in the north-central Labrador interior. Widely used for stone tool manufacture in the Intermediate Period in central Labrador, but not normally common on sites of other periods.
Schist	A medium-grained metamorphic rock.
Scraper	In archaeology, a unifacially-chipped stone tool generally employed for hideworking or woodworking.
Secondary Flake	A flake of stone on which the dorsal surface is partly a cortical surface.
Settler	In 19 th century historic sources, "Settler," and more rarely "Planter" are terms used to refer to people of European or mixed descent who came to settle permanently in central Labrador. Their modern descendants may nowadays affiliate politically with Nunatsiavut, NunatuKavut, or neither. See also Planter.
<i>Shaputuan</i>	A large feasting tent erected by the Innu for performing <i>mokoshan</i> . Other neighbouring peoples, such as the Cree of Québec, also build <i>Shaputuan</i> structures.
Shatter	Irregular thick or blocky lithic debris produced during the making of stone tools.
Sheet Midden	A deliberate deposit of discarded waste which is not concentrated in a precise location, but spread thinly across the surface of the ground. See also Midden.
Side-Notched	In precontact archaeology, a descriptive term applied to bifaces modified for hafting by chipping notches into both sides near the base, generally forming straight shoulders and a rectangular or semi-circular base.
Silt	A fine granular sediment in which individual grains range from 0.0039 mm to 0.0625 mm in size.
Siltstone	A fine-grained sedimentary rock composed of silt-sized particles.

Slate	A very fine-grained metamorphosed sedimentary rock which tends to fracture into sheets. In Labrador precontact archaeology, slate was most commonly used for making ground and polished stone tools such as axeheads, and adzes.
Soil Development Horizon	A recognizable soil layer formed by one or more of the principal soil horizon development processes: addition, transformation, translocation, and removal. These may act on soils, but in typical podzolic soils the most conspicuous process is transformation, creating distinctly-coloured A and B horizons. In Labrador, these are often not separately deposited layers, but rather a single sediment column transformed differently at higher and at lower levels by chemical processes. See also Podzol/podzolic.
<i>Sphagnum</i>	A genus of green mosses particularly associated in Labrador with spruce-sphagnum forests and peat bogs.
Spokeshave	A concave-edged planning tool used to form and smooth wooden shafts, such as arrow or spear-shafts.
Sprue	A piece of metal that has solidified in the pouring channel for a mold. For example, a strip of lead from resulting from pouring into a mold for making shot.
Stage 1 Historic Resources Assessment	The initial step in the historic resources assessment process in Newfoundland and Labrador. Typically involves background research and may involve a preliminary field study. The Stage 1 Assessment is intended to serve as the basis for determining if any additional research is required.
Stage 2 Historic Resources Assessment	The second stage in the historic resources assessment process in Newfoundland and Labrador, following the Stage 1 Assessment. Stage 2 Assessment involves a more detailed and extensive field study to gain a thorough understanding of the historic resources within a defined study area and any interactions that may result from any proposed development.
Stage 3 Historic Resources Assessment	Stage 3 Assessment follows directly from previous assessment studies and may include a broad range of activities and mitigation measures, including site avoidance, or scientific recovery (excavation) of archaeological sites. Stage 3 Assessment constitutes the management of any historic resources that may be present within a Project Area and its objectives are to protect resources and mitigate potentially adverse effects to sites of cultural and/or spiritual importance.
Stoneware	In North American archaeology, a high-fired, hard and vitrified historic European ceramic ware type.

Stratigraphy	In archaeology, the study of soil layers undertaken to understand the processes by which archaeological sites are formed and transformed over time.
Stream Swamp	Periodically-flooded terrain on the margins of a waterway, generally characterized in Labrador by reworked unstable sediments and dense alder growth.
Systematic Data Recovery	The scientific and systematic excavation and recording of historic resources using accepted data recovery techniques. Generally synonymous with archaeological excavation.
Systematic Field Recording and Subsurface Sampling	Assessment of a known historic site by means of visual inspection of surface-visible cultural materials and subsurface sampling to determine whether the site contains additional evidence for undetermined historic or older occupation(s).
Terrace	An area of level terrain bordered by a slope, in Labrador generally formed by riverine erosion or by falling sea levels.
Tertiary Flake	A flake of stone on which the dorsal surface exhibits no cortex.
Testpit	In archaeological assessment, a testpit is usually a small pit excavated by shovel and hand tools. Large number of testpits may be excavated within a single testing location. Testpitting is usually the only way to locate those archaeological sites which are not visible on the surface.
Tilt	A small, single-roomed, log-built hut employed by trappers as temporary accommodation while trapping. Tilts may include "main cabins" used throughout the trapping season, and "line tilts" used for overnight stays along trap lines.
Total Station	An electronic/optical survey instrument comprising an electronic theodolite (transit) integrated with an electronic distance meter to read slope distances from the instrument to a particular point.
Treethrow	The depression, often flanked by a mound, that results when a tree falls and its rootmass and associated soils are pulled from the ground, generally because of wind action.
Uniface	In precontact archaeological sites, a lithic artifact chipped on a single side is referred to as a uniface, or unifacially-flaked tool. Unifaces are often assumed to have served as scraping or planning tools.
Usewear	Flaking scars, often quite small, that are not produced by deliberate retouch but represent wear damage resulting from the use of an unmodified flake as a cutting or scraping tool.

Utilized Flake	A flake which has not been retouched or otherwise deliberately shaped, but which has been used as a scraping or cutting tool, leaving minute flake scars as evidence of usewear.
Ventral Surface	For precontact lithics, the "bottom," generally the flattest and/or smoothest surface, on a flake or stone tool.
Whiteware	Refined earthenware of European origin with a white paste and clear lead glaze, dating primarily after the 1820s.
Zone	In the context of this study, a zone is a landform with particular slope, vegetation and drainage features, and specifically one that has been identified and mapped within the Survey Area. The characteristic features will determine which zone type a zone belongs to and this will determine its archaeological potential rating. These will also determine whether testing locations will be chosen within that zone as part of the archaeological assessment.
Zone Type	All the zones which share certain characteristics of slope, or drainage, or vegetation, are assigned to a particular zone type. Zone types are assigned archaeological potential ratings, based on the probability of finding archaeological sites within zones of that zone type.

1.0 INTRODUCTION

1.1 Project Works in Labrador

Nalcor Energy (Nalcor) is constructing extensive infrastructure at Muskrat Falls, central Labrador, as part of the development of the lower Churchill River for hydroelectric power. The principal works in Labrador required for the development (hereinafter referred to as the “Lower Churchill Project” or “LCP”), include: extensive tree and brush clearing at Muskrat Falls and within the upstream reservoir; stabilization of the North Spur; bulk excavation of earth and rock from the south side of Churchill River; and construction of the dam itself, as well as, access roads, accommodations camp and office complex. Key LCP components required for transmission of power include construction of a high voltage alternating current (HVac) transmission line (TL) from Muskrat Falls to Churchill Falls, a high voltage direct current (HVdc) transmission line from Muskrat Falls to Forteau Point on the Strait of Belle Isle, southern Labrador, a switchyard and associated cable infrastructure at Forteau Point, and an electrode site at l’Anse au Diable (Figure 1-1). Pre-flooding of the Muskrat Falls reservoir commenced in October 2016, and flooding to the full supply level is scheduled to occur after 2017. The 2016 Historic Resources Management Program, undertaken by Stassinu Stantec in support of the Lower Churchill Project, is the subject of this report.

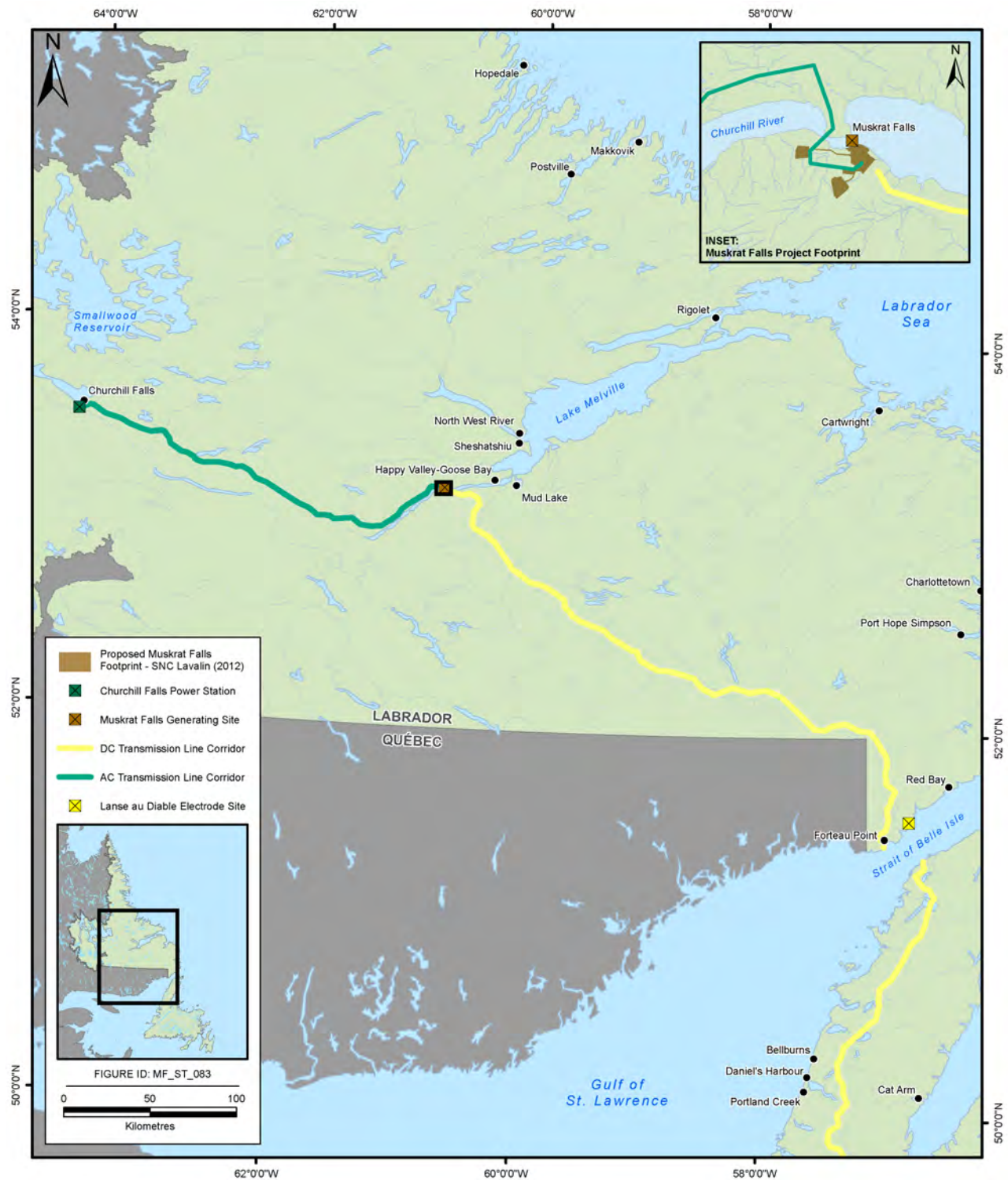


Figure 1-1 Lower Churchill Project components in Labrador

1.2 Historic Resources Assessment and Management

The overall goals of the Historic Resources Management Program are to identify and manage the impact of the development on any archaeological or cultural resources located within the LCP area to achieve a mutually acceptable balance between the development and the provincial historic resource legislation and management requirements. Regarding the latter, emphasis is usually directed toward efforts to conserve and protect the resource. In accordance with these regulations (Government of Newfoundland and Labrador 1992), historic resources assessment and management for the Project required one or more of three stages.

1.2.1 Stage 1 Historic Resources Overview Assessment

A Stage 1 Historic Resources Overview Assessment (Stage 1 Assessment) is normally the initial step in the provincial historic resources assessment process and typically involves background research and, frequently, a preliminary field study. The Stage 1 Assessment is intended to serve as the basis for determining if any additional research is required under the *Historic Resources Act* (1985).

1.2.2 Stage 2 Detailed Impact Assessment

For many development projects, Stage 2 Assessment is the standard procedure following the Stage 1 Assessment and, in most cases, involves a more detailed and extensive field study to gain a thorough understanding of the historic resources within a defined study area and any interactions that may result from the proposed development. Stage 2 assessment may include a combination of visual surface inspection and subsurface testing (shovel testing).

1.2.3 Stage 3 Recovery (Mitigation)

Stage 3 Assessment follows directly from previous assessment studies and may include a broad range of activities and mitigation measures, including site avoidance, capping (i.e. securing materials and features in such a way as to ensure their long-term integrity) or systematic data recovery/excavation. By acting upon results and recommendations of the previous stages of assessment, Stage 3 Assessment involves the effective, professional management of any historic resources that may be affected within the LCP area. In sum, the priority of historic resources management is to protect resources and mitigate potentially adverse effects to reduce loss or disturbance of sites, objects or materials, and places of cultural and/or spiritual importance.

1.2.3.1 Mitigation

In the context of the Labrador component of the LCP, where a broad range of archaeological sites of varying ages, functions and differing cultural origins have been identified and registered, three principal types of mitigation have been defined and approved by the Provincial Archaeology Office (PAO) to ensure the necessary and appropriate degree of site information is recovered. The mitigation measures are summarized as:

- Systematic Data Recovery (SDR) involves the scientific and systematic excavation and recording of unavoidable historic resource losses using accepted data recovery techniques;
- Alternative Field Recording (AFR) involves photographic, video and illustrative coverage and, where indicated, collection, documentation and conservation of relevant site materials; and,
- Systematic Field Recording and Subsurface Sampling (SFR and SS) involves photographic, video and illustrative coverage of visible surface remains, excavation of testpits, collection, documentation and conservation of relevant site materials, and, where indicated, additional AFR or SDR.

Only Systematic Data Recovery (SDR) was employed during the 2016 field season.

1.3 2016 Historic Resources Assessment and Recovery Program

1.3.1 Permitting and Study Area

The 2016 Historic Resources Management Program for the Lower Churchill Project was undertaken under Archaeological Investigation Permit #16.09 issued to Dr. Fred Schwarz by the PAO. This permit encompassed Stage 1, Stage 2, and Stage 3 Historic Resources Management activities within the Muskrat Falls reservoir area of the Churchill Valley, central Labrador (Figure 1-2). This Draft report summarizes the methods and results of the 2016 historic resources assessment and recovery program conducted in relation to reservoir preparation in the Churchill Valley.

1.3.2 2016 Study Objectives

Previous archaeological work at the Muskrat Falls dam site was completed in 2012-2013, and involved the recovery of 32 archaeological sites at Muskrat Falls (Stantec 2014a, 2014b). Subsequent recovery work beginning in 2014 has focused on the proposed Muskrat Falls Reservoir area between Lower Brook and Gull Rapids, where Stage 1 and Stage 2 assessments had identified 23 registered archaeological sites (Stantec 2015; 2016). Although preparation activities (mechanical tree-felling) commenced within the Muskrat Falls Reservoir area in 2013 - 2014, 50 m buffer zones were defined around these known sites and, within these buffers the natural vegetation was left standing.

Stage 3 mitigation is required at these sites before creation of the Reservoir. Required mitigation varies according to site type: precontact and historic sites with subsurface remains require Systematic Data Recovery (SDR), consisting of conventional archaeological excavation, while historic sites composed of surface-visible remains and/or standing structures require Alternative Field Recording (AFR) by other means such as surface feature inventory, photography, and videography.

Stage 3 mitigation in the Muskrat Falls Reservoir area first commenced in 2014. The objective of the 2016 historic resources management program was to complete the Stage 3 mitigation of

remaining archaeological sites in the reservoir area situated at or below 25m asl, prior to pre-flooding of the reservoir in October 2016.

The work required in 2016 to achieve the objectives therefore focused on the completion of Stage 3 mitigation at two archaeological sites, both situated in the Sandy Banks area, midway between Muskrat Falls and Gull Lake, and both situated at elevations at or below 25m asl:

- FgCg-01, a large multi-component site at which mitigation work commenced in 2014; and
- FgCg-04, a small historic site at which mitigation work also first commenced in 2014.

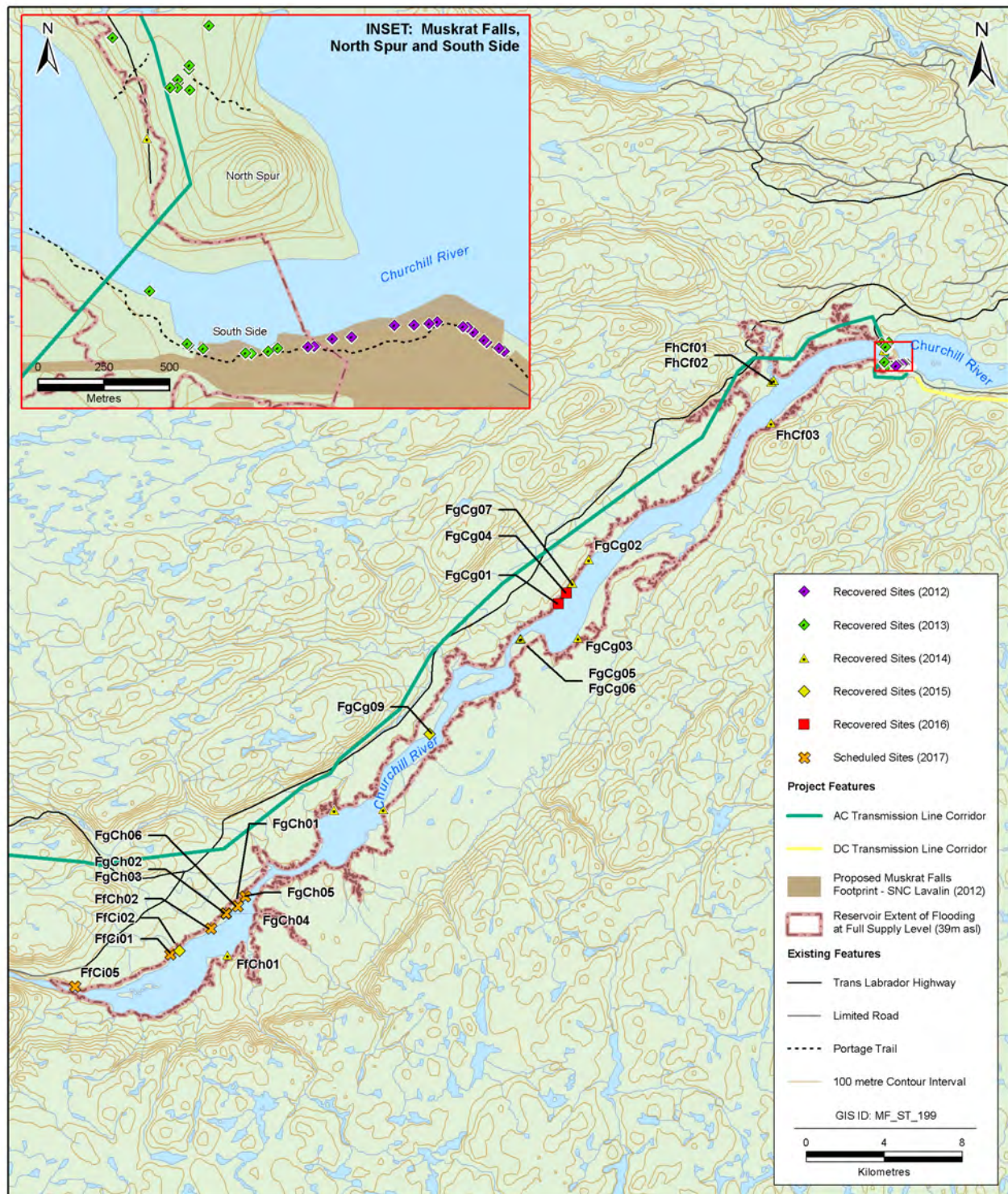


Figure 1-2 Churchill Valley Historic Resources Management Program, 2016

2.0 Approach, Methods, and Personnel

A program of this nature follows a logical assessment sequence. The approach and methods employed for each assessment stage are summarized in Sections 2.1 through 2.5 and the personnel makeup and training are discussed in Sections 2.6 and 2.7.

2.1 Stage 1 Background Research

Extensive background research has been conducted for the entire LCP area, including the Churchill River Valley in central Labrador, the central interior south of Muskrat Falls, and the Strait of Belle Isle region in southern Labrador (see Thurlow *et al.* 1974; Tuck 1981; IED/JWEL 2000; JWEL/IELP 2001a; JWEL/IELP 2001b; JWEL/IELP 2001c; Minaskuat 2008; Stantec 2014a; 2014b; 2015).

The background research methodology employed in the present study closely followed that employed for the overall LCP assessment and involved the review of previous archaeological research undertaken within and adjacent to the Study Areas, and included publicly-available historic, ethnohistoric and ethnographic literature.

Background research for the 2016 Stage 3 recovery program included further review of records relating to previous archaeological assessment work at FgCg-01 and FgCg-04 (Stantec 2015).

Further background research involved review of published literature bearing on specific research questions arising out of the 2014-2016 recovery results. This included review of literature bearing on the architecture, archaeology, and material culture of Hudson's Bay Company posts across Canada (e.g. Losey 1977a, 1977b; Moat 1979; Karklins 1979; Forsman 1985), and specific sources on 19th century material culture (e.g. Walker 1971; Weiland 2009).

In addition, documentary sources from the HBC archives were further reviewed, including HBC journals and correspondence. Although there are no journals for the Sandy Banks outpost or Gull Island depot, journals are available for the principal post at North West River, as well as the outposts of Fort Nascopie, Michikamau House, and Winokapau House. These journals were reviewed with emphasis on determining methods of building construction. For North West River post, this included review of journals from 1836 to 1879 (H.B.C.A. B.153/a/1 to 26; Reels 1M105, 1M106, 1M1013), as well as review of building inventories completed in the early 1900s (H.B.C.A. G.7/13/ (7) folio 203 1920-192) to determine the dates and methods of construction of post buildings extant at that time.

Post journals for Fort Nascopie cover the period 1842 to 1845 (H.B.C.A. B.139/a/1 to 4; Reel 1M96); journals for Michikamau House cover the period from 1846 to 1849 (H.B.C.A. B.128/a/1 to 3; Reel 1M79); post journals for Winokapau House cover the period from 1863 to 1869 (H.B.C.A. B.237/a/4; Reel 1M154 B.128/a/1 to 3; Reel 1M79).

2.2 Stage 2 Field Assessment Methodology

Stage 2 Field Assessment was focused primarily on delineating the distribution of cultural materials at sites during Stage 3 Recovery (see below) to facilitate comprehensive recovery from these sites. Assessment methods employed during the recovery process included visual inspection for surface-visible remains, inspection of treethrows, subsurface shovel testing around the margins of excavated areas, and at FgCg-01 a series of larger, deeper 1 m x 1 m test excavation units to clarify the stratigraphy. In addition, at FgCg-01, a metal detector was employed to clarify the extent of detectable metallic cultural materials at the site. The locations of positive readings were flagged and plotted in relation to the site grid using a total station survey.

2.3 Stage 3 Recovery Program Methodology

The Stage 3 Systematic Data Recovery (SDR) of subsurface precontact and historic archaeological remains was completed by teams of field technicians supervised by Team Leads and by the permit holder. Excavations consisted of 2 m x 2 m units, separated by 20 cm-wide baulks, and excavated by natural and, where indicated, cultural layers. This grid pattern of excavation allows sufficient areas to be uncovered in order that spatial patterns of archaeological features and cultural debris may be easily discerned, while the continuous baulks enable stratigraphic control to be maintained at all times. This method is preferred over trenching or checkerboard excavation, since site significance depends in part on the presence or absence of significant archaeological features (such as hearths), and broad simultaneous areal exposure is the most effective way of identifying and recording these in deposits anticipated to have relatively simple soil stratigraphy.

Excavation activities at each site began with woodcutting using chainsaws to remove trees, debris, and brush (battery-powered reciprocating saws, as well as hand saws and shears were employed during the excavation process to remove roots and stumps). This was followed by laying out the site grids. At the sites recovered in 2016, georeferenced points were available, established by professional surveyors using high-precision GPS with < 5 cm accuracy in 2014 and 2015. Intervening grid corners were plotted using total stations. All units were excavated by trowel and all soils gathered from excavation units were screened using 1/4" mesh screens.

Point provenience was recorded in three dimensions for historic and lithic artifacts, including debitage, bone, and soil and charcoal samples, using total stations. Total stations were also employed to map timbers and features, and to develop local contour mapping for each recovered site.

Artifact collection methods varied according to material, although all objects were tagged with labels recording three-point provenience in the form of total station point numbers. Stable objects (e.g. lithic, glass, ceramic) were collected dry in zip-closure bags. Metals (e.g. iron, steel, lead, copper and brass) were collected in water in zip-closure bags or were wrapped in wet fabric and collected in rigid plastic containers; when larger metal objects had to remain in place prior to

collection they were kept wet with coverings of wet towel. Fragile organic materials were packaged with sphagnum moss and collected in rigid plastic containers.

Soil samples were treated as artifacts and collected in large zip-closure bags with provenience labels. The five Optically-Stimulated Luminescence (OSL) samples collected from FgCg-01 Locus B were collected by driving opaque plastic pipe couplings into profile sidewalls and sealing the ends with duct tape. In one case (Feature 6, the privy at FgCg-01 Locus D) it proved necessary to recover fragile materials (textiles embedded in a clay matrix) by means of a block-lifts. In this instance, the clay deposit was pedestalled and isolated, then undercut with sheet metal and stabilized with cling-wrap. The stabilized block was put inside a helicopter and flown to Goose Bay, then to St. John's for controlled excavation. In St. John's, the delicate textiles were removed from the clay matrix, and in addition, the clay matrix was subjected to froth flotation for recovery of palaeo-botanical and micro-faunal remains.

At Locus D of FgCg-01, a second metal-detector assessment (a metal-detector survey had also previously been conducted in 2015: Stantec 2016). was completed across the outlying areas (i.e., away from the identified Structures and Features) to help establish the physical distribution and extent of metals and metal debris. Once an anomaly was identified, the location was marked with surveyor's flagging tape and the site grid expanded to encompass the anomaly.

Vertical provenience of artifacts within the large, complex deposits at FgCg-01 Locus D was recorded by "Event." Essentially, an "Event" is a cultural and or natural depositional event detectable in a stratigraphic sequence. Some "Events" were highly localized, others extended across large portions of the site. In addition to the provenience assignment to "Event," artifacts were also assigned to sub-Events, or "Lots." Essentially, a "Lot" was the local manifestation of an Event within a 2 m x 2 m excavation unit. Vertical provenience within the smaller, less complex deposits at FgCg-04 was recorded to a simple sequence of natural and cultural stratigraphic levels.

Recording methods included field notes and a digital photographic and video record of the excavation and features. Representative baulks and sidewalls were manually profiled at a scale of 1:10. Points delineating cultural and structural features within the excavation areas were mapped using the total stations, and the data collected with the total station were later downloaded and converted into detailed site plans by Stantec GIS personal. Sites and cultural materials were catalogued on PAO-compliant digital site and artifact record forms.

Progress reports summarizing key findings were submitted to Nalcor and the PAO on a weekly basis over the course of the 2016 Historic and Heritage Resources Assessment and Recovery Field Program.

2.4 Stage 3 Alternative Field Recording Methodology

Alternative Field Recording approaches applicable to sites that have no or few subsurface remains include photographic and video recording, as well as documentation of surface-visible site artifacts and limited collection of significant objects. No sites were mitigated by means of Alternative Field Recording in 2016.

2.5 Artifact Processing and Conservation Methodology

As in the previous 2015 season, procedural guidelines were followed for artifact recovery, processing, and stabilization as designed by the Project Conservator. These outlined a clear division of processing activities, required preparatory work and coordination of cataloging activities between Happy Valley - Goose Bay and St. John's, and saw the implementation of conservation techniques both in the field, in the Happy Valley - Goose Bay office, and in the laboratory. In addition to these activities, the 2016 season saw a significant increase in treatment-specific activities, particularly the stabilization and remedial treatment of historic materials (various metals and their alloys), and involved specialized techniques for the recovery of complex organic material and faunal evidence. This year also saw an increase in information management, conducted by the St. John's cataloguer, prior to, during, and following analysis week.

As in the previous year, the division of processing activities between Happy Valley - Goose Bay and St. John's was a result of several challenges: the large volume of material that was recovered and that required catalogue processing and stabilization. Additionally, aspects of the collection required dedicated spaces to process in a timely manner while also meeting Health and Safety measures, for example: the Feature 6 privy block-lift (heavy and large) and large numbers of artifacts requiring labelling. Finally, the 2016 season yielded a substantially high percentage of recovered material that required extensive and varied conservation treatment, the processes for which impacted both the analysis timelines and the final transfer of the collection. These challenges were addressed at the same time by sending all metals and organics to St. John's where cataloging and conservation activities were performed simultaneously at the Rooms Museum Conservation Lab. The availability of this laboratory space, and access to specialized equipment and supplies via Memorial University's Archaeology Conservation Lab, greatly enabled conservation and cataloging to be achieved efficiently and safely.

2.5.1 Artifact Processing and Collections Management

The division of artifact processing activities between two locations necessitated the clear delineation of procedures, coordinating regular checks, and the prearrangement of spreadsheets to eliminate the risk of information loss and/or error.

In Happy Valley - Goose Bay, the cataloging team members' responsibilities included sorting all artifacts by material type (e.g. glass, ceramics/pottery, bone, kaolin, lithic, metals, organics) while maintaining intellectual control of field information (*excavation field tags*). All metal and organic

material was packaged according to the requirements of the Project Conservator and shipped to St. John's where the St. John's cataloguer began the process of cataloging those materials.

All material in both locations were each measured, weighed, identified at the basic level, assigned an identifier (*catalogue number*), and entered into the designated site-specific spreadsheet (*Specimen Record Form*). Further field-specific information unique to each artifact and provided separately by the Archaeology Leads, total station coordinates, were then matched to their corresponding artifact and entered into the record.

The potential doubling of catalog numbers within a site and/or locus due to concurrent cataloging between Happy Valley - Goose Bay and St. John's was addressed by designating blocks of numbers as required with periodic checks via conference call or email/text between all cataloging personnel. Conversely, backfilling of unused numbers was required on occasion and flagged as such, pending the results of the analysis period. Data entry, including the assigning and coordinating of catalogue numbers and identification of Total Station information, was the responsibility of the cataloging team lead in Happy Valley - Goose Bay and the cataloguer in St. John's with oversight by the Project Conservator.

The cataloging, packing, and shipment of the Happy Valley - Goose Bay component of the 2016 collection was completed on February 19th and received in St. John's on February 22nd, where the Project Conservator took custody of and arranged the collection according to report analysis assignments as outlined by the Principal Investigator, Dr. Fred Schwarz. The St. John's cataloguer incorporated all spreadsheets created between Happy Valley - Goose Bay and St. John's, identifying for the archaeology team any anomalous total station or other data. These final two databases were then distributed to the archaeologists a week in advance to assist in analysis preparations.

2.5.2 Conservation Methodology

The 2016 field season included conservation activities implemented throughout the full duration of the field season, both on the excavation site, and, in the laboratory. Conservation activities in the field are focused on stabilization of the artifacts at the moment of their exposure, actions aimed at slowing deterioration of the artifacts before they were received at the HVGB Office and/or in the interim period until they could be fully treated in the laboratory. Conservation activities include preventive actions such as observing procedures governing safe handling, packing, transport, and use practices. Remedial conservation, actions directly applied to an item or a group of items typically involving chemical applications aimed at arresting current damaging processes or reinforcing their structure, were executed by the Project Conservator in the laboratory. Preventive, stabilization, and remedial activities are discussed below. Key roles and responsibilities for personnel involved are summarized in Table 2.1. The important period associated with these activities were loosely grouped into at time of excavation, recovery, shipment, stabilization, conservation, analysis week, and reporting.

Table 2.1 Conservation roles and responsibilities

Key Role	Responsibilities	Location	Period
Conservator	<ul style="list-style-type: none"> Develop procedural guidelines for artifact recovery, processing, stabilization, packing, transport for field and catalogue teams 	Field, Laboratory	Pre-excavation planning
	<ul style="list-style-type: none"> Coordinate cataloging activities between Happy Valley-Goose Bay and St. John's teams 	HVGB Office and Lab	Recovery to Analysis week
	<ul style="list-style-type: none"> Prioritize and conduct remedial treatment and/or recovery of: metals, organics, and faunal evidence 	Lab	Recovery to post-analysis week
	<ul style="list-style-type: none"> Design and develop protective enclosures and mounts for transport, handling, and presentation of identified artifacts 	Lab	Analysis week, Post-analysis week, as directed by Senior Lead Archaeologist and Permit Holder
	<ul style="list-style-type: none"> Direct and assist in specialized recovery techniques as needed (block-lifting, forced-air flotation) 	Field and Lab	Excavation, Recovery, Treatment
	<ul style="list-style-type: none"> Arrange collection according to report analysis assignments as outlined by the Head Archaeologist 	Lab	Analysis week
	<ul style="list-style-type: none"> Provide immediate and item-level remedial treatment and other support for Archaeology Leads 	Lab	Analysis week
	<ul style="list-style-type: none"> Pack, arrange, and facilitate final transfer of data and collections to PAO/The Rooms Corporation 	Lab	Post report submission and approval

Key Role	Responsibilities	Location	Period
Happy Valley – Goose Bay Senior Cataloger	Direct the HVGB team to: <ul style="list-style-type: none"> Identify and organize artifacts by material types within their site/borden Pack and transfer to St. John's High Priority artifacts (all metals and organics) according to stabilization requirements (e.g. metals shipped wet, extra support for organics, etc.) For all secondary Priority material (ceramic, glass, lithic, and kaolin) measure, weigh, identify each artifact Assign an identifier (<i>catalogue number</i>) to each artifact and enter the above information and its corresponding field tag information into the designated site-specific spreadsheet (<i>Specimen Record Form</i>) Merge each artifact record to its Total Station coordinates, as provided by the Arch Leads Maintain intellectual control of field information with the artifact and its corresponding Total Station Coordinate file Pack artifacts for safe transport to St. John's 	Happy Valley – Goose Bay	Recovery to analysis week
St. John's Cataloguer	<ul style="list-style-type: none"> Measure, weigh, identify each artifact; prioritization on ferrous metals first, followed by lead, organics, white metals, and copper alloys. Assign an identifier (<i>catalogue number</i>) to each artifact and enter the above information and its corresponding field tag information into the designated site-specific spreadsheet (<i>Specimen Record Form</i>) Merge each artifact record to its Total Station coordinates, as provided by the Arch Leads Maintain intellectual control of field information with the artifact and its corresponding Total Station Coordinate file 	St. John's	

Key Role	Responsibilities	Location	Period
	<ul style="list-style-type: none"> Label all lithic, ceramic, and glass material with their identifier Incorporate all spreadsheets created between HVGB and SJ Identify for the archaeology team any anomalous Total Station or other data Distribute the final two databases prior to analysis week to assist in analysis preparations 		
	<ul style="list-style-type: none"> Provide immediate and item-level support to Archaeology Leads during analysis week 		Analysis week
	<ul style="list-style-type: none"> Incorporate each Archaeology Lead's spreadsheet with their edits/comments into one final copy for each site 		Post-Analysis week
Archaeology Lead	<ul style="list-style-type: none"> Recognize and provide assistance in lifting/blocking techniques If needed, provide specific enclosures for safe transport of artifacts to HVGB office Ensure field data accompanies each bagged artifact Ensure wet materials are kept wet, damp materials damp, etc. from period of exposure to receipt by HVGB cataloging lead 	Field	Excavation, recovery
Archaeology Lead	<ul style="list-style-type: none"> Adhere to safe handling, use, and photography practices during analysis 	Laboratory	analysis week, reporting
Field staff	<ul style="list-style-type: none"> Adhere to safe removal and handling procedures Ensure field data accompanies each artifact Recognize and confer with Field Leads for assistance in lifting or blocking 	Field	Excavation, recovery

Field: In the field, the large number of metals recovered throughout the season required ongoing temporary stabilization for the interim period between their initial exposure and final receipt in St. John's. This required keeping each metal artifact damp or wet through the application of damp sheets or towels during photographic and total station documentation in the field, transport to the Happy Valley - Goose Bay office in containers or bags containing water, and finally timely shipping to St. John's with damp absorbent materials and a minimal amount of water in waterproof

containers. The same procedures were applied to wood, leather, cork, and other organic artifacts with additional attention given to providing each physical support and protection for handling, packing, and transport. A summary of materials requiring conservation is presented in Table 2.2

Additional conservation-related action in the field was the implementation of the block-lift technique to remove the basal deposit of the Feature 6 privy, for which recovery of faunal, organic, and other unknown embedded materials was not possible on-site.

Laboratory: Textile, faunal material, wood fragments, fragments of a glass tumbler, and any other visible material was manually extracted from the block-lifted sediments by the Project Conservator. All surrounding soil matter was retained for further processing through a Forced-Air Flotation Device generously provided by and operated by the MUN Palaeoethnobotany class led by Dr. Michael Deal. This process resulted in the extraction, sorting, and identification of fine material such as fibers, seeds and insect casings, hair, and fur by members of the class (see Section 4.7.8.2). Finally, all faunal materials were provided rudimentary cataloging before packing, and all textile pieces were cleaned, control dried, and mounted for eventual transfer.

Priorities: Treatment priorities and approaches by material type were decided based on a combination of addressing those artifact types which required lengthy and/or complex treatment with timelines for catalogue processing and subsequent report analysis. For example, ferrous materials were determined to be of high priority due to the factors mentioned earlier, and the large quantity of these materials – over 10,000 pieces. Therefore, catalogue processing and treatment preparations were conducted simultaneously and first for all ferrous materials. Also, organic materials were addressed as they were received to begin their lengthy treatment process. Following this, lead and lead-alloy artifacts were treated after all ferrous material was put into solution as they could be treated in bulk and in a relatively prompt manner. Finally, as prioritized, copper and copper alloys were treated last. One reason for this decision was to ensure the safe handling for, and eliminate chemical exposure to, the Archaeology Leads should treatment processes and times encroach upon the catalogue analysis and review period. In total, more than 12,000 individual pieces required remedial conservation treatment for the 2016 field season.

Analysis: During the week of review and analysis of catalogued artifacts by the Archaeology Leads, the cataloguer and conservator were charged with supporting the Archaeology Leads in immediate and item-level cataloging and treatment. Further, editing or updating any immediate changes, as identified by the Archaeology Leads, were made in the Master spreadsheets by the cataloguer so that all changes and edits could be finalized as soon as possible for the report writing. These activities were supplemented with labelling activities also performed by the St. John's cataloguer.

Post analysis activities included incorporating each Archaeology Lead's spreadsheet with their edits and comments into one final copy for each site. Conservation treatment for the remaining 2016 artifacts, particularly copper/copper alloy, lead slag, mounting/packing of textiles, and changeover of the remaining ferrous materials in solution continued during the catalogue analysis

and review period. To date, final 2016 conservation activities in addition to 2015 treatment requirements and the labeling of all ceramic, glass, and lithic materials by the St. John's cataloguer are being performed.

The entire 2016 collection is currently located at the Rooms Museum Conservation Lab for final treatment, labeling, and report preparations. Following the submission of the report, all material will be submitted with the final Specimen Record Form spreadsheets to the Provincial Archaeology Office.

Subsequent analysis by archaeologists included reviewing both the collection and the catalogue to:

- ensure correct attribution of raw material types;
- correct any Type 1 errors (debitage incorrectly identified as tools);
- correct any Type 2 errors (tools incorrectly identified asdebitage);
- correct any provenience errors;
- write detailed artifact descriptions for finished artifacts; and
- photograph artifacts for the final report (this document).

Table 2.2 Artifacts by Type Requiring Conservation

Year	2015				2016				Total by Material Type	
Borden	FgCg-01		FfCi-02		FgCg-01		FgCg-04			
	Cat# count	Piece Count	Cat# count	Piece Count	Cat# count	Piece Count	Cat# count	Piece Count	Cat # count	Piece count
Fe (nail)	1247	1652	9	10	3076	4203	296	424	5307	7250
Fe (cast)					24	27	204	344		
Fe (other)					451	590				
Pb/Pb alloy	146	262	2	2	321	1245	26	34	495	1543
Cu/Cu alloy	104	114	7	9	175	193	40	47	326	363
Tin	13	26	14	16	382	3119	165	1738	574	4899
Textile			3	3	43	43			46	46
Wood			1	1	15	122			16	123
Leather					2	6	5	5	7	11
Composite					3	3	2	2	5	5
Other										
Total by Site	1510	2054	36	41	4492	9551	738	2594		
Total Cat Count by Year	1546				5230				6776	
Total Piece Count by Year	2095				12145				14240	

2.6 Project Personnel

The 2016 historic resources assessment and recovery program was conducted by Stassinu Stantec. Project personnel included Project Managers, Technical and Field Leads, Field Technicians, Data Analysts and Report Writers, and GIS Specialists. All principal project personnel have in-depth knowledge and experience in their fields of expertise and a broad general knowledge of the work conducted by other experts in related areas of the program.

Brief biographical statements for the principal archaeological team members are provided below.

Fred Schwarz, PhD (Senior Archaeologist and permit holder) holds a BA in Anthropology from Memorial University, an M.A. in Archaeology from the University of Calgary and a PhD in Archaeology from the University of Cambridge. He specializes in the archaeology and pre-history of the Newfoundland and Labrador interior. His research interests include predictive modelling and field investigation of precontact interior settlement in Newfoundland and Labrador, settlement patterns and the interpretation of interior adaptations and culture history in the region. Dr. Schwarz has been directing field research projects in Newfoundland and Labrador, Nova Scotia, and Latin America for 31 years. His work in Labrador has included scientific management of the Stage 1 Historic Resources Overview Assessment of the Churchill River Power Project from 1998 to 2006, which included a series of three training programs for Innu researchers. In addition, he has worked on numerous projects with and for Innu organizations and companies. In 1996, he directed the Regional Context Component of the Voisey's Bay Historic Resources Impact Assessment for the *Mushuau* Innu Band Council (in conjunction with the Labrador Inuit Association and Jacques Whitford). In 1997, he served as field consultant to the Innu History Commemoration Project for the Department of Canadian Heritage and directed the Archaeological Resource Inventory of *Akamiaupishku* Proposed National Park for Innu Nation and Parks Canada, eventually preparing the Human History Study of the proposed park in 2001. Since that time, he has also completed major assessments for IELP, including the Historic Resources Study of Phase III of the Trans Labrador Highway, as well as assessments and research in the town of Sheshatshiu for the Sheshatshiu Innu Band Council. More recently, since 2006 he has undertaken several projects with Minaskuat Limited Partnership and Stantec, including archaeological potential mapping and field assessment of the LabMag Iron Ore project in western Labrador, and scientific management of historic resources assessment of the Lower Churchill Hydroelectric Generation Project and the Labrador – Island Transmission Link. Dr. Schwarz held the Archaeological Investigation Permit issued by the Provincial Archaeology Office (PAO) for the Lower Churchill Project Historic Resources Management programs in 2016. Dr. Schwarz co-directed the background and field research programs, and co-authored this report.

Corey Hutchings, BA, MA (Archaeologist), has worked in cultural resource management for the past five years and participated in additional archaeological and heritage research since 2002. Mr. Hutchings holds a B.A. in anthropology and a Master's degree in archaeology from Memorial University. His research interests have primarily been the archaeology of the Arctic's prehistoric

people with a focus on the Labrador Archaic. He has participated in various cultural resource management and academic research projects on the Island of Newfoundland, Labrador, Baffin Island, and Aleutian Islands. Mr. Hutchings' work in Labrador has included multiple years as a field supervisor for the Porcupine Strand Archaeology Project based in Cartwright Labrador. Over 2011 and 2012 he worked with local people in assessment and mitigation for the Baffinland Iron Ore Company. This work consisted of assessments and excavation of sites that fell in the footprint of the ore loading area as well as the route of a 150-km railway. He has had multiple archaeology reports approved by the Newfoundland Provincial Archaeology office, the Alaskan Department of the Interior and most recently an ethnographic report approved by the Nunatsiavut Government. Mr. Hutchings co-directed the background and field research for the 2016 Historic Resources Management Program, and co-authored this report.

Sara Beanlands, BA, MA (Archaeologist), has worked in cultural resource management for the past 12 years and has been involved in archaeological and heritage research since 1994. Ms. Beanlands holds a BA in History and Social Anthropology from Dalhousie University and a Master's degree in History from Saint Mary's University. Combining her formal training in history and anthropology with over a decade of practical experience in cultural resource management, she has undertaken a wide range of archaeological projects for both private and public sector clients in Nova Scotia, Newfoundland and Labrador, and Ontario. She has coordinated and conducted over 40 archaeological assessments, including large-scale utility, wind power, hydroelectric, mining and linear developments, as Principal Investigator. As a project manager, Ms. Beanlands has served as project manager on a wide range of projects, including archaeological assessment of various components of the Maritime Link Project and the Mersey River Hydro system. She is currently an Adjunct Professor in the Department of Anthropology at Saint Mary's University. Ms. Beanlands co-directed the field research for the 2016 Historic Resources Management Program, and co-authored this report.

K. David McLeod, MA (Archaeologist) has over 40 years of archaeological experience, including environmental impact assessments and mitigation, site excavation, site monitoring, site remediation, site survey, geophysical surveying, and report writing. He has participated in, and conducted, heritage resource and environmental studies throughout British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, and Labrador. David has extensive knowledge of designing field objectives, implementing field reconnaissance, and reporting requirements that are necessary for environmental assessment projects including hydro generating stations and transmission lines; fibreoptic cable installation; highway development; recreational, residential, and commercial subdivisions, heritage site interpretation; and soil remediation. David has analyzed fur trade era artifacts from along the Missinaibi River in northern Ontario, excavated several Hudson's Bay Company wintering sites in northern Manitoba, has completed archaeological assessments at the former location of Upper Fort Garry in Winnipeg, Manitoba, and has conducted numerous hours of archival research examining trade post journals at the Hudson's Bay Company Archives in Winnipeg. David has also completed archaeological excavation at Métis homestead sites along the Red and Assiniboine rivers in the former Red River Settlement in present-day Winnipeg. David has participated in several oral history projects for First

Nation land entitlements, site protection, cemetery restoration and Traditional Land Use and Occupancy studies for environmental assessments. He has prior experience in public consultation and presentation, and has participated in designing and developing interpretive displays for cultural centres. David has also developed geophysical survey techniques to locate buried features such as unmarked burials, former building foundations, activity areas within archaeological sites, underground utility conduits, and underground storage tanks. The non-intrusive nature of geophysical surveying provides data for areas that require remediation, avoidance, geotechnical drilling locates, and/or mitigation. Mr. McLeod co-directed the field research for the 2016 Historic Resources Management Program, and co-authored this report.

Vincent Bourgeois, MA, (Archaeologist) has 25 years' experience in archaeology and cultural resource management in both public and private sector capacities. He completed a Master's degree in Anthropology from the University of New Brunswick with a focus on the study of precontact Aboriginal ceramics in the Northeast. He has participated in numerous field projects in New Brunswick, Nova Scotia, Prince Edward Island, Labrador, Ontario, and New Jersey. His primary areas of expertise include historical and pre-contact archaeology, and archaeological impact assessments including shovel testing, excavation, mitigation, and historical research. He also has practical laboratory experience that includes both historic and precontact artifact analysis and cataloguing. During this time, he has had the opportunity to excavate numerous First Nations Pre-contact archaeological sites from the Paleo-Indian, Archaic and Woodland Periods as well as Euro-Canadian archaeological sites dating to the protohistoric, early French, Acadian, Scottish, Loyalist, and 19th century industrial periods. Mr. Bourgeois is bilingual. Mr. Bourgeois co-directed the field research for the 2016 Historic Resources Management Program, and co-authored this report.

Miki Lee, (Conservator) is an associate of Stantec Consulting Ltd. with over 15 years' experience in conservation treatment and preservation consulting for an extensive range of municipal, provincial, and federal institutions. Ms. Lee has trained and directed teams in both archaeological and historical conservation treatment, collections management, and preventive conservation. Accredited through the Canadian Association of Professional Conservators (CAPC) in 2007, Ms. Lee's areas of specialty include preventive conservation, archaeology, archives, mixed collections, collections management, and education. Ms. Lee served as Project Conservator, designing the artifact processing, shipping, and conservation procedures, and establishing the artifact processing facilities for the Project. Ms. Lee also prepared the description of conservation methodology for this report.

Table 2.3 lists the complete historic resources team as well as their identified roles.

Table 2.3 2016 Historic Resources Assessment and Recovery Personnel

Role	Personnel
Project Management	Diane Ingraham (Senior Project Manager), Wayne Tucker (Project Manager)
Technical and Field Archaeology Leads	Fred Schwarz, Corey Hutchings, Sara Beanlands, David McLeod, Vincent Bourgeois, Tony Parr, Stacey Camus
Project Conservator	Miki Lee
Team Leads and Wilderness First-Aiders	Corey Hutchings, Stacey Camus, Caroline Hong, Tony Parr, Randy Best, Chris White, David Sheppard
Data Analysis and Report Preparation	Fred Schwarz, Corey Hutchings, Sara Beanlands, David McLeod, Vincent Bourgeois
Senior Technical Review	Chris Blair
Field Technicians	Jonathan Allen, Mary Ann Aylward, Brittany Barrett, Randy Best, Ken Blackmore, Dorman Campbell, Marjorie Campbell, Margie Clarke, Marjorie Flowers, Amy Goodyear, Savin Gregoire, Bradley Guy, Judy Guy, Jean Luc Hervieux, Robyn Hillier, Jonathan Holley, Robert Holwell, Stephen Holwell, Roslyn Hunter, Scott Kautjasiak, Mary Charlotte Michel, Maggie Neilsen, Jeremy Nuna, Caitlin Parady, Lewis Penney, Taylor Pilgrim, Tony Pilgrim, Hannah Robia-Rich, Jamie Rose, David Sheppard, Rachel Snelgrove, Bernice Tracey, Darren Ward, Chris White, Daniel Windeler
Health, Safety, Security & Environment	Caroline Hong, Doug Schaefer, Kyle Ferguson
Artifact Cataloging Packaging and Shipping	Charlene Clark, Margie Clarke, Mary Ann Aylward, June Flowers, Chris White, Barry Keough, Robyn Hillier, Jessica Steffler, Amy Goodyear, Judy Guy, Corey Hutchings, Fred Schwarz, Patrick Oliver
GIS	Chris Shupe, Heather Ward, Ryan Melanson, Neil Mackey, Miranda Huskins-Shupe, Kasia Rozalska, Kelly Taylor
Project Support and Controls	Mary Ann Aylward, Victoria Greeley, Barry Keough, Wayne Tucker, Lois Strangemore, Patrick Oliver, Robin Power

2.7 Field Team Training Program

Relevant training for field work is important to the success of the program. The field team (noted in Table 2.3) consisted of some personnel who have acquired training and experience in efficient and effective archaeological excavation and cataloguing over multiple field seasons. Each person received one day of refresher training. One artifact processing specialist (along with two Field Team Leads) had previously (in 2014) received a two-day training course in field stabilization, block-lifting, and conservation of artifacts delivered by the Canadian Conservation Institute, and an artifact processing orientation delivered by the Project Conservator. In addition, several local persons with experience in environmental science were selected to participate in fieldwork, and were given a one-day course, as well on the job instruction under the supervision of the Team Leads and were mentored by those with prior field experience.

3.0 STAGE 1 BACKGROUND RESEARCH RESULTS

During Stage 2 assessment of the LCP in 1998 and 1999, the North West River HBC post records in the HBC archives in Winnipeg, MB were reviewed for information on the nature and location of HBC outposts on the Churchill River, principally the Sandy Banks and Fort Winokapau outposts. Little specific information on the Sandy Banks outpost was obtained during this review. The results are summarized in Section 3.1 (for more detailed reviews, see IED/JWEL 2000; JWEL/IELP 2001a).

In 2016, further research was undertaken at the HBC archives in Winnipeg, Manitoba for information on HBC construction methods in the Labrador outposts to assist interpretation of the structural remains exposed during recovery work at FgCg-01 Locus D. As noted, little information is available for the Sandy Banks outpost itself. The records for other contemporary HBC posts in central Labrador (including the North West River post, Fort Nascopie, Winokapau House, and Michikamau House), although detailing HBC sites located outside the present Study Area, proved to be extremely informative. The results of this review are summarized in Section 3.2.

3.1 Sandy Banks

3.1.1 Sandy Banks HBC Post

The HBC acquired ownership of the North West River post in 1836 and soon began to implement plans to expand operations into the Labrador interior. Sandy Banks was first mentioned in the North West River post journals in 1839. But the earliest reference to Sandy Banks is contained in an 1837 letter from H. Comeau, manager of the D.R. Stewart operations at North West River at the time of the Hudson's Bay HBC's arrival. Comeau's note, written at Sandy Banks to Mr. McGillivray, the HBC Factor, registers a complaint that HBC men have "in passing demolished and burnt part of my Store at Rapid" (HBC, B153/a/1/38d; Saturday, February 4, 1837). Comeau's note suggests that Sandy Banks was in use prior to 1836.

The next documentary reference to Sandy Banks (as well as to Gull Island) occurs in the North West River Post journals of July 6, 1839 when the entry reads: "I was in the store fitting out the Indians and at night they all so cut [sic] off for the interior not to return here til next year – but to meet a trader sent by me next winter at Sandy Banks or at Gull Island" (HBC B.153/a/2/f82; Saturday, July 6, 1839). The October 8, 1839 entry for the North West River journal reads: "At 8 a.m. Mr. McKenzie left for Sandy Banks with 2 men. He will remain there 8 or 10 days at that place to direct Mr. Christie with (*word illegible*) to the trade" (HBC B.153/a/2/f82; Tuesday, October 8, 1839).

Thereafter, Sandy Banks Post appears to have seen two periods of intensive (construction) activity: 1841 to 1845, and 1875 to 1877 (Anick 1976:667, 675; HBC B.134/k/1, p. 58; HBC B.153/b/2, p. 83).

The Post manager for 1841 to 1842 was George McKenzie. Between 1842 and 1844 Donald Henderson ran Sandy Banks, and from 1876 to 1877, James Lawson, Apprentice Clerk from North West River, operated the post.

In 1841 and 1842, George McKenzie managed the Sandy Banks outpost (IED/JWEL 2000), where men were engaged in trapping marten as well as trading with the Montagnais. In 1841, the establishment consisted of a store and dwelling house. The former collapsed during the winter and was most likely restored in the spring. The dwelling house was reroofed, partly with boards and partly with bark, in 1842 (Anick 1976). Turnips were grown in the garden at Sandy Banks, and 36 barrels of them were harvested in the summer of 1841.

In 1842, and again in 1844, William Nourse, the factor at North West River, considered abandoning Sandy Banks (see Anick 1976), but the outpost remained in operation, at least in part as a staging area for the outfits to more remote outposts, such as Winokapau House and Michikamau House. A small outpost of Sandy Banks at Gull Island was also occasionally maintained as a depot for the annual outfits upriver.

Trade at Sandy Banks seems to have been with Innu from both the North West River area and the Lower North Shore of the St. Lawrence. George McKenzie writes to William Nourse on April 26, 1842 that:

"Except Asshinii and his two brothers, Witnaw, Antoine's family, Espitau and young Mistanapesh and brother, are the only natives of this place or Bay, all the others are natives either of 7 Islands, Mingan or Masquaro. Antoine was originally an interior Indian, but for many years belonged to Mingan" (HBC B.153/c/1, cited in IED/JWEL 2000).

After the early 1840s there is little reference to building or rebuilding activities at Sandy Banks, but from 1866 until March 1873, Sandy Banks was operated during the trapping season by Henry Hay and family for the HBC, and in other years by various HBC employees.

Sandy Banks was last mentioned in the Post journal in December 1875, when the Sandy Banks crew arrived back at North West River Post for four days' holiday over the New Year. It is doubtful that the post ceased operations at that time, for in the spring of 1875 the HBC had constructed a new store at Sandy Banks and repaired the existing house, as the following North West River journal entry states: "A. Sanderson and Henri left for Sandy Banks where they are to put up a store, repair the house & afterwards go up to Gull Island to put the place in order and then bring down the flats to the Rapid. As it will be necessary in future to keep a stock of Provisions etc. to supply the Inds. to prevent them from straggling. Mr. Michaud & Wachekat's son went with them and are to return from the Rapid" (HBC, B.153/a/24/6d, Wednesday, May 5, 1875).

The absence of regular entries referencing Gull Island and Sandy Banks after the 1875 to 1876 trapping season may be due to a change in the style of the journal entries rather than an alteration in HBC trapping locations. After August 1, 1875, with the advent of a new journal keeper,

entries become brief and lack geographic detail. For instance, on Sat. Sept. 16, 1876, the entry simply notes that Henry Hay and family left for “winter quarters”, whereas in the past, the destinations were noted of all men on HBC business departing North West River. Thus, the outposts of Gull Island and Sandy Banks still may have been in use, however, the journal entries are no longer specific. Another concurrent change was that the HBC no longer sent its own employees to the winter traplines; numerous planters trapped for the HBC and were outfitted by, and in debt to, the HBC.

In summary, Sandy Banks was operated intermittently and seasonally as an outpost of the North West River Post for a period of 39 years between the 1830s and 1870s. Records indicate that the Post was comprised of at least two (and possibly three) principal buildings, including an accommodations building and a “store” (storage building/trading room). Sandy Banks, like other outposts, was in operation during the fur trapping months, approximately September to May of each year, and served as “winter quarters” for HBC employees. Each HBC crew was responsible for maintaining a series of tilt runs at the outpost to trap furbearers. As well, the crews at each outfit were expected to trade with and supply Innu who were loosely associated with each outpost; the Innu trapped further afield but made regular return visits to trade furs, fresh caribou meat or hides for provisions. Trade goods (blankets, cloth, flannel, ammunition, and tobacco are mentioned in the North West River Post journals) and food supplies (records exist for flour, biscuits, dried peas, corn meal and pickled pork or beef in barrels) were transported to the outposts from North West River each year with the help of Innu crews using flats (flat-bottomed river vessels), canoes, and portaging (JWEL/IELP 2001a). Sandy Banks often served as a storage depot or staging area for the annual outfits to the more remote outposts deeper in the Labrador interior.

3.1.2 Sandy Banks After the HBC

During the operation of the HBC outpost at Sandy Banks, until the last quarter of the 19th century, the fur trade in central Labrador was almost entirely conducted between the HBC and Innu hunters and trappers (although as noted, some of the HBC fur returns were trapped by HBC employees, not acquired by trade). There were also resident planters or Settlers (as they are referred to in contemporary sources; e.g., Low 1896) trapping along some of the rivers, but they were relatively few (Cotter 1922, cited in Zimmerly 1975). However, in the 1890s, this changed as permanent residents of upper Lake Melville, began to trap intensively along the Churchill River. Many of these individuals appear to have been former HBC employees, with long experience trapping for the company in “winter quarters,” or to have been the descendants of HBC employees. The trapping grounds initially exploited appear to have been those relatively close to Lake Melville on the lower reaches of the principal rivers, including the Churchill. From the very beginning, a body of customary law held that trapping grounds belonged to the Settler who first built a cabin and set out trapping paths along a stretch of the river (e.g. Groves 2013; Cotter 1922; account of John Blake in Fitzhugh 1999: 395-397).

Although several individuals were involved in expansion of the Settler trapping enterprise, one name that often appears in both documentary and oral history accounts as particularly important

in the expansion along the Churchill River is that of Joseph Michelin. (e.g., Cotter 1922; Merrick 1933; Michelin 2013; account of John Blake in Fitzhugh 1999: 395-397; account of S. Michelin in Fitzhugh 1999: 399-401)

Joseph Michelin was born in 1846, the son of Mersei (variously spelled "Marseilles," or "Mercellet," or even "Marcel") Michelin of Trois-Rivieres, who was an HBC employee during the zenith of the HBC outposts on the Churchill River in the 19th century. Joseph Michelin was able to take as his "place," the abandoned HBC outpost site at Sandy Banks, the most convenient and closest trapping ground above Muskrat Falls. It is said that he purchased the site (or possibly the trapping ground) from an Innu man who owned it (account of Stewart Michelin in Fitzhugh 1999). While possibly true, this would not be the only time Joseph Michelin had taken ownership of an abandoned HBC property. His main house at Traverspine River had originally been an HBC outpost until it was abandoned in 1844 and acquired by former employee John Goudie. Goudie departed for Kaipokak Bay in 1872 and the HBC reacquired it and at some point in the next 20 years it passed into the hands of Joseph Michelin (see Zimmerly 1975).

It is not known precisely when Joseph Michelin began trapping from Sandy Banks, but as noted above, the growth of Settler trapping along the Churchill River seems to have begun in the 1890s (Cotter 1922), and it is likely that Sandy Banks was among the first of the trapping grounds to be established under Settler customary law. Nor is it clear precisely where Joseph Michelin's establishment may have been. Joseph's son Stewart (1894-1987) built a tilt approximately 60 m west of the old HBC post site in 1922 (Dawson 2013). This corresponds with the tilt at FgCg-01 Locus C (Stantec 2015; 2016). Sometime after the 1930s, Brian Michelin (son of Stewart, born 1917) acquired the tilt and he continued to trap the area until he retired in 1987 at the age of 70 (Michelin 2013). The location of any preceding post-HBC Sandy Banks tilt is unclear. When A.P. Low travelled through the area in 1894, he mentions no standing buildings of any sort at the site of the Sandy Banks post, noting only that "... the Hudson's Bay Company formerly maintained a small trading Post on the North side, where the site of their clearing is marked by a new growth of birch" (Low 1896). Either Joseph Michelin had not yet built a cabin here in 1894, or his premises were located elsewhere in the area. In this regard, it is interesting that Brian Michelin's brother Richard (born 1927) remembers staying in an "older tilt" just below the island east of Sandy Banks and returning later to a "new cabin" (presumably Stewart Michelin's then relatively new tilt at FgCg-01 Locus C) above that site (Dawson 2013). The location of this otherwise unattested "older tilt" would appear to correspond to the archaeological site at FgCg-04.

3.2 HBC Post Construction and Maintenance in Central Labrador

3.2.1 Introduction

The construction styles and materials, number and orientation of buildings, and extent of post fortifications varied for the HBC trade posts throughout North America. The geographical location of the post, the duration of occupation, and the type of activities conducted at the post generally dictated the nature and extent of the structures. For example, Upper Fort Garry, the HBC's

northwest administration centre in present-day Manitoba, consisted of retail stores, and storage buildings constructed in the Red River frame style enclosed within limestone walls. The complex was designed to not only reflect its importance in the company's administrative power in the western interior but also as a symbol of the HBC's station in the societal framework of the interior in general and the Red River Settlement in particular (Loewen and Monks 1986:6). By contrast, wintering posts were designed to accommodate the number of HBC staff assigned to the post, to store articles of trade and provisions, and to provide a structure where trade negotiations with the local indigenous population could be conducted. Occasionally palisades surrounded these complexes to restrict entry and for protection from competing trade competitors. Trading post journals often contain information regarding construction methods, size of the structures, and interior finishing and furnishings.

The physical remnants of the fur trade structures regardless of size, location, or importance, seldom remain above ground. What remains are the buried archaeological features such as foundation mounds, sill logs, post holes, chimney hearths, collapsed structural components, the architectural hardware, window pane fragments, and any debris that remained when the site was abandoned. Archaeologists expose, record, and interpret these features to gain an understanding of the physical space the site occupants inhabited, to provide a context for the distribution of artifacts, and to contrast with other sites within a region or through time.

Because of what are assumed occupational or post-occupational events that resulted in the destruction by fire of the four structures excavated at FgCg-01 and the building remnants at FgCg-04, the structures presented an enigma regarding date and method of construction, interior finishing and, for FgCg-01, how the four buildings related functionally and chronologically.

3.2.2 Archival Sources

A variety of archival sources were examined to gain insights into the methods of trade post construction in central Labrador, as there are no journals pertaining to either Sandy Banks or Gull Island. It was assumed that if winterers were being sent from North West River into the Labrador interior, the post managers were given common instructions on the preferred construction methods for, and appropriate number of, structures that were necessary at a post. The post journals for North West River, Fort Nascopie, Michikamau House, and Winokapau House were examined.

The HBC constructed a post at North West River on Melville Bay in 1836 and the store was operated into the 1940s (Anick 1976:645). Journals from 1836 to 1879 were reviewed primarily to gain insights into the construction methods at North West River during the early years of operation and to record any information pertaining to Sandy Banks (H.B.C.A B.153/a/1 to 26; Reels 1M105, 1M106, 1M1013). Building inventories completed in the early 1900s were also examined as these listed the extant buildings at that time as well as date and method of construction (H.B.C.A. G.7/13/ (7) folio 203 1920-192).

Fort Nascopie was constructed in the Lake Petitsikapau area by Erland Erlandson in June 1838 (Anick 1976:664). The post was operated intermittently until ca. 1870. Journals reviewed for Fort Nascopie cover the period 1842 to 1845 (H.B.C.A. B.139/a/1 to 4; Reel 1M96).

Michikamau House was an outpost of Fort Nascopie and was built in 1844 by George Alder on the northwest shore of Michikamau Lake (Anick 1976: 674). The lake is approximately 80 km upstream of present-day Churchill Falls. Alder was sent with three men from North West River, stopped at Sandy Banks to collect his winter supplies and trading goods, then continued up the Churchill River to establish the post. It was operated until ca. 1850. All available journals were reviewed and covered the period from 1846 to 1849 (H.B.C.A. B.128/a/1 to 3; Reel 1M79).

Winokapau House was constructed on Winokapau Lake, a widening of the Churchill River, about 80 km downstream of present-day Churchill Falls. Post records date from 1863 to 1869 and 1873 to 1874. Voorhis (1930: 180) indicates that the post was established about 1830 but abandoned in 1876 and was soon afterwards destroyed by fire. All available journals were reviewed and covered the period from 1863 to 1869 (H.B.C.A. B.237/a/4; Reel 1M154 B.128/a/1 to 3; Reel 1M79).

3.2.3 Preparation and Construction

Construction sequences at both Michikamau and Winokapau House were similar despite being built almost 20 years apart. As soon as the HBC winterers arrived they first constructed a temporary log tent shelter for accommodations and then a fish drying tent.

The first step in construction of the post was to clear an area large enough for the structure. Generally, this took from two to three days depending on the number of staff. The men would then collect logs and begin squaring them. Once sufficient logs had been squared the building foundation and sleeper (i.e., support) logs were laid and then wall construction began. All journals examined indicate that the structure walls were constructed of squared logs. Logs were usually hauled to a sawpit where the men would cut them into appropriate lengths and then haul the finished timbers back to the construction site. No dimensions of the Nascopie buildings were reported. A 15 ft x 10 ft (4.5 m x 3.0 m) dwelling was constructed at Michikamau House in May of 1846. The log smoke house at Winokapau was 10 square feet in area, or 0.9 m².

Surveys of HBC holdings at North West River in 1917 recorded the date and method of construction of extant buildings (Table 1). More attention to detail may have been given to these structures because North West River was operated annually. Table 1 lists only the buildings constructed prior to ca. 1900.

Table 3.1 Partial List of HBC Buildings at North West River¹

Construction Date	Function	Foundation	Construction Method	Dimensions
1820	Flour Store and Depot	Rock	2-storey Log	45' x 22' (13.7 m x 6.7 m)
1850	Carpenter's Shop	Rock	1-storey Log	30' x 14' (9.1 m x 4.3 m)
1870	Oil Storage	Rock	1-storey Log	20' x 30' (6.1 m x 9.1 m)
1860	Dwelling	Rock	2-storey Frame	25' x 40' (7.6 m x 12.2 m)
1833	Flour Store and Depot for Merchandise	Juniper Log	2-storey log, double floor 2" spruce and 1" board, 7" clapboard, shingle roof	42' x 20' x 20' (12.8 m x 6.1 m x 6.1 m)
1878	Oil Storage	Brick	1-storey log construction; 2" floor spruce, 7" clapboard, not ceiled, shingle roof	20' x 30' x 20' (6.1 m x 9.1 m x 6.1 m)
1 - J.A.S. Peyton Survey August 18, 1917 (H.B.C.A/G.7/11 (2) folio 87A)				

Once the site had been cleared and the logs squared, the next step was to begin wall construction. The Winokapau journal for September 1863 summarizes how the building frame was erected. Initially four corner posts were grooved and erected. Then squared frame logs were fitted and additional posts were installed. Window frames were also installed. Gradually the walls were built up and then upper wall logs and structure beams were put in place. A ridge pole was installed once the walls had been built up and squared logs were fitted at the gable ends. This suggests that the buildings were constructed using the mortice and tenon style of construction. There is no mention if the corner posts were buried, post on beam or post on ground. The Winokapau House journal entry for September 22, 1863 stated that six posts had been "set" for a building on September 18 and a seventh was "set" on that day. Perhaps setting a post referred to burying the support post.

The next construction step was the roof. Both Michikamau and Winokapau House were roofed using roofing sticks. At Winokapau House, approximately 40 roofing sticks for the dwelling were cut from areas surrounding the building site and transported back to the house where they were squared and straightened. The sticks were then fitted to complete the roof. At Winokapau House the men then caulked the roof of the house with moss. At Michikamau House the men caulked the new house with moss then collected clay and plastered the roof. Pine bark was then collected to cover the roof.

Once the roof was complete at Michikamau House, men gathered stones and clay to construct a chimney. At Winokapau House, the chief trader sent two men with a large flat boat to Gull Island

to collect a stove. The stove was fitted with stove pipes that were made on-site. The dwelling at Winokapau House had two windows that were glazed before installation. The structure had one doorway and the door was hand made. The structure was then completed by installing sawn and planed flooring. Construction of the Winokapau House began on October 20, 1863, and the chief trader moved into the completed structure on November 16, 1863.

Clay sources were sought out at Michikamau House as the journal entry for September 13, 1848 stated that Gibson and Louis carried some clay to the house to “make a chimney and be used for sundry purposes”. Both Michikamau and Winokapau House used clay to plaster the roof and other portions of the structures. The Nascopie journal entry for November 3, 1845 recounted that, on that day, the men were “washing the outside of the houses with clay”. Given that freeze-up had occurred in mid-October, this suggests that a stock pile of thawed clay was kept at the post.

A new dwelling was constructed by Joseph McPherson and his men at Michikamau House between August and November in 1848. While the basic construction was like that of previous dwellings, the new structure had an attached kitchen and front and back doors. Several windows were also fitted and installed.

Some construction variation was noted for the Winokapau House dwelling. The post master had staff collect brush that was used to thatch the roof. The roof was then covered with oil and bale cloths. The men the sawed roofing boards that, it is assumed, were installed on the interior portion of the roof. One of the structures at Winokapau was covered with weatherboarding, which may have been some type of horizontal siding.

Construction activity at Michikamau and Winokapau House appears to have been an ongoing activity throughout the winter and over the course of the years covered by the journals. The sequence at both locations was similar. First a temporary shelter, then a fish storage tent, then a store, followed by a dwelling for the post master and then the Men’s dwelling. The result was that each wintering post had two or three buildings that were occupied during the season. A photograph of Fort Nascopie ca. 1894 serves as a good example of how the HBC buildings may have appeared (Photo 3-1).

3.2.4 Interior Finishing

The amount and complexity of the interior finishing was largely dependent on the building function. At Michikamau, George Alder and James Brass spent several days fitting up the dwelling house with a table and seats. Meanwhile, John Gibson and William Linklater were cutting wood for shelving in the store. In October 1846, Alder instructed two employees to collect and saw logs for a counter that they installed in the store. Wooden drawers were then fashioned and placed in the counter. The dwellings at Winokapau House were finished with wooden beds, tables, and stools. Each structure, those being the post master’s dwelling, the Men’s dwelling and the store, had a stove.



Photo 3-1 Fort Nascope in 1894 (Courtesy: Library and Archives Canada/PA-3818)

3.2.5 Repairs and Site Maintenance

In 1848, repairs to the existing Men's House were begun once the new dwelling had been completed. The repairs included taking window glass out of the old frames and putting them in new ones, then installing the new frames.

In June 1849, just prior to returning to North West River, McPherson had a staff member remove the old dwelling house roof and replace the roofing with new beams, green roofing sticks and fresh pine bark to cover the roof.

Repairs were infrequent at Winokapau House but a building addition was added to one of the dwellings in October of 1864.

Site maintenance generally consisted of brushing around the extant buildings, clearing stumps around the structures, and general house cleaning. Usually rubbish accumulated during the winter and was then cleared out of the structures in spring just prior to departure for North West River. An exception to this was at Winokapau House during the winter of 1868 to 1869 when a servant, identified only as Fraser, was instructed to wash the dwelling house floor every Saturday.

4.0 STAGE 3 RECOVERY RESULTS: FGCG-01 LOCUS D

The larger of the two sites recovered in 2016 was FgCg-01. At 1211 m² total excavated area, FgCg-01 was by far the largest archaeological site recovered in the Churchill Valley to date.

4.1 SITE OVERVIEW

FgCg-01 is situated on the northern side of Churchill River at Sandy Banks, approximately 20 km west of the Muskrat Falls portage and mid-way between Muskrat Falls and Gull Lake. FgCg-01 is comprised of four separate loci – Locus A, B, C and D (Figure 4-1). Recovery work at the western end of the site in 2014 and 2015 resulted in the complete recovery of cultural materials from Locus A (a series of precontact and historic-period hearths) and Locus B (consisting of precontact hearths and lithic scatters). Locus C, the remains of a 20th-century trapper's tilt and associated surface midden, was also tested in 2015. Locus D, situated northeast of Locus B, is the remains of the 19th century Sandy Banks HBC outpost. Recovery work at Locus D commenced in 2015 and was completed in 2016. Major recovery operations at FgCg-01 in 2016 were focused on completing the recovery of Locus D. However, limited recovery was also undertaken at Locus B and Locus C.

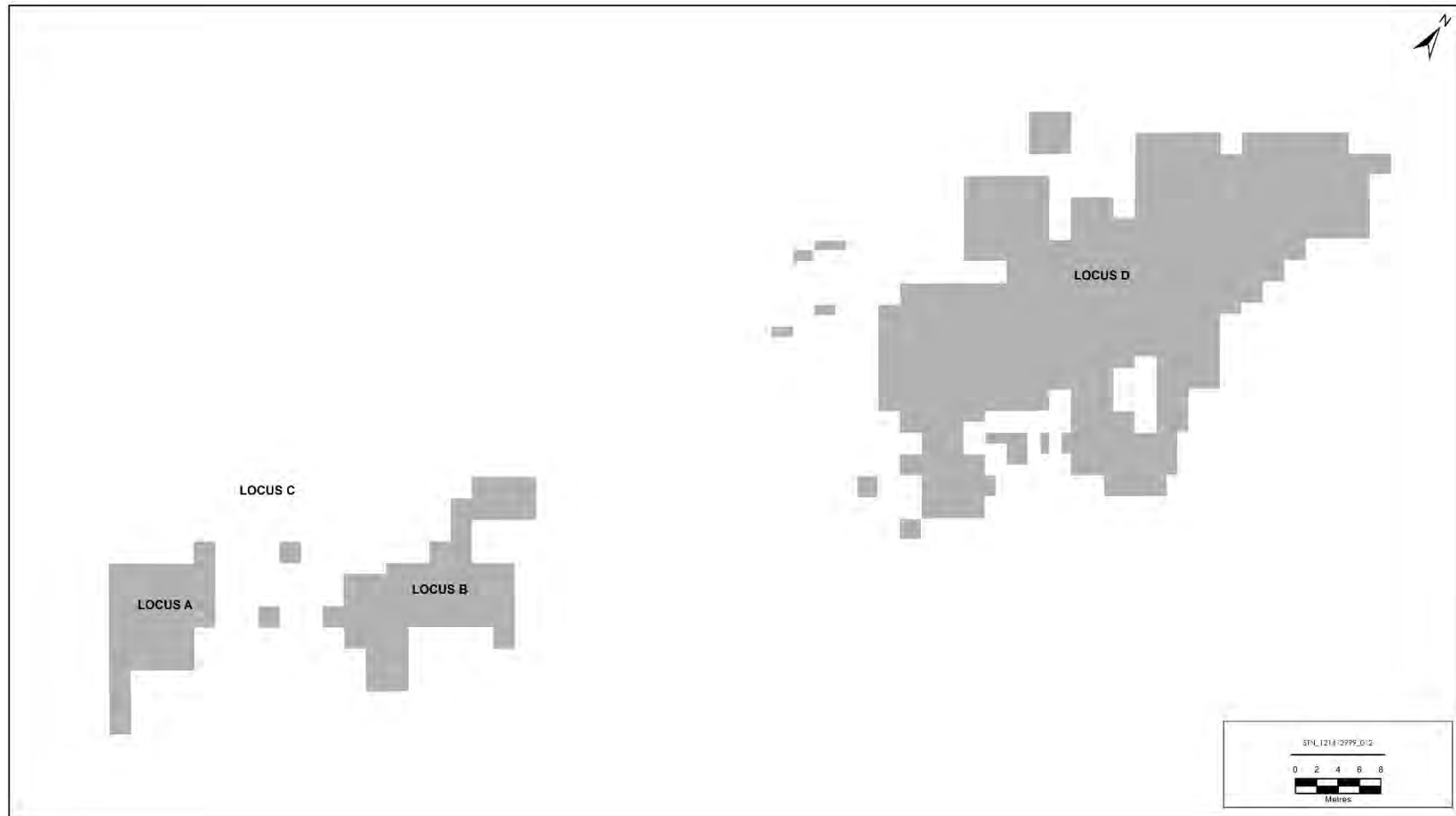


Figure 4-1 Overview of Site Loci at FgCg-01

4.1.1 Miscellaneous Investigations in FgCg-01 Locus B and Locus C

Recovery work at Locus A was completed in 2015 and no further work was required in 2016. However, limited recovery was undertaken at Locus B and Locus C.

4.1.1.1 Locus B

Locus B is situated in the centre of FgCg-01, east of Locus A, west of Locus D and southeast of Locus C. Recovery work at Locus B in 2014 and 2015 revealed a deep, complex, and unusual nature of the stratigraphy composed of multiple alternating deposits of sand and clay. Although recovery of cultural materials was completed in 2015, this Locus was revisited in 2016 to collect five samples of sand and clay deposits from the western sidewalls of the 2015 excavations. These soil samples were collected in opaque ABS tubes and the ends sealed to prevent exposure of the sediments to light (Photo 4-1; Photo 4-2). These samples (Table 4.1) have been catalogued and retained in the collection. Future Optically-Stimulated Luminescence (OSL) dating of the sediments at Locus B may assist in clarifying the nature and dating of the site formation processes at this unusual precontact site.

Table 4.1 OSL Samples Recovered from FgCg-01 Locus B

Catalogue Number	Sample Number	Horizon	Westing (m)	Northing (m)	Depth Below Datum (m)
14746	OSL1	Friable B Horizon	21.287	7.428	-2.06
13178	OSL2	Pilled Clay	21.272	7.425	-2.121
14567	OSL3	A Horizon	19.195	9.027	-2.524
14915	OSL4	B Horizon	19.196	8.969	-2.554
14584	OSL5	Pilled Clay	19.202	8.892	-2.621



Photo 4-1 Locations of OSL Samples OSL1(Top) and OSL2 (Bottom) During Collection at FgCg-01 Locus B



Photo 4-2 Locations of OSL Samples OSL3 (Top), OSL4 (Middle) and OSL5 (Bottom) During Collection at FgCg-01 Locus B

4.1.1.2 Locus C

Locus C is situated north of, and directly adjacent to, Locus A. This Locus consists of the deteriorated remains of a 20th century trapper's tilt and an associated midden of relatively modern debris, including metal fuel containers, glass bottles, ceramic tableware, and metal stoves and trapping equipment. Most of the surface-visible materials appear to date to the 1970s, but two artifacts were collected in 2016: a mid-20th-century marten trap, and a factory-made cylindrical sheet-metal stove with endcaps.

In all, 34 fragments of the cylindrical heating stove were recovered from the surface of FgCg-01 Locus C (Photo 4-3). The stove is a vertical-cylinder "Tortoise-style" stove with a body of rolled metal sheet that is attached to two cast iron plates with three steel rods, made by McClary Manufacturing, which was established in London, Ontario in 1871. The fragmented cylindrical body measures approximately 46 cm in length and 33 cm in diameter, while the recovered end plate measures approximately 34 cm in diameter. The inside of the plate is embossed with "Ex 21 1911", while the outer surface is embossed with "Registered 1896" and displays a decorative design (Photo 4-3: A). The collar, which attached the rods to the plate, is embossed with the maker's mark "McClary London Ont" (Photo 4-3: B). An oblong-shaped fuel door collar (Photo 4-3: D), which measures approximately 23 cm long and appears to have some illegible markings, and a fuel door (Photo 4-3: C), were also recovered. The stove would have been small and portable and an ideal source of heat for an early twentieth-century trapper's tilt.



Photo 4-3 Stove Fragments recovered from FgCg-01 Locus C

4.1.2 FgCg-01 Locus D: Site Stratigraphy and Distribution of Structures and Features

FgCg-01 Locus D is situated on the east side of a narrow gully, 28 m to the east of Locus B, and extends along a narrow and partially-deflated terrace to another gully approximately 50 m further to the east. In 2015, testing and subsequent recovery work at Locus D confirmed this as the specific location of the 19th century Sandy Banks HBC Trading Post (see Stantec 2016).

Recovery work at Locus D in 2015 led to the identification of three structures arrayed in a line (Figure 4-2), two of which (Structures 1 and 2) were characterized by well-defined earth embankments around their perimeters, especially on their northern sides; each of these structures also contained a deep interior pit interpreted as a cellar, and a second, shallower interior pit feature. Structure 3 did not initially appear to be embanked, nor was a cellar apparent. Exterior features identified in 2015 included several shallow pits, and one very deep pit, identified as the likely location of a privy.

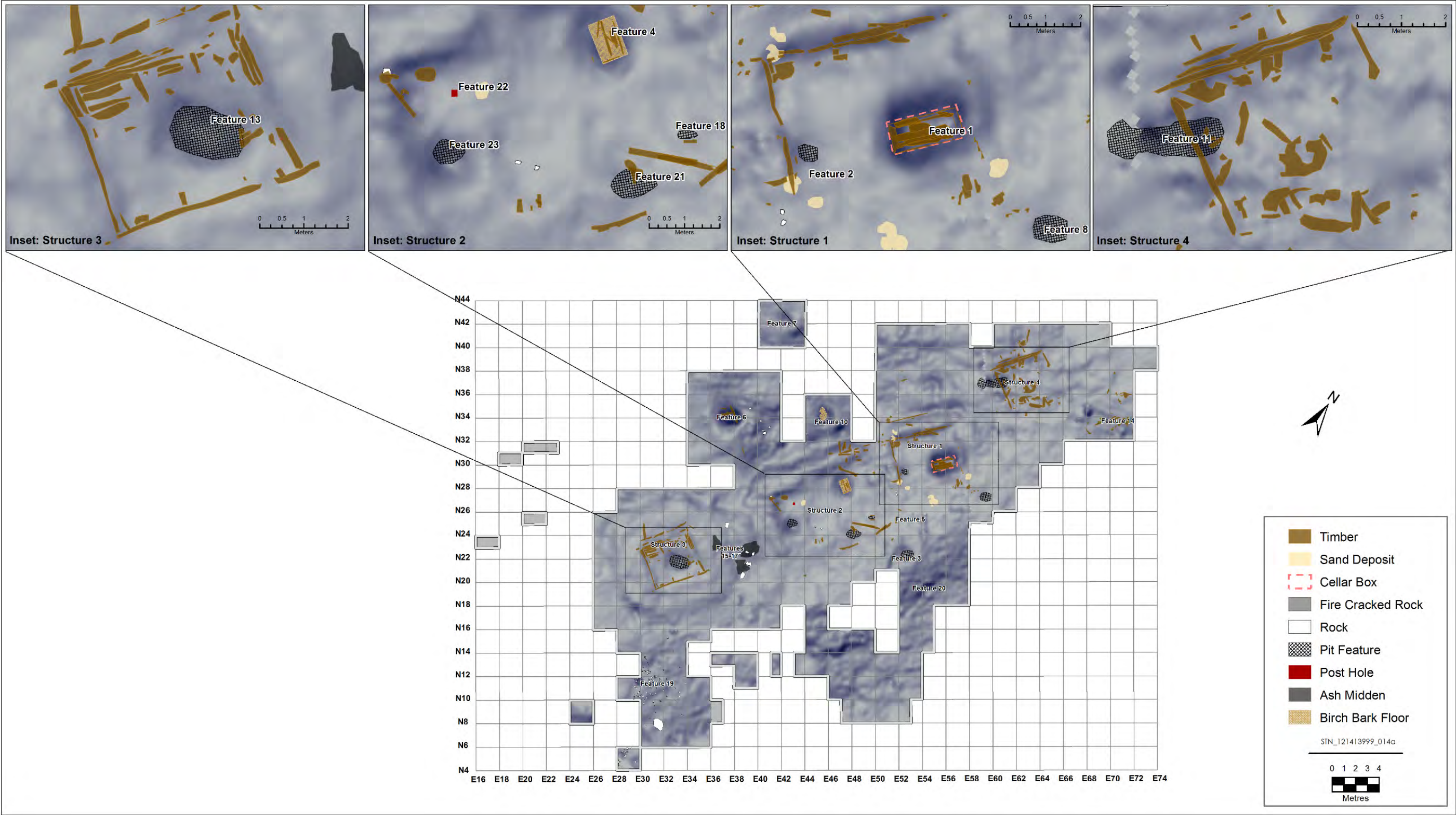


Figure 4-2 Plan View of Features and Structures Recorded at FgCg-01 Locus D

Continued recovery at Locus D in 2016 (Figure 4-2) subsequently led to the identification of a fourth, subtly-embanked structure (Structure 4) situated to the east of the three previously identified, along with additional interior and exterior features described in detail below.

Evidence for a variety of site historic excavation and construction activities was encountered during recovery work. Consequently, numerous natural and cultural deposits (“Events”) were recorded, many quite localized. In all, 124 stratigraphic “Events” were identified at FgCg-01 Locus D. Many of these were manifested in multiple 2 m x 2 m excavation units, leading to the definition of 856 “Lots” in total (for a definition and description of “Lots” see Section 2.3; Appendix A, Appendix B).

Site stratigraphy at FgCg-01 Locus D was therefore complex, varied considerably across the site, and is difficult to summarize concisely. The unique stratigraphy within each Structure and Feature is therefore described in more detail below.

Broadly, the uppermost Event (Event 1) in all units was the present-day duff, mixed with quantities of mulch because of recent tree-felling activities in the vicinity. This was generally underlain by a weakly-defined A Horizon mixed with tan subsoil and organic material (Event 2), the result of light disturbance of the original ground surface in the historic period. Thin mixed layers such as this were particularly characteristic of the terrace top south of the line of buildings. Event 2 generally constituted the topmost layer of sediment, and the artifacts within it reflect deposition on the final, post-abandonment ground surface at the site. In places, generally beyond the core occupation area of the site, the duff and mulch were underlain by well-defined soil development horizons. Within embanked areas, Event 2 was underlain by a variety of events, including redeposited subsoils (the earth berms surrounding each structure, such as Events 29 and 65), these overlying preserved buried sod (the original ground surface; (e.g., Events 46 and 74) resting in turn on well-defined soil-development horizons. Within historically-scraped areas (e.g., structure interior subfloors) Event 2 overlaid an undisturbed B Horizon subsoil (sometimes an indurated hardpan) from which the A Horizon had been removed during construction. More deeply-excavated areas excavated into the subsoil were infilled with fine slopewash silt, (e.g., sumps such as Event 59, and builder’s trenches such as Event 64) or with loose, slumped re-deposited subsoils (e.g., cellar pits such as Event 61). The terrace fall in front of the site, sloping down to the river, showed considerable deliberate discard of historic artifacts and debris, and exhibited widely variable localized stratigraphies, reflecting a combination of site formation processes, including the local discard of artifacts and debris in sheet middens, sweeping or raking of debris from the terrace-top above, slopewash, and slumping of undercut terrace edges (see Sections 4.6.5.2 and 4.6.5.4).

4.2 Structure 1 and Interior Features

Prior to the commencement of recovery work in 2015, Structure 1 manifested as the most conspicuous and well-defined surface-visible feature at FgCg-01 Locus D (Photos 4-3, 4-5; Figure 4-2). Particularly prominent was a high, steep-sided earthen ridge to the north, with lower, less well-defined ridges defining the eastern, western, and southern perimeters.

These berms enclosed a 4 m x 5 m level area surrounding a deep pit feature along with a second, smaller depression. In addition, a shallow linear depression ran from northeast to southwest, north of the northern ridge.



Photo 4-4 View Looking to the Northeast across Structure 1 Exposed to Top of Event 2 (beneath mulch layer), Prior to Excavation of Berms. Note high north berm at left, deep cellar pit right of centre.



Photo 4-5 Oblique Aerial View Looking Southwest (Top) across Structure 1 Exposed to Top of Event 2 (beneath mulch layer), Prior to Excavation of Berms. Note clay deposit at northeast corner of berm (pale grey deposit right of deep cellar pit)

Recovery of this structure in 2016 verified the presence and composition of the berms, as well as the presence of a cellar, and structural foundation timbers (see Figure 4-2). The various elements comprising Structure 1 are described in detail below.

LOWER CHURCHILL HYDROELECTRIC DEVELOPMENT PROJECT 2016 HISTORIC RESOURCES ASSESSMENT AND RECOVERY PROGRAM

STAGE 3 RECOVERY RESULTS: FGCG-01LOCUS D

September 28, 2017

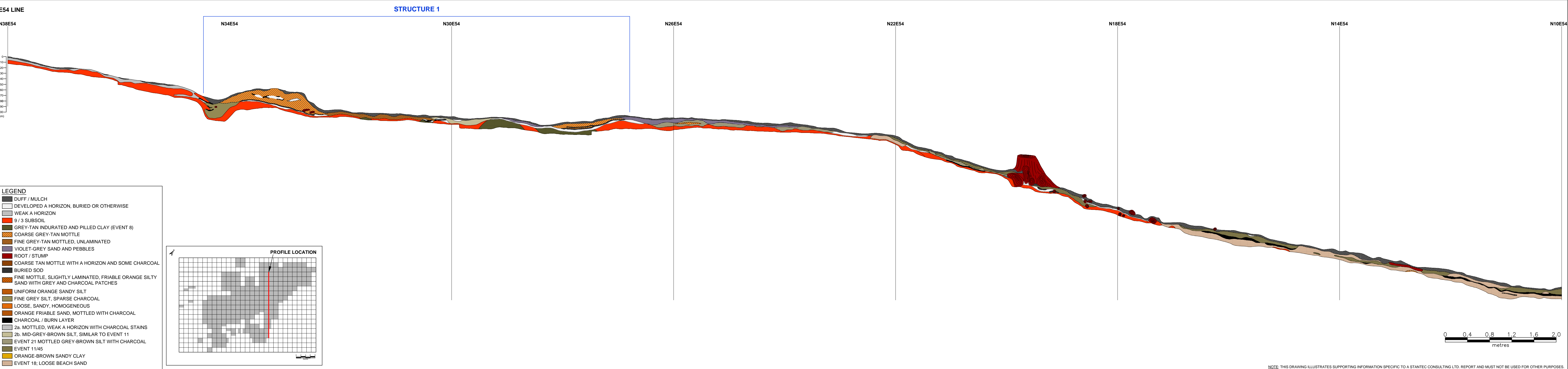


Figure 4-3 North-South Profile Across Structure 1 and the Terrace Slope



4.2.1 Berms

The perimeter of Structure 1 is most clearly-defined by the mounded earth berms that enclose the structure on the northern, southern, eastern, and western sides. The northern berm, and the northern portions of the eastern and western berms are the most prominent, rising approximately 50 cm above the structure interior (Photo 4-6). To the south, the berm deposits are subtler, rising as little as 10-20 cm. The southern berm is broken by a narrow (75 cm) central gap, which may correspond to the entrance to the building (designated Pathway 5; see Section 4.6.6.5; Figure 4-9). The widths of the berms are somewhat variable, ranging from 1.9 m on the north berm, to as little as 1.5 m wide on the south berm; These berms are interpreted as earthen embankments erected against the foundation timbers of the building to stabilize the foundations and exclude drafts and water.



Photo 4-6 Section View of Structure 1 North Berm During Excavation. Builders trench at far left, structural timbers beneath toe of berm at right. Note continuous buried sod and A Horizon beneath the berm (white arrow), and lenses of buried sod and illuviated soils (yellow arrow) within the berm deposit.

The berms are largely composed of an orange friable sand, mottled with occasional flecks of charcoal (Event 29), representing a redeposited subsoil (see Figure 4-3). These berm deposits directly overlie a buried sod and underlying A Horizon (Event 46) which represents the original ground surface on which the building was constructed. Event 46 is present only in small patches within the Structure 1 interior, and essentially remains preserved only beneath the berm. Event 46, which predates the construction of Structure 1, yielded relatively few artifacts, none dateable, the majority being sherds of un-melted window glass.

The berm deposits (Event 29) also contained 2,646 artifacts. Most artifact classes were represented, though in most cases only in trace frequencies. Most pieces (87.3%) were architectural, including 80 fragments of clay daub, 180 nails and 445 pieces of tin sheet; the most abundant artifact type was window glass, represented by 1,606 sherds (61% of the artifacts recovered from Event 29).

Neither the artifact distributions, nor the berm deposits, were uniform throughout the berms.

The southern berm and southern half of the eastern berm were relatively low, as noted, and the sediments were consistent throughout the deposit, but the artifact yield was clearly layered: the base of the berm and the underlying buried sod yielded high frequencies of un-melted window glass, as did the top of the berm. However, the interior of the berm deposit here was marked by a layer of primarily melted window glass fragments. This indicates that the southern berm was constructed in two phases: the first phase, 5-10 cm thick, overlay a scatter of shattered windowpane, the second phase, also 5-10 cm thick, incorporated or capped a layer of melted windowpane. The uppermost layer of glass along the top of the berm is interpreted to reflect the final destruction event at Structure 1.

The northeastern corner of the Structure 1 berm consisted of a unique deposit not seen elsewhere around the building's perimeter. Here, a thin (5-15 cm) layer of redeposited subsoil orange-tan (Event 29) resting on buried sod and topped with a layer of window glass, nails, and tobacco pipe fragments, was overlain by a thick (50 cm) deposit of fine grey clay approximately 2 m in diameter which was devoid of artifacts (see Photo 4-5, Photo 4-7). It was initially hypothesized that this deposit consisted of backdirt from construction of the adjacent cellar (Feature 1; see Section 4.2.6.1); however, archaeological recovery of the cellar revealed no significant clay deposits. Consequently, this clay must have been deliberately introduced from elsewhere, presumably as raw material for chinking the building walls or mudding the roof.



Photo 4-7 Section View of Sterile Clay Deposit at Northeast Corner of Structure 1 Berm During Excavation

The north berm of Structure 1 also exhibited evidence for two construction phases. A row of lenses of buried sod and illuviated soil (A Horizon) marks the base of the second berm construction layer and indicates that the soil for the second phase was acquired from previously-unbroken ground. It is hypothesized that the builder's trench immediately to the north, which had been dug through the original ground surface, was the source of this second layer of fill. The structure interior may have been the source of fill for the first phase of berm construction. Unlike the southern and eastern berms, the north berm yielded little window glass, but the berm deposit contained quantities of tin sheet and clay daub fragments.

The Structure 1 berm did not extend east as far as the Structure 4 berm, and therefore no stratigraphic relationship between the two buildings could be defined. To the west, the Structure 1 west berm abutted the Structure 2 east berm, but the churned, mixed deposits along the path between the two structures (Pathway 3, see Section 4.6.6.3 below) truncated the toes of both berms, again precluding an assessment of which of the two structures was built first.

4.2.2 Builders Trench

North of the northern berm of Structure 1, there was evidence for the excavation of a 50-cm wide trench extending the length of the berm, approximately 5.5 m long. This trench had been excavated through the original ground surface and into the underlying indurated B Horizon to a depth of approximately 30 cm (Photo 4-8). This is interpreted as a builder's trench (or more properly a borrow trench), excavated to acquire fill material for building up the north berm of Structure 1. The removal of the original ground surface from the trench (sod and A Horizon) suggests that this was the source of the buried sod and A Horizon lenses encased within the berm, and that the trench was excavated specifically to build up the second phase of berm construction at Structure 1.



Photo 4-8 Section View of Builders Trench Behind Structure 1 Berm. Note the break in the original ground surface (between the two arrows).

after its original excavation, the trench appears to have become infilled with a fine grey-tan silt washed in from higher ground to the south (the berm) and to the north (Photo 4-9). This silt deposit is partly overlain by the slumped northern flank of the berm (see Figure 4-3). The silt (Event 64) contained 192 artifacts, primarily tin sheet, clay daub and nails, and several wood fragments. The tin sheet and daub fragments likely broke away from the roof and/or the north wall of the structure. The artifact yield was otherwise sparse, indicating that this trench, which was likely a muddy ditch during the occupation of the site, was not a significant area for work or recreational activities or for artifact disposal. However, several large ceramic sherds recovered from the western end of the trench (Photo 4-12) reflect some casual discard; the size of the sherds, which were clearly untrampled, confirms that this was not a high-traffic area. The largest object recorded in the trench was a long, slender (2 m long and 3 cm in diameter) wooden stick showing several axe-cuts.



Photo 4-9 Builders Trench Behind Structure 1 Berm During Excavation, Showing East-West-Oriented Infill Line of Fine Grey-Tan Silt

4.2.3 Structural Timbers

In addition to scattered burnt timber fragments recorded on the top of the berms, several *in situ* burnt or partially-burnt timbers were encountered along the interior perimeter of Structure 1 (see Photo 4-10). These included the northern and western basal sills, resting directly on the original ground surface or on a thin veneer of silt (see Figure 4-3). Basal sills were accompanied by displaced foundation timbers exposed beneath the interior toe of the Structure 1 berm. The northern sill extended along the entirety of the northern perimeter of Structure 1, approximately 5 m long, and in fact, extended 50 cm beyond its intersection with the western sill. The junction between the two timbers was underlain by a thin deposit of soft beach sand. The junction between the southern and western sills was identifiable by crossed timbers overlying a lens of beach sand (see Figure 4-2); otherwise, the southern sill was not present. There was no evidence for the eastern sill, but the point at which the southern and eastern sills intersected was marked by another deposit of soft beach sand. Although only the western and northern foundation logs of Structure 1 were preserved, the eastern and western perimeter of the structure may be defined based on the sand deposits and the interior toe of the enclosing berm.



Photo 4-10 Vertical Aerial View of Structure 1 after Excavation of Berms and Cellar, Showing Preserved Northern and Western Sills. North is at top.

All foundation timbers recorded in Structure 1 were burnt or partially-burnt, and compressed by the weight of the overlying berm deposits; details of workmanship are therefore indeterminate, although the presence of a line of preserved knots recovered north of the north sill (Photo 4-11) suggests that at least one of the foundation timbers was minimally-dressed, and possibly only rinded.



Photo 4-11 Line of Preserved Wood Knots along the Northern Side of the Structure 1 North Sill

Assessment of the original corner construction method is problematic. At the northwest corner, a short timber (50 cm long) west of the western sill appears to represent an extension of the northern sill; the break in the sill at this point suggests that the sill at the corner was thinned or perforated in some fashion. A similar possible extension of the southern sill is evident at the southwestern corner (see Figure 4-2). This interrupted-overlap at the corners is potentially consistent with a mortised joint for post-on-sill construction, but is equally-consistent with saddle-notching of the corners for lapped-corner construction. Similarly, unusual sill overlaps (and unclear construction methods)

have been noted archaeologically at the Rocky Mountain House HBC post in Alberta (see Noble 1973).

It may be noted that the Structure 1 north sill is oriented approximately due southwest (225°), offset approximately 10° from the orientations of the other three structures at the site.

4.2.4 Sand Deposits

Six small deposits of soft loose beach sand were also recorded in Structure 1. These deposits were variable in size, and relatively thin (5-13 cm thick). Four of these either directly underlay, or were closely associated with, the northwestern and southwestern corners of the Structure 1 sill timbers (see Photo 4-12). The fifth is not associated with any timbers but is located at the southeastern corner of Structure 1, approximately where the southern and eastern sills would once have joined. No sand deposit was encountered at the northeastern corner of the building. Nevertheless, the association with the structure corners suggests that this sand was deliberately deposited, presumably to enhance drainage and discourage rot at the vulnerable corners of Structure 1. The presence of the sand may indicate that the corners were mortised, with the butt-ends of the corner post mortises in contact with the ground; this is perhaps more consistent with post-on-sill than with lapped-corner construction, but is not a conclusive indicator of the construction method.

The sixth sand deposit is situated outside, but immediately south, of Structure 1. The purpose of this deposit is unknown, but it may be associated with the front step to the main entrance, or may have been applied to re-surface a waiting-area adjacent to the front entrance.



Photo 4-12 Northwest Corner of Structure 1 Showing Junction of Northern and Western Sills, and Underlying Sand Deposit (right of scale). Note large ceramic sherds in Structure 1 Builders Trench (above scale)

4.2.5 Structure Interior

The interior of Structure 1 (see Photo 4-4, Photo 4-5) measured approximately 4.5 m by 4 m and was characterized by orange brown sandy clay (Event 52) and red-brown oxidized sandy silt, indurated in places (Event 54). Buried sod and illuviated silt (original A Horizon; Events 97 and 101) were present only in small isolated patches. The Structure 1 interior therefore appears to have been excavated and levelled during construction; the removed sediments presumably comprise the lowest and first phase of the perimeter berms. There was no evidence for sleepers or floorboards (although a deposit of charcoal fragments in the northwestern corner may possibly be burned flooring). Nevertheless, the presence of two pits within the interior (Features 1 and 2) would clearly indicate that Structure 1 was originally floored.

Artifacts were relatively sparse in the eastern half of the Structure 1 interior subfloor (119 pieces) and consisted primarily of clay daub, nails, and tin sheet. A denser scatter of 246 artifacts was recovered from the western half. These consisted primarily of clay daub, nails, and un-melted window glass, but also included four gunflints, a stove part, and three sherds of refined white earthenware. Artifacts recovered from patches of preserved A Horizon were few, but included 10 sherds of refined white earthenware (one of them pearl-glazed), nails, tobacco pipes, and a collection of 68 pieces of melted lead, presumably spoil from making shot; these last were primarily concentrated in the northwest corner of the Structure 1 interior.

Two pit features, designated Feature 1 and Feature 2, interrupted the generally level subfloor of the Structure 1 interior.

4.2.6 Internal Pit Features

4.2.6.1 Feature 1

Feature 1 was recognizable prior to excavation as a deep, broad pit, 2 m in diameter, situated in the southeast corner of the Structure 1 interior (see Figure 4-2; Photo 4-4, Photo 4-5). Excavation of the pit interior initially revealed a grey-tan loose sandy silt overburden (Event 61) that contained few artifacts (two stove parts, one piece of window glass, a nail, and a piece of scrap iron). This cellar-slump deposit was flanked on all four sides by an indurated B Horizon; the cellar pit had been excavated into this hardpan, through a narrow (2-3 cm thick) band of clay, to a depth of 1 m below the levelled interior subfloor of Structure 1. Within this pit, a "box" of burned wooden planks measuring 2.2 m east-west by 0.75 m north-south and 30 cm deep was uncovered. This box was constructed of four walls of peeled logs resting on a milled-plank bottom (Photo 4-14). The box was filled with orange sand containing charcoal and artifacts and capped by several E-W-oriented planks, interpreted as fragments of a wooden cover for the cellar box, but possibly also including burned floorboard fragments (Photo 4-13).

In all, 173 artifacts were recovered from the 30 cm-thick layer of orange sand inside this box (Event 71). These included 67 nails, some embedded in the planks and clearly part of the cellar structure, and 49 pieces of clay daub. Otherwise, the collection was small and diverse, including an iron pintle, possibly part of a hinge for the box lid, and an assortment of tobacco pipe fragments, stoneware sherds, refined white earthenware, shot, a cast-iron stove part and a gunflint. The assemblage is little different from that recovered elsewhere in the Structure 1 interior. It is likely that these pieces fell into the cellar after the building burned and was abandoned, and may not reflect the range of items originally stored there.



Photo 4-13 Top of Feature 1, Showing Cover of Logs and Planks



Photo 4-14 Basal Plank Floor of Feature 1

4.2.6.2 Feature 2

Feature 2 was a small oval pit measuring 80 cm east-west and 50 cm north-south and situated within the western interior of Structure 1, almost immediately adjacent to the western sill of the building (see Figure 4-2, Photo 4-15). This pit was filled with a grey-brown soft silty sand (Event 59) and had been excavated into an extremely indurated B Horizon (a hardpan). Although generally shallow, it reached a maximum depth of 40 cm at the center.



Photo 4-15 Section View of Feature 2 during Excavation. Western sill of Structure 1 in background.

Event 59 yielded a collection of 130 artifacts, a small assemblage but nevertheless a significant concentration within the generally sparse artifact distribution in the Structure 1 interior. Ninety percent of these (117 pieces) were architectural in nature, primarily un-melted window glass (87 pieces), clay daub nails, and tin sheet fragments. In addition, the deposit contained eight tobacco pipe fragments, two pieces of melted glass, and two pieces of scrap metal.

Feature 2 is interpreted as a sump excavated to collect water from the indurated subsoil of the Structure 1 interior and discourage rotting of sills and timbers. The artifact assemblage may have accumulated over time as sediments infiltrated into the pit, but it is also possible that some of this material was deliberately swept into the pit, and that it may also have served briefly as an under-floor disposal pit.

4.2.7 Structure 1 Exterior Artifact Distributions

The vast majority of artifacts recovered from within the berm deposits and the structure interior are architectural in nature (window glass, tin sheet, clay daub, nails) and appear to have either been incorporated into the deposits during construction, or to have accumulated following the destruction of the building. These materials, by their nature, are not particularly informative when it comes to assessing building function or dating.

However, a review of artifact distributions does reveal certain artifact classes that are broadly-associated with the Structure 1 exterior and which may therefore reflect the nature of the occupation of that building.

The most pronounced artifact cluster directly associated with Structure 1 is a high density of clay tobacco pipe fragments concentrated immediately south of the Structure 1 south berm, to the west of the inferred entrance (see Figure 4-34; Section 4.7.6.2). This may be interpreted as an outdoor smoking area flanking the doorway; some ceramic sherds are associated with this cluster and these consist of very small sherds, suggesting an area of trampling and high foot traffic.

Also significant is the dense cluster of cast-iron stove parts (Feature 5) situated in front of the Structure 1 entrance (see Figure 4-22; Section 4.7.2.6). This is the only notable concentration of stove parts at the site, and it may be inferred that this stove originally heated the interior of Structure 1.

Ceramics are distributed unevenly across FgCg-01 Locus D. Sherds from stoneware storage vessels are abundant in Structure 4, but largely lacking around Structure 1. On the other hand, refined white earthenware table wares are more common around Structure 1, both to the north and to the south, than they are around any other structure at the site except possibly Structure 2 (see Figure 4-12; Section 4.7.2.1). The transfer-printed patterns applied to these tablewares are also unevenly-distributed. One pattern, "Camilla," is generally abundant at FgCg-01 Locus D, but is particularly associated with the southern exterior of Structure 1 (see Section 4.7.2.1). "Milkmaid," on the other hand, is only associated with Structure 2 and is absent around Structure 1. Of particular interest, is one pattern, "Ruins" (see Section 4.7.2.1). This pattern is generally rare at FgCg-01 Locus D, but the few examples were primarily recovered around the exterior perimeter of Structure 1, especially to the rear (north) of the building. The "Ruins" pattern was registered in 1848 (Sussman 1979) and it is therefore the only transfer-printed pattern at the site that must clearly post-date the HBC construction phases of the early 1840s. Unfortunately, the specific contexts of these sherds do not allow us to date the construction of Structure 1. None were recovered beneath or within the berm deposits, for example, only on the top of the berm and the surrounding discard areas, especially to the north. However, the association of this pattern with Structure 1 does suggest that this structure remained in use into the 1850s and later.

In contrast with the abundance of ceramic tablewares, few artifacts of the Activities Group were associated with Structure 1, suggesting that the function of Structure 1 was primarily residential, rather than work-related.

4.2.8 Structure 1 Summary

In summary, Structure 1 is one of the best-defined structures recovered at FgCg-01 Locus D. It appears to have been a timber structure measuring 4 m x 4.5 m, erected on sills and foundation timbers laid directly, or almost-directly, on the original ground surface. The construction method is uncertain. It is likely to have been of post-on-sill construction rather than of notched lapped-corner construction; the corners were underlain with deposits of beach sand to enhance drainage. The building was extensively chinked with clay daub, more so than other structures at the site, on the walls, roof, or both. The clay for this chinking was deliberately brought on site for this purpose and stored outside the northeast corner of the building. Lacking any evidence for a chimney, Structure 1 appears to have been heated by a cast-iron stove with rolled-tin stovepipes and flashing. Fragments of the stove are concentrated outside the front door. Although there is no direct evidence for plank sleepers or floorboards, the building almost certainly had a floor, overlying a sump pit to the west, and a 1 m deep cellar-box in the southeast corner. The distribution of window glass sherds indicates that this building had windows on the south wall, flanking a central entrance, and may also have had windows facing east and west. Earth berms were banked against the foundation timbers, and these berms were accumulated in two phases. The first phase was underlain by shattered window glass and other architectural debris, and likely comprised sediment scooped out while levelling the building interior. The second phase was underlain by a layer of melted window glass and appears to have incorporated material excavated from the builders' trench running outside the northern berm. The distinctive layer of melted glass separating the two phases indicates that the two construction phases were separated by a significant time interval, and that the second building phase followed a burning event at the site, likely one that occurred somewhere to the east of Structure 1.

The front entrance to the building appears to have been located midway along the southern wall. This entrance was flanked by an area of intensive foot traffic with a high density of tobacco-pipe fragments suggesting an exterior smoking area flanking the front door.

The distribution of ceramics indicates a domestic, residential function for Structure 1. The high frequency of clay daub fragments associated with Structure 1 appears to indicate that it was the most "finished" building at the site, consistent with its inferred function as a residence. In some respects, Structure 1 resembles Structure 2 in its general characteristics (high, well-defined berms, presence of both a cellar and a sump, the domestic character of the debris), although it differs from Structure 2 in being smaller, and in having some preserved timber sills. In addition, Structure 1 is oriented differently from Structure 2, and indeed all other structures at the site, by approximately 10° east of north.

4.3 Structure 2 and Interior Features

Structure 2 was the least well-defined of the four structures at Sandy Banks as no definitive sill timbers were exposed (see Figure 4-2). Several possible structural timbers were pedestalled along the north and south edges of the north berm but most of these were unburned and were dissimilar to the sill logs exposed in Structures 1 and 4. These may be natural wood remnants from post-occupational tree falls and therefore not necessarily structural members. Table 4.2 describes the events recorded in Structure 2 and shown in the profile (Figure 4-4).

4.3.1 Structure 2 Berm Excavation and Soils

Structure 2 excavation began along the north berm that was comprised of silty, sandy, clay similar to that exposed at Structure 1 (Photo 4-14). The north berm was unique in that the berm material rested on a deposit of grey clay mixed with charcoal that, in turn, rested on A horizon clay. The grey clay and charcoal deposit was most noticeable along the north edges of E42N28, E44N28, and E46N28 (Photo 4-16).

The north edge of the north berm was most evident in the west wall of E44N28 and the south wall of E42N28. The west end of the north berm and the junction point with the north end of the west berm was not evident but, based on alignment of the north and west berms, assumed to have been in the northeast corner of E40N26. The west berm was best evidenced in the south wall baulk of E40N24 and the corresponding north wall of E40N24. The intersection of the west and south berms was also not obvious but was assumed to be in E40N24.

The south and east berms were not as distinctly mounded as the north and consisted of tan clay fill mixed with A horizon clay and organics. The east berm was most evident in the northeast corner of Structure 2 but, in fact, could have been a portion of the west berm of Structure 1.

Table 4.2 Summary of Events Recorded in FgCg-01 Locus D Structure 2

Event	Description	Location	Overlying/Adjacent
1	Duff and decomposed mulch	All Units	Not Applicable
2	Grey-brown, somewhat coarse sand, similar in colour and texture to a typical A Horizon but browner	All Units	Below Event 1
3	Rich, brown and relatively coarse sand	Northeast corner	Below Event 2
8	Greyish clay silt with pilled clay inclusions	South of south berm	Below Event 74
9	Sandy, friable orange brown; resembles B horizon	Southwest interior	Below Event 65
42	Tan silt; redeposited mixed sediments	Northeast interior	Below Event 1 and 2
43	Orange sandy silty clay	West half interior	Below Event 1, above black organic lens

Event	Description	Location	Overlying/Adjacent
53	Brown sandy clay making up Structure 2 berm	Along east wall	Below Event 1
56	Buried A Horizon beneath Structure 2 berm	Along east wall	Below Event 53
65	Tan berm fill with lenses of A Horizon and organic	Structure 2 berm	Below Event 2, above buried sod
67	Dark grey-brown silt, interior of Structure 2 cellar	Structure 2 cellar	Below Event 2
74	Buried sod	Structure 2	Below Event 65
77	Brown sandy clay mixed with charcoal	Structure 2 east berm	Below Event 65 and Event 74
78	Red-brown sandy-silt with mottled patches of A Horizon	Structure 2 interior	Below Event 2
98	Mottled brown sandy silt mixed with charcoal and artifacts	Structure 2 cellar fill	Below Event 2
100	Red-brown sandy silt	Structure 2 interior, west side	Below Event 2
102	Black organic stain restricted to E42N26 (possible posthole or post-in-ground)	Structure 2 interior	Below Event 100
105	Buried A Horizon	Structure 2 interior	Below Event 74
106	Medium grey-brown silt	Structure 2/3	Below Event 65
109	Tan silty sand beneath birch bark "floor" of Structure 2 cellar	Structure 2 cellar	Below Event 98 and birch bark "floor"
110	Grey-tan loose sand associated with wooden sticks at base of cellar	Structure 2 cellar	Below Event 109
114	Fine grey clay with charcoal pieces	Structure 2 berm	Below Event 65

The Structure 2 berms enclose a level interior measuring approximately 4 m wide and 7.5 m long, making Structure 2 the largest of the principal buildings at FgCg-01 Locus D. A lens of black organic clay mixed with artifacts was exposed along the east side of Structure 2. The black deposit began in E50N30 and extended south to a section of pedestalled wood in E48N24 and E50N24. The deposit was also exposed west in E46N26 and E46N24. A compact lens of black organic wood, charcoal, and sandy clay was exposed beneath the dark black clay in the units east of the E46 line. The black zones may correlate with the interior of Structure 2 (Photo 4-17). As one moved west and south through the structure the soils changed to a red-brown sand with a light concentration of artifacts. The recoveries in this soil deposit consisted of predominantly nails, metal fragments and pipe stems.

LOWER CHURCHILL HYDROELECTRIC DEVELOPMENT PROJECT 2016 HISTORIC RESOURCES ASSESSMENT AND RECOVERY PROGRAM

STAGE 3 RECOVERY RESULTS: FGCG-01 LOCUS D

September 28, 2017

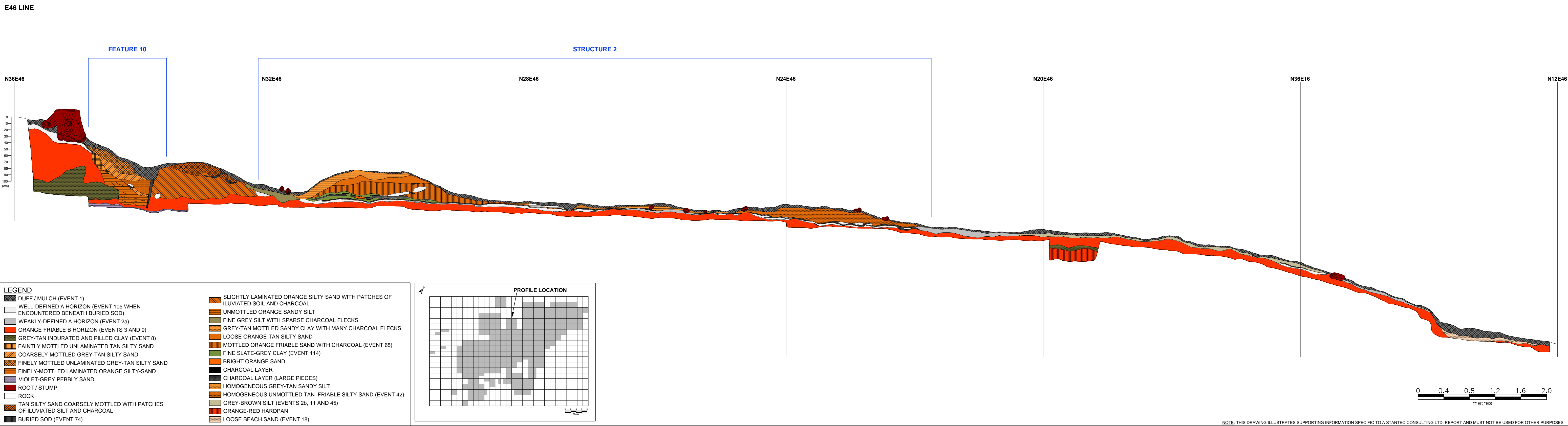


Figure 4-4 North-South Profile Across Structure 2 and the Terrace Slope





Photo 4-16 Profile View of Structure 2 north berm. Note clay and charcoal lenses at the base, resting on the original ground surface.



Photo 4-17 Exposed soils within and adjacent to Structure 2 North Wall in E44N28, looking north.

4.3.2 Structure 2 Features

4.3.2.1 Feature 4

The Structure 2 cellar, Feature 4, was distinguished by a small depression in the approximate northeast corner of the building. Excavation was initiated in the northeast corner of the feature with troweling all four walls and recovering artifacts from the upper strata. Nails and window glass fragments were the primary objects recovered. A 1 m by 1 m unit was then placed in the southeast corner of the cellar in E46N26 and subsequently expanded west. A few artifacts such as nails, window glass and pipe fragments were found in the upper levels. The matrix was a brown sand-silt-clay that related to post-occupational fill. The matrix below that was a compact brown sand. The south portion of the cellar was exposed and identified by a mottled sandy-silt A horizon mixed with artifacts and a border of brown organic, possibly wood (Photo 4-18). The north end of the cellar fill was exposed about 70 cm north of the south limit of E46N28. The north wall of the excavation showed a possible infill episode consisting of backfill placed in the cellar from the east side. A circular orange sand stain was exposed outside of the cellar fill, but no artifacts were found in association. The north end of the cellar was exposed and mapped.

As cellar excavation proceeded, a thick deposit of mottled brown organic soil was exposed at the southeast end of the feature. This deposit contained a concentration of nails of various sizes as well as chinking, burned glass and ceramics. A row of nails was exposed along the south, west, and north sides of the feature. As excavation continued, a thin layer of bark was exposed beneath the mottled organic soil (Photo 4-19). A nearly complete Copeland and Garrett "Fruit and Flowers" plate was recovered directly beneath the wood deposit (Photo 4-20), and this was underlain in turn by another bark layer. The base of the cellar was marked with a layer of thin timbers (Photo 4-21).



Photo 4-18 Upper levels of Structure 2 Cellar in E46N26: Feature 4 showing wood outline and mottled soils, looking north



Photo 4-19 Lower levels of Structure 2 Cellar in E46N26: Feature 4 wood fragments and mottled soils, looking north



Photo 4-20 Structure 2 Cellar in E46N26: Feature 4 "Fruit and Flowers" plate, looking north



Photo 4-21 Wood timbers at base of Structure 2 Cellar in E46N26, looking north

4.3.2.2 Depression and Burn: Feature 18

A second depression was recorded in the northeast corner of E48N24 beneath the east berm. The feature soils were like those of Feature 24 exposed in E48N24 and E48N26; however, all the artifacts in the second feature were recovered in the black organic lens. An orange stained sand lens, possibly a burned structure timber, was exposed in the northeast corner of the depression (Photo 4-22). This stain was devoid of artifacts.



Photo 4-22 Orange organic stain above small wood-lined depression in northeast corner of E48N24, looking north

4.3.2.3 Midden: Feature 21

An ash midden deposit was exposed beneath the south berm in E48N24 and E48N26 and consisted of a thin layer of fill over a thick organic stain resting on a layer of light grey ash (Photo 4-23). A concentration of artifacts was recovered from the fill layer above the black organic lens.



Photo 4-23 North to south profile on E48 line between N24 and N26 showing Feature 21 ash midden deposit under Structure 2 east berm, looking east.

4.3.2.4 Post Hole: Feature 22

A square post hole was exposed in E42N26. When initially exposed, the post hole measured 26 cm by 26 cm and consisted of brown sand mottled with charcoal and surrounded by a thin lens of orange sand (Photo 4-24). The featured measured 26 cm by 26 cm and the base of the post hole was 43 cm below the ground surface. The soil altered to a black organic sandy clay at a depth of 22 cm below ground surface. A concentration of wrought nails was recovered in the post hole. The feature may be the result of a post in ground timber.



Photo 4-24 Section view of post hole in E42N26, looking north

4.3.2.5 Interior Depression: Feature 23

A shallow depression was evident in E42N24 and was thought to be a small cellar. Excavation began on the north side of the feature and several nails and window glass fragments were recovered in the upper portion of the feature. A thin organic lens was exposed on the south side of the depression and dipped as one proceeded north as evidenced by the west wall

stratigraphy. The feature seemed to be a dish-shaped depression characterized by a thin organic lens. This feature differed from those in the southeast corner of the structure in that it contained only a few artifacts. A test was placed in the centre of the feature and exposed only sterile sand. The feature was too shallow to be a second cellar and most likely served as a sump.

4.3.3 Structure 2 Summary

In some respects, Structure 2 resembles Structure 1 in its general characteristics (high, well-defined berms, presence of both a cellar and a sump, the high frequency of artifacts from the Kitchen/Domestic Group (see Section 4.7), indicating a residential function), although it differs from Structure 1 in being larger, and lacking evidence for *in situ* sill timbers. Like Structure 1, Structure 2 is interpreted as the remains of a residential building.

The lack of *in situ* sills may suggest that Structure 2 was never finished. However, the abundance of domestic artifacts, and the abundance of artifacts in the cellar, which appears to have been re-floored with bark on at least two occasions, indicates instead that the building was occupied for some period, and the lack of sills results from deliberate dismantling of the building.

Direct stratigraphic relationships between Structure 2 and its neighbours, Structure 1 and Structure 3, were obscured by other depositional events occurring between the buildings, so it is not possible to determine the sequence of construction of these three buildings. However, the Structure 2 berms were constructed atop a series of ash middens, as well as an original ground surface (Event 74) that contained both a large number, and a wide variety, of artifacts. Structure 2 therefore appears to have been built after the site had already been occupied for some time.

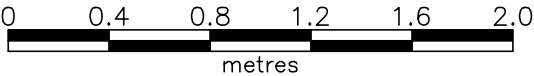
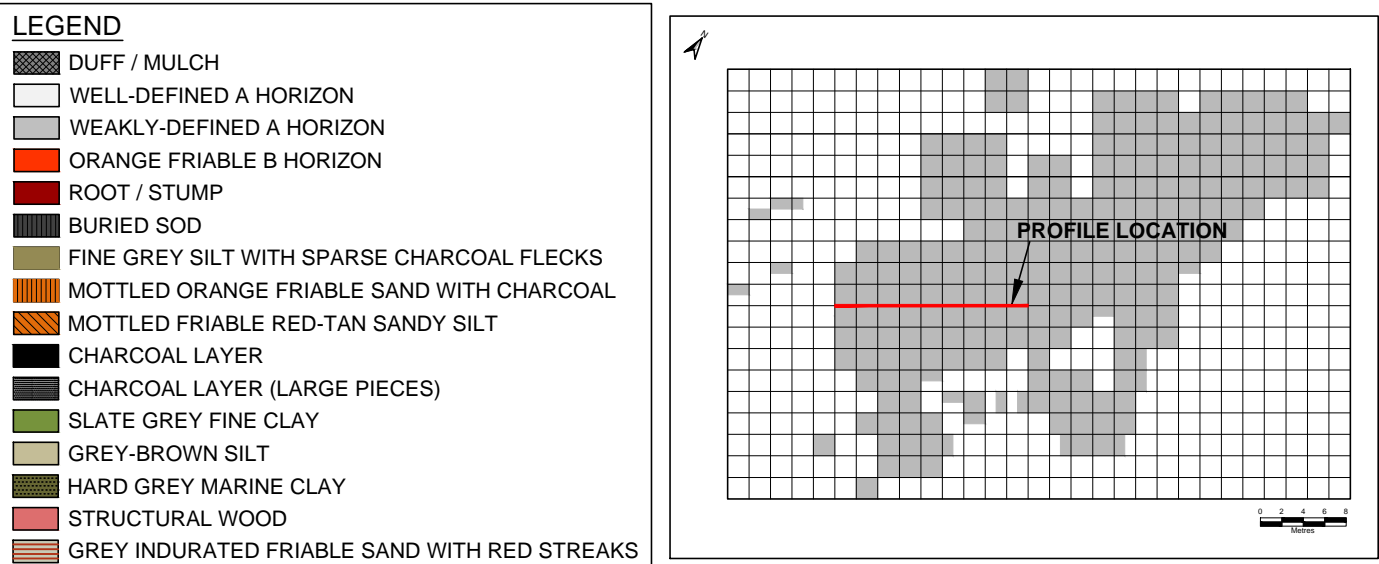
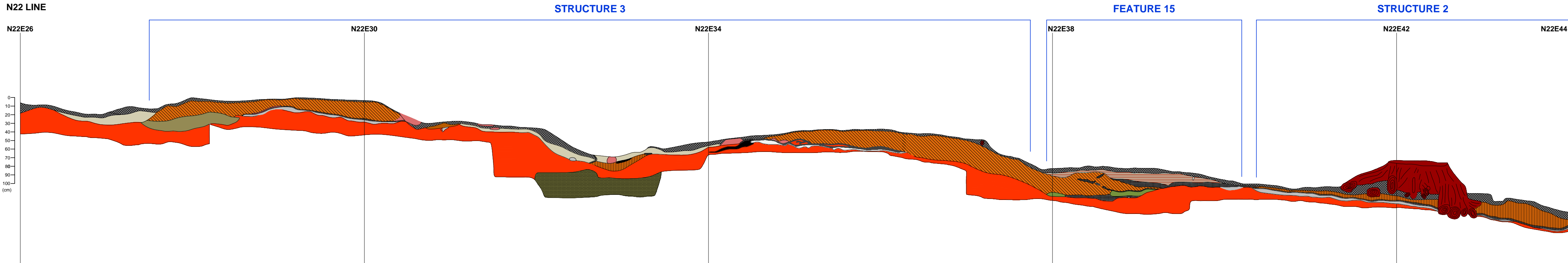
4.4 Structure 3 and Interior Features

Structure 3 (Figure 4-2) is the westernmost of the four principal structures at FgCg-01 Locus D. The upper layer (Event 1) from 12 units within Structure 3 was removed during the 2015 field season. These covered most of the interior and some of the berm, however, none of the structural timbers were exposed in 2015. Structure 3 is oriented in approximately the same manner as the other three structures on site and is surrounded on all four sides by a low but well-defined ridge or berm (Photo 4-25). A linear depression or trench is present along the outer edge of the northern berm, most likely the builders trench.

4.4.1 Berm

Like the other structures on site, the ridge surrounding Structure 3 is interpreted as a deliberate berm constructed to stabilize the foundation and minimize draft and water penetration. The exterior outline of the berm (Event 96) is contained within the N16, N28, E26 and E38 site coordinates. The Structure 3 berms are constructed of redeposited subsoil over a buried sod representing the original ground surface. At almost 3 m in width in some areas, the Structure 3 berm represents the widest (though by no means the tallest) of all structural berms encountered on-site. The Structure 3 berm, like that of Structure 2, underlies the adjacent Feature 3 mound, and

the Feature 16 ash midden (see Figure 4-5). It also overlies the deeper ash midden designated Feature 17 (see Section 4.6.4 below). Unfortunately, there is no clear stratigraphic relationship between Structure 3 and Structure 2.



NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

Figure 4-5 East-West Profile Across Structure 3





Photo 4-25 Aerial View of Structure 3 after Exposure of Berm

4.4.2 Structural Timbers

The interior perimeter of the berm preserved structural timber sills (Photo 4-26). Almost completely intact, the sill timbers are arranged in an almost perfect square and measure approximately 3.7 m x 4.3 m. Like Structure 1, evidence of extending timbers beyond the corner joints can be seen at the northwest, southwest and southeast corners (Photo 4-27).



Photo 4-26 View Toward the Northeast Across Structure 3

As in Structures 1 and 4, the structural timbers in Structure 3 were all burnt. Unlike the other Structures at the site, however, Structure 3 did yield evidence for preserved, *in situ* burnt floorboards in the northwest corner of the building (Photos 4-26, 4-27).

Structure 3 also contained evidence for a pronounced central depression, initially interpreted as a possible cellar. This feature was designated Feature 13.

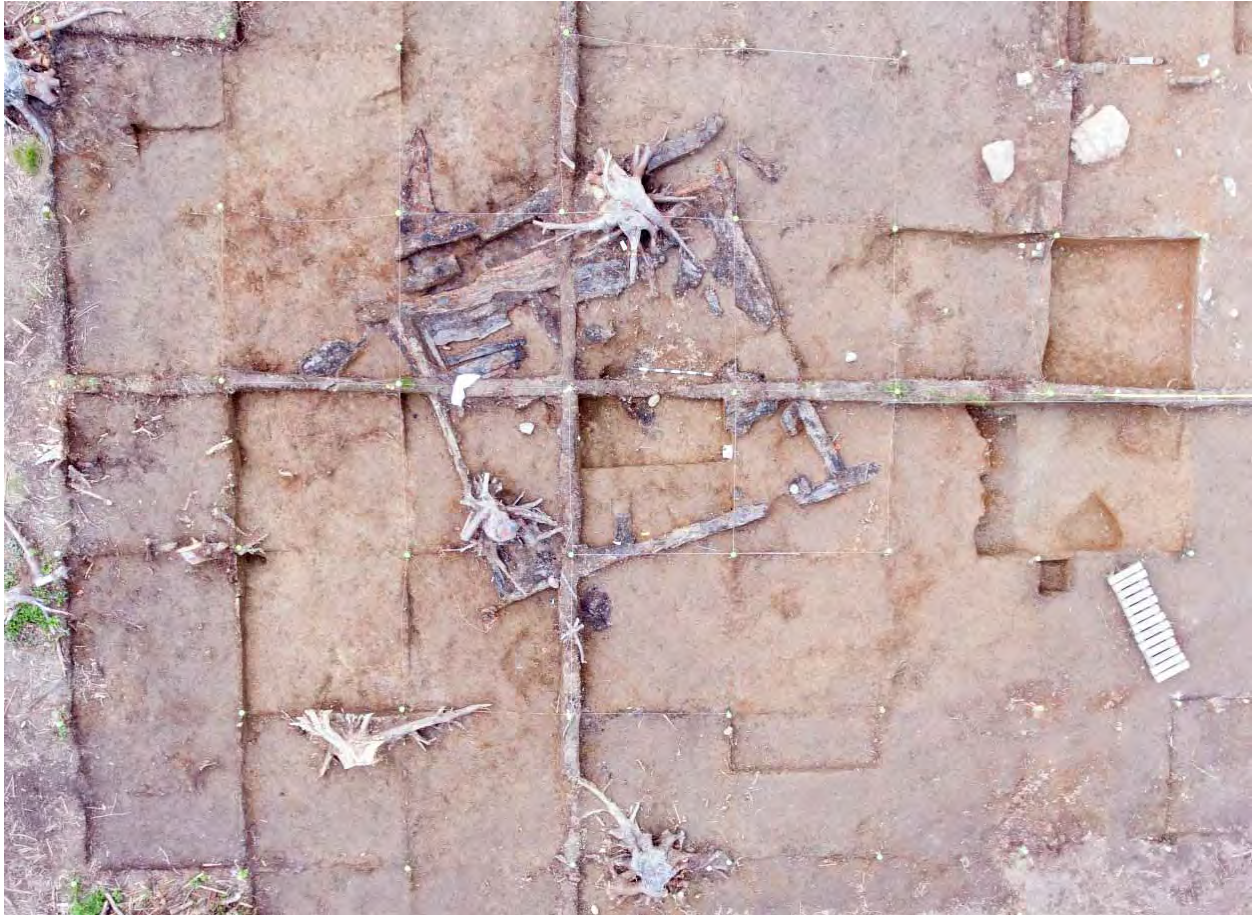


Photo 4-27 Aerial View of Structure 3 after Exposure of *In Situ* Timbers

4.4.3 Feature 13

Feature 13 presented initially as a roughly circular stain of a dark organically enriched silt (Event 72) and transitioned into a brown sandy loam with charcoal (Event 118) (Photo 4-28). The charcoal was likely from burnt structural timbers collapsed into a depression. Because of its position within Structure 3, Feature 13 was initially thought to be a root cellar. Upon further excavation, it became clear that it was too small and shallow to be a cellar, and contained no constructed cellar box. Feature 13 is therefore interpreted as a drainage pit or sump. Feature 13 also contained very few artifacts. Its profile was captured in the east-west site baulk profile (Photo 4-29).



Photo 4-28 Possible drainage pit or sump - Feature 13 plan view



Photo 4-29 Possible drainage pit or sump - Feature 13 profile view

4.4.4 Artifact Distribution

Structure 3 yielded relatively few artifacts, in fact, yielded the sparsest artifact assemblage of any of the principal structures at FgCg-01 Locus D (Figure 4-10). The berm deposits themselves were almost devoid of artifacts, as was the buried sod beneath, indicating that Structure 3 was constructed on a virgin site (or at least a pristine portion of the site).

The artifacts that were recovered were distributed primarily around and atop the southern berm. Many pieces were architectural, including tin sheet, window glass, and nails. Artifacts of the Kitchen/Domestic Group (see Section 4.7) were rare, indicating that Structure 3 was more likely a store than a dwelling house.

4.4.5 Summary

In summary, Structure 3 is well defined timber structure surrounded by shallow berms on all four sides. The well-preserved foundation timbers suggest a building measuring roughly 3.7 m by 4.3 m. Aside from the centrally located sump pit, no other features were observed within the structure. There was no evidence of a fireplace or stove, suggesting that Structure 3 may have been unheated, unless the stove was removed to be used elsewhere. A concentration of window glass inside the structure and outside the south wall suggest that the structure collapsed in a southerly direction. Structure 3 contains the least number of artifacts of all three structures, possibly suggesting late construction, and the shortest lifespan. A cluster of lead shot at the northwestern corner of the structure coinciding with a rectangular arrangement of burnt timbers may suggest the remnants of a storage bin or cabinet. An abundance of tobacco pipe fragments was recovered within the structure as well as in front (south) defining a possible central path across the southern wall of the structure, perhaps indicating a central doorway. Faunal material was scarce compared to Structures 1 and 2.

4.5 Structure 4 and Interior Features

Structure 4 was the least conspicuous surface-visible feature at FgCg-01 Locus D. Recovery work east of Structure 1 revealed evidence of burning across much of the eastern portion of the site and, as excavation progressed, burnt timbers and portions of a low earthen berm were observed. These enclosed a rectangular burn layer that defined a previously-unrecognized structure, measuring approximately 3.7 m x 4.25 m, located immediately east of Structure 1 (Figure 4-2). This new structure was designated Structure 4 and proved to contain burnt *in situ* sills and collapsed wall timbers, particularly along the northern, western, and eastern perimeters (Photo 4-30). Recovery of this structure in 2016 verified the presence and composition of the berms, as well as structural foundation timbers (see Figures 4-2, 4-6, 4-7). The various elements comprising Structure 4 are described in detail below.

4.5.1 Berms

The perimeter of Structure 4 is partially defined by a low earthen berm that encloses the structure on the northern, western, and, to a lesser extent, eastern and southern sides. A portion of the eastern berm appears to have been removed, along with the southeastern portion of the eastern sill. The northern and western berms are the most prominent, rising approximately 17 cm above the structure interior. To the south and east, the berm deposits are subtler, rising as little as 5-10 cm. The widths of the berms range from approximately 80 cm wide on the north berm, to approximately 1.6 m on the west and east berms, to approximately 90 cm wide on the south berm. As with the other structures, these berms are interpreted as earthen embankments erected against the foundation timbers of the building to stabilize the foundations and exclude drafts and water.



Photo 4-30 Aerial View of Structure 4 Exposed to Top of Burn Layer (Event 33)

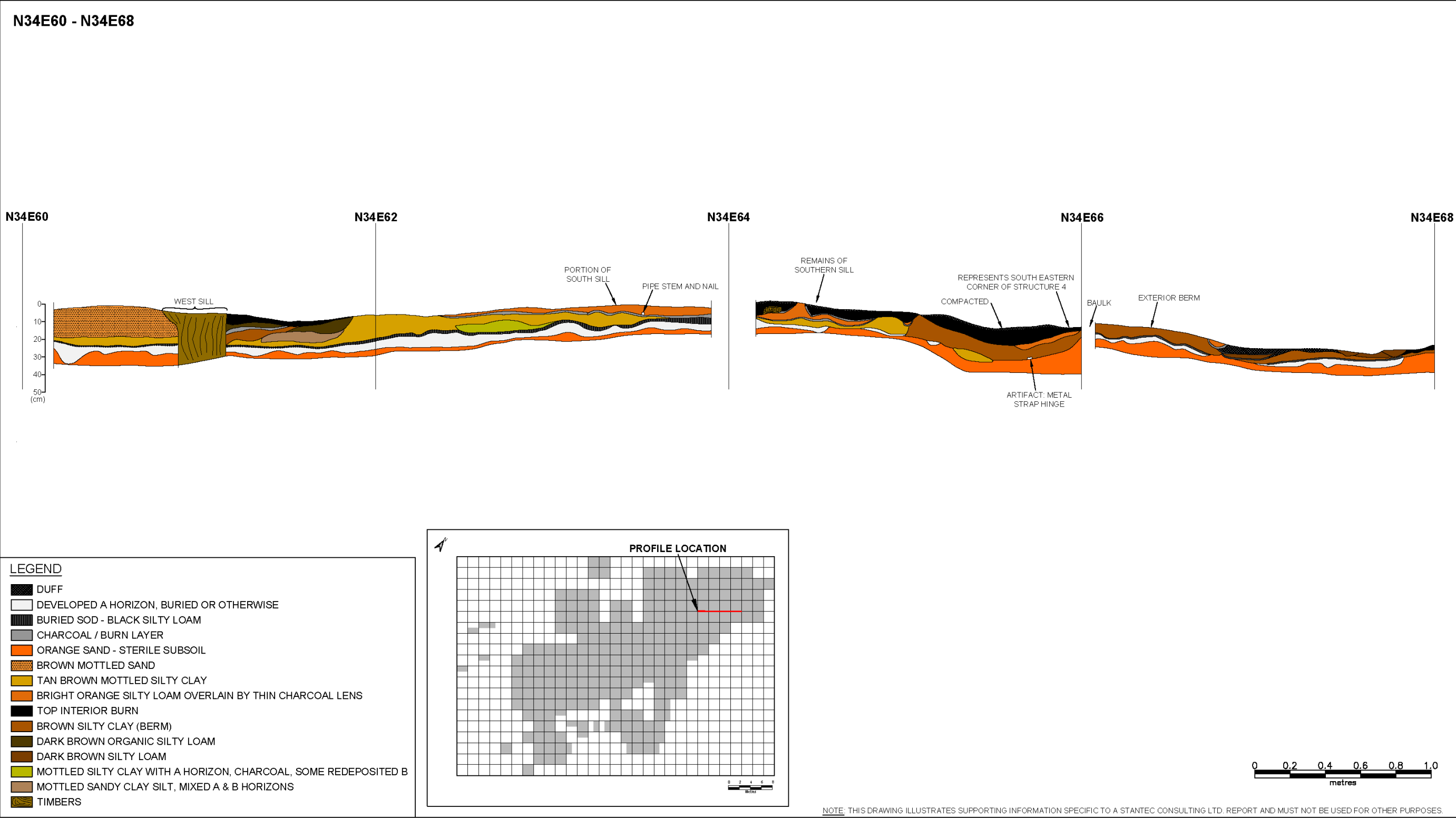


Figure 4-6 East-West Profile of Structure 4

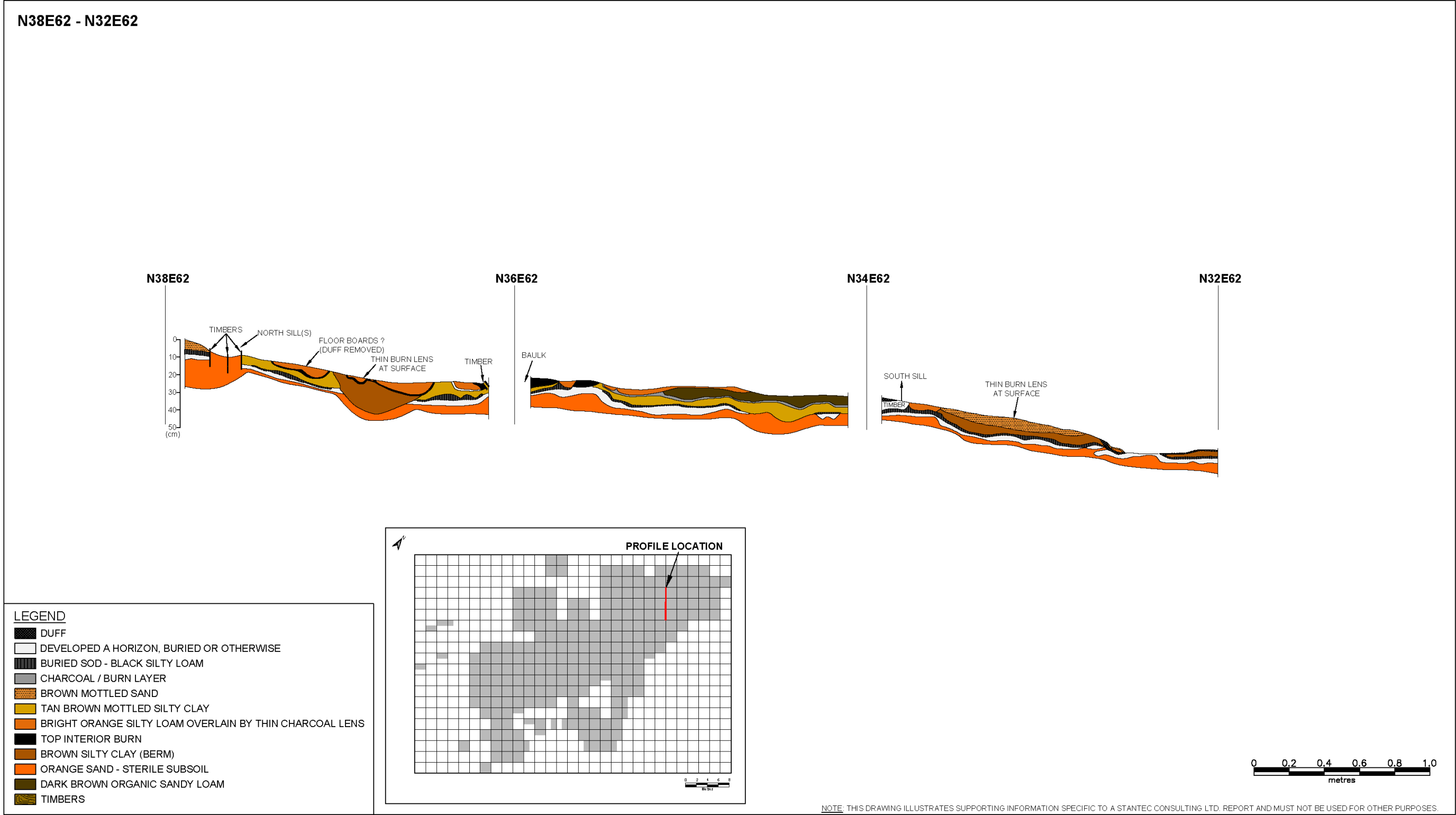


Figure 4-7 North-South Profile of Structure 4

The berms are largely composed of a brown silty clay, representing a mix of redeposited A and B Horizons (Events 38 and 73). Event 38 represents the western and northern berms and Event 73 represents the southern and eastern berms. Excavation revealed evidence of levelling the ground surface prior to the construction of Structure 4. The berm deposits overlie a redeposited tan clay silt, approximately 6 cm thick, that contains cultural material (Event 50), which represents the prepared ground surface on which the building was constructed. The levelling may have taken place in two phases, particularly near the southern perimeter of the structure, as indicated by the presence of an overlying deposit of light brown loamy clay (Event 73) that occurs underneath the berm (Event 38). The levelling deposits overlie a buried sod, somewhat mottled with charcoal inclusions (Event 27) and underlying a well-defined A Horizon (Event 34). It appears that the buried sod (Event 27) was exposed to some burning prior to construction of Structure 4 and contains cultural material, indicating occupation of the greater site before Structure 4 was built (Photo 4- 31). It is interesting to note, however, that although charcoal is present in the buried sod, most artifacts recovered from this event do not display evidence of burning. Two distinctive deposits of soft beach sand were also identified adjacent to the western and northern sills, perhaps introduced to improve drainage.

The berm deposits themselves (Events 38 and 73) contained relatively few artifacts. Event 38 contained a total of 120 artifacts, most which were architectural (74%), including 27 fragments of window glass, 61 nails and a single piece of brick. Other artifacts recovered from Event 38 include one barrel hoop fragment, 12 pieces of tin, three kaolin pipe fragments, six pieces of vessel/bottle glass, one glass bead, four pieces of refined white earthenware, one fragment of chimney lamp glass, one gun flint and one quartzite flake. Event 73 contained only 37 artifacts in total. Many pieces (65%) were architectural, including 16 fragments of window glass and eight nails. Other artifacts recovered from Event 73 included four kaolin pipe fragments, one piece of shot, one piece of sheet metal, two barrel hoop fragments, one button, one piece of stoneware and three unidentified iron fragments.



Photo 4-31 Section of Structure 4 western Berm (Event 38) Overlying Levelling Deposit (Event 50: white arrow) and Buried Sod (Event 27: yellow arrow)

4.5.2 Structural Timbers

Several *in situ* burnt or partially-burnt timbers were encountered along the interior perimeter of Structure 4 (see Photo 4-32). These included the northern and western basal sills, resting directly on the prepared ground surface (Event 50) or, where no evidence of ground preparation was observed, on the original ground surface (Event 27). The northern sill extended along the entirety of the northern perimeter of Structure 4, approximately 4.25 m long. In fact, the northern sill is comprised of two adjacent timbers although, given that the outer timber is lying directly on the berm deposit, it is likely that the outer timber was originally placed on top of the basal sill and subsequently collapsed (Photo 4-33). The junction between the northern and western basal sills could not be determined. The western sill also extended along the entirety of the western perimeter of Structure 4, measuring approximately 3.7 m in length.



Photo 4-32 View of Structure 4 *In Situ* Sills, Looking South



Photo 4-33 View of Structure 4 Northern Sill, Looking West

There was only partial evidence for the eastern sill. Evidence of the sill was observed near the northeastern corner of the structure, however the southern half of the eastern sill, as well as much of the eastern berm appear to have been removed. Remains of the southern sill were also subtle, manifesting as soil changes due to burning as opposed to intact structural remains (Photo 4-34). Although only the western and northern foundation logs of Structure 4 were preserved, the southern perimeter of the structure may be defined on the basis of soils changes due to burning and the interior toe of the enclosing berm. All foundation timbers recorded in Structure 4 were burnt or partially-burnt, and compressed. It is therefore difficult to determine how extensively the timbers were dressed prior to construction and details of workmanship are indeterminate. Assessment of the original corner construction method is also problematic, as no *in situ* corner junctions were observed.



Photo 4-34 Evidence of Burnt Remains of Southern Sill of Structure 4.

The remains of several burnt timbers were also observed near the central portion of the southern sill, which may indicate a collapsed door frame associated with a central entranceway.

4.5.3 Sand Deposits

Two small deposits of soft loose beach sand were also recorded in association with Structure 4. The first deposit, approximately 5 cm thick, was observed at the southwestern corner of Structure 4, adjacent to the western sill (Photo 3-35). As previously stated, the association with the structure corner suggests that this sand was deliberately deposited, presumably to enhance drainage at the corner of Structure 4. The second deposit is located adjacent to the northern sill, not at a corner point, but near the centre of the sill. The purpose of this deposit is unknown.



Photo 4-35 View of Beach Sand Deposit Near Western Sill of Structure 4

4.5.4 Structure Interior

The interior of Structure 4 is characterized by a tan clay silt (Event 50), representing the prepared ground surface on which Structure 4 was constructed, which overlies a buried sod, somewhat mottled with charcoal inclusions (Event 27) and underlying a well-defined A Horizon (Event 34). There was some evidence for sleepers or floorboards but no evidence of a chimney, nor a cellar. The burnt nature of the timbers and the presence of an interior burn layer (Event 33), as well as some evidence of a collapsed superstructure, indicate that Structure 4 was burnt. Evidence of burnt sleepers, which appeared to extend north-south, were typically observed near the perimeter of the structure and manifested as a bright orange silty loam overlain by a thin lens of charcoal (Event 48) and underlain by another thin lens of charcoal (Event 49) (Photo 4-36).



Photo 4-36 View of Possible Burnt Sleeper in Structure 4

A total of 499 artifacts were recovered from Event 50, 46.7% of which were architectural, including 106 window glass fragments, 120 nails, 3 door hinge fragments and 4 pieces of clay daub. In addition, 16.6% of the assemblage related to arms and ammunition, including 2 gun flints, 76 pieces of shot and 5 musket balls. Other artifacts included 15 kaolin pipe fragments, six bottle glass fragments, 1 unidentified glass fragment, 17 ceramic vessel fragments (three of which represented refined white earthenware and the remainder of which were stoneware), 3 pieces of wood, 3 bolt, 71 pieces of tin sheet metal, 1 piece of wire, 1 iron ring, 1 staple, 1 iron chain, 1 axe, 1 piece of iron hardware, 1 piece of copper sheet, 1 barrel hoop, 2 iron concretions, 8 pieces of bone, 13 buttons and 3 quartzite flakes.

A total of 640 artifacts were recovered from the underlying Event 27, within the interior of Structure 4, 89.3% of which were related to arms and ammunition, including 571 pieces of shot and a single gun flint. Most of the shot was found in the northeastern corner of Structure 4, in an area where there was little to no evidence of ground preparation (Event 50). Shot was generally recovered in small clusters suggesting that they were derived from cloth or paper cartridges that had burned or decayed *in situ*. Architectural materials included 50 window glass fragments and 35 nails. Other artifacts recovered from Event 27 included 7 ceramic vessel fragments, 2 spoon fragments, 1 knife part, 12 kaolin pipe fragments, 3 glass vessel fragments, 2 chimney lantern glass fragments, 1 piece of iron rod or wire, 14 pieces of unidentified metal and 1 piece of copper, 1 iron rivet, 5 roves and 16 pieces of tin sheet metal.

A total of 907 artifacts were recovered from the burn layer (Event 33) within Structure 4, including 608 pieces of ceramic vessel fragments (583 of which were stoneware). Most of the stoneware fragments were found near the central portion of the western sill and likely represent one storage vessel that may have exploded when exposed to intense heat. Two pieces of bottle glass, a single sherd of vessel glass and eight kaolin pipe fragments were also recovered. Architectural artifacts included 189 nails, 13 pieces of daub and 32 window glass fragments. In addition, 1 brass tack, 2 iron hinge fragments, 1 piece of melted lead spoil, 45 pieces of tin sheet metal, 19 pieces of rolled and cut tin sheet, 1 gunflint, 1 axe, a single piece of bone and 2 quartzite flakes were recovered. Several hand cut wood chips were also recovered from a concentration of burnt wood chips located in the northwest corner of Structure 4 (Photo 4-37).



Photo 4-37 View of wood chip concentration in northwestern corner of Structure 4

4.5.5 Feature 11

Feature 11, located near the centre of the western sill of Structure 4, is a deep cut pit, measuring approximately 79 cm long and 30 cm deep, that extends underneath the western sill (Photo 4-38). The pit was clearly dug and redeposited with soil before the sill was laid, however the intended function of this feature could not be determined and it did not contain any artifacts.



Photo 4-38 View of Feature 11 underneath the western sill of Structure 4

4.5.6 Structure 4 Summary

In summary, Structure 4 appears to have been a timber structure measuring approximately 3.7 m x 4.25 m, erected on sills and foundation timbers laid directly on a prepared and levelled ground surface. Earth berms were banked against the foundation timbers. The construction method is uncertain and there is little evidence that clay daub was extensively used. There is no evidence for a chimney or a cellar, however the distribution of window glass sherds indicates that this building had windows on the south wall, perhaps flanking a central entrance. There is some

evidence for plank sleepers and the building may have had a floor. The burnt nature of the timbers and the presence of an interior burn layer across the structure indicate that Structure 4 was burnt. Many artifacts recovered from within the Structure 4 interior are related to arms and ammunition (shot, musket balls and gunflints) or are architectural in nature (window glass, nails, and clay daub). Relatively few personal or kitchen related items were recovered from Structure 4, suggesting that its primary use was as a storehouse.

4.6 Exterior Features

Additional features and artifact scatters at FgCg-01 Locus D are distributed across the site and well beyond the perimeters of the principal structures. These features include sheet middens as well as a variety of deep pits, shallow pits, mounds, and ash middens (see Figure 4-2).

4.6.1 Privy (Feature 6)

The most conspicuous pit feature recognized at FgCg-01 Locus D was a deep surface-visible water-filled pit surrounded by an earth embankment, situated behind (to the north of) Structure 2. It was initially hypothesized that Feature 6 was the remains of a privy, and subsequent excavation confirmed that this was the case. Archaeological excavation of the surrounding embankment was both extensive and deep, to permit drainage of the central pit.

Stratigraphy upslope (to the north) of Feature 6 was simple, consisting of a thin duff (Event 1) overlying a well-defined A Horizon (Event 2), which in turn overlay an orange-tan B Horizon subsoil. To the east, west and south, however, the duff was underlain by Events 63 and 79, mottled mixtures of grey (A Horizon), orange (B Horizon) sediments and patches of black (organic duff) interpreted as backdirt from the original excavation of the privy pit. Event 63, which achieved a maximum thickness of 30-40 cm, was underlain by a buried A Horizon (Event 68) and in places, a buried sod, and formed a well-defined embankment surrounding the central pit to the east, south and west (see Figures 4-2, 4-8, Photo 4-39). The buried A Horizon south of Feature 6 was cut by the Structure 2 builder's trench, and the toe of the Event 63 embankment overlies the silty infill of the Structure 2 builder's trench, indicating that Feature 6 was constructed later than Structure 2.



Photo 4-39 Section View of Feature 6 Pit

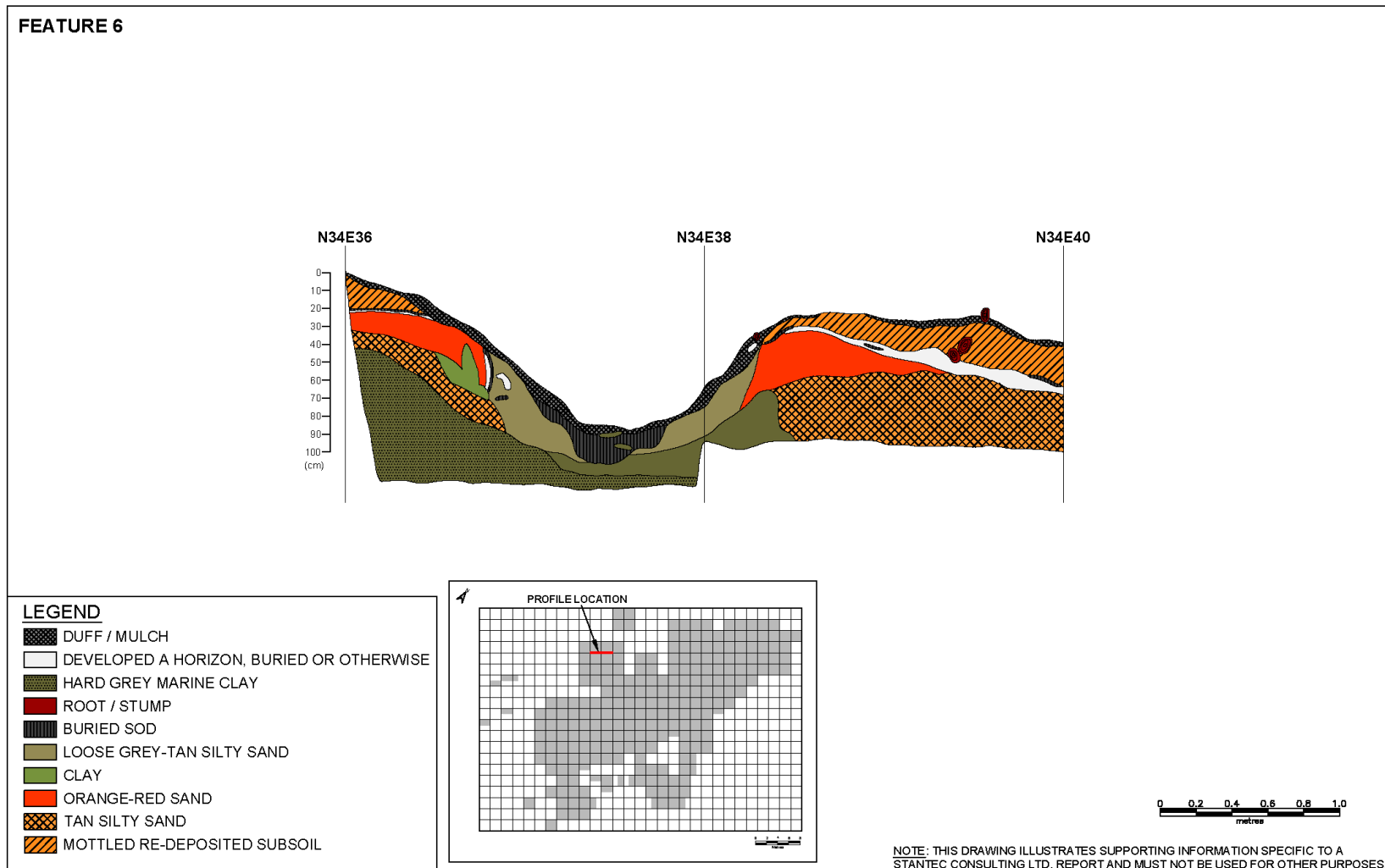


Figure 4-8 East-West Profile of Feature 6 Pit. Event 63 indicates the redeposited backdirt from the privy pit excavation. The ends of the buried A Horizon (Event 68) mark the edges of the pit.

Associated artifacts were few. One cast-iron stove part was recovered from Event 1, and 3 forged nails from Event 2. Events 63 and 79 yielded 23 forged nails and 1 iron concretion, 1 copper button and 1 sherd of un-melted window glass. The buried A Horizon (Event 68) underlying the pit backdirt yielded only a single forged nail. In addition, fragments of unburned wooden timbers were recorded within and atop Events 63 and 68. The nails and timber fragments are interpreted as the remains of the privy superstructure, which appears to have been dismantled, rather than burned.

The central privy pit measured approximately 2 m x 2 m, and had been excavated 80-90 cm below the original ground surface, through the B Horizon, and into the underlying clay (see Figure 4-8, Photo 4-39). The principal deposit within the pit consisted of Event 117, a fine dark grey silty clay (presumably with some admixture of composted human waste) alternating with layers of accumulated duff and containing some small timber fragments (Photo 4-40). Event 117 was flanked to the east by a well-preserved, 2 m-long, rinded but undressed notched log (Photo 4-41), presumably a part of the privy superstructure which had fallen into the bottom of the pit. The presence of this timber notwithstanding, there is no evidence that the privy pit was cribbed with logs; log cribbing has been encountered in excavated privies at HBC post sites (e.g. Upper Fort Garry; Fifik 1986), but uncribbed privies are also common (e.g. Forsman 1986). The base of Event 117 was defined by a sparse layer of wood chips resting on clay (Event 124; see Photo 4-41); the thinness and sparseness of this wood chip layer suggests that it was not a deliberate "floor" for the pit, but simply a layer of wood chips that accumulated in the pit incidentally during the cutting and shaving of the superstructure timbers.



Photo 4-40 Pedestalled Event 117 in Feature 6. Note timber fragments within the deposit



Photo 4-41 Base of Event 117 Pedestalled for Block-Lifting. Note notched timber along northeast side of pit, and wood chip layer north of pedestal and west of timber.

Artifacts recovered during excavation within Event 117 included 1 tiny glaze spall of refined white earthenware, 15 sherds from a clear leaded glass tumbler measuring 6 cm diameter at the base, 8 cm high, and 8 cm rim diameter; recovered pieces included a pontiled base, body and rim sherds (Photo 4-67). In addition, 7 forged nails were recovered from the deposit. An additional forged nail and four tumbler sherds were recovered from the underlying wood chip layer (Event 124).

The base of Event 117 was found to contain numerous pieces of textile which could not readily be extricated from the clayey matrix. Consequently, the bottom of the deposit was pedestalled and removed as a block lift for later excavation in the conservation lab in St. John's. Excavation of this block yielded numerous scraps of textile, interpreted as sanitary wipes (Deal, Dinham and Wilkie

2016; similar textile scraps were also recovered in abundance from two 19th century privies at Upper Fort Garry: Fifik 1986). These textiles are described in more detail in Section 4.7.5.4 below.

The sediments recovered in the block-lift of the base of Event 117 were also submitted for froth-flotation recovery at Memorial University of Newfoundland. In addition to seven additional glaze fragments of refined white earthenware, three leaded glass tumbler sherds, 15 small textile fragments and seven flakes of unidentified yellow metal, flotation yielded samples of botanical and microfaunal remains, including intestinal parasites, described in more detail in Section 4.7.8.2 below.

It should be noted that three soil samples were also collected from the upper layers of the Event 117 deposit, and these, along with the residuum from the froth flotation, remain available for future analysis.

The results of the flotation are described in more detail in Section 4.7.8.2 but overall, appear to confirm that this feature was a privy pit.

In summary, Feature 6 is clearly the remains of a privy pit, beneath an outhouse superstructure that was subsequently dismantled, but not burned. In comparison with privy features from other comparable HBC contexts (e.g. Forsman 1986), Feature 6 contained relatively shallow waste deposits; this may reflect a relatively short use-life for the feature, perhaps because the poor drainage made it an unpleasant location for an outhouse. On the other hand, there is no evidence that the inhabitants of the Sandy Banks outpost employed chamber pots instead. Feature 6 is also remarkable for the fact that it saw limited use for artifact disposal. Missing are the discarded pharmaceutical vials, liquor bottles and ceramic vessels often associated with privy pits in similar historic contexts (e.g. Forsman 1986): aside from the textiles, it contained only the remains of a single glass tumbler, and some tiny glaze sherds of refined white earthenware.

4.6.2 Feature 10

Prior to excavation, Feature 10 presented as a small but conspicuous subcircular pit situated a metre north of the Structure 2 builder's trench (see Figure 4-2). This pit measured approximately 1 m in diameter, and appeared to be surrounded to the southeast and northeast by a well-defined embankment.

Excavation revealed that this pit was originally subrectangular, measuring approximately 60 cm E-W by 1 m N-S, and surprisingly deep. On the northern side the pit had been excavated 40 cm deep, through orange-tan subsoil to the top of a band of clay, forming a hardened clay "step;" the southern portion of the pit had been excavated a further 20-25 cm through the clay to reach a thin layer of subsoil overlying a violet-grey pebbly sand (see Figure 4-4). The base of the pit was floored with a layer of birchbark sheets (Event 120; see Photo 4-42; Photo 4-43). the southern edge of pit was defined by another, near-vertical, organic discoloration which appeared to be consist, at least partially, of additional sheets of birchbark. The pit was flanked to the south by an embankment of mottled backdirt separating it from the Structure 2 builder's trench. The Feature

10 pit appeared to have been subsequently infilled by a series of mottled, more-or-less laminated sediments; the slope of the laminations indicated that this infilling consisted of slopewash sediments accumulating within the pit, principally from the north (upslope).



Photo 4-42 View Toward the North Across the Birchbark Layer (right of scale) in Feature 10

Very few artifacts were found in association with Feature 10. One barrel hoop fragment and a tobacco pipe fragment (marked "I F" on the spur) were recovered from atop the embankment south of the pit, and only one artifact was recovered from within the pit itself. This was an iron axe-head (see Section 4.7.7), including part of the wooden haft (a line of dark organic staining in the soil indicates that an additional 30 cm of the axe handle was present at the time the piece was discarded, but had since decayed). The axe head was found in mottled infill deposits (Event 113) approximately 30 cm above the birchbark floor, indicating that it was not part of the original pit contents, but rather had been discarded in the pit after it had already begun to fill with slopewash sediment.



Photo 4-43 The Birchbark Layer in Feature 10. The underlying violet-grey pebbly sand is visible immediately north of the birchbark layer.

Feature 10 is interpreted as the remains of a deep, narrow storage pit, associated with Structure 2, and perhaps with Structure 1 as well. There is no clear indication of the goods stored within the pit, but it may have functioned as a small root cellar.

4.6.3 Small Exterior Pit Features

In addition to the large, deep exterior pit features described above (Features 6 and 10), three smaller surface-visible pit features were identified outside the principal structures: one (Feature 7) situated high on the backslope overlooking Structure 2, and two (Features 3 and 8) on the terrace south of Structures 1 and 2 (see Figure4-2). Following excavation, only one (Feature 8) is confirmed to be cultural in nature.

4.6.3.1 Feature 3

In 2015, a small surface-visible depression 1.5m in diameter was noted on the edge of the terrace approximately 2 m south of the southern berm of Structure 2 (Stantec 2016); this depression was designated Feature 3. In 2016, excavation of this depression and adjacent units indicated that this is simply a shallow in-cut in the undulating edge of the terrace. Feature 3 is now interpreted as a largely natural feature, an area of slightly slumped terrain along the terrace edge.

4.6.3.2 Feature 7

In 2015, a small surface-visible depression was noted high on the slope north of Structure 2 (see Stantec 2016). This depression was small (75 cm in diameter), but quite pronounced, and was designated Feature 7.

In 2016, a 4 m x 4 m excavation area was opened to encompass this depression (see Figure4-2). Excavation revealed a continuous intact A Horizon across the excavation area; on the southern (downslope) side, this overlay a "throw" of orange subsoil (B Horizon) which itself overlay a buried A Horizon (Photo 4-44). The presence of a well-developed A Horizon indicates that this depression likely formed in antiquity, long before the historic occupation of FgCg-01. Feature 7 therefore appears to be an ancient natural treethrow, not a cultural feature. Very few historic artifacts were recovered in association with this depression: one piece of clay daub, two cast-iron stove parts, one piece of tin sheet and one iron concretion. There is no particular concentration of cultural material, and these pieces are simply part of the overall artifact scatter that characterizes the site.



Photo 4-44 Section View Toward the West of Feature 7 Treethrow Depression

4.6.3.3 Features 8 and 9

In 2015 (Stantec 2016), a small surface-visible depression measuring 1.3 m E-W by 1.0 m N-S was noted less than a metre south of the exterior toe of the Structure 1 berm, near the SE corner of the berm and east of the possible path to the Structure 1 front entrance (see Figure4-2). This depression was designated Feature 8. A small scatter of rocks immediately to the west of the depression was designated Feature 9.



Photo 4-45 Section View of Feature 8 Pit during Excavation. The scatter of rocks at far left is Feature 9.

Excavation of Feature 8 in 2016 (Photo 4-45) revealed that this depression had been excavated through the weakly-defined A Horizon (Event 2) to a depth of 25 cm, and was filled with a dark brown silty sand deposit (Event 58).

This deposit contained 71 artifacts, primarily refined white earthenware ceramic sherds (39 pieces) and window glass sherds (22 pieces). The ceramics consisted mostly of plain creamware, but also included two blue-edged brimsherds (see Figure 4-14) with molded floral relief (see Section 4.7.2.1). The window glass was mostly shattered, with only one melted sherd present. Also recovered were six tobacco pipe fragments, one a factory-cut mouthpiece and one a bowl fragment with impressed "Ford Stepney" mark and the raised initials "I" and "F" on the spur (see Section 4.7.6.2). Additional artifacts included two sherds of clear bottle glass, one piece of cut sheet copper, and a length of iron rod.

The contents of Event 58 differ little from overlying Event 2, either in the types represented, or in their relative frequencies, with the exception that 10% of the collection from Event 2 consisted of iron nails, while the ceramics from Event 2, although mostly plain and edged creamware, also included 3 sherds of transfer printed refined white earthenware (2 of them the Copeland and Garret "Camilla" pattern; see Section 4.7.2.1)

Feature 8 is interpreted as a shallow disposal pit for artifacts accumulated by HBC personnel during sweeping or raking to tidy the level area in front of Structure 1.

It should be noted that Feature 9, the scatter of small stones adjacent to Feature 8, was initially identified as a possible precontact feature, due to its association with several quartzite flakes (Stantec 2016). However, excavation in 2016 recovered no additional precontact material, and it appears more likely that Feature 9 is simply a collection of small stones left to the side of feature 8 after the pit had been dug.

4.6.4 Exterior Mound/Midden Features

Although earth mounds and ridges at FgCg-01 Locus D generally formed the perimeters of structures, one unusual oblong exterior mound feature (Feature 15) was recorded between Structure 2 and Structure 3 (Figure 4-2, Figure 4-5). This mound overlay two ash middens composed of large pieces of charcoal. These features are described below.

4.6.4.1 Feature 15

A large artificial mound (Event 111) was exposed between the western berm of Structure 2 and the eastern berm of Structure 3 (Photo 4-46; Figure 4-5). Its function is unclear as it is not part of either berm. It is composed of fine grey indurated friable sand with red streaks. The western half of the mound overlaps the eastern edge of Structure 3 berm, thus postdates the construction of Structure 3. The eastern half of Feature 15 sits above Feature 16, an ash midden. The few artifacts recovered within Feature 15 include one barrel hoop, three forged nails, one tobacco pipe fragment, one stoneware sherd, and a white-metal crucifix.



Photo 4-46 Profile View of Features 15 (white arrow), 16 (yellow arrow) and 17 (green arrow)

4.6.4.2 Feature 16

Feature 16 represents the uppermost of two well defined ash middens (Event 112) situated between Structures 2 and 3 and beneath the Feature 15 earthen mound (Photo 4-46; Figure 4-5). It measures roughly 1.75 m wide in profile and 8 cm at its thickest, Feature 16 is almost entirely covered by Feature 15. Its western half is wedged between feature 15 and the Structure 3 berm, while the eastern half overlies the western edge of the toe of the Structure 2 berm. Artifacts recovered within Feature 16 include: 35 forged nails, 2 clay pipe fragments, 3 barrel hoops, 4 window glass fragments. The concentration of forged nails perhaps suggests that this deposit consists of discarded stove ash that contained the remnants of scrap timbers with embedded nails.

4.6.4.3 Feature 17

Feature 17 is the smaller and deeper of two ash middens situated between structures 2 and 3 (see Photo 4-46; Figure 4-5). It corresponds with Event 123 and is consists of a localized charcoal burn layer mixed with grey sand. It measures 0.85 m wide in profile and 10 cm at its thickest. It is wedged between the eastern edge of Structure 3 berm and the B horizon. No artifacts were recovered from Feature 17. It likely represents discarded stove ash. There is evidence of disturbance separating Features 16 and 17, which could indicate that these are part of a single truncated feature.

4.6.5 Artifact Clusters, Sheet and Slope Middens

Four significant artifact concentrations were noted outside the principal structures at FgCg-01 Locus D (Figure 4-2, Figure 4-10). One of these (Feature 19) was a discrete, *in situ* concentration of precontact lithic artifacts, representing the only preserved precontact feature in Locus D. The other three (Features 5, 14 and 21) were historic discard features associated with the HBC occupation of the site.

4.6.5.1 Feature 5

Feature 5 (Figure 4-2; Figure 4-22) was recovered in 2015 (Stantec 2016) and consists of the remains of a large, heavy, and fragmented cast iron woodstove, concentrated in a cluster of fragments in front of Structure 1, the building in which it was likely used. The individual pieces of the stove vary greatly in size, and range from approximately 10 cm² and smaller to as large as 60 cm by 50 cm (Photo 4-47). A maker's name embossed on several the cast iron plates indicates that the stove was fabricated by the Carron Company on the Carron River near Falkirk, Scotland. Additional cast iron woodstove fragments recovered in 2016 were more broadly-dispersed across the site (see Figure 4-22).



Photo 4-47 View North across Feature 5, a Cluster of Carron Cast Iron Woodstove Fragments Situated South of Structure 1.

4.6.5.2 Feature 14

A high density of artifacts was recovered from a midden scatter, measuring approximately 6m northwest-southeast, located on the edge of the slope situated south east of Structure 4, designated Feature 14. Over 2,000 artifacts were recovered from Feature 14. Unlike the collection recovered from Structure 4, the midden assemblage was diverse with most artifact classes represented, suggesting that the midden was used to discard waste from other structures at the site, and not just Structure 4. Artifacts recovered from Feature 14 included 320 ceramic vessel fragments, 141 of which were identified as undecorated creamware, 90 as "Camilla" pattern, 2 as "Fruit and Flowers" pattern, 1 as hand-painted polychrome, and 1 as "Milkmaid" pattern. In addition, 5 bottle glass fragments, 14 pieces of vessel glass and 2 shards of chimney lantern glass were recovered. Architectural materials included 698 pieces of window glass, 170 nails and 6 pieces of clay daub. Arms and ammunition related artifacts included 155 pieces of shot and 20 gun flints. The assemblage also included 132 kaolin pipe fragments, 6 buttons, a fragment of straight razor, 2 thimbles, a single glass bead, 5 barrel hoop fragments, 2 pieces of chain link, 1 piece of copper sheet, 68 pieces of tin sheet, 1 iron hook, 3 iron hinges, 1 iron handle, a piece of a cast iron kettle, 3 roves, 1 iron fish hook, 402 pieces of bone, 1 tooth and 4 quartzite flakes.

4.6.5.3 Feature 19

Feature 19 consists of a concentration of rock, firecracked rock, and lithic tools and debitage (precontact lithic scatter in front of Structure 3) distributed along the gentle terrace slope south of Structure 3, in the far southwestern corner of the 2016 excavation area (see Figure 4-2, Figure 4-11). Feature 19 represents the only *in situ* precontact archaeological feature encountered at FgCg-01 Locus D.

Feature 19 is defined in part by a diffuse scatter of rocks and firecracked rocks, including one rhyolite cobble and several quartzite cobbles, concentrated in an area approximately 2 m in diameter and extending more sparsely another 2 m downslope toward a large boulder (Figure 4-2, Figure 4-11, Photo 4-48).



Photo 4-48 Rock and Firecracked Rock Concentration at FgCg-01 Locus D Feature 19

This diffuse rock scatter is flanked to the east by a scatter of lithic tools and debitage, primarily concentrated immediately east of the rock scatter, but extending less densely another 2 m upslope toward the top of the terrace.

The lithic assemblage from Feature 19 (see Section 4.7.1) numbers 1017 pieces, representing 33 % of all precontact artifacts recovered from Locus D. In all, 92.8% of the lithic artifacts recovered from Feature 19 (944 pieces) consist of lithic debitage, including flakes, chunks, and cobble spall fragments. Four of these are rhyolite, one is Ramah chert, and the remaining 939 pieces are grey-tan quartzite.

Seventy artifacts, all of quartzite, have been worked, and a further 3 pieces are cobble hammerstones. Artifact types are indicated in Table 4.3.

Table 4.3 Precontact Lithic Artifacts Recovered from FgCg-01 Locus D Feature 19

Artifact Type	FgCg-01 Locus D Feature 19. Number =	%
Biface	2	2.7
Preform	6	8.2
Linear Flake	24	32.8
Scraper	3	4.1
Retouched/Utilized Flake	28	38.7
Flake Core	6	8.2
Hammerstone	3	4.1
Graver	1	1.4
Total	73	100.0

The assemblage therefore consists primarily of various expedient tools (retouched and utilized flakes, linear flakes, and cores), along with a small collection of preforms and few finished bifaces.

Although most artifacts recovered from Feature 19 were precontact lithics, a small number (50) were historic artifacts. Most were refined white earthenware sherds (plain creamware) and window glass, but three tobacco pipe fragments, three barrel hoop fragments, one gunflint and a piece of pharmaceutical container glass were also recovered from this area. These pieces are clearly an extension of the historic artifact scatter distributed downslope south of Structure 3. There was no clear vertical separation between the historic and precontact components; historic and precontact materials alike were abundant in the weakly-defined A Horizon (Event 2) which was overlain by a very thin grey-brown silty sediment that appears to reflect a minor degree of slopewash originating upslope. The underlying B Horizon yielded only precontact material in Feature 19.

In summary, Feature 19 is a diffuse rock scatter with an associated dense scatter of quartzite lithics, including debitage and expedient tools. This feature closely resembles other small quartzite-dominated precontact sites previously excavated in the Churchill Valley (see Stantec 2014a; 2014b; 2015), and is similarly interpreted as a hearth and associated lithic scatter representing a small precontact campsite. The sloping terrain on which it is situated is less typical, but is characteristic of the precontact components at FgCg-01 Locus B, along the same terrace, 40 m west of Feature 19 (see Stantec 2015; 2016). Although there is some evidence for thin slopewash sediments across the feature, and a sparse admixture of later historic artifacts, the similarity to other precontact sites in the Study Area and the absence of significant precontact cultural deposits upslope (or anywhere else in Locus D) indicates that Feature 19 represents a largely intact, *in situ* precontact occupation site. That it remained largely undisturbed during the later historic HBC occupation indicates that Feature 19 lay beyond the principal activity areas and high-traffic corridors of the HBC post at Sandy Banks.

4.6.5.4 Feature 20

Recovery work on the relatively steep terrace slope in front of the principal structures revealed a significant scatter of artifacts, which was designated Feature 21. Measuring approximately 12 m in length, Feature 20 appears to be the main waste disposal area for FgCg-01 Locus D. The general stratigraphy at the upper end of the slope consists of duff underlain by a thin layer of medium brown silty clay (Event 11), which, in turn, is underlain by a mottled grey-brown silt with charcoal (Event 21), present only at the upper end of the slope, which overlies sterile subsoil. Further down the slope to the south, Event 11 becomes somewhat intermittent and, where absent, is replaced by a developed A horizon. About midway down the slope, the stratigraphy changes with the subsoil becoming a loose beach sand (Event 18) with some deposits of medium brown silty clay (Event 11) situated between the duff and the underlying sand, underlain in places by a thin burn layer. Near the bottom of the slope, the burn layer is present within the beach sand and below Event 11 (see Figure 4-3). A series of river rocks and boulders are present at the bottom of the slope and may indicate an earlier shoreline of the Churchill River (Photo 4-49).



Photo 4-49 The Terrace Slope (Location of Feature 20) During Excavation

Feature 20 yielded an extensive collection of historic artifacts. Approximately 3,793 artifacts were recovered with most artifact classes represented. Animal bone was the single largest artifact type with 935 pieces recovered (approximately 25% of the assemblage). Other artifacts in the Kitchen/Domestic class included 857 pieces of ceramics (approximately 22.6% of the assemblage), including considerable quantities of plain, edged, and transfer-printed whiteware and stoneware, 36 sherds of bottle/drinking glass, 1 sherd of medicine bottle glass, 1 knife blade fragment, 1 cast iron kettle spout and 16 tooth fragments. Architectural related artifacts included 600 window glass fragments (approximately 15.8% of the assemblage), 237 pieces of clay daub (6%) and 230 nails (6%). A total of 500 kaolin pipe fragments (approximately 13% of the assemblage) was recovered, including "I.F."-marked pipes, "Ohio" pipes and "Turk's Head" pipes. Arms and ammunition related artifacts included 72 pieces of shot, 1 musket ball, 56 gun flints, of which two were identified as strike-a-lights, and 1 gun part. Seven pieces of melted lead spoil and 1 piece of rolled lead sheet were also recovered. In addition, 1 barrel hoop, 8 glass beads, 10 buttons, 1 tin can fragment, 2 pieces of chimney lamp glass, 1 clothing hook, 5 iron file pieces, 1 folding knife, 1 glass knob, 1 fragment of scissor handle, 1 brass thimble, 1 lead seal, 1 rivet, 1 rove, 11 pieces of tin sheet, 1 hinge fragments and 94 pieces of metal were recovered. The assemblage also included 13 quartzite flakes, one of which was identified as a utilized linear flake. In contrast with the artifact assemblages located closer to the Structures, relatively few pieces recovered from Feature 20 have been burnt. This is interpreted to represent a combination of casual discard and patterned refuse disposal from the terrace above.

4.6.6 Paths and Walkways

In addition to features defined by berms, pits, artifact clusters, and a variety of distinctive deposits, FgCg-01 contained several possible features defined by linear depressions, and/or a relative lack of artifacts. These are interpreted as footpaths and other high traffic areas utilized by the inhabitants of the site. Five such features have been identified and are described below (see Figure 4-9).

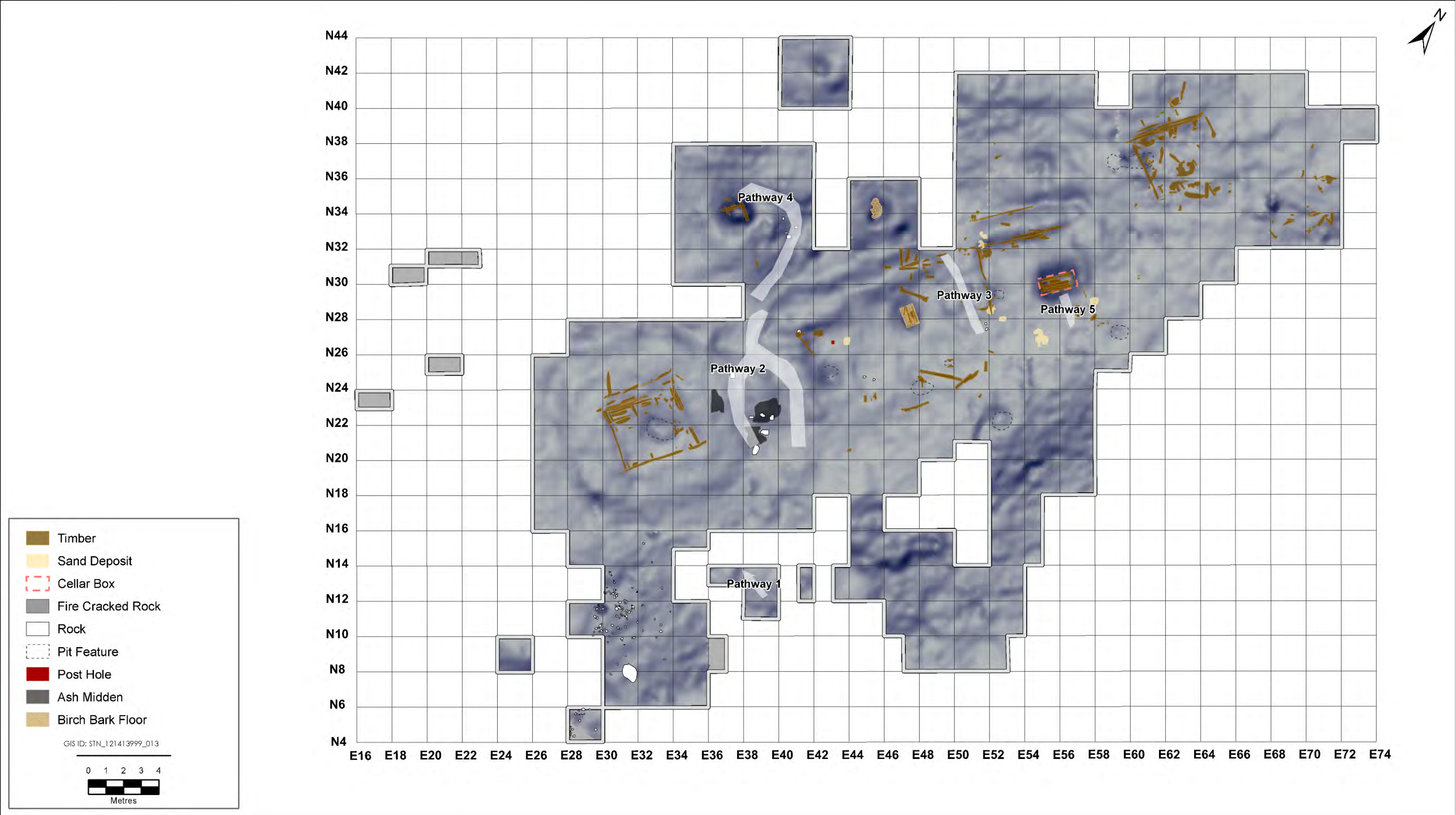


Figure 4-9 The Distribution of Paths and Walkways at FgCg-01

4.6.6.1 Pathway 1

Pathway 1 is a broad zone of gentle slope leading down from the terrace top to the river, southeast of Structure 3 (see Figure 4-9). Metal detector survey in this area indicated few metallic anomalies, and subsequent test excavations confirmed that artifact densities are low. Artifact densities in this area are particularly low compared to the two features that flank it. To the west lies Feature 19 (see Section 4.6.5.3 above), an undisturbed precontact lithic scatter that cannot have been within a high-traffic area in the historic period. To the east lies Feature 20 (see Section 4.6.5.4 above), the dense historic artifact scatter on the steeper terrace fall in front of Structures 1 and 2. Pathway 1, which encompasses the gentlest slope leading up from the river to the terrace top, is interpreted as the most likely historic access route leading to the HBC post from the beach below. Feature 20 would therefore constitute a sheet midden and discard area, possibly under alders or other vegetation cover, alongside this path.

4.6.6.2 Pathway 2

Pathway 2 (see Figure 4-9) is a pair of linear depressions flanking Feature 15 (see Section 4.6.4.1 above). One depression skirts the edge of the western berm of Structure 2, the other skirts the edge of the eastern berm of Structure 3. These depressions could also form along the driplines under the eaves of Structure 2 or Structure 3 or both. However, these depressions converge near the northwestern corner of Structure 2, where the builder's trench was conspicuously indurated, suggesting continual foot traffic. From the northwestern corner of Structure 2, Pathway 2 may have connected to Pathway 4 and Feature 6.

4.6.6.3 Pathway 3

Pathway 3 (see Figure 4-9) is a relatively short (approximately 4 m long), shallow depression leading northeast between the western berm of Structure 1 and the eastern berm of Structure 2. The sediments along this depression consisted of a fine silt, consistent with churning because of foot traffic, although such a deposit could also form along the driplines under the eaves of Structure 1 or Structure 2 or both. If this channel follows a footpath, it presumably led between Structures 1 and 2 north to the slope behind the site. The intended destination is uncertain; possibly the privy (Feature 6; see Section 4.6.1 above), or possibly the deep storage pit behind Structure 2 (Feature 10; see Section 4.6.2 above).

4.6.6.4 Pathway 4

Pathway 4 (see Figure 4-9) is a somewhat sinuous depression that cuts through the northeast corner of the berm of Feature 6 (the privy; see Section 4.6.1 above), and descends the steep slope east of the privy toward the builder's trench north of Structure 2. At this point, Pathway 4 may have connected with Pathway 2.

4.6.6.5 Pathway 5

Pathway 5 (see Figure 4-9) is a very short depression, approximately 1 m long and 0.75 cm wide, which is essentially a break in the south berm of Structure 1 (see Section 4.2.1 above). Whether deliberately formed, or simply trampled down by foot traffic, Pathway 5 is interpreted as the footpath to the front entrance of Structure 1. The position of Pathway 5 indicates that the front door was placed east-of-center along the southern wall of the building.

4.7 Cultural Materials

A large assemblage of 33,680 artifacts and other cultural materials was recovered from FgCg-01 Locus D in 2016, in addition to the 10,015 previously recovered in 2015 (Figure 4-10). These artifacts are diverse, and were fashioned from a variety of raw materials. For the purposes of description and analysis, the material culture from FgCg-01 Locus D is here divided into functional categories, as per common practice in historical archaeology (see South 1977a; 1977b; Sprague 1981). For the FgCg-01 Locus D collections, nine functional groups have been defined:

1. Precontact Group (precontact lithics and ceramic, particularly associated with Feature 19);
2. Kitchen/Domestic Group (including historic ceramics and glass, as well as cutlery, kitchenware and stove parts);
3. Architectural and Furniture Group (including nails, window glass, tin sheet, clay daub, door, and furniture fittings);
4. Arms and Ammunition Group (including lead shot, gunflints, and firearm components);
5. Clothing Group (including textiles, leather, beads, bale seals, buttons, and other clothing fasteners);
6. Personal Group (including a variety of personal items, the most numerous being tobacco pipe fragments);
7. Activities Group (including a variety of tools, trap parts, barrel hoops and scrap metal);
8. Food Refuse Group (including animal bone and micro-faunal and botanical remains recovered from the Feature 6 privy); and
9. Miscellaneous Group (including materials of unknown material or function).

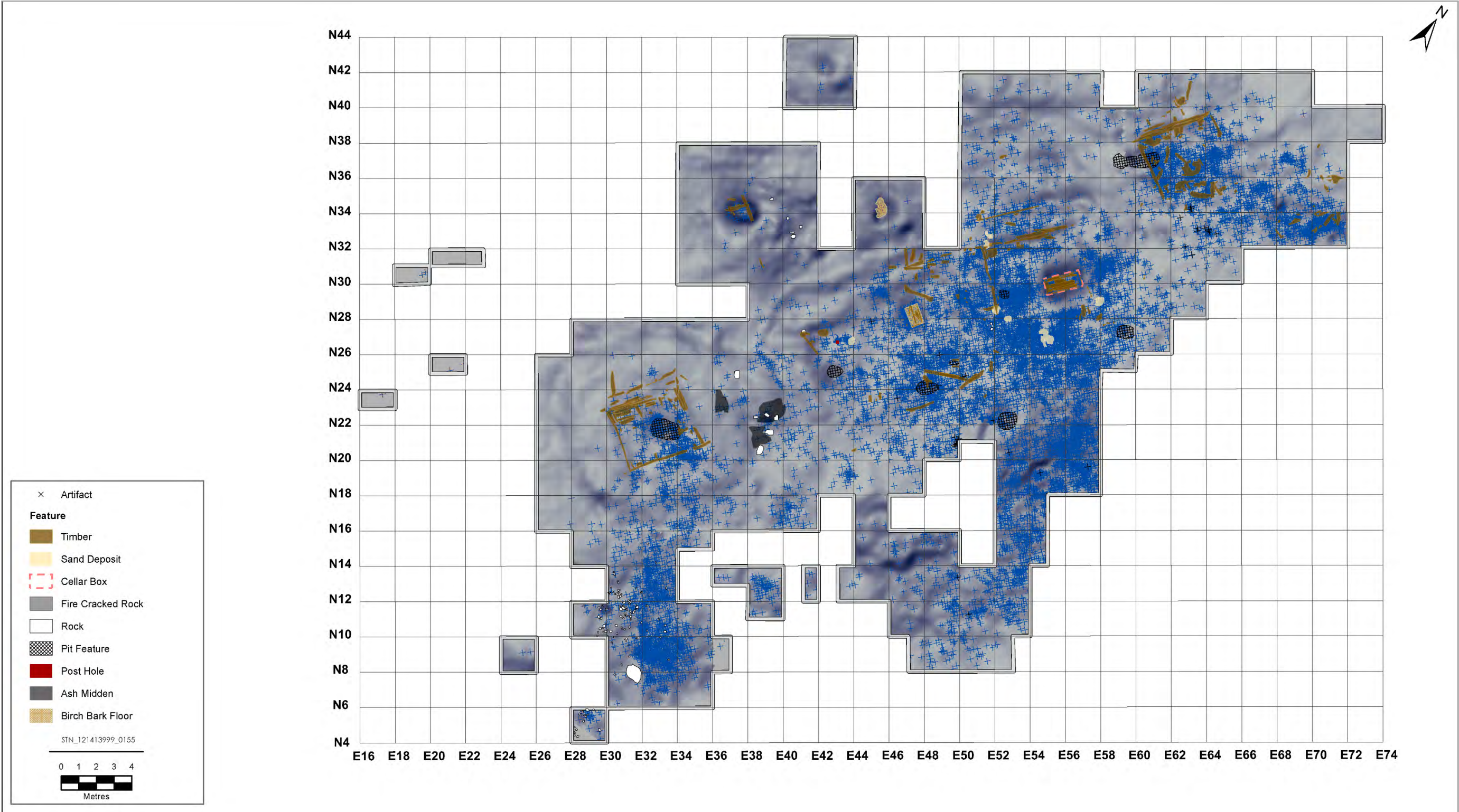


Figure 4-10 The Distribution of Artifacts Recovered from FgCg-01 Locus D (2015 and 2016 Collections Combined)

The artifacts belonging to each function group are described in the following subsections.

4.7.1 Precontact Group

The pre-contact component at FgCg-01 Locus D consists of a sparse scatter of artifacts distributed across the entire site (Figure 4-11), as well as a single *in situ* concentration of lithic pieces situated at the southwestern end of Locus D (Feature 19).

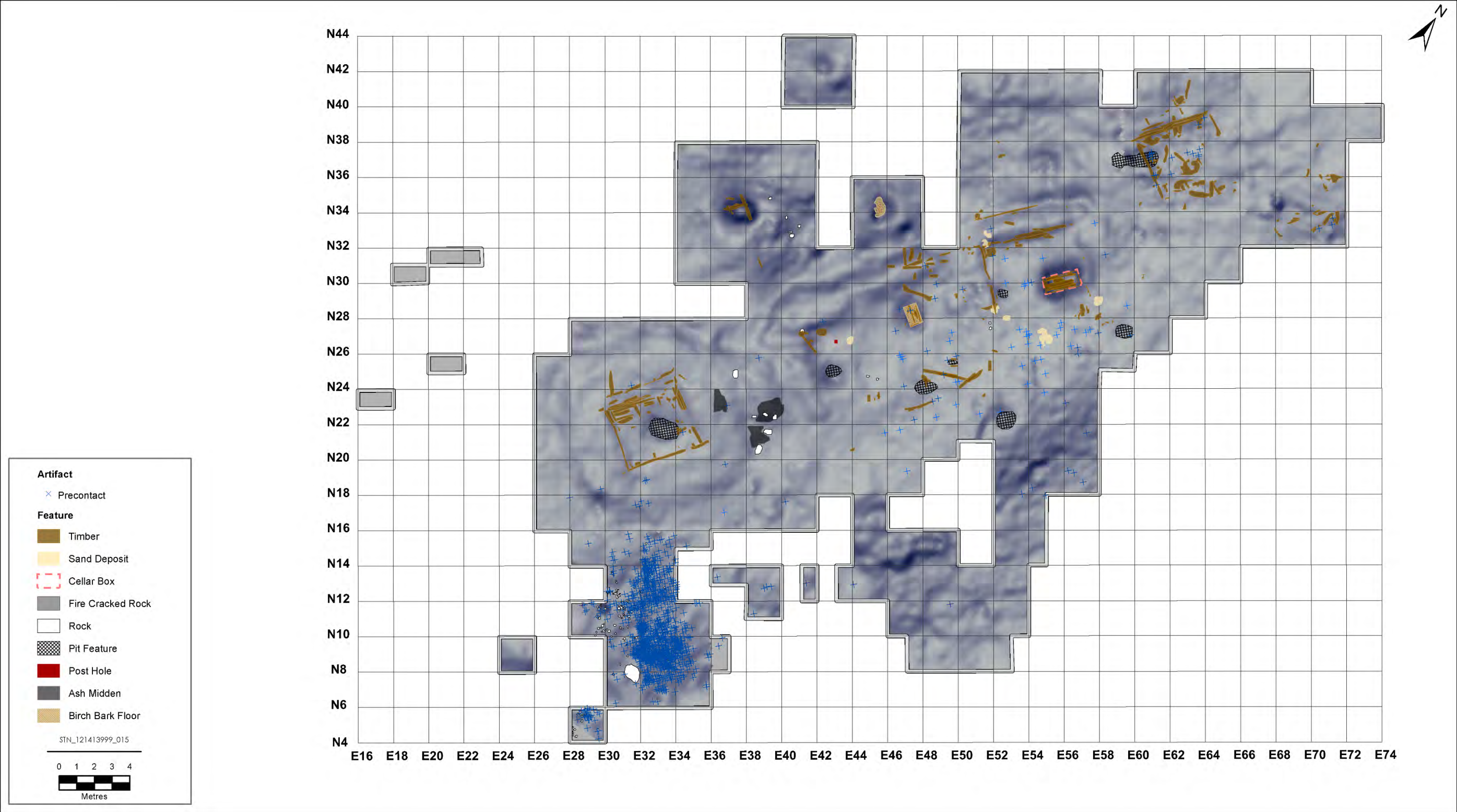


Figure 4-11 The Distribution of Precontact Artifacts at FgCg-01 Locus D

4.7.1.1 Lithic Debitage

FgCg-01 Locus D's pre-contact component yielded a comparatively small lithic collection for Churchill River sites. 3060 lithic pieces were recovered with over 99% (n=3041) consisting of local quartzites with the remaining (0.6%) consisting of a mix of rhyolite (n=8), quartz (n=7), and Ramah chert (n=4). The majority of recovered objects consisted of knapping debitage including unbroken and cobble fragments, flake cores, shatter, and flakes from all stages of production. Material quality and colour variation were limited with most quartzite being fine grain and grey in colour while the other materials types are not numerous enough to demonstrate many differences.

4.7.1.2 Lithic Finished Tools

A total of 123 finished precontact artifacts were recovered. Of this collection only three artifacts were not made of quartzite. Two of these were utilized flakes, a Ramah example and a second made of high quality quartz. A biface in a unique style made of Ramah was recovered, discussed below, but the remainder of formal artifacts were all made of quartzite. An unusual artifact type distribution is seen in this collection with 43 pieces (34.9 % of the assemblage) consisting of linear flakes and 44 utilized flakes (35.7 %) were recovered as well as eight examples of retouched flakes. These three artifact types combined account for more than a third of the total artifact collection. Otherwise, the collection included 15 preforms of indefinite form, 5 scrapers, 4 projectile point fragments, 13 cores, 2 hammerstones and a possible graver.

The projectile points in the collection are highly variable in style. Only two of the four recovered have intact bases, both thinning to a rounded proximal end (Photo 4-50: A and D). Example D is an odd example as it appears that it may have been an abandoned attempt at converting a larger scraper into a point, the scraper working edge comprising the base. The last point with evidence of a base (Photo 4-50: A) demonstrates the expanded stem with asymmetrical shoulders seen on FgCg-01 Locus C and many of the other Churchill River Intermediate Indian sites (FgCg-06, FfCi-02 Locus A). The only distal point fragment is a sharp angled, parallel side point that is quite thin (3mm). One edge shows a slight curve indicating that it is unlikely that this tool was much longer when complete.



Photo 4-50 Projectile Points Recovered from FgCg-01 Locus D

Bifaces are poorly represented in the collection. A single example was recovered from the downslope area. This is a small, purple, quartzite, lateral edge, likely from a knife. The only other noteworthy biface is a finely-knapped Ramah biface midsection (Photo 4-51: A) recovered from the historic slope midden scatter (Feature 20). Scrapers are more plentiful in the collection but are mostly of an expedited nature. Of the six identified scrapers 50% still maintain some original cortex and one (Photo 4-51: F) is more of a retouched cobble scarper than a formalized tool. A single scraper specimen demonstrates repeated pressure flaking on the working edge and a purposeful shape. Despite this the scraper is quite thick for the total size and only shows limited flaking over the ventral surface.

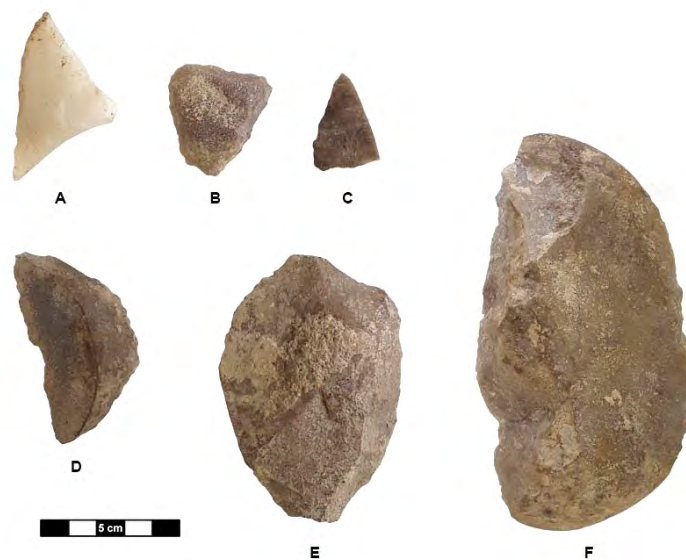


Photo 4-51 Selected Biface Fragments and Scrapers Recovered from FgCg-01 Locus D

There was a large collection of 43 quartzite linear flakes (Photo 4-52). All but one example (Photo 4-52: E) were single-arris blade-like flakes, and showed a wide variability in length and width. Many of the blades show evidence of usewear along both edges and at least one example (Photo 4-52: D) shows evidence of use as a scraper.

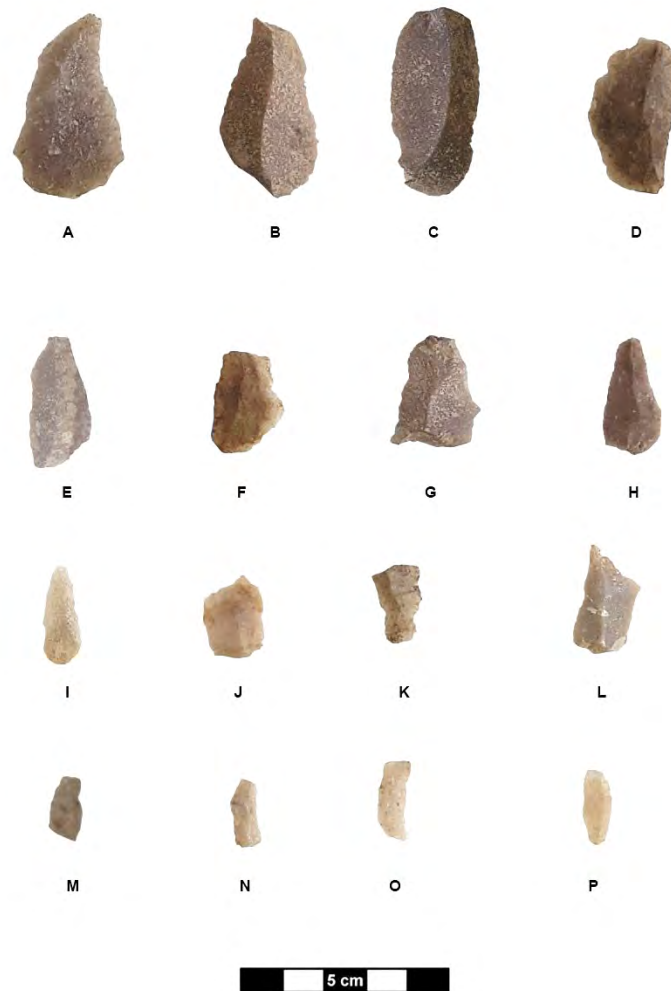


Photo 4-52 Selected Linear Flakes and Utilized Flakes Recovered from FgCg-01 Locus D

The 15 preforms recovered from FgCg-01 (see Photo 4-53) constitute the third largest artifact class in the assemblage. Although there are some roughly-formed bifacial tips, and a small collection of unclassifiable fragments, most preforms share a similar style. Six examples of roughly ovate preforms with extensive lateral knapping, but minimal thinning, were recovered. Though abandonment of preforms due to inability to remove a large central “hump” is common, the frequency of these, with so few completed tools, is surprising. Additionally, except for two (Photo 4-53: C and E), there is very little evidence of progress in reducing the thickness of the blanks.



Photo 4-53 Selected Preforms Recovered from FgCg-01 Locus D

Many pieces in the lithic assemblage are associated with early stone tool production. Six unbroken quartzite cobbles and a further nine large pieces of shatter were recovered. Beyond this a further 13 quartzite cores, all with multiple flake scars, were found including one linear flake core (Photo 4-54: B). Two hammerstones, also of quartzite, show heavy use wear on the bipoinded ends as well as some light evidence of grinding longitudinally (Photo 4-54: D). This assemblage all points toward the processing of large amounts of local available quartzite cobbles.



Photo 4-54 Miscellaneous Lithic Artifacts Recovered from FgCg-01 Locus D

4.7.1.3 Precontact Ceramics

A single precontact ceramic sherd was recovered from FgGg-01 Locus D in 2016 (Photo 4-55). Several fragments of fired clay initially thought to be of Precontact origins, later were determined to be chinking, or daub, pertaining to the HBC structures. The actual sherd was recovered north of Structure 1, and no other precontact artifacts were found in unit or in immediate vicinity.

The measurements of the sherd include a length of 64.61mm, a width of 39.83 mm, thickness of 8.69 mm and weight of 10.43 g. It consists of an undecorated, grit-tempered body sherd with smooth exterior and interior surfaces. There is no indication of any preserved organic residue on any of the surfaces.



Photo 4-55 Precontact ceramic sherd Recovered from FgCg-01 Locus D

Precontact ceramics have been relatively rare in archaeological sites in Labrador, especially in the interior (Loring 2013). Some of the coastal examples exhibit decorative attributes like Saint Lawrence Iroquois types, leading some to speculate that either the pots were made locally by Iroquoian potters using local clays, or that the pots were made elsewhere and brought in (Tuck 2005). However, the historic resources recovery program for the Lower Churchill Project has now encountered precontact ceramics at eight sites along the Churchill River (see Stantec 2016).

4.7.2 Kitchen/Domestic Group

4.7.2.1 Ceramic Tablewares

There were 3,900 ceramic sherds recovered from FgCg-01 Locus D in 2016. The assemblage was divided into ware types that consisted of refined earthenware, stoneware, and ironstone (Figure 4-12). The earthenware was further divided into creamware, transfer-printed designs, painted designs, and plain white earthenware. Subsequent analysis consisted of recording use-wear, decorative patterns, available trademarks, and whether the sherd had been burned or unaltered. Vessels were divided into either hollow-ware, such as bowls and cups, or flatware, such as plates, saucers, and soup plates. Vessel terminology was based Griffiths (1978) (Figures 4-13 and 4-14).

Ironstone

There were seven ironstone sherds recovered, five in the downslope midden in front of Structures 1 and 2, one south of Structure 1, and one sherd was recovered inside Structure 3. None of the sherds displayed a manufacturer's mark. Two plain white flatware sherds had scalloped rims but no other visible decoration. Two of the sherds displayed wear marks consisting of short cutlery striations on the interior surface.

Creamware

There were 1,350 creamware sherds recovered and the sherds were primarily distributed between Structures 2 and 4 with a large quantity in Feature 20 below Structure 1 and 2, inside Structures 2 and 4, and in the small midden southeast of Structure 4.

Most of the creamware assemblage, 43%, consisted of small exfoliated sherds many of which related to flatware vessels such as soup bowls. A portion of the assemblage, 25%, had been burned to the extent that prohibited further analysis. Sherds that displayed no wear marks accounted for 37% of the creamware assemblage while 13% displayed either cutlery marks or footring wear. Flatware vessels accounted for many of the analyzable sherds and were predominantly from undecorated soup-style bowls with a wide brim and steep drop from the brink to the base (for illustrations of the terms "brim" and "brink" see Figure 4-14). No manufacturer's marks were present on any of the sherds to trace country of origin or relative date.

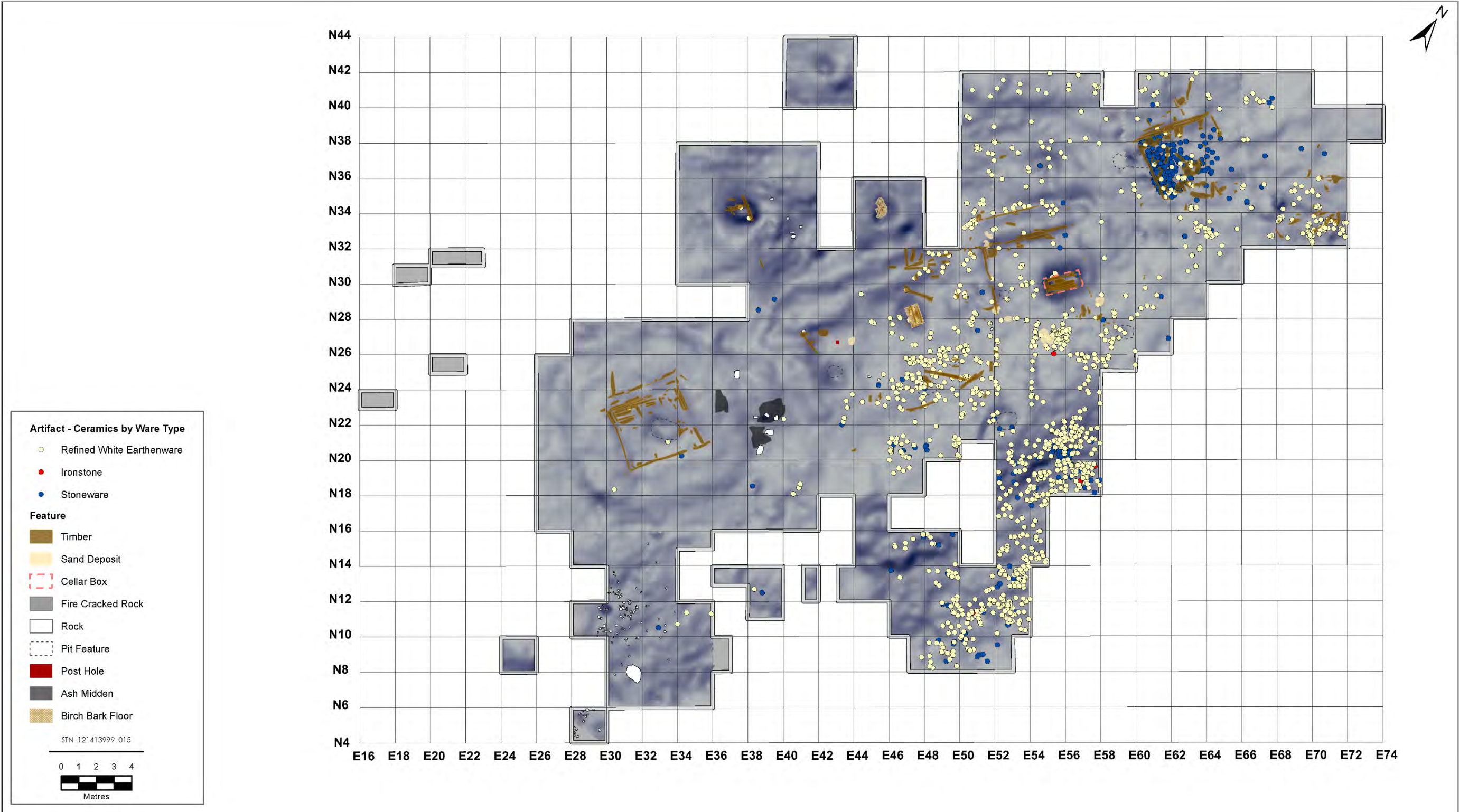


Figure 4-12 FgCg-01 Locus D Ceramic Distribution by Ware-Type (2016 Artifacts Only)

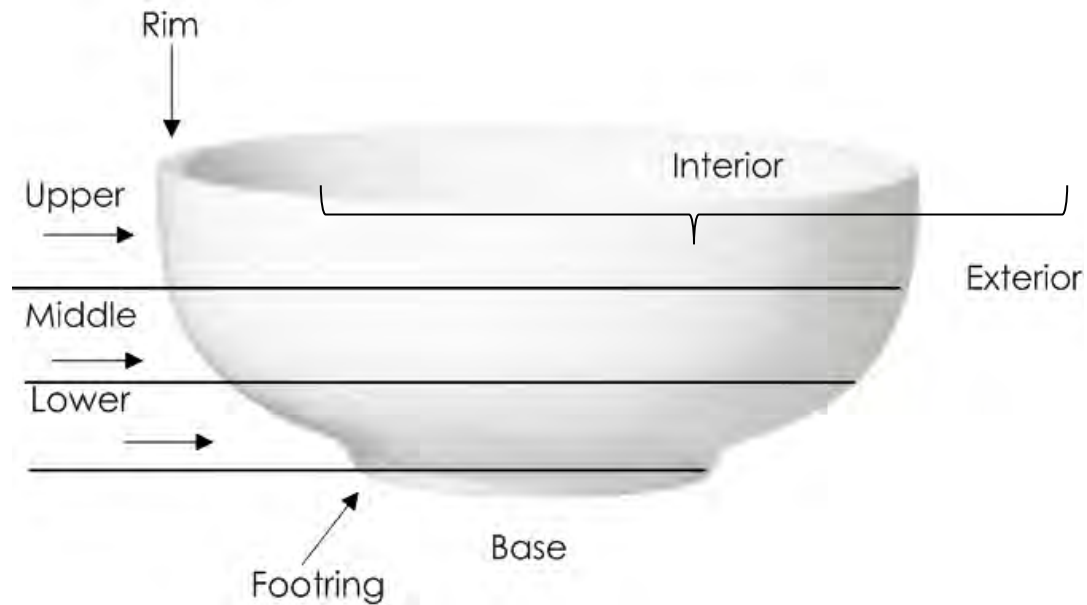


Figure 4-13 Hollow-ware terminology (Based on Griffiths 1978).

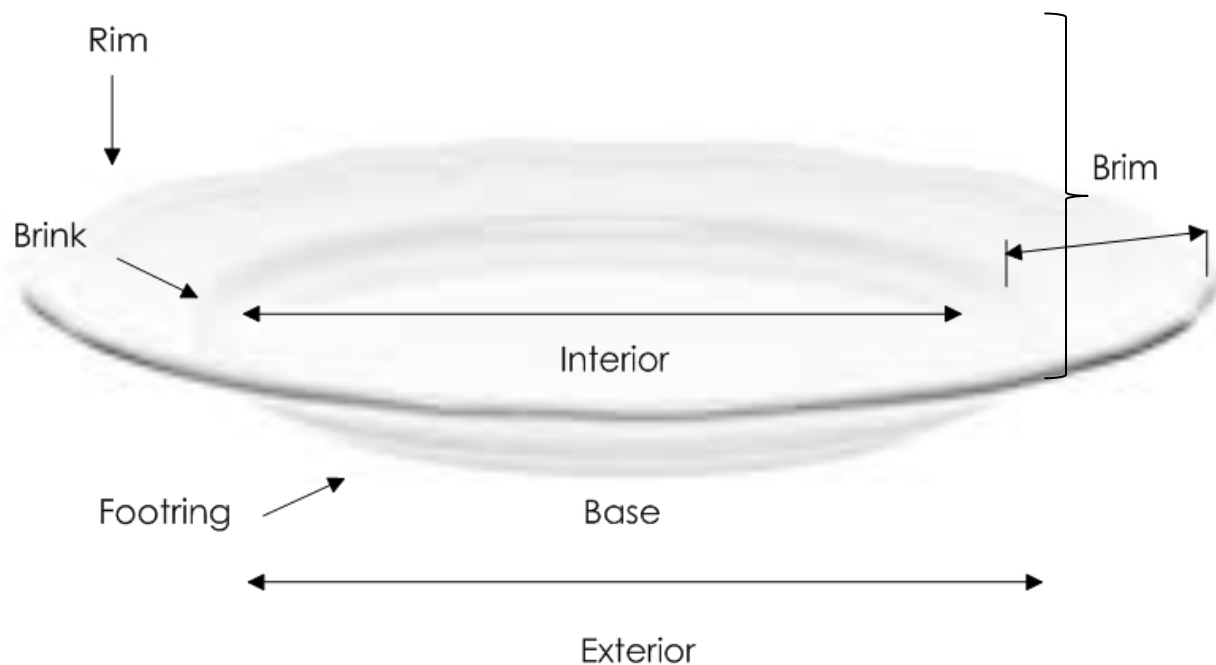


Figure 4-14 Flatware terminology (Based on Griffiths 1978)

Transfer-Print Earthenware: Copeland-Garrett

Four Copeland and Garrett patterns were identified in the FgCg-01 Locus D assemblage (Table 4.4). All trademarks observed on the transfer-print vessels were that of “Copeland and Garrett Late Spode” and date from 1833 to 1847 (Sussman 1979a:241).

Table 4.4 Copeland-Garrett patterns identified at FgCg-01 Locus D.

Pattern	Hollow-ware	Flatware	Unidentified	TOTAL
Camilla	1	220	3	224
Fruit and Flowers	41	130	2	173
Ruins	40	0	0	40
Milkmaid	19	0	0	19
TOTAL	101	350	5	456

The 224 sherds of the “Camilla” pattern were distributed primarily across the eastern end of the site between Structures 1 and 4 (Figure 4-15). There was also a large assemblage recovered from the Feature 20 midden and in the Feature 14 midden southeast of Structure 4.

Evidence of wear marks was recorded on 42% of the sherds and consisted of cutlery marks, both knife, fork, and spoon striations, on the interior surface of the vessel as well as abrasion wear on several of the footrings. The use wear indicates the Camilla tableware was brought to Sandy Banks for staff use rather than trade goods. All designs were blue transfer-print (Photo 4-56). The “Camilla” pattern was used from ca. 1833 into the 20th century (Sussman 1979a: 83).

The 173 sherds of the “Fruit and Flowers” pattern were clustered in closer proximity to Structures 1 and 2 as well as the midden below these structures and in the midden southeast of Structure 4 (Figure 4-15). A nearly complete plate was recovered from the base of the Structure 2 cellar (Photo 4-57). It had a diameter of 108 mm and the interior base surface displayed heavy wear through cutlery striations.

Many examples (47%) were small sherds that were exfoliated on the interior, exterior, or both surfaces, while 11% of the assemblage had been heat-altered. Wear marks were observed on 20% of the sherds and consisted of concentric spoon striations on the hollow-ware vessels and cutlery striations and footring wear on the flatware.

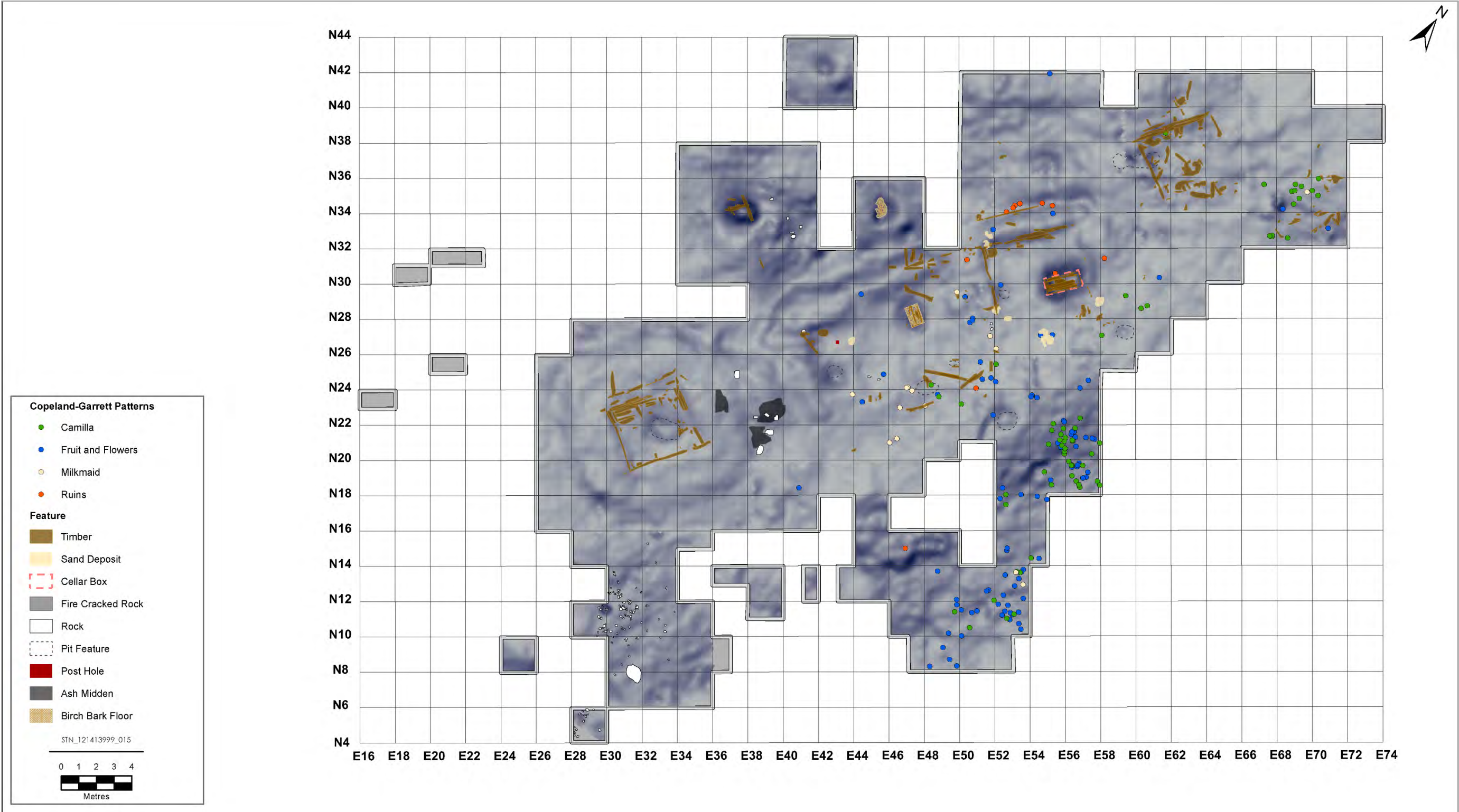


Figure 4-15 The Distribution of Copeland and Garrett patterns at FgCg-01 Locus D

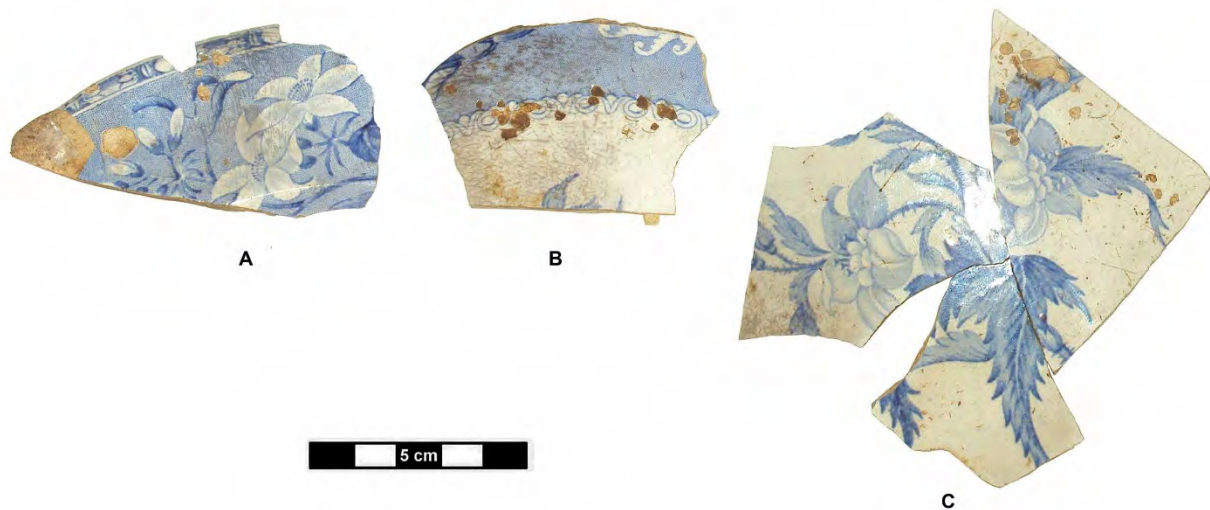


Photo 4-56 Sherds of the "Camilla" Pattern recovered from FgCg-01: Locus D



Photo 4-57 "Fruit and Flowers" Patterned Vessel Recovered from Feature 4 (the Structure 2 Cellar)

Two base sherds recovered from the midden below Structures 1 and 2 showed extensive wear on the footring base. "Fruit and Flowers" dates from ca. 1826 to the twentieth century (Sussman 1978a: 121).

The 40 sherds of the "Ruins" pattern were all small rim sherds from a hollow-ware vessel and were primarily found in association with Structure 1. One sherd was recovered from outside the southeast corner of Structure 2, while a second was found on the northwest edge of the Feature 20 midden below Structure 1. The sherds were extremely small and only a small portion of the oak leaves and acorns diagnostic of this design were present. The "Ruins" pattern dates from ca. 1848 to the twentieth century (Sussman 1978a:168).

The "Milkmaid" pattern was restricted 19 sherds from a hollow-ware cup and were found primarily in association with Structure 2 and Feature 20 below Structure 1 and 2 (Photo 4-59). Three of the sherds displayed heavy use wear in the form of circular spoon striations on the interior lower side. These marks are created when stirring the beverage held in the cup. The "Milkmaid" pattern dates from ca. 1819 to the early 1900s (Sussman 1979a:149).

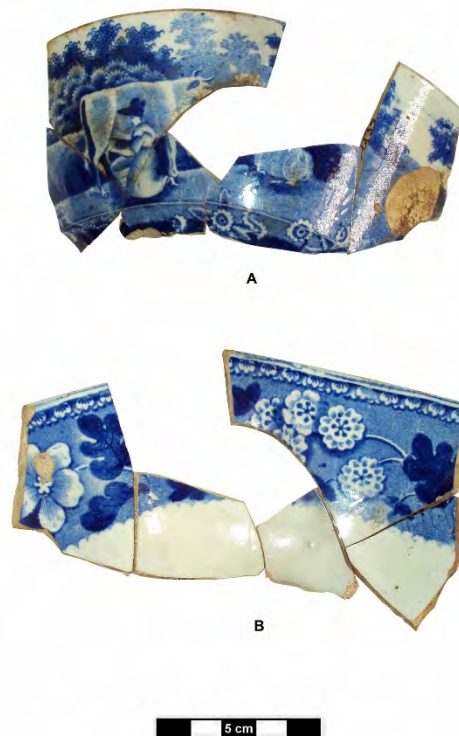


Photo 4-58 Hollow-ware rim of the "Milkmaid" Pattern Recovered from FgCg-01 Locus D

Transfer-Printed Earthenware: Unidentified Patterns

The transfer-printed pottery produced by Spode-Copeland-Garrett and subsequently by Copeland generally make up the bulk of the ceramic assemblage at HBC sites and at domestic sites where the HBC store was the main commercial establishment. However, substantial amounts of transfer-printed materials by other potters may also be recovered from HBC contexts (Sussman 1978: 3).

Six unidentified transfer-printed patterns were recovered from FgCg-01 Locus D (Figure 4-16; Photo 4-59). Five of the patterns were clustered outside Structures 1 and 2, as well as within the midden below these structures. One pattern, an olive-brown floral and landscape, was concentrated outside Structure 4.

Bird and Floral

A red Bird and Floral design was recorded on 20 hollow-ware sherds many of which had been severely burned (Photo 4-59: G-I). The design consisted of a bird perched by an arrangement of flowers, a square stand with flowers, or possibly by a square building with flowers.

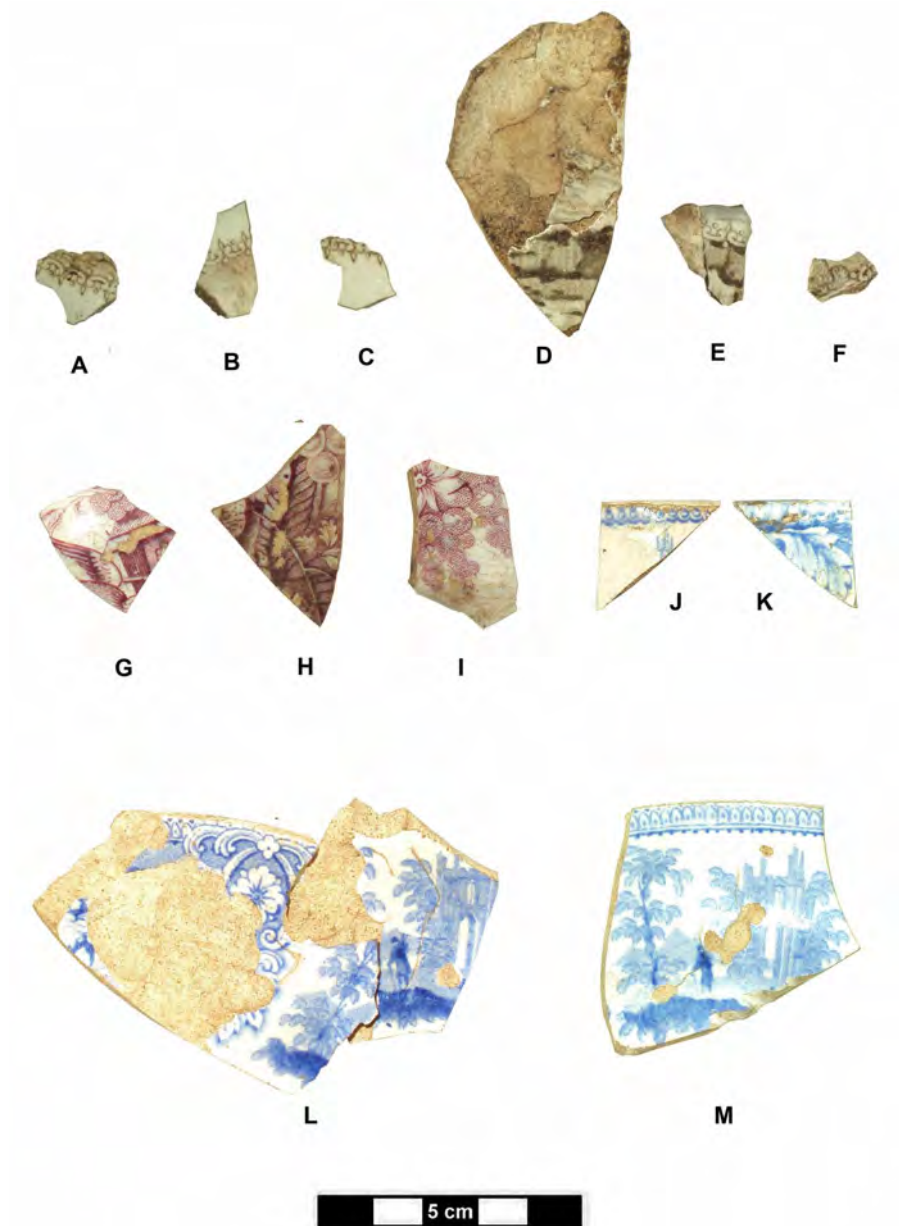


Photo 4-59 Sherds of Unidentified Transfer-Printed Patterns Recovered from FgCg-01 Locus D

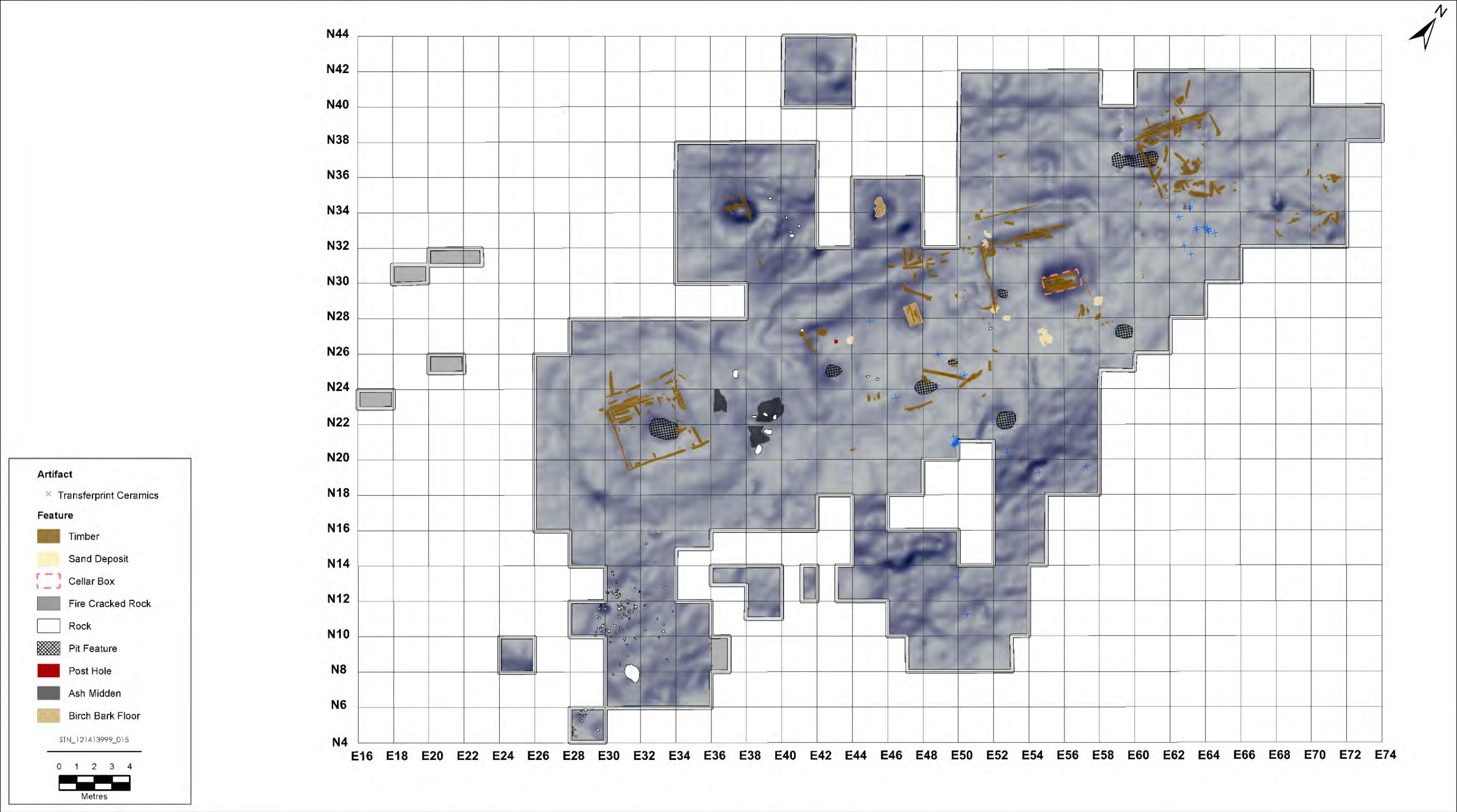


Figure 4-16 The Distribution of Unidentified Transfer-Printed Ceramics at FgCg-01 Locus D (2016 Collection Only)

Cathedral Ruin

This design consisted of a light blue transfer-print cathedral ruin with surrounding trees interspersed with floral clusters enclosed in arched banners on the interior brim of the vessel (Photo 4-59: L). All sherds were from a flatware vessel such as a plate and all were recovered from Structure 2.

FLORAL AND LANDSCAPE

This pattern consisted of an olive-brown transfer-print scene consisting of a landscape design on the brim and base (Photo 4-59: A-F). The sherds that comprise this pattern were from a flatware vessel and were extremely exfoliated thereby precluding the identification of the complete design. The pattern was primarily recovered south of Structure 4.

BLUE FLORAL DESIGN

One hollow-ware sherd with a blue transfer-print scene consisting of "tear drops" on the upper exterior rim over a floral leaf design was recovered. The interior displayed the same tear-drop design beneath the rim and was superimposed over a building spire (Photo 4-59: J).

White Earthenware: Molded Relief Patterns

There were three molded-relief patterns recovered from Sandy Banks. All were from flatware vessels such as plates. The molded-leaf patterns were clustered primarily near the south walls of Structures 1 and 2 and in the midden below these structures (Figure 4-17). Molded patterns included both plain molded and blue-edged varieties.

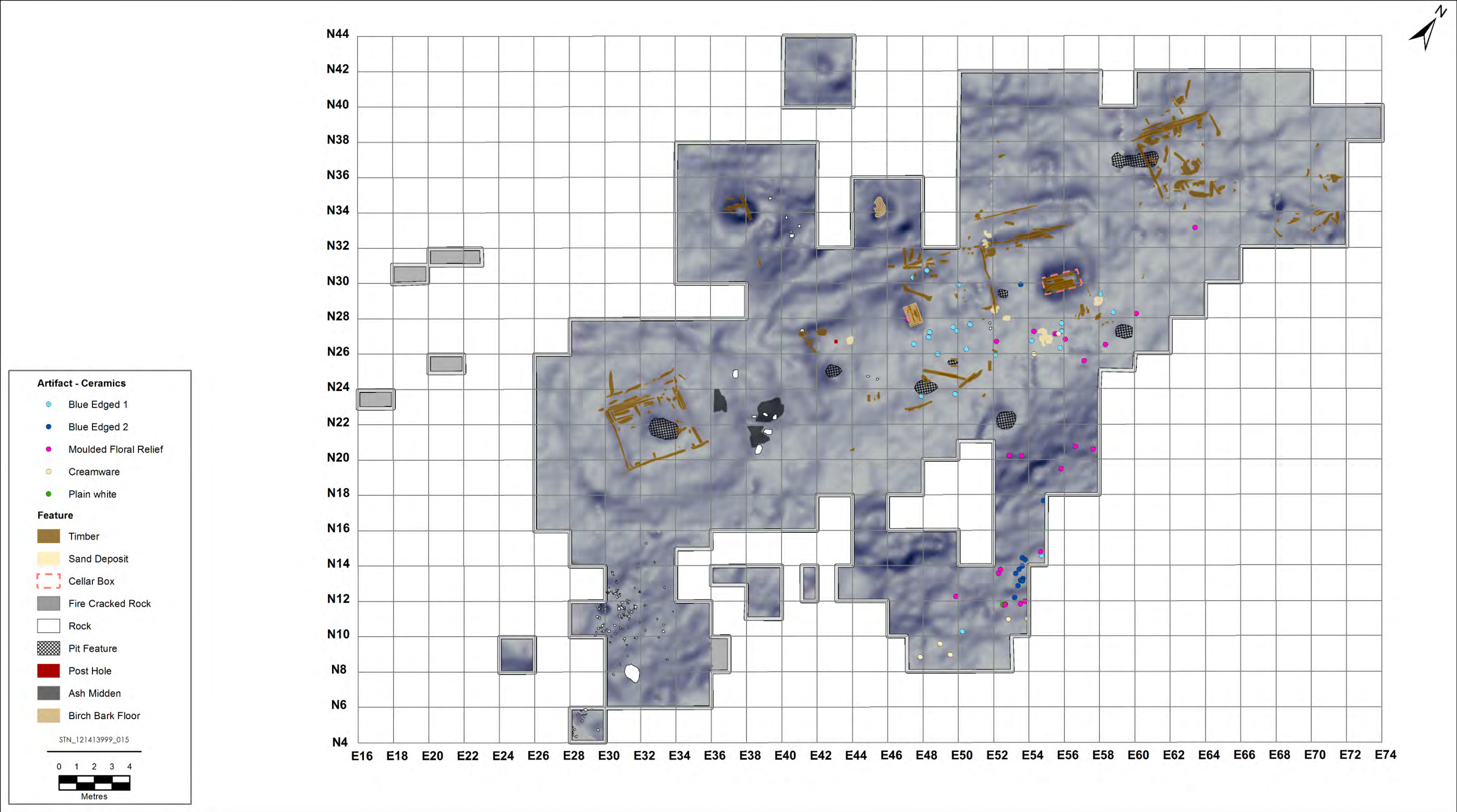


Figure 4-17 The Distribution of Molded White Earthenwares at FgCg-01 Locus D

PLAIN MOLDED

Forty-eight flatware sherds were recovered that displayed a plain floral molded design on the upper brim below the rim. The design was recorded on flatware brims that had a scalloped edge and short linear ridges of unequal length protruding on the upper portion of the brim (Photo 4-60: A).

BLUE-EDGED 1

There were two differing blue-edges patterns recovered at Sandy Banks. The 141 "Blue-Edged 1" sherds exhibited a scalloped rim with a blue-painted floral and geometric design in molded relief on the brim (Photo 4-60: B). Several of the larger sherds from the basal area displayed heavy use wear in the form of knife striations and fork and spoon gouges. The footrings on several vessels also displayed evidence of heavy wear through abrasion that indicates continued use on a rough table.

BLUE-EDGED 2

The "Blue-Edged 2" design was recorded on 21 flatware brim sherds that had a scalloped edge and short linear ridges of unequal length protruding on the upper portion of the brim (Photo 4-60: C). The upper portion of the relief around the brim had an underglaze blue paint. One of the sherds recovered from the Feature 20 midden below Structures 1 and 2 exhibited heavy cutlery wear on the interior surface.

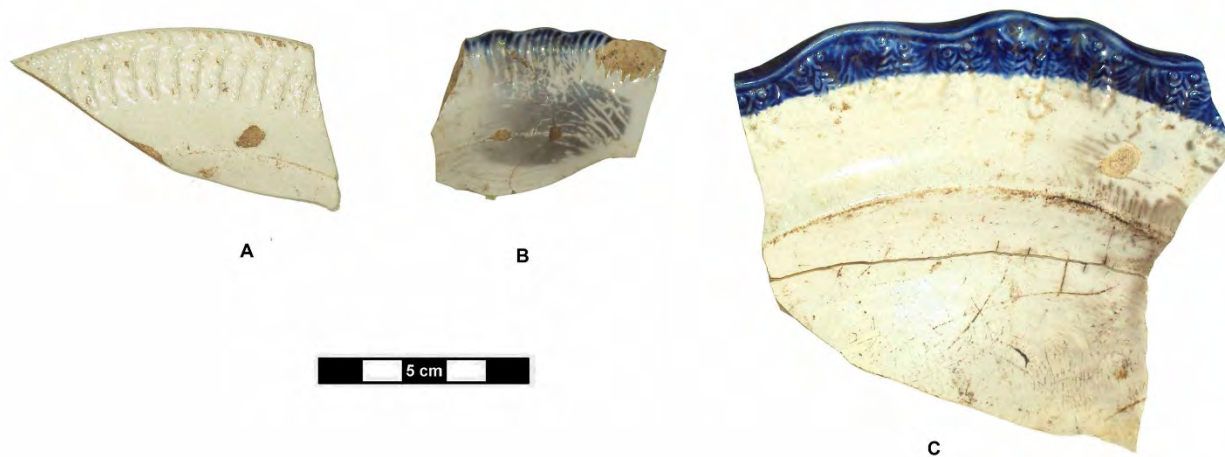


Photo 4-60 Molded-Relief White Earthenwares Recovered from FgCg-01 Locus D (A: Plain Molded; B: Blue-Edged 1; C: Blue-Edged 2)

White Earthenware: Stamped Patterns

Two stamped designs were recovered at Sandy Banks: polychrome floral and blue sponge-wear. All sherds were from hollow-ware vessels. Stamped designs were usually applied by a paint-dipped sponge that had been shaped into the desired form. The vessel was then glazed and fired (Finlayson 1972:54). These designs resemble the "Portneuf" ceramic wares that were primarily of Scottish origin and exported during the period 1840 to 1920 (Klimko and Hodges 1993:90).

Most the polychrome sherds were recovered in Feature 20 below Structures 1 and 2, with a smaller concentration in the southeast corner of Structure 2, and in the small midden southeast of Structure 4 (Figure 4-18). The sponge-wear was recovered in Feature 20 and outside the southwest corner of Structure 1.

POLYCHROME FLORAL

This design on 29 hollow-ware sherds displayed an underglaze painted black line applied beneath the rim on the exterior surface and painted blue, pink, and green floral motifs below the line on the vessel exterior (Photo 4-61: A-E). One large base sherd evidenced a similar design on the interior surface. No manufacturer's marks were recovered to indicate a relative date or country of origin. Analysis indicated that all the polychrome floral sherds were from the same vessel.

SPONGEWARE

This design consisted of light blue, sponge applied designs on the exterior of 18 hollow-ware sherds (Photo 4-61: F and G). The pattern resembled Sussman's Pattern 85 recovered from Lower Fort Garry (Sussman 1979b:114).

Stoneware

There were 1,004 stoneware sherds recovered from FgCg-01 Locus D. The majority were recovered in and around Structure 4 (Figure 4-12). The sherds were primarily storage vessel body fragments and over 90% of the assemblage displayed evidence of being burned (Photo 4-61). The distribution of these sherds at Sandy Banks was similar to the overall stoneware distribution. However, the abundance of burned sherds in Feature 20 below Structure 1 and 2 may indicate that there was some attempt to clean the site following the destruction of Structure 4. Had the entire site been abandoned when this structure was demolished, one would not expect any housekeeping activities to have occurred and materials deposited in the midden.

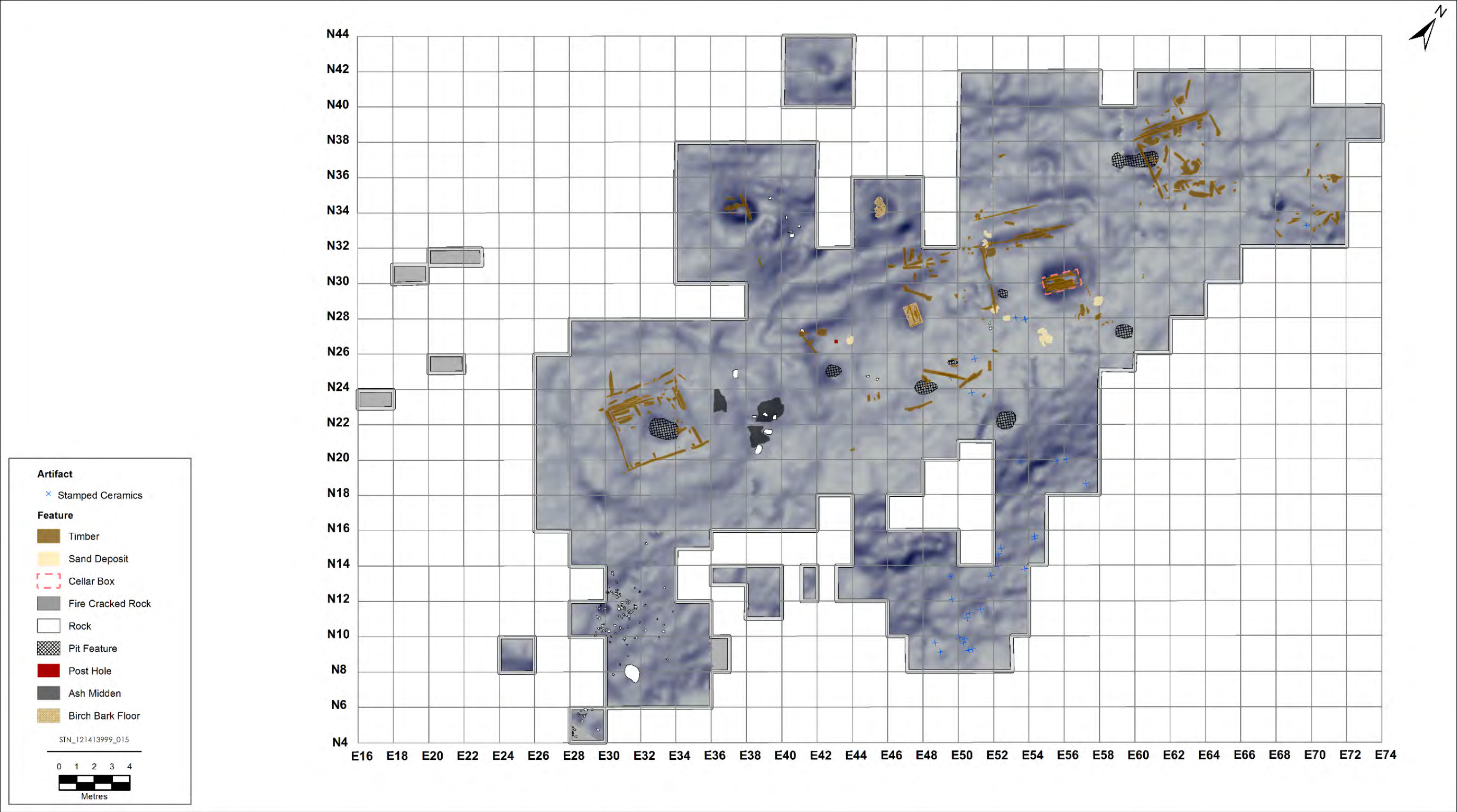


Figure 4-18 The Distribution of Hand-Painted Ceramics at FgCg-01 Locus D (2016 Collection Only)

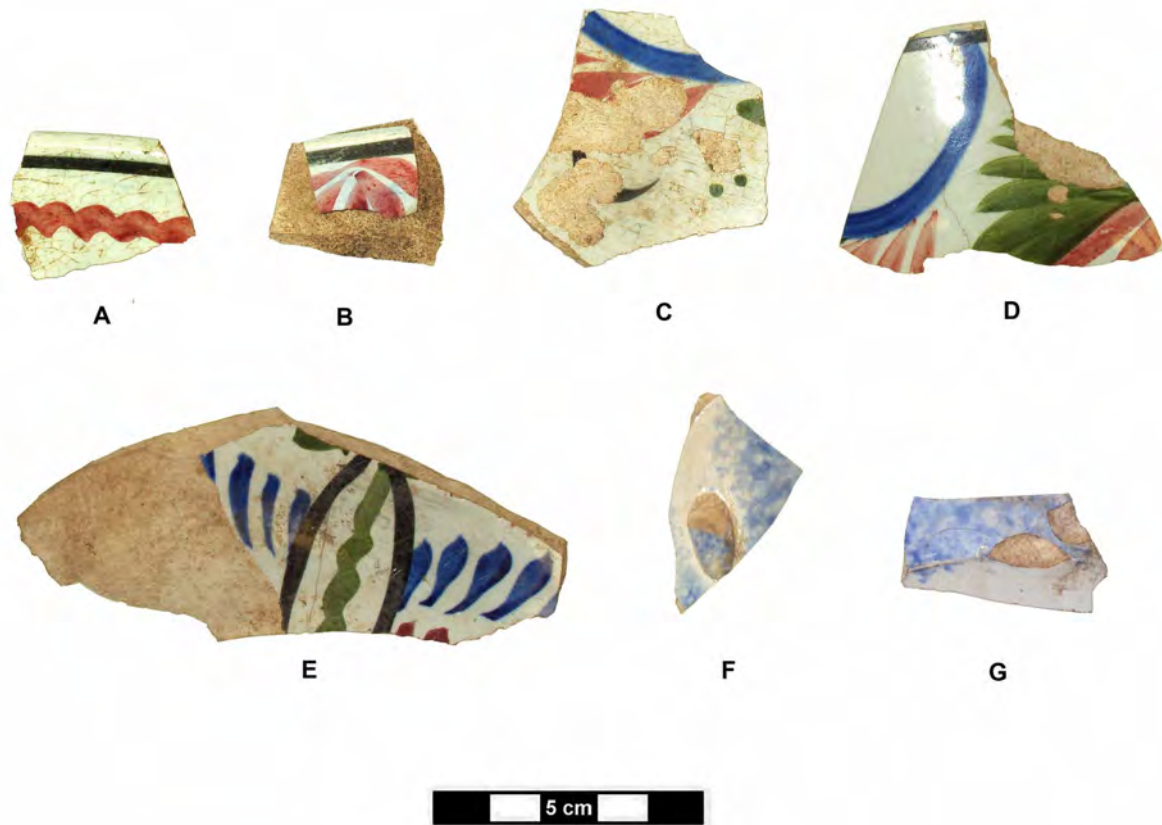


Photo 4-61 Stamped ceramics recovered from FgCg-01 Locus D (A – E: Hand-Painted Polychrome; F and G: Spongeware)



Photo 4-62 Stoneware Sherds Recovered from FgCg-01 Locus D

Dateable Ceramics

Dateable ceramics consist of the identified Copeland and Garrett patterns, and two additional manufacturer's marks. There were three pottery manufacturers identified in the Sandy Banks ceramic assemblage. The most frequently recovered was the "COPELAND & GARRETT LATE SPODE" mark dateable to ca. 1833-1847 (Photo 4-63: A). This mark was found in association with the "Camilla" and "Fruit and Flowers" patterns, as well as on base sherds that either displayed no pattern on the interior surface or that had exfoliated interior surfaces.

The third manufacturer was identified by flatware bases with a stamped "DILLWYN SWANSEA" and these relate to the Dillwyn family pottery in Swansea, Wales (Photo 4-63: B and C). Impressed marks of this type date from ca. 1824-1850 (Godden 1962:605).

One plain flatware base displayed a raised "-IN POR-" and a portion of an anchor (Photo 4-63: D). This mark relates to W. Davenport who operated from ca. 1793 to 1887 (Godden 1964:189). The anchor mark was used until ca. 1860.

Table 4.5 lists the dateable ceramics recovered from FgCg-01 Locus D. Events 1 2 and 3 accounted for over 42% of the dateable ceramic assemblage. Events 17 and 18, a burn layer and a loose beach sand lens respectively, in Feature 20, contained a concentration of "Camilla" and "Fruit and Flowers" sherds. Small concentrations of "Fruit and Flowers" were recovered in Event 23, a lens of redeposited subsoil in the north portion of Feature 20 in the upper slope portion of the midden and in the Structure 2 cellar.

The Dillwyn sherds were concentrated in Event 74, a buried sod layer below the south wall berm in Structure 2.



Photo 4-63 Trademarks Recovered from FgCg-01 Locus D (A: Copeland and Garrett Late Spode; B-C: Dillwyn Swansea; D: Davenport)

Table 4.5 Identified Ceramic Patterns by Event

Event	Pattern (By Sherd Number)							
	Camilla	Fruit and Flowers	Milkmaid	Ruins	Trademark Only	Davenport	Dillwyn	Total
1	129	10	2	17	3	0	0	161
2	30	16	8	2	0	0	0	56
3	9	43	0	0	0	0	0	52
4	2	6	0	0	0	0	0	8
9	0	1	0	0	0	0	0	1
11	3	3	0	1	0	0	0	7
14	0	4	0	0	0	0	0	4
15	0	0	1	0	0	0	0	1
16	1	0	0	0	0	0	0	1
17	7	25	2	0	0	0	0	34
18	2	10	0	0	0	0	0	12
21	5	4	1	0	0	0	0	10
22	18	9	0	0	2	2	0	29
23	5	15	0	0	0	0	0	20
29	0	1	0	1	0	0	0	2
30	0	1	0	0	0	0	0	1
34	3	0	0	0	0	0	0	3
41	10	0	0	0	0	0	0	10
53	0	1	0	0	0	0	0	1
56	0	2	0	0	0	0	0	2
62	0	2	0	0	0	0	0	2
65	0	1	4	4	0	0	0	9
74	0	4	0	0	0	0	8	4
77	0	0	1	1	0	0	0	2
95	0	1	0	0	0	0	0	1
109	0	13	0	0	0	0	0	13
110	0	1	0	0	0	0	0	1
TOTAL	224	173	19	40	5	2	8	644

4.7.2.2 Container Glass

Container glass consisted of square medicine, square and concave containers, and thin-walled leaded tumbler or lantern-chimney glass.

Medicine Bottle Glass

There were 44 medicine bottle fragments recovered from Sandy Banks. Many of the fragments were recovered in and just outside Structures 1 and 2 (Figure 4-19). Seventeen fragments displayed embossed lettering that were related either to Essence of Peppermint or Turlington's Balsam of Life (Photo 4-64). Archaeological evidence suggests that Essence of Peppermint bottles date from the late 18th century to the first half of the 19th century (Jones 1981:1). An invoice for goods forwarded to Labrador for the Esquimaux District in July 1870 lists five dozen Essence of Peppermint and four dozen painkiller (H.B.C.A. B.153/1: 19). No temporally diagnostic features were observable on the lettered fragments to determine a date of manufacture.

One nearly complete Turlington's Balsam of Life bottle was recovered in Event 16 of Feature 20. The inscription visible consisted of "-FOR HIS INVENTED BALSAM OF LIFE." Turlington patented his medicine in 1744 and eventually adopted the diagnostic pear-shaped container to prevent counterfeiters (Jones 1981:3).

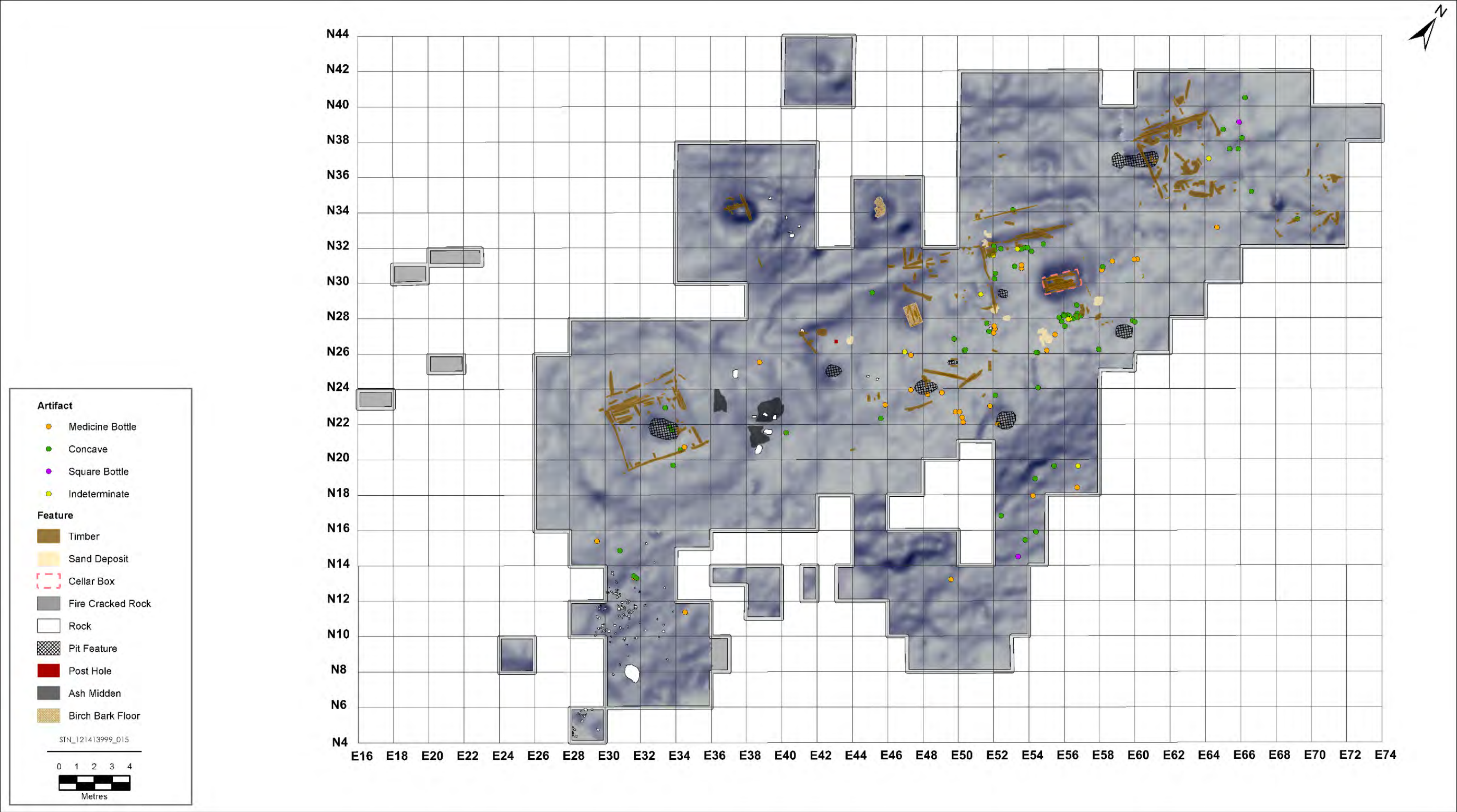


Figure 4-19 Distribution of Square Medicine, and Square and Concave Container Glass at FgCg-01 Locus D (2016 Collection Only)



Photo 4-64 Medicine Bottle Glass Recovered at FgCG-01 Locus D

Container Glass

There were 241 square and concave container fragments recovered from Sandy Banks. The container glass distribution was unlike that exhibited by other artifact categories in that Structures 1 and 3 had many fragments, while Structure 2 had fewer fragments (Figure 4-19). The midden below Structure 2, Feature 20, also had a large concentration of glassware as did an area on the east side of Structure 4.

Sixteen fragments displayed embossed lettering including a nearly complete square bottle with the embossed letters "C. H." over "& CO" over LONDON ENGLAND" (Photo 4-65). The bottle was manufactured in a two-piece mold with a hand-tooled string finish. The base was rectangular with concave chamfers. The manufacturer could not be traced however the bottle resembled a case gin vessel but was aqua coloured rather than the standard dark green. Vessel opening was approximately 28.36 mm and the base dimensions were 89.0 mm by 58.54 mm. Method of manufacture suggested a date of ca. 1821-1880 (Jones 1980:44). There were 59 "CH" bottle fragments recovered. The largest percentage was found in Event 2 (Figure 4-19).

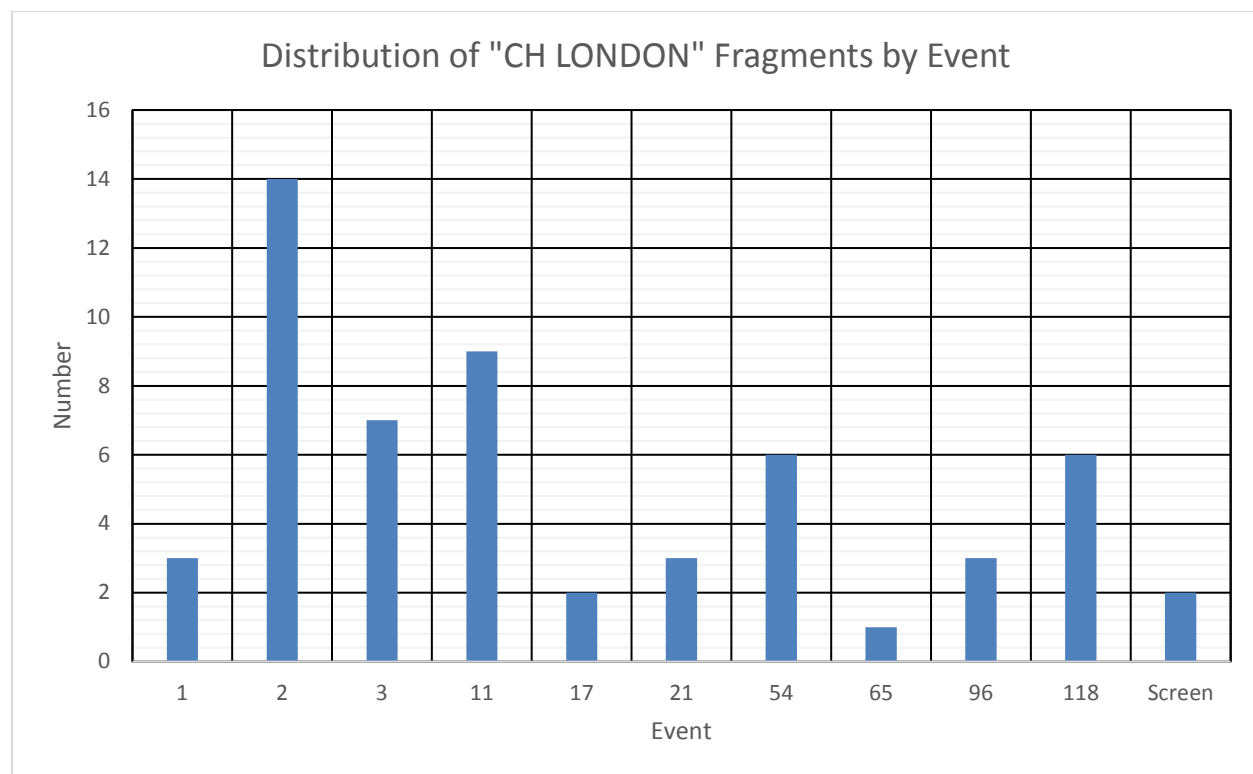


Figure 4-20 The Distribution of 'CH LONDON' Bottle Fragments at FgCg-01 Locus D by Event



Photo 4-65 Square container glass with "C H" "LONDON ENGLAND" found at FgCg-01 Locus D (a – side panel; b – base; c – applied finish)

One olive green liquor bottle body fragment was recovered from Event 3 just outside of Structure 1. This was the only fragment of olive green container glass recovered from FgCg-01 Locus D.

Three complete container glass applied finishes were recovered from Sandy Banks. Two were string lips of a concave container such as a preserve jar, while the third was a squared finish from an unknown vessel type that was spun molded (Photo 4-66).

Tumblers

There were 175 thin concave fragments identified as tumbler glass. Initially the fragments were considered to be either chimney lantern or tumbler glass. However, no lantern mechanisms, such as the wick advancer, or lantern base fragments were recovered from Sandy Banks. Therefore, it was concluded that the thin body fragments were from tumblers.

Most of tumblers were recovered outside the southeast corner of Structure 2. A small concentration was also found in Feature 20 and in the privy, Feature 6 (Figure 4-21). Event 1, 2 and 3 comprised over 58% of the tumbler assemblage. The more complete objects measured approximately 80.0 mm high with a base that varied in diameter from 60.0 to 80.0 mm. The tumbler bases were extremely thick and the vessel wall thickness gradually thinned from the base to the rim and then thickened slightly at the rim (Photo 4-67). Wall thickness ranged from approximately 0.90 to 2.11 mm, while rim thickness ranged from 1.16 to 2.16 mm.

The complete bases exhibited a pontil mark indicating that the vessels were blown, while horizontal lines in the glass matrix further suggested a turn or past mold. Turn molding was

commonly used to manufacture tumblers in the 19th century and is still currently used today (Jones 1980: 31).

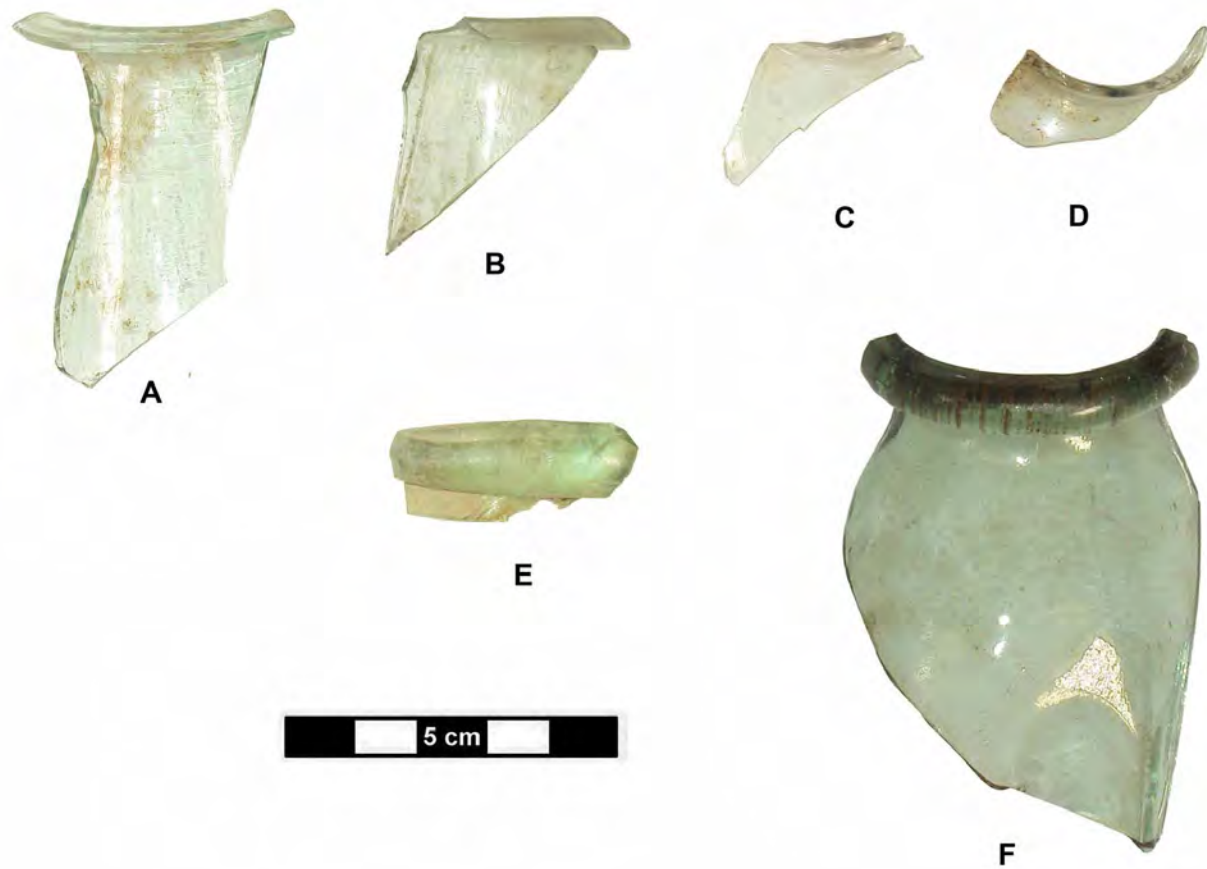


Photo 4-66 Container Glass Finishes recovered from FgCg-01 Locus D (E and F: string; C: square)

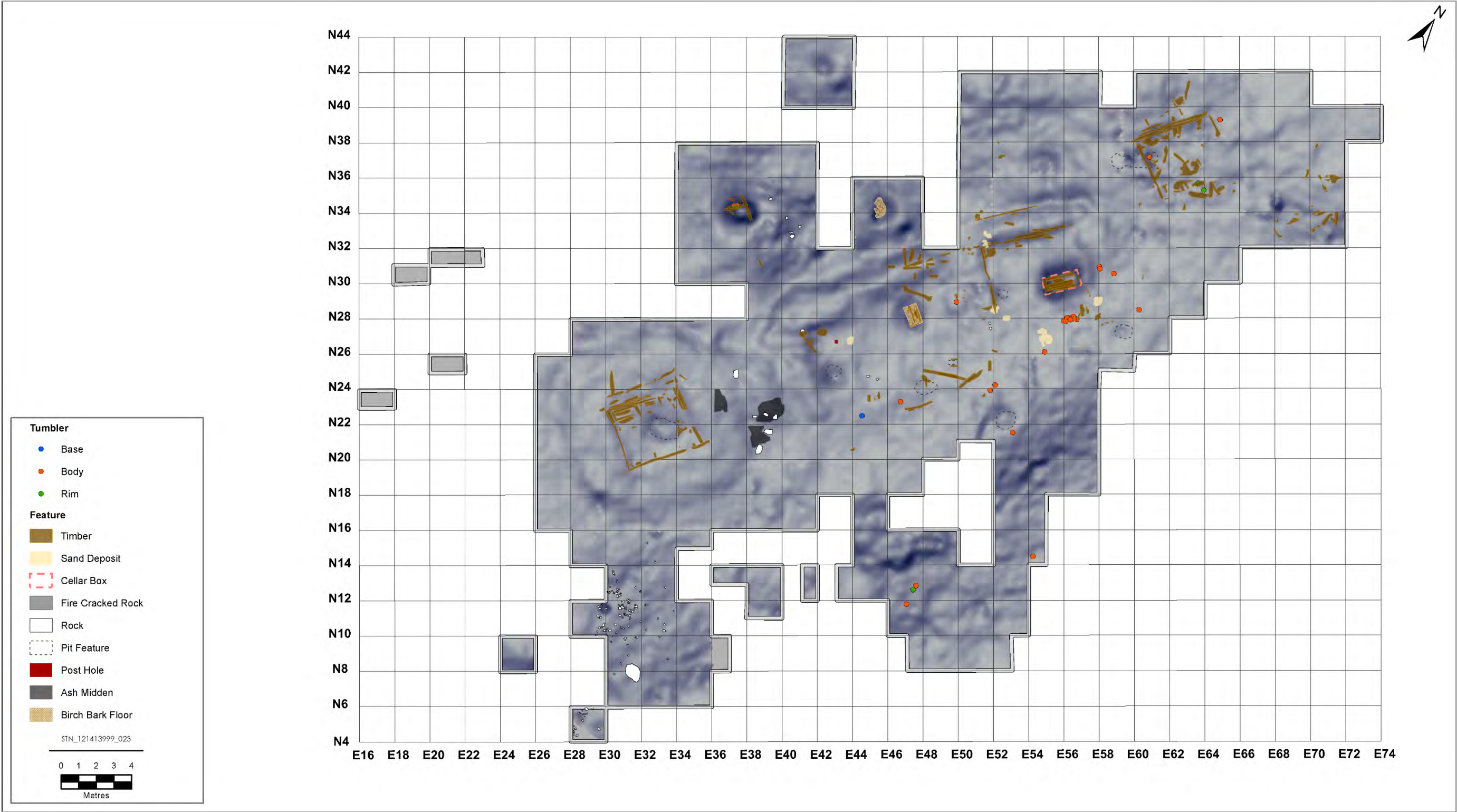


Figure 4-21 The Distribution of Tumbler Glass at FgCg-01 Locus D (2016 Collection Only)

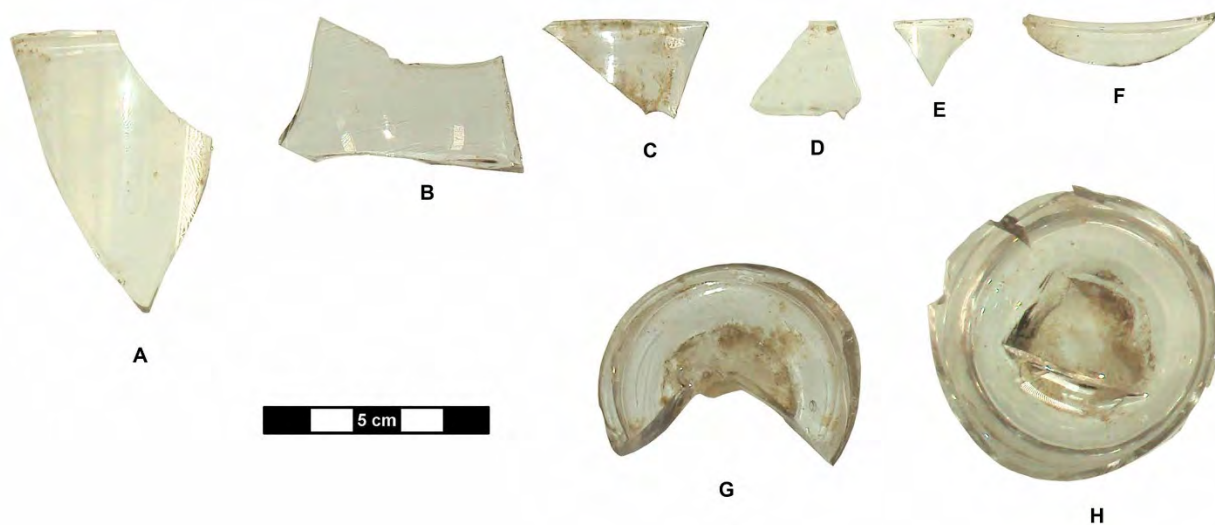


Photo 4-67 Tumbler Glass Recovered at FgCg-01 Locus D (A-F: Rims; G-H: Bases with Pontil Marks)

4.7.2.3 Flatware

The collection of flatware recovered from FgCg-01 Locus D is small and relatively fragmented. In all, seven flatware pieces, representing one knife, two spoons and two forks, were recovered from FgCg-01 in 2016 (Photo 4-68). The knife blade fragment was recovered near the base of the southern terrace slope. Two fragments of one spoon were recovered along the eastern sill of Structure 4, while the bowl of the second spoon was recovered from the southern slope and the handle was recovered just south of Structure 2. Both forks (Photo 4-68: C and D-E) were also recovered south of Structure 2. Most of the flatware pieces show evidence of heat exposure from burning.

The knife fragment is a blade end, measuring 33.79 mm in length and 21.98 mm in width, and appears to be from a table knife with a concave back and straight edge.

The assemblage of spoon fragments consists of four parts, representing two table spoons, both of which are broken at the handle join with no reinforcing. The first spoon (Photo 4-68: A) appears to be made of pewter and has a shallow ovate-shaped bowl and spatulate-shaped handle with a slightly up-turned stem end. The bowl measures 81.71 mm long, 47.83 mm wide and approximately 2.39 mm thick. The handle measures 152.64 mm long, 22.33 mm wide and approximately 3.35 mm thick. Neither fragment exhibits any discernable decoration or maker's mark.



Photo 4-68 Flatware Recovered from FgCg-01 Locus D

The second spoon (Photo 4-68: B) also appears to be made of pewter and is a shallow ovate-shaped bowl and spatulate-shaped handle with a slightly up-turned stem end. The bowl measures 78.21 mm long, 43.12 mm wide and approximately 3.58 mm thick. The handle measures 121.48 mm long, 22.10 mm wide and approximately 2.78 mm thick. Neither fragment exhibits any discernable decoration or maker's mark.

The assemblage of fork fragments consists of two artifacts, representing two forks, both of which are incomplete. The first fork (Photo 4-68: D-E) appears to have been originally a three-tined composite fork, of which the middle tine is missing and the two outer tines are broken. The tines

are slightly curved with curved shoulders, a balustroid-shaped shank, and a rat-tail tang. The handle is composed of solid bone and does not exhibit any discernable decoration. The fork measures 139.82 mm long, 17.9 mm wide and approximately 14.88 mm thick.

The second fork (Photo 4-68: C) is a three-tined composite fork, of which the middle tine is broken at the tip. The tines are slightly curved with curved shoulders, a balustroid-shaped shank, and a rat-tail tang. The handle is composed of solid bone and is decorated with cross-hatching and incised lines running the length of the handle. The fork measures 205.42 mm long, 21.7 mm wide and approximately 14.48 mm thick.

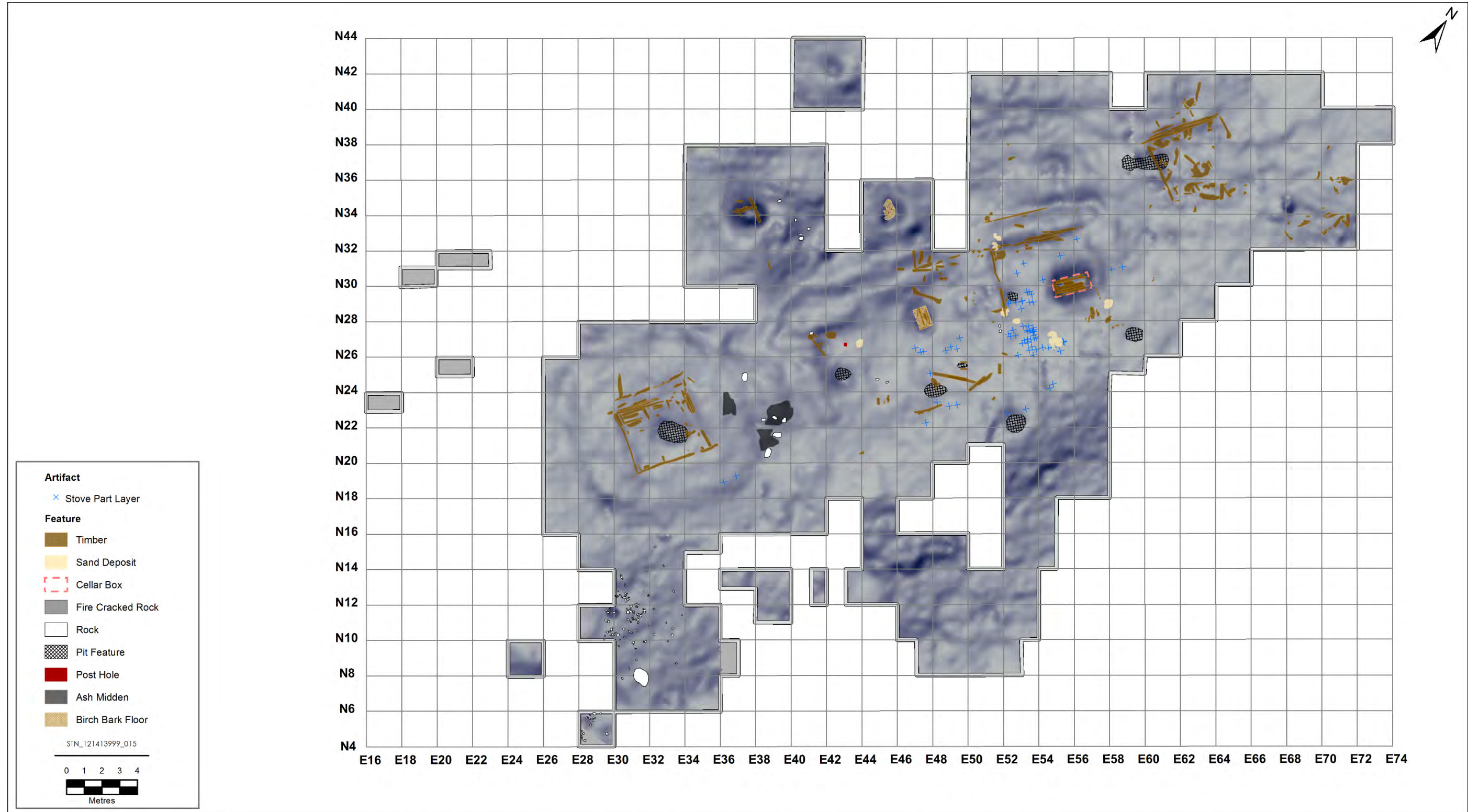
4.7.2.4 Kitchenwares

A single cast iron kettle spout, measuring approximately 145.16 mm in length and 33.53 mm in width, was recovered from the south terrace slope. In addition, excavation yielded the fragmented base of the cast-iron kettle recovered from FgCg-04 (see Section 5.0 below). Another cross-mend between FgCg-01 Locus D and FgCg-04 was the cast-iron pot lid from the latter site, a small fragment of which was recovered from FgCg-01 Locus D.

4.7.2.5 Stove Parts

A total of 31 stove fragments were recovered from FgCg-01 Locus D in 2016, many of which represent parts of a single "six plate" Carron stove. A "six plate" stove is essentially a rectangular box with six cast iron plates: two flat plates serve as sides, two as ends, a fifth as a top and a sixth as a base with cast iron legs attached. All six plates were held together by stove rods, which fastened on the outside between the top and bottom plates. The front plate had a fuel door and the stove funnel was likely made of rolled sheet iron that was riveted into a cylinder and used as a chimney (Moat 1979:1).

Additional pieces (107 fragments) of the stove had previously been recovered from Locus D during the 2015 excavation. Several of the cast iron plates contained a maker's mark indicating the stove was fabricated by the Carron Company, established along the Carron River near Falkirk, Scotland in 1760 (Bremner 1969:41). "Six plate" stoves became common during the latter half of the 18th century and Carron stoves played an important role in heating the 19th century Hudson's Bay Company establishments in North America (Edgerton 1971: 26; Moat 1979: 3). In 2015, shattered stove parts were found scattered within Structure 1 and concentrated in one dense scatter in front of Structure 1. Many stove fragments recovered in 2016 were also concentrated within Structure 1 or in its immediate vicinity. One fragment was found within Structure 4.



Of the 31 stove fragments, 19 display decorative patterns, many of which appear to represent cast-iron end or side plates (Photo 4-69). The decoration includes rouletting and a floral motif typically found on Carron stoves of this period. One of these fragments displays the repair of a broken end plate by bolting a flat iron strip to the interior of two fragments to hold them together. This appears to have been a common method of repairing broken or cracked iron plates as similar repairs have been noted on identical stoves at other 19th century HBC Posts, including York Factory in Manitoba (Moat 1979: 2-3). Other stove pieces recovered in 2016 include small, unidentified fragments, a stove pipe collar, and a possible modified door latch. All stove fragments show evidence of exposure to extreme heat and the stove appears to have been shattered or smashed at some point in the past.



Photo 4-69 Cast-Iron Stove Parts Recovered from FgCg-01 Locus D

4.7.2.6 Tin Cans

In addition to sheet tin fragments interpreted as the remains of stovepipes and flashing (see Section 4.7.3.5), 12 fragments may potentially be tin cans brought to the site as food containers. Five of these were recovered from Event 1 (indeed, resting on the surface) and are believed to represent discard from the 20th-century tilt at FgCg-01 Locus D. The remainder may possibly date to the period of HBC occupation at the site.

4.7.3 Architectural and Furniture Group

The Architectural and Furniture Group, including window glass, nails, clay daub, tin sheet, and door and furniture hardware, constitutes the largest functional class of artifacts recovered from FgCg-01 Locus D; the 17,077 pieces recovered in 2016 represent 50.7% of the entire 2016 collection.

4.7.3.1 Windowpane Glass

A total of 7465 pieces (some 5.6 Kg) of windowpane glass were recovered during excavations at FgCg-01 in 2016. Of the un-melted pieces, 10.2% are clear, the remainder cloudy or aqua-tinted. Some of these sherds exhibit factory-cut edges or corners (e.g. Photo 4-70: A-B).

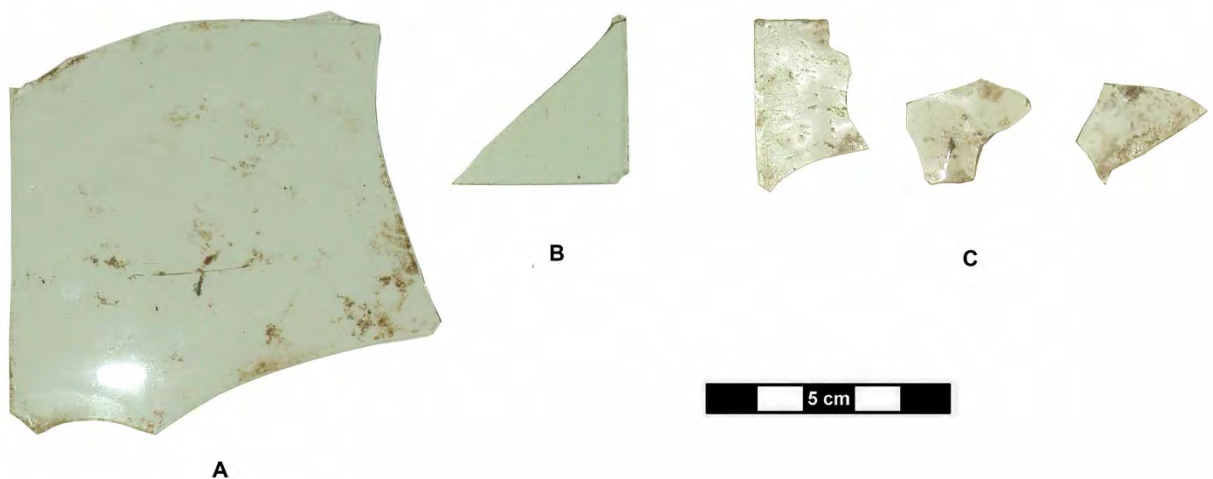


Photo 4-70 Examples of Window Glass Sherds Recovered from FgCg-01 Locus D

It is likely that the window glass purchased and installed at Sandy Banks was produced in England, and may have consisted of 8½" x 7½" panes (see Castillo 2012). Although window glass was expensive in the early 19th century, its presence at a remote outpost like Sandy Banks is not entirely unexpected, as the HBC discouraged the use of candles and lanterns for fear of fire (Donaldson 1983).

A significant portion of the window glass collection (1,098 pieces, or 14.7%) consists of distorted and discoloured pieces of flat glass that have clearly been melted and burnt (e.g. Photo 4-70: C); some of the melted windowpane includes multiple sherds that have melted and fused together. We may note that an additional 356 pieces of burned and melted glass, including various lumps, globules, and strings, may in some cases derive from window glass, but the degree of melting makes identification impossible.

The distribution of un-melted window glass sherds across the site is indicated in Figure 4-23. Broadly-speaking, windowpane glass is distributed primarily along the southern berms of all four principal structures, and secondarily, along the terrace slopes to the south of these structures. Glass fragments are largely lacking between Structures 1 and 4, and between Structures 2 and 3, as well as on the backslopes north of these structures. The densest concentrations are found along the southern berm of Structure 1, whereas the remaining structures yielded considerably less glass. Little glass was found within the interior perimeters of Structures 1 and 2, while both Structures 3 and 4 did yield noticeable interior scatters of glass fragments. The distribution of sherds suggests that all four structures had windows, and that in all four buildings these windows likely faced south. Structure 1 yielded a particularly high density of window glass, and the presence of clusters at the southern end of the east berm and the southern end of the west berm suggests that this building may also have had east- and west-facing windows.

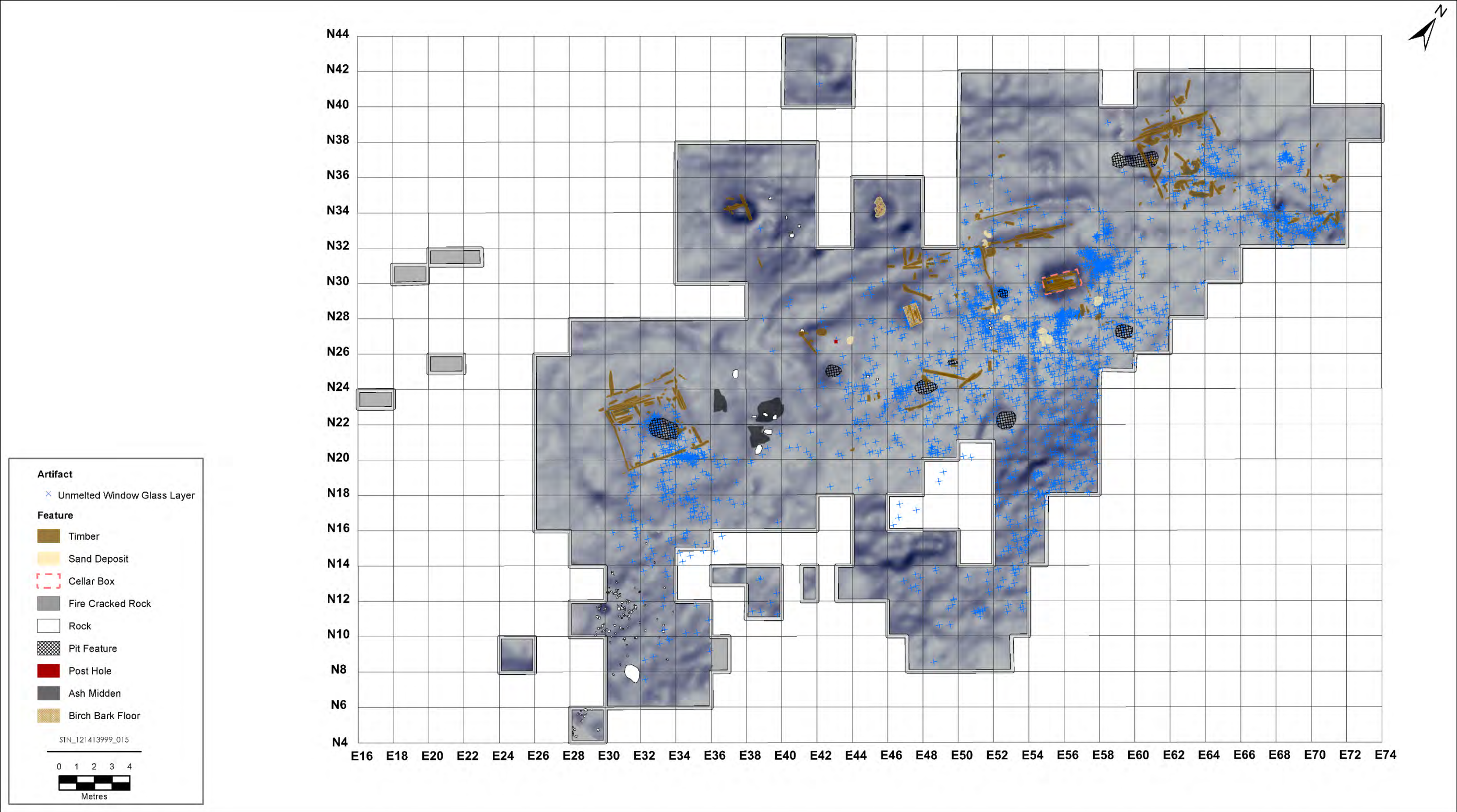


Figure 4-23 The Distribution of Un-Melted Window Glass Sherds at FgCg-01 Locus D (2015 and 2016 Collections Combined)

The distribution of burned and melted window glass sherds is illustrated in Figure 4-24. Melted window glass is at least sparsely distributed across the site, but the most notable concentrations are along the southern berm and at the southeastern and southwestern corners of Structure 1. It should be noted that much of the melted window glass in Structure 1 was found incorporated within the Structure 1 berm (Event 29), not resting atop the berm, and therefore appears to derive from a burning event pre-dating the final abandonment of Structure 1. Another lesser concentration of melted glass was recovered from the south berm and southern interior of Structure 3 (Events 104, 108 and 118).

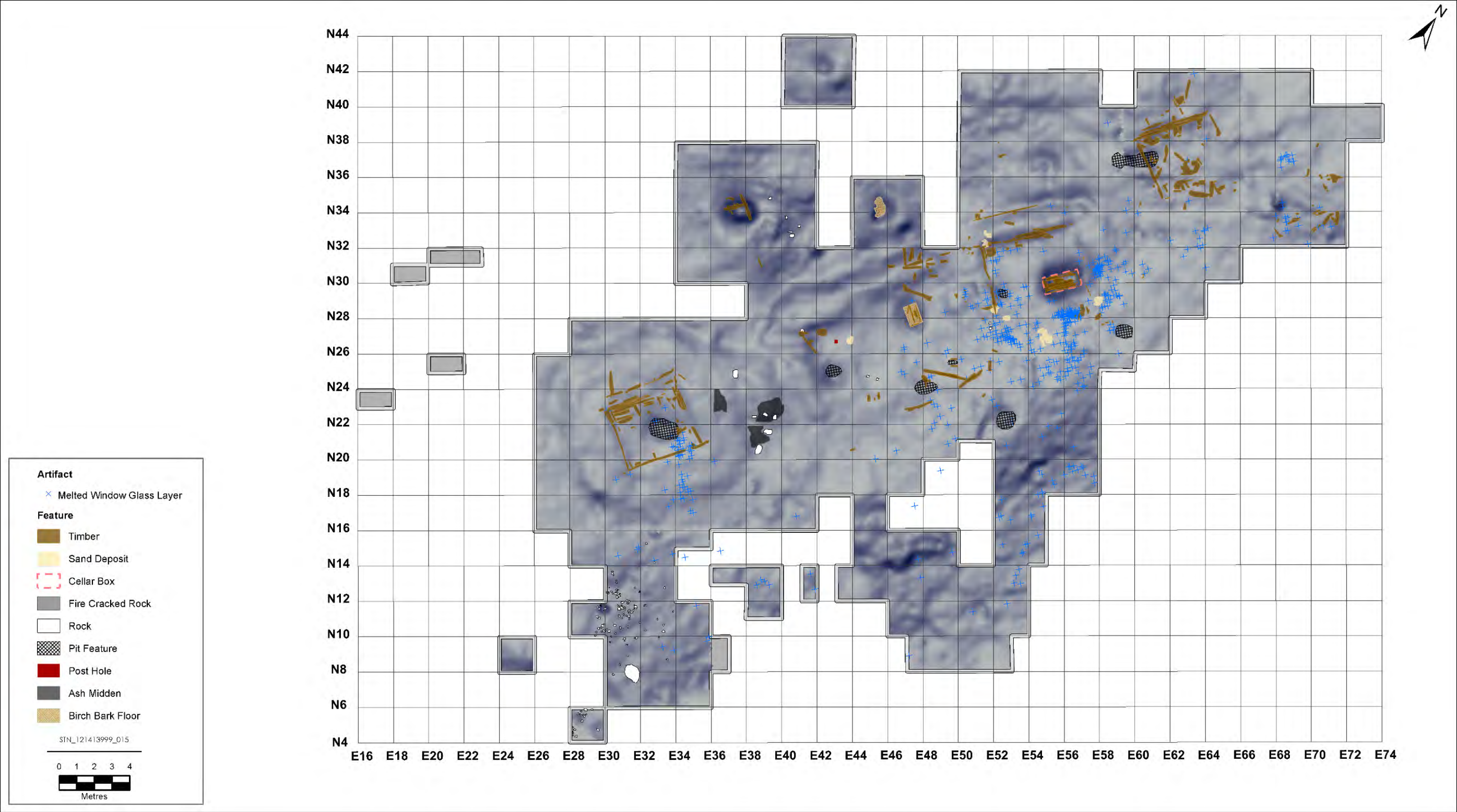


Figure 4-24 The Distribution of Melted Window Glass Sherds at FgCg-01Locus D (2015 and 2016 Collections Combined)

The predominant type of window glass in use during the first half of the 19th century was “crown glass,” manufactured by blowing a glass globe and spinning it to form a thin, flat disc. By 1850, crown glass was increasingly replaced by “cylinder glass,” which was thicker, and became progressively thicker through the remainder of the century (see Roenke 1978).

Given the inferred initial construction date of the Sandy Banks HBC outpost, it may be anticipated that most of the windowpanes installed in the structures there would be of crown glass (for comparison, see Castillo 2012). The mean thickness of the window glass sherds recovered from the site is consistent with an assemblage consisting primarily of this earlier crown glass.

Based on the observation that early 19th century windowpane glass is significantly thinner than later 19th century window glass, a variety of approaches have been developed to date historic archaeological sites or structures by analyzing the thickness of window glass sherds. These include application of linear regression formulas to mean glass thickness measurements (e.g. Ball 1982; Moir 1983), as well as “modal” methods that compile modal values into histograms (e.g. Roenke 1978; for a review and comparison of methods, see Weiland 2009). All methods have restrictions and caveats, including diverse sampling and measurement requirements, and not all methods are applicable to the thinnest sherds (those less than 1.15 mm in thickness). At present, these methods do not yield consistent results, in part because there appears to be regional variation across North America in the rates at which window glass thickness changes through time (Weiland 2009).

Sandy Banks yielded a large sample of window glass pertaining to an occupation of approximately 35 years, and it is potentially appropriate for window glass thickness analysis. Although a comprehensive analysis is beyond the scope of this report, glass thickness data were compiled for a sample of 1,898 un-melted flat glass sherds from a variety of different contexts (Table 4.6; Figure 4-25). These were employed to derive glass dates using three methods: two linear regression formulae based on mean thickness (Ball 1982; Moir 1983) and one modal method (Roenke 1978). It should be noted that no formulae specifically applicable to northeastern North America are available; Ball’s method is based on data from the Ohio Valley, Moir’s on sites from the southern and northeastern U.S., and Roenke’s on sites from the Pacific Northwest. Roenke’s dataset, however, did include sites with HBC contexts, and it may potentially be the most applicable to the HBC post at Sandy Banks.

The results are certainly not consistent. The two linear regressions (following Ball 1982, Moir 1983) suggest that the panes at FgCg-01 significantly pre-date the inferred period of occupation, in some contexts by many decades (Table 4.6). Although it is plausible that remote outposts might be supplied with relatively “old” window glass from stores (see Castillo 2012), these dates seem implausibly old; only three contexts (Event 74 beneath Structure 2, Event 96 in Structure 3 and Event 98 in Structure 2) yield dates within or close to the documented period of HBC occupation at the site. In both cases, the dating appears to be weighted by high frequencies of flat glass that appear to be unusually thin for 19th century window glass.

Table 4.6 Glass Thickness Measurements and Dating at FgCg-01Locus D and FgCg-04

Site	Event	Context	n=	μ (mean thickness)	σ (standard deviation)	(Moir 1987)	(Ball 1982)	(Roenke 1978)
FgCg-01	Event 1	Duff/mulch, Sitewide	155	0.825225806	0.063146248	1782 \pm 5	1794	
	Event 108	Structure 3 Interior	28	0.907857143	0.004178554	1789 \pm 2	1797	
	Event 11	Terrace and Slope in front of Structure 2	29	0.918965517	0.00309934	1790 \pm 0	1797	
	Event 118	Structure 3 Interior Cellar	29	0.936206897	0.00493804	1791 \pm 0	1798	
	Event 17	Burn Layer, Terrace in front of Structure 1	34	0.950588235	0.002388326	1792 \pm 0	1798	
	Event 2	Below Event 1, Sitewide	393	1.010687023	0.028922597	1798 \pm 2	1800	
	Event 21	Mottled Deposit, Sitewide	140	1.075071429	0.010559624	1803 \pm 1	1803	
	Event 22	Mottled Deposit, terrace in front of Structures 1 and 2	86	1.104302326	0.006604935	1806 \pm 1	1804	
	All Events	Sitewide	1898	1.158747357	0.246855991	1810 \pm 21	1806	1820-1845
	Event 29	Structure 1 Berm	211	1.162037915	0.04517815	1811 \pm 4	1806	1820-1845
	Events 3/9	Subsoil Sitewide	131	1.258854962	0.108894029	1819 \pm 9	1809	1820-1845
	Event 50	Structure 4 Interior	57	1.290175439	0.007674454	1821 \pm 1	1810	1820-1845
	Event 65	Structure 2 Berm	67	1.372537313	0.015891992	1828 \pm 1	1813	1830-1845
	Event 74	buried sod beneath Structure 2 Berm (Event 65)	51	1.453921569	0.016742572	1835 \pm 1	1816	1830-1845
	Event 96	Top of Structure 3 Berm	64	1.60671875	0.042912043	1848 \pm 4	1821	1845-1855
	Event 98	Structure 2 Cellar Fill	21	1.718095238	0.024823184	1857 \pm 2	1825	1845-1855
FgCg-04	All Events	Sitewide	160	1.145375	0.43894225	1809 \pm 37	1805	1830-1845

The modal method (Roenke 1978) yields rather different results (Table 4.3). In this case, the high frequencies of very thin glass are simply not amenable to dating by this method. However, the sitewide average does date either early in, or within 20 years of, the documented period of occupation. Again, Event 96 in Structure 3 and Event 98 in Structure 2 appear to date later than most other contexts. The histogram (Figure 4-25) indicates a conspicuous peak of glass thickness between 0.890 and 1.270 mm, with a slightly extended tail of greater thickness.

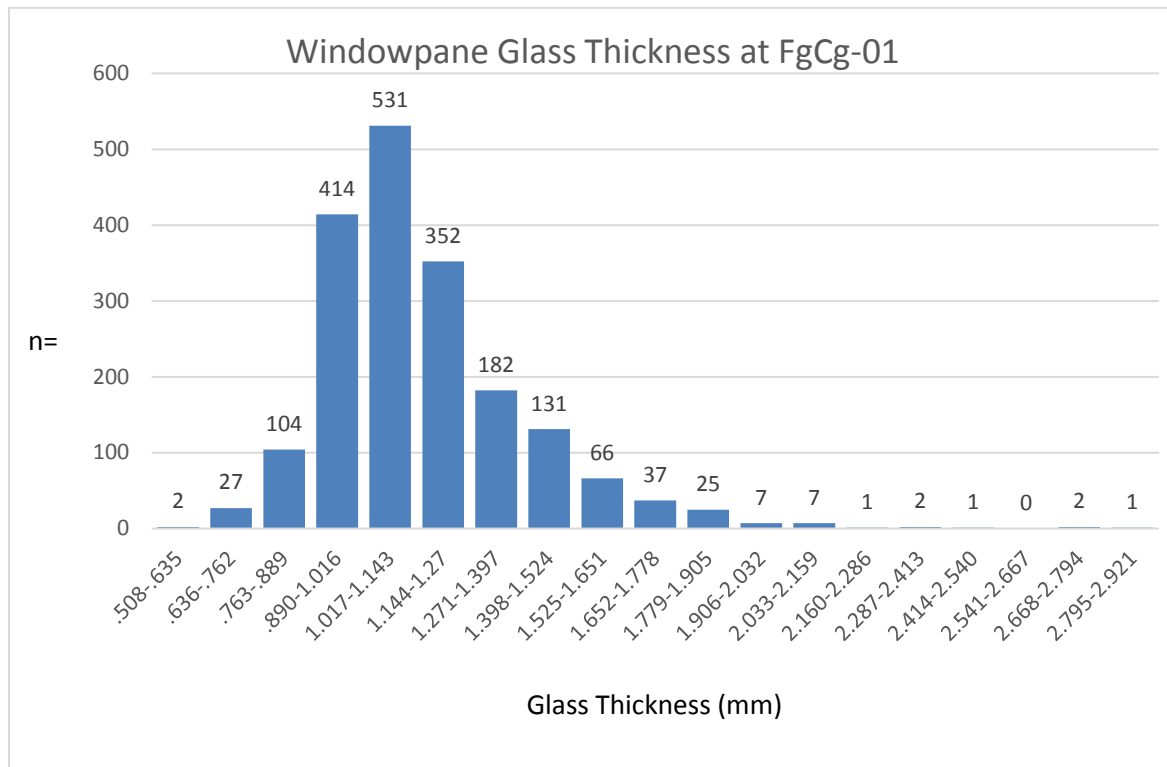


Figure 4-25 Histogram of Glass Thickness Measurements from FgCg-01 Locus D

At present, the results appear to indicate that the overwhelming majority of the window glass was introduced in the initial period of construction (ca. 1840), possibly from stocks already 10-20 years old. The thicker and later sherds are much rarer, suggesting occasional repair of broken panes with new glass. Later repairs may be particularly associated with Structure 2 and Structure 3.

4.7.3.2 Clay Daub/Chinking

Previous recovery work in 2015 (Stantec 2016) led to the recovery of numerous fragments of hardened clay with plant impressions (3,032 pieces totaling 5.7047 Kg in weight). Because these fragments appeared to have been fired, they were originally tentatively identified as brick. However, following review of HBC excavation reports (e.g. Castillo 2012; Chism 1972; Froehlich 2001; Steer and Rogers 1976; Dawson 1969), these fragments may now be identified as clay daub

or chinking. Clay with inclusions of grass and other plant material was frequently used at HBC post buildings to mortar stone chimneys, and to chink the spaces between wall logs; in some cases, log walls were completely coated with a smooth clay finish (Pyszczyk 1992). The original identification of these pieces as brick results from the fact that they all exhibit some degree of fire-hardening.

Recovery at FgCg-01 in 2016 led to the recovery of an additional 3055 pieces (7.24223 Kg) of clay chinking or daub. Of this, 4 pieces (5.47g) were conglomerations of daub pieces and solidified pitch or tar, while 19 pieces (118.31g) consisted of burnt and bubbled glass melted onto burnt daub.

These pieces consist of fragments of fired or hardened clay with grass impressions, and occasionally, impressions of other plant matter, including Labrador Tea (*Ledum*) leaves (Photo 4-71). Many fragments are small (e.g. Photo 4-71: H), but larger pieces may be smoothed on one surface, sometimes with traces of fingerprints, and thick larger pieces with opposite flat surfaces range from 1 to 2cm thick. In some cases, one surface is smoothed, while the other may be smoothed, or may exhibit an undulating surface with many plant impressions (e.g. Photo 4-71: D, E). Few pieces show clear impressions of wood surfaces on inside surface, and few exhibit the distinctive wedge shape ((e.g. Photo 4-71: C)) that indicates clay used to fill spaces between rounded timbers (Dawson 1969). The rarity of wedge-shaped pieces and the plant impressions frequently seen on the "inside" surfaces suggest that the gaps between wall logs were initially chinked with moss and vegetation before the clay daub was applied. It is also possible that some or all of the clay daub at FgCg-01 was employed as a roofing material, applied over boards and moss prior to applying a layer of bark (see Section 3.2.3 above).

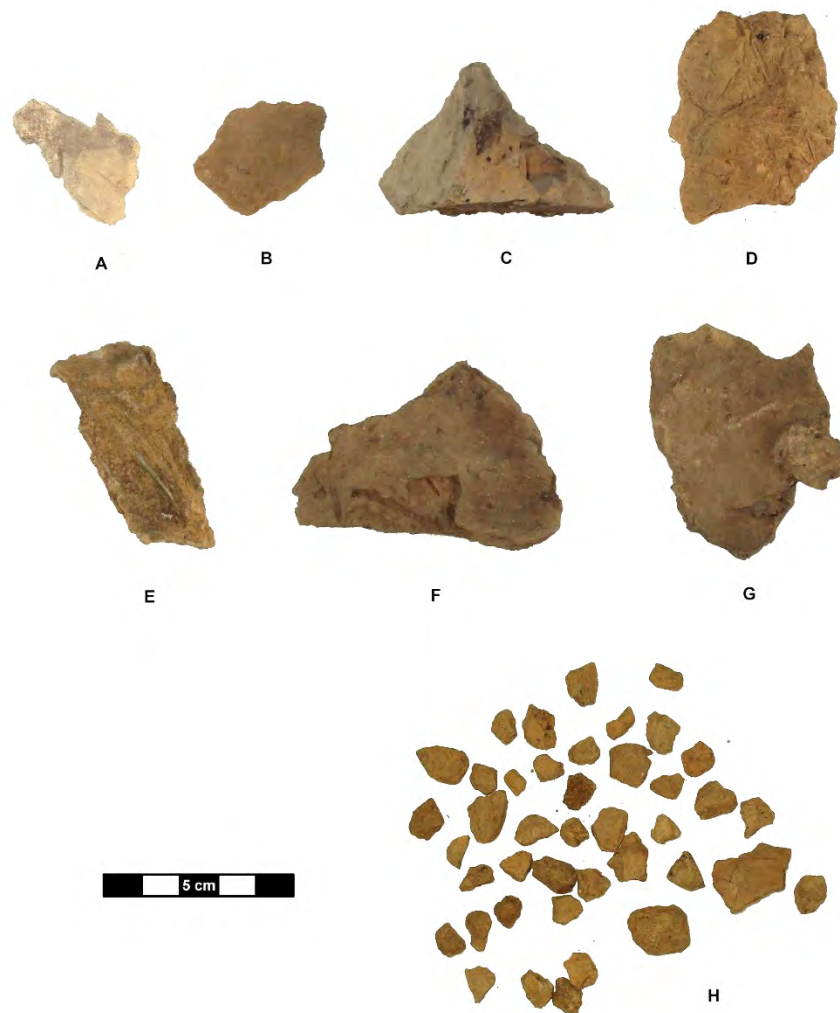


Photo 4-71 Examples of Clay Daub Recovered from FgCg-01 Locus D

The distribution of daub fragments is indicated in Figure 4-26. It is clear that daub is strongly associated with Structure 1, particularly along the western wall and the western interior of the building, but also extending across the backslope to the north, and down the terrace fall to the south. A secondary small but dense cluster of daub fragments within the north berm of Structure 2 appears to have been incorporated into the berm (Event 65) as a secondary deposit. In short, the distribution suggests that Structure 1 was the only building at the site to see extensive chinking or coverage with clay daub.

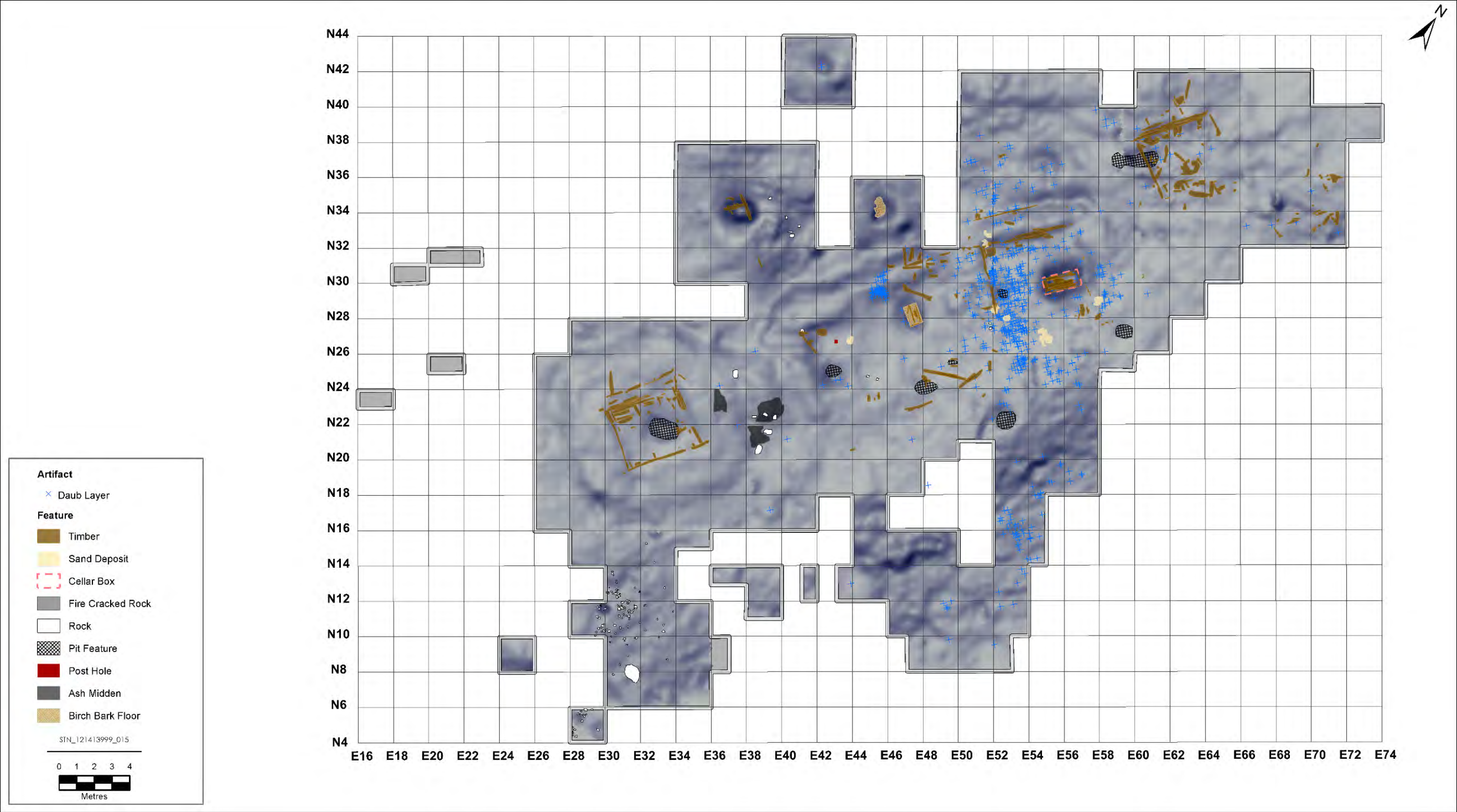


Figure 4-26 The Distribution of Clay Daub/Chinking Fragments at FgCg-01 Locus D (2015 and 2016 Collections Combined)

4.7.3.3 Nails (Including Tacks, Spikes, Screws, Rivets, and Roves)

Nails

In all, 3,316 modified and unmodified nails were recovered from FgCg-01 in 2016. All appeared to be manufactured from iron and in various stages of condition from generally good to very corroded (Photo 4-72). All were cleaned and treated with Sodium Hydroxide and Tannic Acid. Three categories of manufacturing technique were observed and these included: hand forged (n=2449), machine cut (n=19), and undetermined (n=188). The hand forged nails were easily identified by their four-sided taper and square cross section, while the cut nails only tapered on 2 sides and were generally rectangular in cross section. Cut nails almost always exhibit a uniform thickness given that they are created from a plate of uniform thickness. The undetermined examples were too corroded to accurately identify. The direction of the metal fiber of the cut nails could not be determined due to corrosion.



Photo 4-72 Nails, Tacks, and Roves.

Modified nails include examples with missing heads and/or tips, bent nails, or clenched nails (Photo 4-72: Third Row). The clenched examples are characterized by bending the tip of the shaft to at least 90° or more, and bent examples are ones with less than 90° bend. Nail clenching is achieved when the protruding tip portion of the nail is bent into the wood surface it is protruding from to reinforce the joint between two pieces. Some bent nails may also have been the result of clenched nails having been pulled out for re-use.

Head and tip attributes were also recorded. The predominant nail head type was hand forged with a minority having been machine made (compare Figures 4-27, 4-28). All forged nails had some form of hand-forged head. Similarly, all machine cut nails possessed machine-made heads. None of the nail heads were stamped. When present, the tips of hand forged nails varied from flat, rounded or chiseled (see Photo 7-72). The tips of all the machine cut nails were flat.

Overall, the nails recovered from FgCg-01 Locus D are distributed within and in front of all four structures and the privy (Figure 4-27). There is somewhat of a gap between structures 1 and 4 and again between structures 2 and 3 where very few nails were found. The distribution of cut nails centers within and around Structures 1 and 2. Only one cut nail was recovered in association with Structure 3, and a few located in front of Structure 4 (Figure 4-28).

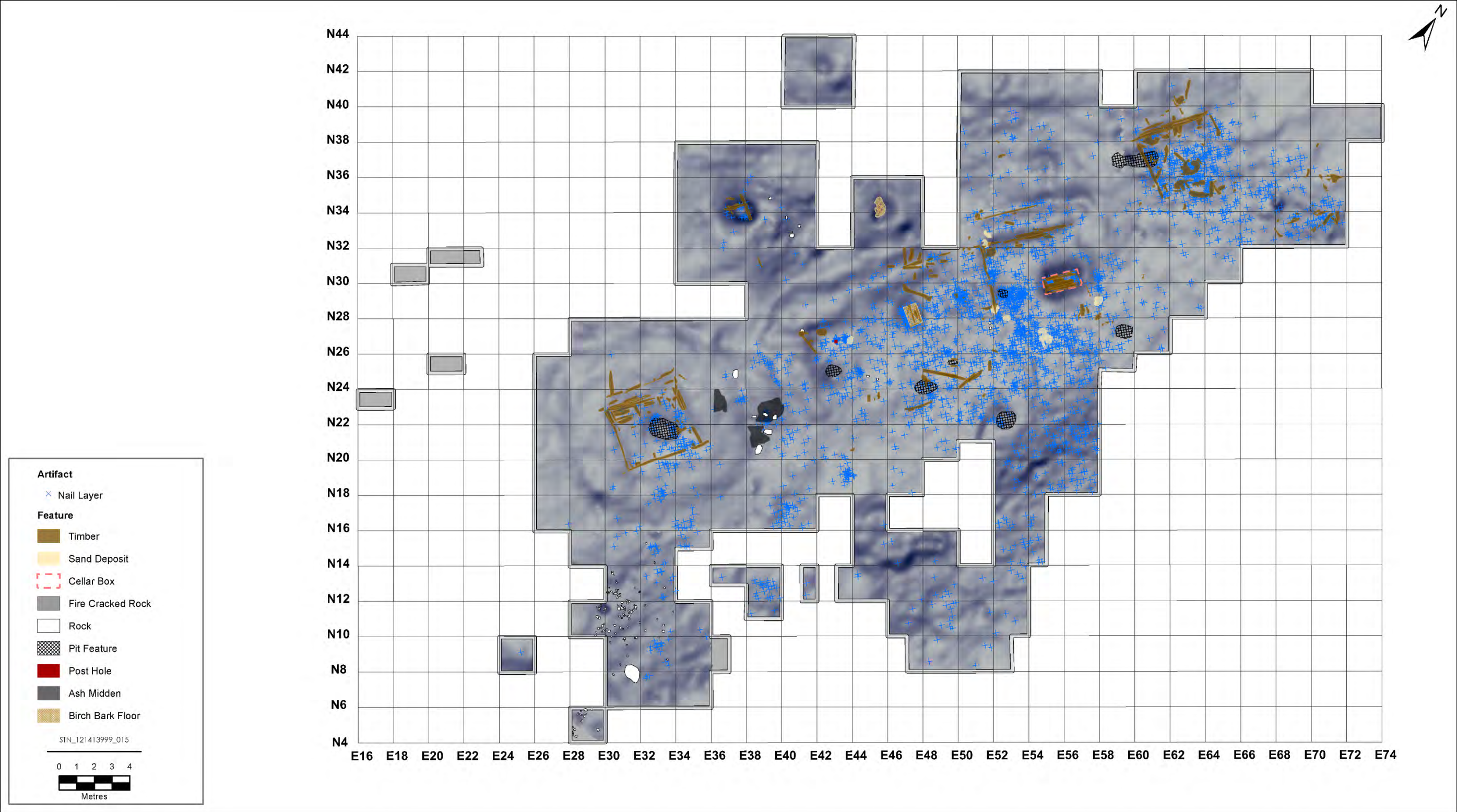


Figure 4-27 The Distribution of All Classes of Nails at FgCg-01 Locus D (2015 and 2016 Collections Combined)

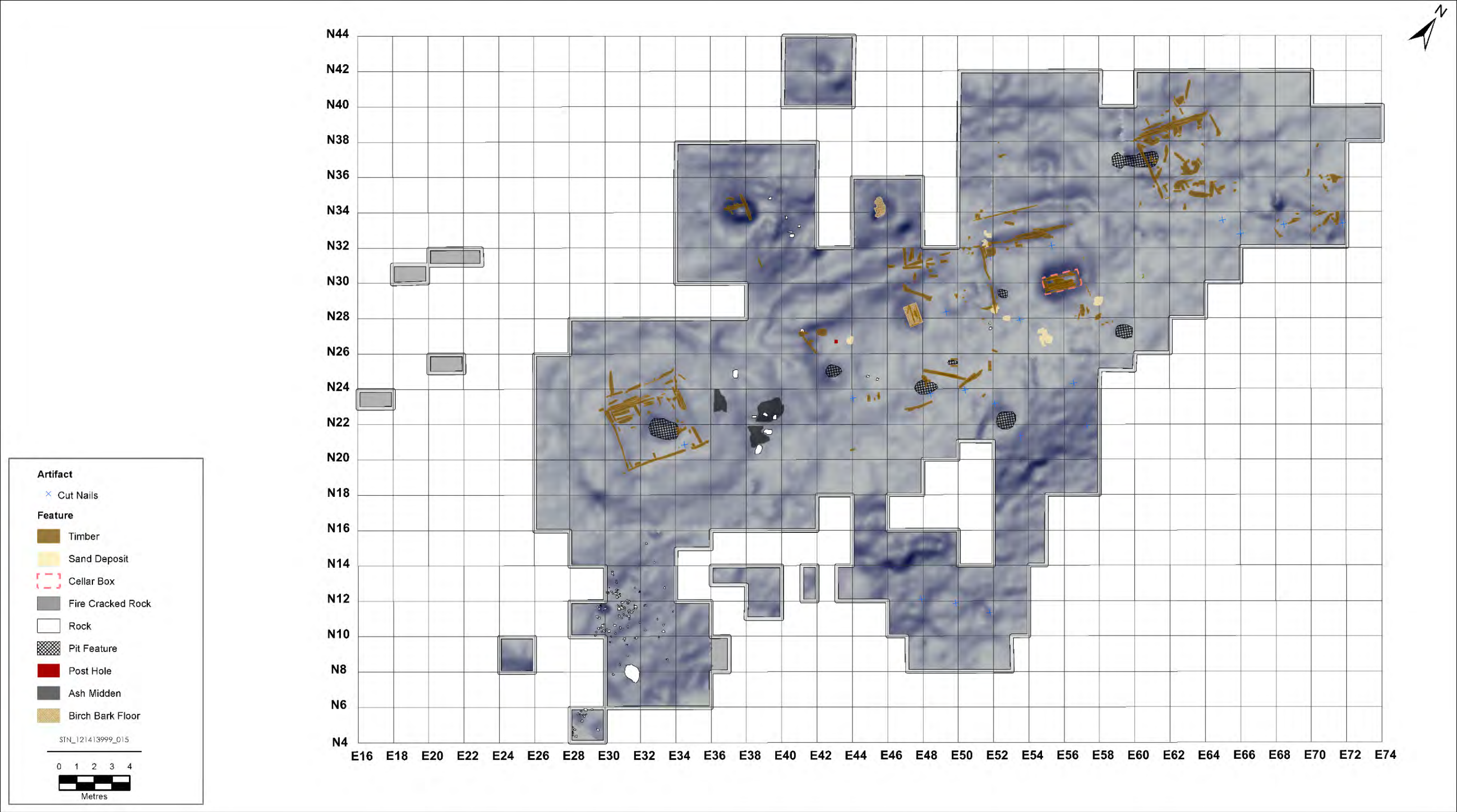


Figure 4-28 The Distribution of Cut Nails at FgCg-01 Locus D (2016 Collections Only)

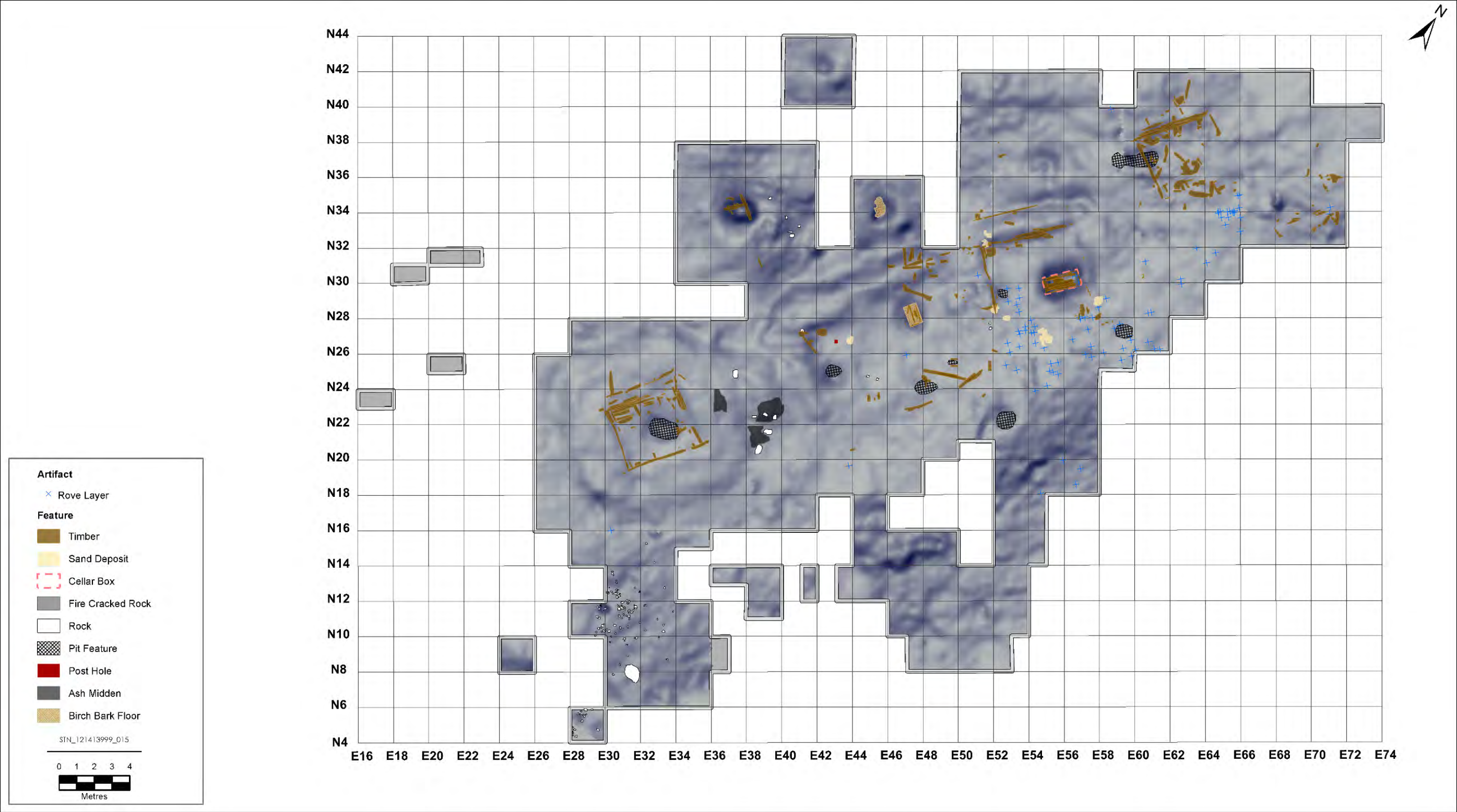


Figure 4-29 The Distribution of Roves at FgCg-01 Locus D (2016 Collections Only)

A total of four tacks were recovered from FgCg-01 in 2016 (see Photo 4-72: Fourth Row, Left). All four tacks look to be hand forged out of iron. One was recovered from Structure 1, two from Structure 2, and one from Structure 4. These were likely used as upholstery tacks.

In all, 71 roves were recovered at FgCg-01, locus D in 2016. These consist of small Rhomboid-shaped sheet metal pieces with a square nail hole in centre (see Photo 4-72: Bottom Row). In some instances, roves were recovered in scored strips which had not been separated for use. However, even unused roves still had the nail perforation on them, suggesting that a square nail was used to prepare the roves in advance of use. The distribution of roves recovered during 2016 (Figure 4-29) shows concentrations in front of Structures 1 and 4 with a near absence around structures 2 and 3. Rivets and Roves may have been used for boat-building and repair (see Stantec 2016) but it is possible that rivets were used in building construction as well.

4.7.3.4 Architectural and Furniture Hardware

In total, 41 pieces classified as architectural and hardware were recovered from FgCg-01 locus D in 2016 (Photo 4-73). The majority (15) of these are strap-hinge fragments (Photo 4-73: A-D, G).

Also recovered were three pieces of latch hardware, including one catch (Photo 4-73: H), along with four perforated metal bracket fragments of uncertain function that may also belong to latch mechanisms. One L-shaped iron bar (Photo 4-73: N) may be a hinge pintle or a latch slide bolt.

Two iron eyes (Photo 4-73: E-F), one formed by twisting a length of iron strip (Photo 4-73: E) are interpreted as attachments for small door hooks, while seven U-shaped staples, both purpose-made and formed from large wrought nails (Photo 4-73: J-M), are also interpreted as eyes, either for large hasp-locks or door hooks (Barnes 1989).

One noteworthy piece of door hardware recovered from Structure 2 was the sheet iron front plate (with keyhole cover), from a large padlock (Photo 4-73: P).

Two pieces appear to be fittings from wooden chests. One (Photo 4-73: O) was the sheet iron backplate for a lifting handle (Barnes 1989), while the other (Photo 4-73: I) was a perforated length of thin, possibly tinned sheet metal, too thin to be a piece of door hardware and likely another fitting from a chest or trunk.

Finally, six pieces represent miscellaneous door hardware fragments that could not be further identified. It is likely that the scrap iron category of artifacts includes additional pieces of architectural and furniture hardware that were too fragmentary to identify conclusively.

Architectural and furniture hardware is widely-dispersed across the site, with particular concentrations in the interior of Structure 4 (eight pieces in all in Events 33 and 50) and the Structure 1 berm (six pieces in Event 29).



Photo 4-73 Architectural and Furniture Hardware Recovered from FgCg-01 Locus D

4.7.3.5 Tin Sheet

Recovery work at FgCg-01 in 2016 led to the recovery of 3,124 pieces (4.08377 Kg) of thin tin (or more properly, tinplated) sheet metal. The majority of these pieces are small and highly-corroded, little more than thin flakes of rust. Disintegrated tin fragments are rarely reported at HBC archaeological sites, although they were noted in the collection from Rocky Mountain House (Noble 1973).

The distribution of tin sheet fragments at FgCg-01D is indicated in Figure 4-30. Sheet tin is associated with all four of the principal structures at the site, but the largest number is found in Structure 1, including the northern berm and the builder's trench to the north.

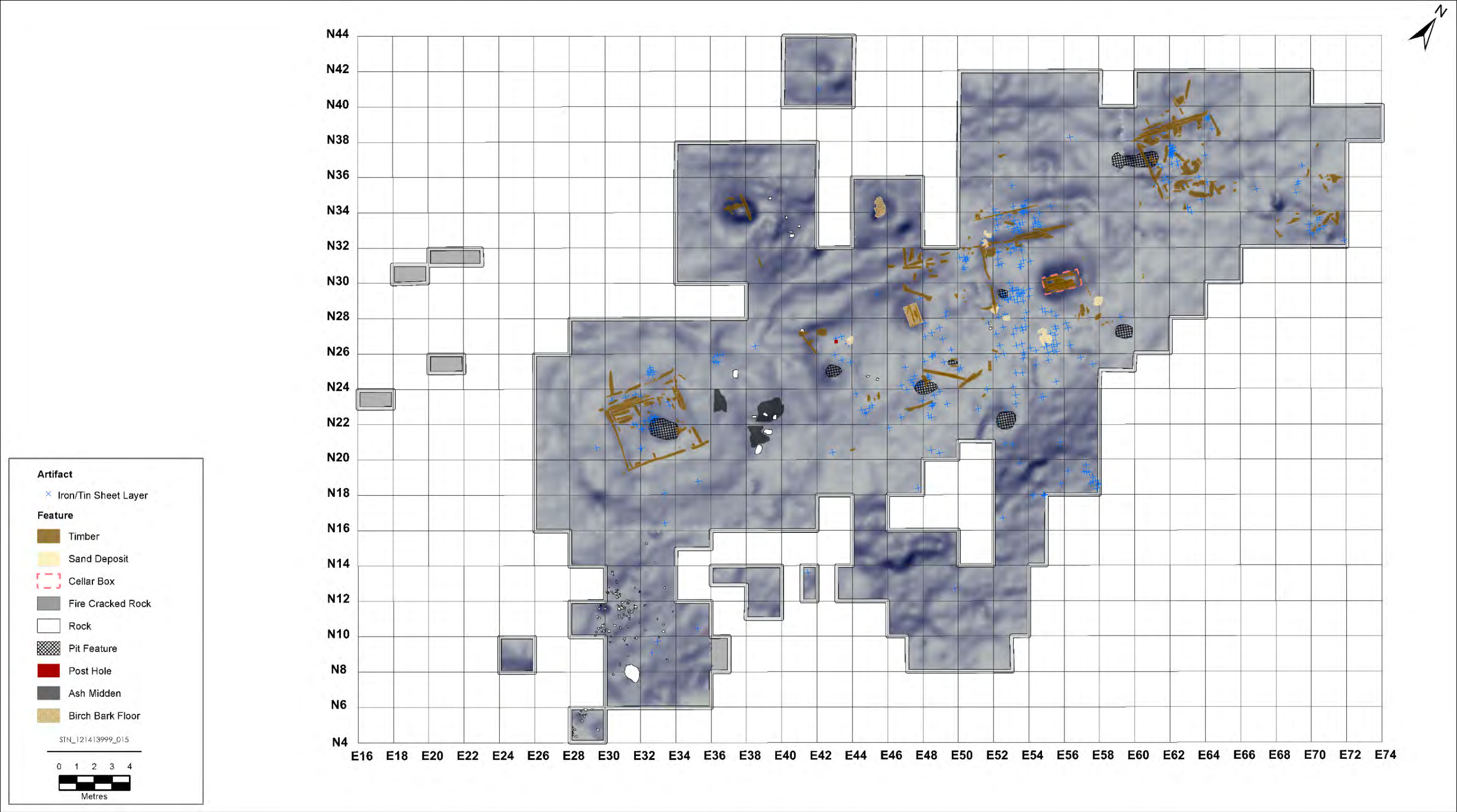


Figure 4-30 The Distribution of Tin Sheet Fragments at FgCg-01Locus D (2015 and 2016 Collections Combined)

In addition to rust flakes, some larger pieces were recovered (Photo 4-74). These include one very large sheet, cut into an L shape, with two folded edges (Photo 4-74: A). Another large sheet (Photo 4-74: B) is bent and broken along one edge but the opposite edge is folded, with a low repousse ridge along its length. This sheet exhibits one square nail perforation. Two tin sheet fragments (e.g. Photo 4-74: C) had been riveted to lengths of iron strapping.

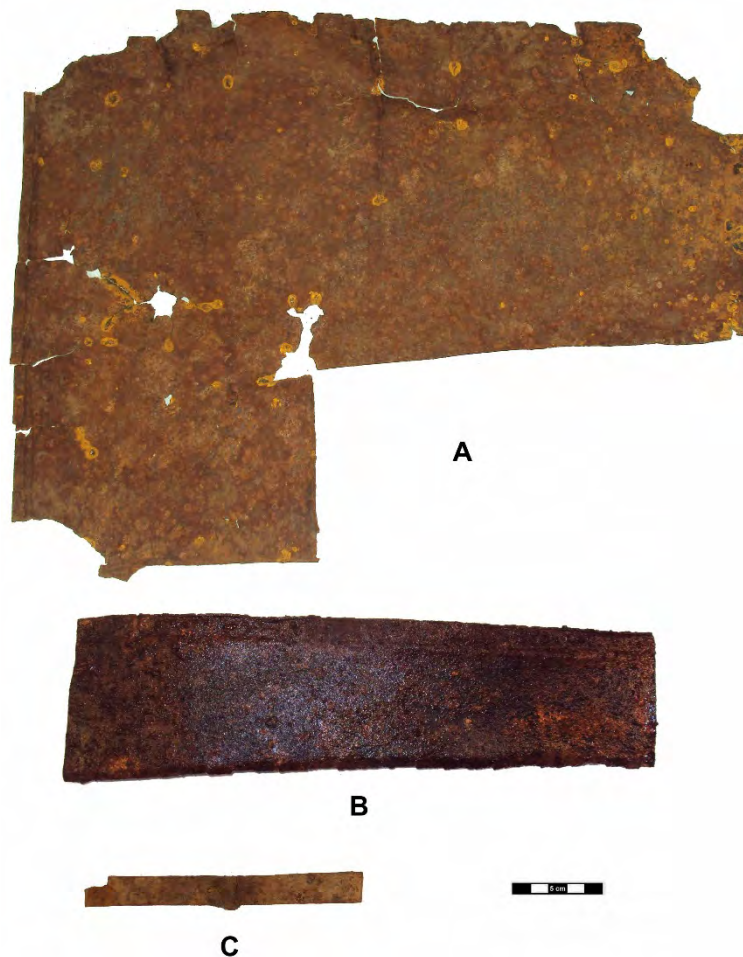


Photo 4-74 Selected Tin Sheet Fragments Recovered from FgCg-01 Locus D

In the case of the smaller pieces, these are too small to display curvature, as might be associated with stovepipe or tin cans, but may derive from these or other artifact classes, including:

- tin cans;
- stovepipe/chimney tubes;
- stove chimney roof flashing;

- other roof flashing; and/or
- tin roofing tiles

The distribution of many of these pieces around the eaves and builder's trenches for Structure 1 and 2 suggests that the majority are associated with roofing and/or chimney materials of some sort. It will be noted that stovepipes may have been fabricated on-site (as at Winokapau House; see Section 3.2.3 above), presumably from flat sheet. The larger pieces (Photo 4-74) do not resemble pressed tin roof tiles but are certainly consistent with roof and stovepipe flashing. Most of the tin sheets fragments are therefore interpreted as flashing materials, possibly with an admixture of disintegrated stovepipe/chimney fragments.

4.7.3.6 Building Timbers

A total of 227 wooden timbers and timber fragments were recorded at FgCg-01 Locus D (Figure 4-2). Virtually all were severely burnt or partially burnt, except for the timbers in Feature 6, the sticks at the base of the Structure 2 cellar, and a slender stick recorded in the Structure 1 builder's trench.

Timbers are distributed across the site, but are particularly associated with the following locations:

- Sparsely scattered along the top of the south berms of Structures 1 and 2, interpreted as the remains of burned and collapsed superstructure members of both buildings;
- Densely scattered along the top of the south berm of Structure 4, interpreted as the remains of burned and collapsed superstructure members of that building;
- Densely clustered within and around the slope midden southeast of Structure 4 (Feature 14), interpreted as the remains of burned and collapsed Structure 4 building timbers deliberately moved and discarded on the terrace slope;
- Sparsely-clustered within Feature 6, interpreted as the remains of the (unburned) collapsed superstructure of the privy;
- Aligned along the building perimeters of Structures 1, 3, and 4, interpreted as the remains of *in situ* sills and foundation timbers;
- Clustered within the northwestern corner of Structure 3, interpreted as *in situ* floorboards (charcoal clusters in the northwestern corner of Structures 1 and 4 may also be the remains of flooring planks); and
- Aligned within the Structure 1 and Structure 2 cellars, interpreted as the *in situ* remains of cellar linings.

These timbers are compressed and, in most cases, burned, precluding detailed analysis of form, finish or workmanship. Preserved floorboards in Structure 3, although burnt, appear to have been sawed, while numerous charred fragments across the site exhibited axe cut marks. Sill timbers were all highly-compressed, but in Structure 1, apparent breaks in the sills at the northwest and southwest corners indicate that these timbers were weakened at the junction points, either by

saddle-notching or by mortises cut to receive the tenons of corner posts (see Section 4.2.3). Only one timber recorded at the site was well-preserved, this being the short notched timber from Feature 6 (see Section 4.6.1; Photo 4-41). This indicates that corner-lapped log construction employing saddle-notched logs was employed at least at the privy, and possibly at other structures as well.

Thirteen structural wood samples were collected in 2016, most consisting of charred structural timber and floorboard fragments with cut-marks or sawn surfaces (Photo 4-75). The complete notched timber from Feature 6 was also recovered.



Photo 4-75 Structural Wood Samples Recovered from FgCg-01 Locus D

4.7.3.7 Brick

Sixteen small fragments (48.95g) of red brick were recovered from FgCg-01 in 2016. One of the pieces was recovered from Event 38, in the Structure 4 southern berm, while the other fifteen pieces were clustered in Event 74, the buried sod underlying the southeast corner of the Structure 2 berm.

There is otherwise no evidence for any brick construction at FgCg-01, so the presence of these few fragments is difficult to explain. The brick fragments may pertain to an unknown brick feature at the site that was subsequently dismantled and removed, or they may have spalled from bricks that were temporarily stored at the site for delivery to a different post.

4.7.4 Arms/Ammunition Group

The Arms/Ammunition Group comprises those artifacts related to weapons, including musket balls, shot, bullets, lead sprue and fragments, gunflints, and firearm components. A range of objects falling into this category were recovered from FgCg-01 in 2016.

4.7.4.1 Gunflints

The Hudson's Bay Company purchased great quantities of flints from specialty merchants, including those manufactured at Brandon in Suffolk County, located approximately 80 miles northeast of London, which was the main exporter of flints to British merchants in "English dominated lands" (Godding 2003:115; Witthoft 1966:37). A total of 378 gunflints were recovered from FgCg-01 in 2016, many of which are black blade flints, characteristic of British manufacture (Photo 4-76). The blade technique of gun flint manufacture involves striking segments of long blades from cores, which are then broken into appropriately sized pieces and finished by further chipping. The gun flints, which are generally flat and prismatic in appearance, are generally distributed across the site, with the largest concentrations associated with the midden on the southern terrace slope, and in front of Structures 1, 2 and 4. Of the 378 gunflints recovered, which range in colour from grey to brown to black with nearly opaque to translucent thin sections, only four appear to be unused or only very lightly used, and most showed obvious signs of use (step-flaking), including some that had been heavily battered. The abundance of heavily used gun flints made analysis based on form, shape, and size, as well as accurate correlation to specific firearm types, problematic. Indeed, evidence of significant use wear may suggest that gun flint was of limited or fluctuating supply at the Sandy Banks post, compelling the user to try to prolong the lifespan of each flint. It is also interesting to note that three of the four relatively unused gunflints were recovered near Structure 4, suggesting the primary function of Structure 4 was as a store house.

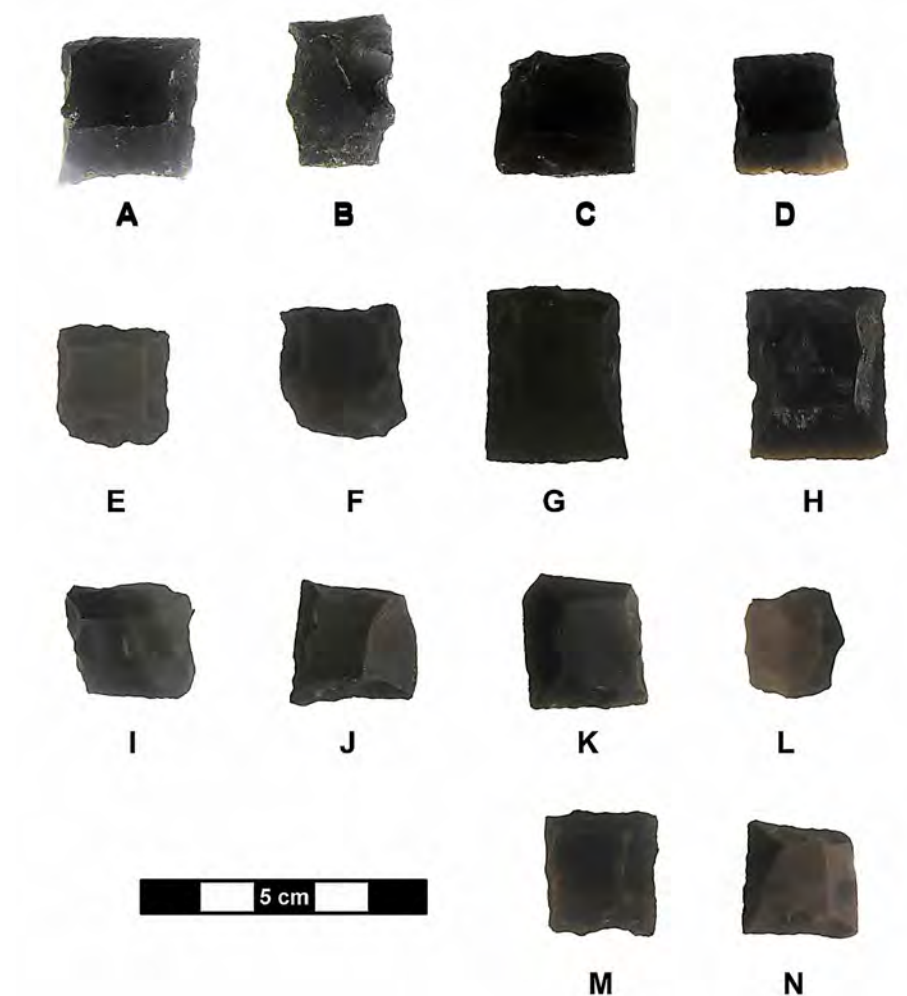


Photo 4-76 Gunflints Recovered from FgCg-01 Locus D

Gunflints were used on various types of firearms during the colonial period. Hamilton and Emery's extensive study of gunflints (1988) reveals that trade gun flints were typically between 20 – 28 mm in width, although flints smaller than 20 mm could have been used with either pistols or trade guns, as their size varied. The four relatively unused gunflints recovered from FgCg-01 range in measurement from 30.51 mm to 31.39 mm in length, 23.88 mm to 25.56 mm in width and 7.06 mm to 8.13 mm in thickness, all of which fall into the trade gun range, with one being large enough for a carbine. Other characteristics of the relatively unused gun flints include the presence of defined sharp parallel ridges on the convex surface and demi-cones of percussion on each side of the "bed". These characteristics, which indicate "English Fine Grade" gun flint, are also present on many of the fragmentary and worn gunflints, indicating that most, if not all, recovered gunflints from FgCg-01, are of British origin.

In addition, four flint “strike-a lights” were recovered from FgCg-01 (Photo 4-77), of which three represent modified black gunflints, and one of which (Photo 4-77: D) is a grey opaque flint that, based on its form, may originally have been a gun spall. All appear to be “strike-a-lights” as a secondary use, showing concave sides used for striking. In their secondary role as strike-a-light flints, these would have been employed with “strike-a-light” steels (see Section 4.7.7).

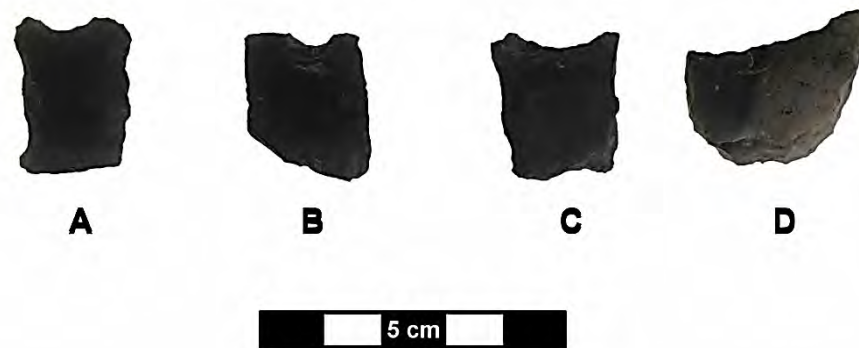


Photo 4-77 Strike-a-Light Flints Recovered from FgCg-01 Locus D

4.7.4.2 Ammunition

A total of 21 lead musket balls was recovered from FgCg-01 in 2016, all of which represent one size range: 0.56 inches (14.22 mm). Most of the musket balls were recovered south of structure 2 and in association with Structure 4 (Photo 4-78: A-D).

A total of 1,066 pieces of lead shot were also recovered from FgCg-01 (4-78: E). Shot was distributed across the site; however, the largest concentration was found in association with Structure 4 (Figure 4-31). Sizes range from approximately 2 mm to approximately 9 mm in diameter, representing Shot Size No.2 to Buckshot No.000. The most common shot size was BB (averaging approximately 4.57 mm in diameter), representing a total of 830 pieces (77%). This size of shot was often used for shooting duck, grouse, and other game birds. The assemblage also includes a smaller number of larger shot, often used for shooting small game such as rabbit and beaver. A single .22 caliber brass shell casing was also recovered, but this is likely an intrusive artifact dating to the 20th century.

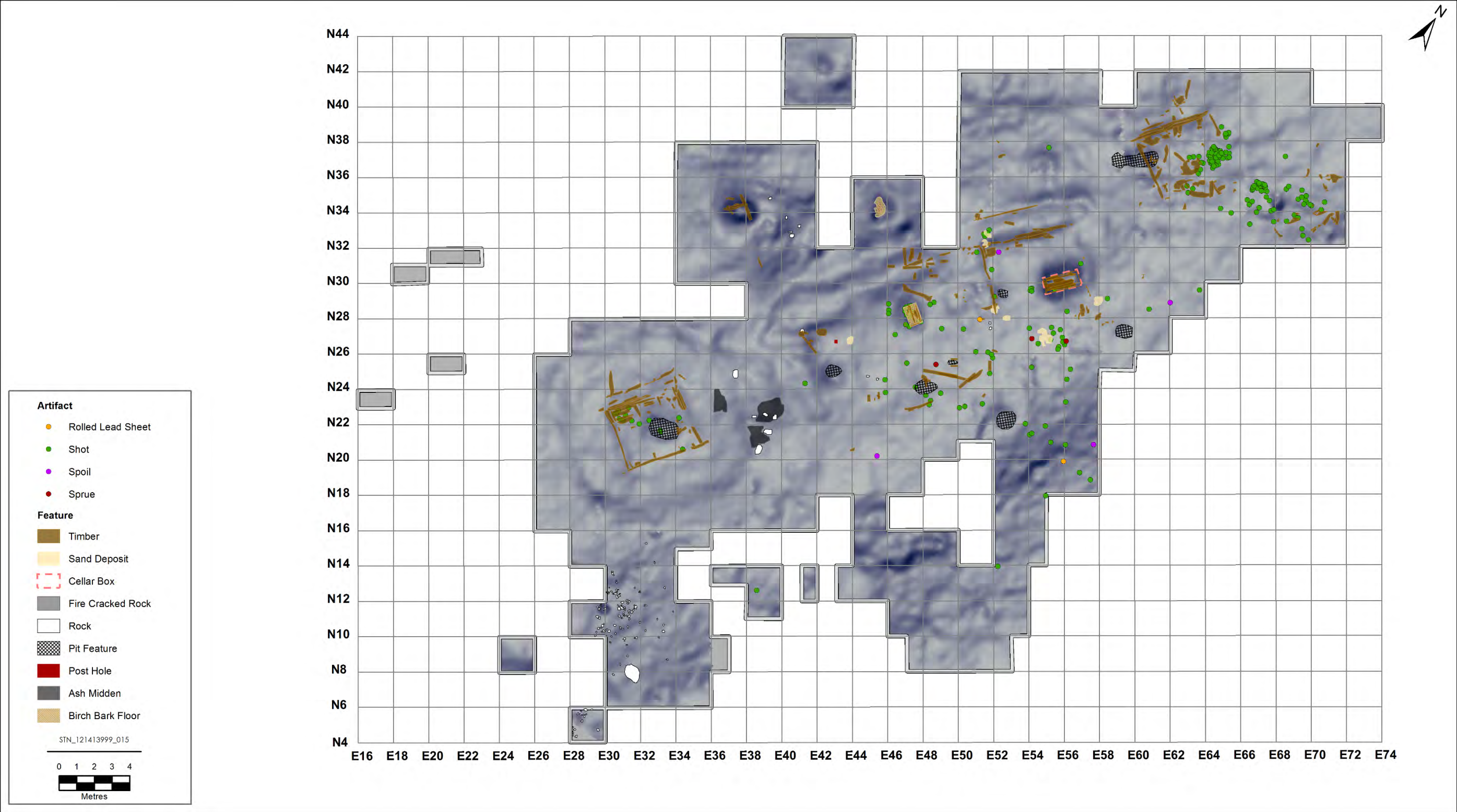


Figure 4-31 The Distribution of Lead Shot at FgCg-01Locus D (2016 Collection Only)

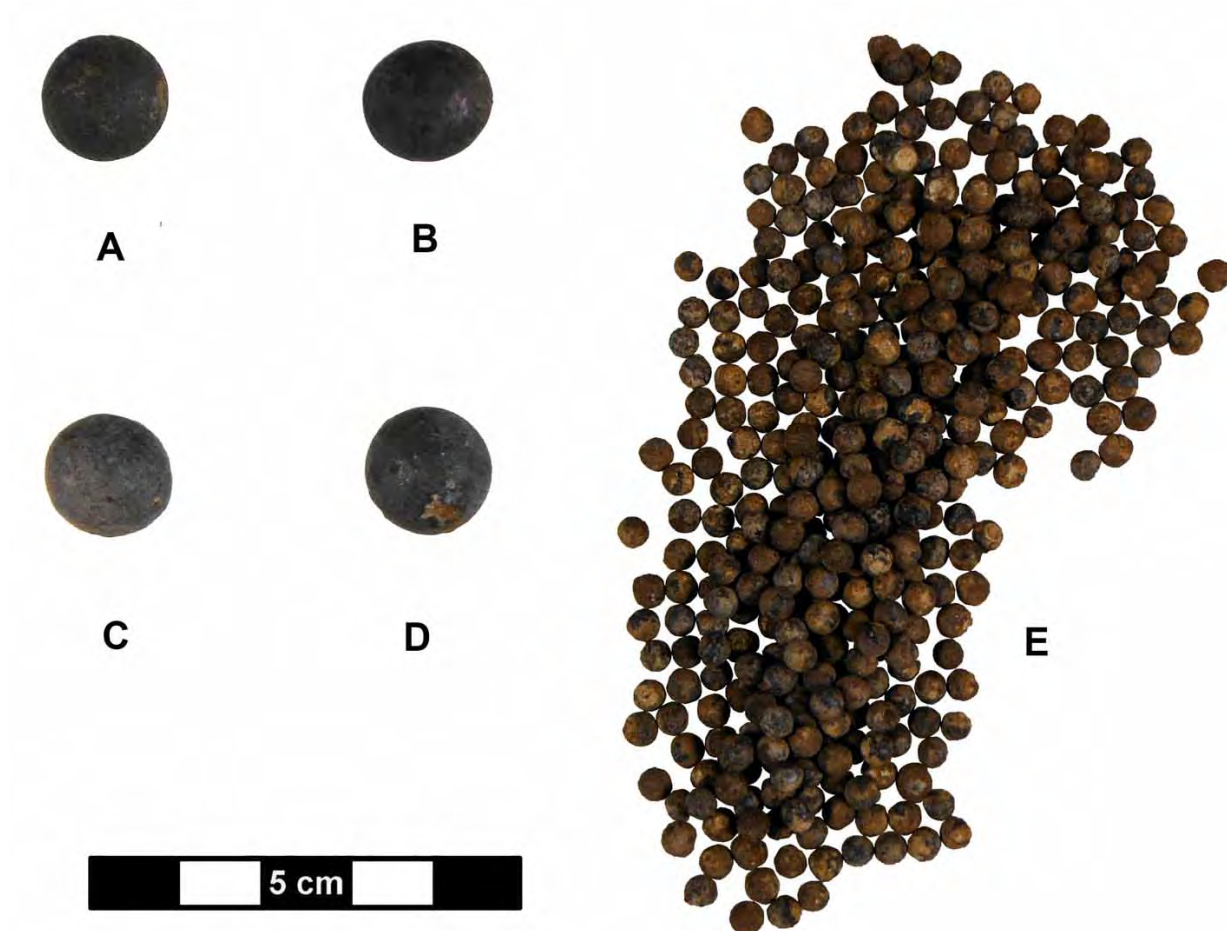


Photo 4-78 Musket Balls and Lead Shot Recovered from FgCg-01 Locus D

4.7.4.3 Firearm Components

Several firearm components were recovered from FgCg-01, including a lock plate, a main spring, a breech plug, a trigger guard, and a brass dragon motif side plate. Gun components were generally distributed around Structure 1.

Historical sources indicate that the Hudson's Bay Company was still using and trading flintlock firearms, which utilized flint striking steel to ignite the priming charge, into the early part of the latter half of the 19th century. The flintlock gun was relatively inexpensive compared with rifles and muskets of the period, and was of a simple, yet serviceable, design (Forsman 1985:105; Hanson 1955:2-3). According to Hanson, the "most apparent trade-mark is the side-screw plate of cast brass in the form of a sea serpent, or ... a dragon. The type is always full-stocked with a flat brass butt plate and a light iron trigger guard with a large bow. The barrel is part octagon, nearly always 24 gauge (.58 caliber), and a smooth-bored for using either shot or 30 gauged patched ball.

Ramrod guides are of ribbed brass. The guns are light and range from forty-six to sixty-four inches in length" (Hanson 1955:2). By 1830, however, the flintlock was obsolescent, if not obsolete, and none were being made except for the trading companies (Gooding 2003:81-82). By 1860, good flint locks were essentially impossible to obtain and, in 1861, the HBC introduced percussion firearms to their list of trade goods.

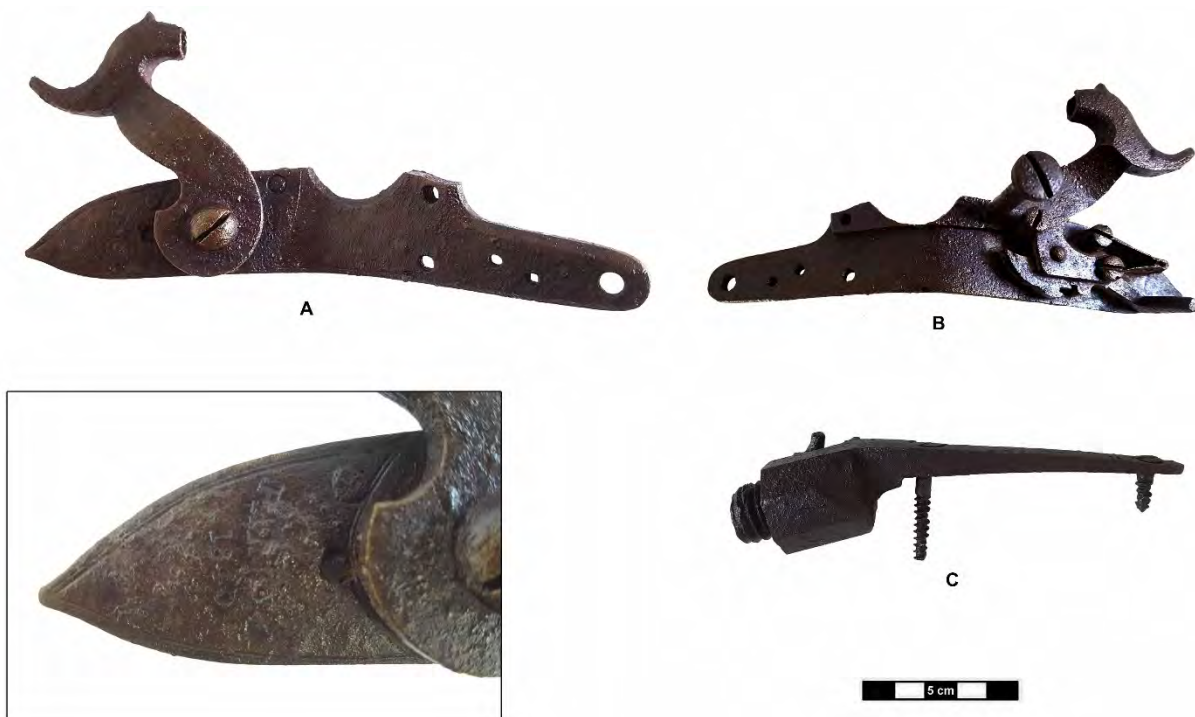


Photo 4-79 Lock Plate and Breech Plug from Caplock Musket Recovered from FgCg-01 Locus D

The lock plate, which measures 123.07 mm in length and 20.55 mm in width, was recovered immediately southeast of Structure 1 (Photo 4-79: A-B). According to Hanson (1955), British flintlock lock plates were all the slightly rounded-plate type with pointed tail at the rear until about 1860. The later flintlocks had rounded ends. Although the lock plate recovered from FgCg-01 is a percussion cap, it also has a pointed tail and a rounded end, suggesting that the gun was originally a flintlock that was subsequently converted to percussion cap. The lock plate has three lock screw holes; two of the holes took screws that secured the lock and the third hole was used to fashion the side plate to the stock. A somewhat discernable maker's mark, stamped in block letters, is present on the tail, just behind the cock mechanism (Photo 4-79: inset). Although not entirely legible, it is assumed that the maker was "William Parker", later Parker Field & Sons, of London, who supplied trade guns to the Hudson's Bay Company between 1837 and 1875.

(Gooding 2003:20). A date is stamped below the maker's mark but only "18_0" can be clearly seen (See inset). If the maker's mark does represent a Parker lock plate, it would have to date between 1837 and 1841, as later components, manufactured between 1842 and 1875, were stamped with "Parker Field & Sons". An iron breech plug (Photo: 4-79: C), measuring 153.5 mm in length and 71.95 mm in width, was recovered beside the lock plate. The breech plug, which is the plug or cylinder that closes the aperture in the breech and is attached to the stock, is made in one piece with the tang and has two screws at either end of the tang that attached the breech plug to the stock.

One cast-brass scaled dragon or serpent side plate was also recovered near the western sill of Structure 1 (Photo 4-80: A). The side plate was used to prevent the screw heads from sinking into the wood. The use of this distinctive side plate began in the 17th century, with the earliest wholesale shipments of English firelock muskets to the colonies and the scaled dragon or serpent became the almost exclusive design for side plates on trade guns in North America (Hansen 1955:39; Reid 1995:3). During the 19th century, when the lock fastening was reduced to two screws, the third hole in the tail of the serpent was fastened with a wood screw (Gooding 2003:73). The plates were not engraved but were cast in relief design in iron molds (Hansen 1955:39).

The side plate recovered from FgCg-01, which is well made with fine detailing of the scales, is broken near the centre, just in front of the centre screw hole. It possesses a circular coil loop and another screw hole at the end. In accordance with Hamilton (1980:66-67), the side plate recovered from FgCg-01 represents the serpent side plate in its final form as seen on the Hudson's Bay fusils made during the late 18th and first three quarters of the 19th centuries.

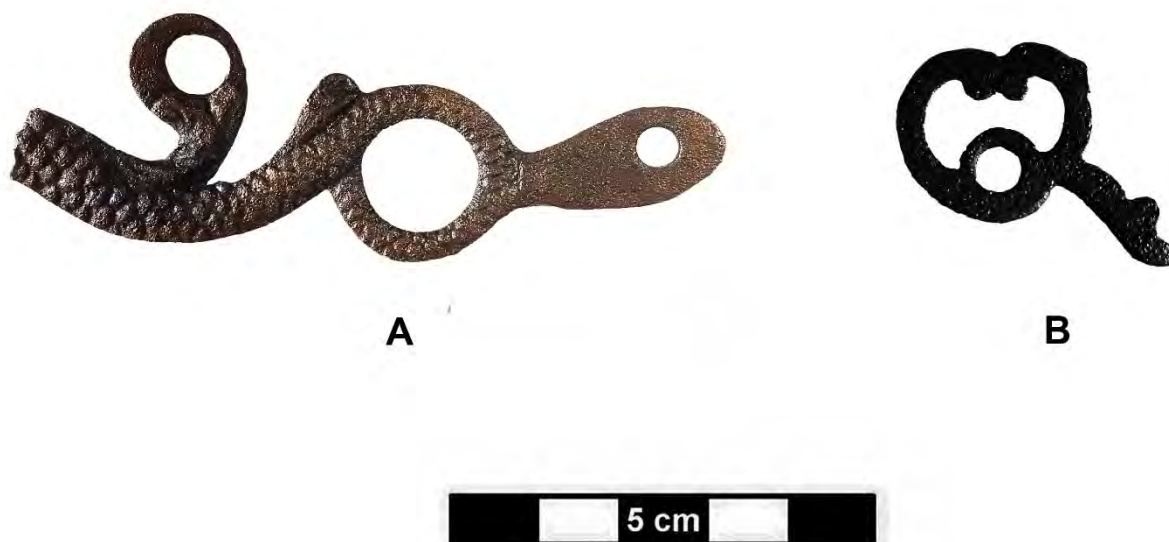


Photo 4-80 Musket Side Plates Recovered from FgCg-01 Locus D

A second potential brass side plate or gun fitting, measuring 39.26 mm by 24.74 mm, was recovered from Structure 2 (Photo 4-80: B). Although the circular fragment could not be identified with certainty, it appears to display a molded relief pattern like that of the dragon side plate fragment and has a screw hole for attachment purposes.

A complete main spring (Photo 4-81), measuring 88.28 mm in length and 16.24 mm in width, was recovered less than 4 m southeast of Structure 1. This type of spring was positioned on the inner face of the lock plate inside the recesses of the stock.



Photo 4-81 Musket Mainspring Recovered from FgCg-01 Locus D

Two pieces of a copper trigger guard, measuring 26.06 - 67.70 mm in length and 17.49 - 23.33 mm in width, were recovered less than 6 m east of Structure 1 (Photo 4-82). Trigger guards were very similar on all trade guns, characterized by a thin guard and large guard bow, although earlier types were slightly larger and thinner (Hanson 1955:41). The recovered trigger guard has an attachment lug, with hole, on the underside of the front finial at the base of the bow (Photo 4-82: A). The central portion of the bow has an engraved linear decoration and the finial was cast in a leaf-shaped pattern, sometimes referred to as "potted plant" or "flaming torch", with engraved lines (Photo 4-82: B). The trigger guard is broken at the bow and the rear finial is missing.



Photo 4-82 Musket Trigger Guard Recovered from FgCg-01 Locus D

4.7.4.4 Lead Sprue and Fragments

In addition, five pieces of lead sprue (Photo 4-83: A-C), the solidified overspill of lead from the pouring channel of a shot mold formed during the process of shot making, were recovered in 2016. The sprue was recovered south of Structures 1 and 2 and its presence at FgCg-01 indicates that shot was being manufactured on site. The assemblage also includes 39 pieces of varying sizes of melted lead spoil, determined to be the byproduct of shot production (Photo 4-83: G, H) and three pieces of rolled lead sheet, which is presumably the unused raw material (Photo 4-83: D-F). The majority of the melted lead spoil was recovered from the northwestern corner of the interior of Structure 1. One piece of rolled lead was recovered from the southern terrace slope and another just west of the western sill of Structure 1.



Photo 4-83 Melted Lead and Rolled Lead Sheet Recovered from FgCg-01 Locus D

4.7.5 Clothing Group

The Clothing Group consisted of buttons, hook and eye fasteners, beads, thimbles, scissors, a buckle, bale seals, and awls. Most Clothing Group artifacts were recovered in Structure 2 and in the Feature 20 midden (Figure 4-32). There was also a small concentration in the southeast corner of Structure 4 and in the midden southeast of Structure 4. The Clothing Group distribution suggests that Structure 2 may have either been the trade shop during its occupation or the main dwelling.

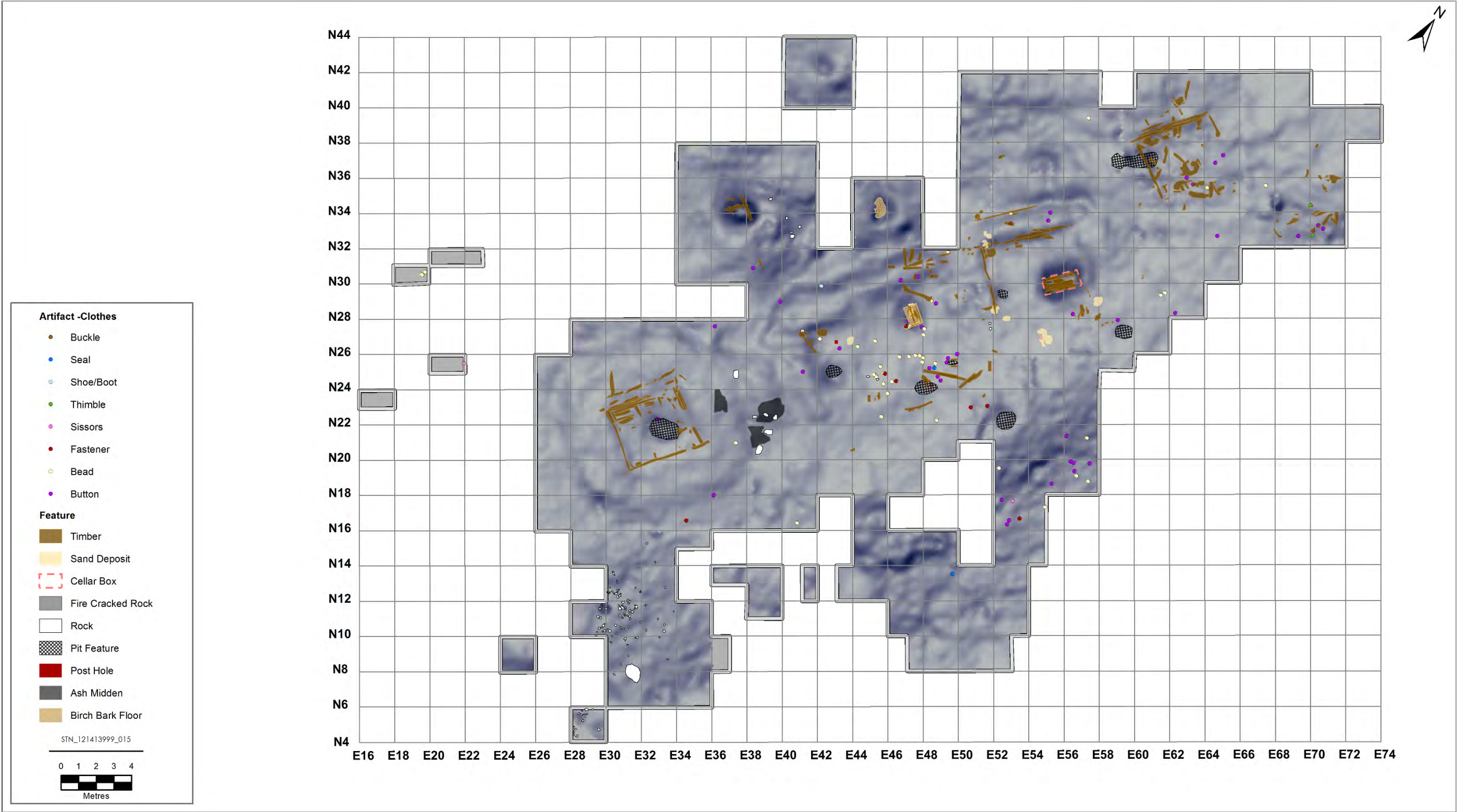


Figure 4-32 Distribution of Artifacts of the Clothing Group at FgCg-01 Locus D (2016 Collection Only)

4.7.5.1 Buttons

There were 53 buttons recovered from FcGc-01 Locus D. The assemblage was divided into four types based on material type that included brass, ferrous metal, porcelain, and bone. Structure 2 contained the largest concentration of buttons particularly in the east half of the structure. Feature 20, below Structure 2, also had a large concentration of buttons. Structure 1 was characterized by containing only ferrous metal buttons.

Type 1.0 Brass

There were 25 brass buttons recovered, 21 of which were spun manufactured, 2 were molded, and 2 were two-piece (Photo 4-84). Four of the spun-manufactured buttons displayed manufacturer's marks that consisted of BEST QUALITY HOOK; *TREBLE*QUALITY; and *STANDARD*COLOUR (Photo 4-84: A, B). Table 4.7 summarizes the brass button data. None of the marks could be traced to a manufacturer and therefore dated. Buttons of this type have been found at sites across Canada and generally date from the late 1700s to the late 1800s.

Type 2.0 Ferrous Metal

Sixteen ferrous metal buttons were recovered. One displayed a floral and leaf design on the button face and IMPERIAL STANDARD on the back (Photo 4-84: C). The method of clothing attachment for this button type consisted of a shank cast in boss, stud, or four holes in a sunken panel (Table 4.7). The buttons were from either a coat or shirt.

Table 4.7 Brass Button Data from FgCG-01 Locus D

Catalogue Number	Event	Diameter (mm)	Attachment Method	Manufacturer's Marks
13921	78	17.17	Shank cast in boss	None
22666	74	15.72	Shank cast in boss	None
12110	22	15.45	Shank cast in boss	STANDARD COLOUR
13014	3	15.89	Shank cast in boss (shank missing)	None
13017	29	20.17	Shank cast in boss	None
13053	2	15.72	Shank cast in boss	None
13056	21	17.96	Shank cast in boss	None
13924	74	15.99	Shank cast in boss	None
22660	118	18.54	Shank cast in boss (shank missing)	BEST QUALITY HOOK
22661	3	15.95	Shank cast in boss (shank missing)	None
22664	98	17.99	Shank cast in boss (shank missing)	None
22673	18	18.91	Shank cast in boss (shank missing)	None
22674	2	19.41	Shank cast in boss (shank missing)	None
22675	17	14.00	Shank cast in boss	None

Catalogue Number	Event	Diameter (mm)	Attachment Method	Manufacturer's Marks
22676	17	19.30	Shank cast in boss (shank missing)	None
22677	1	16.27	Shank cast in boss	None
22678	29	14.57	Shank cast in boss	None
22680	11	Incomplete	Missing	None
22681	2	15.21	Shank cast in boss	None
22684	50	11.13	Shank cast in boss	None
22688	7	16.03	Shank cast in boss	*TREBLE*QUALITY
22699	50	19.25	Shank cast in boss	None
12140	42	19.86	Shank cast in boss	None
23114a	30	16.12	Shank cast in boss (shank missing)	None
23114b	30	16.12	Shank cast in boss (shank missing)	None

Table 4.8 Ferrous Button Data from FgCG-01 Locus D

Catalogue Number	Event	Diameter (mm)	Attachment Method	Manufacturer's Marks
13015	3	17.55	Shank cast in boss	None
22659	74	19.43	Shank cast in boss	None
22667	50	19.66	Shank cast in boss	None
22668a	96	16.69	4-holes sunken panel	None
22668b	96	18.53	4-holes sunken panel	None
22670	73	18.12	Shank cast in boss	None
22671	96	16.60	4-holes sunken panel	None
22679	21	18.36	Shank cast in boss	None
22685	74	17.75	Shank cast in boss	None
22686	110	12.34	Stud	None
22687	74	20.03	4-holes sunken panel	None
13919	65	17.55	Shank cast in boss	None
13920	2	22.42	Shank cast in boss	None
13922	30	11.54	Shank cast in boss	IMPERIAL STANDARD
13991	74	12.40	Shank cast in boss (shank missing)	None
22663	96	Incomplete	Missing	None

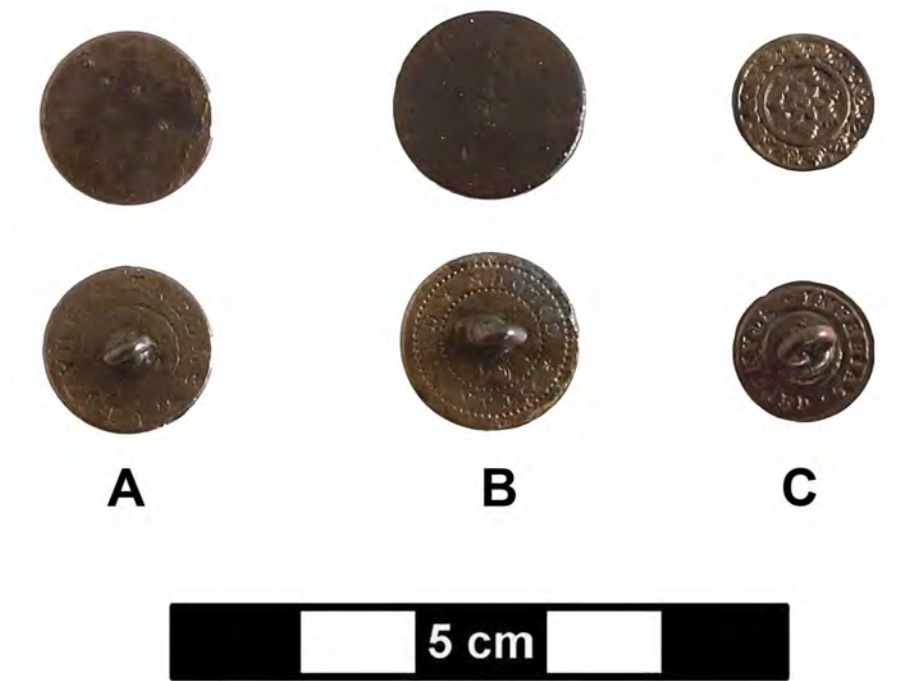


Photo 4-84 Buttons recovered from FgCg-01 Locus D (A: TREBLE QUALITY; B: STANDARD COLOUR; C: IMPERIAL STANDARD).

Type 3.0 Porcelain

A, white, four-hole porcelain button was recovered from Event 2 outside of the northwest corner of Structure 2. The button had a diameter of 9.88 mm and a thickness of 1.87 mm (Photo 4-85: A). The button was from a shirt or undergarment.

Type 4.0 Bone

There were seven bone buttons recovered. Bone buttons were usually made from either pig or cow flat bone, such as the scapula, and were usually sawn, the discs polished and the holes drilled (Marcel 1994:4). Four were four-holed sunken panel buttons (Photo 4-85: B-C), while three were three-holed. The four-holed buttons ranged in diameter from 13.21 to 15.86 mm, the three-holed ranged from 10.44 to 11.53 mm. All buttons were from a shirt or undergarment. Two were recovered from Event 1 in the upper portion of feature 20 and one was recovered from Event 17 in the lower portion. One button was recovered from Event 96 at the southwest corner of Structure 3, two in Event 1 southeast of Structure 1 and one was found in the small midden southeast of Structure 4.

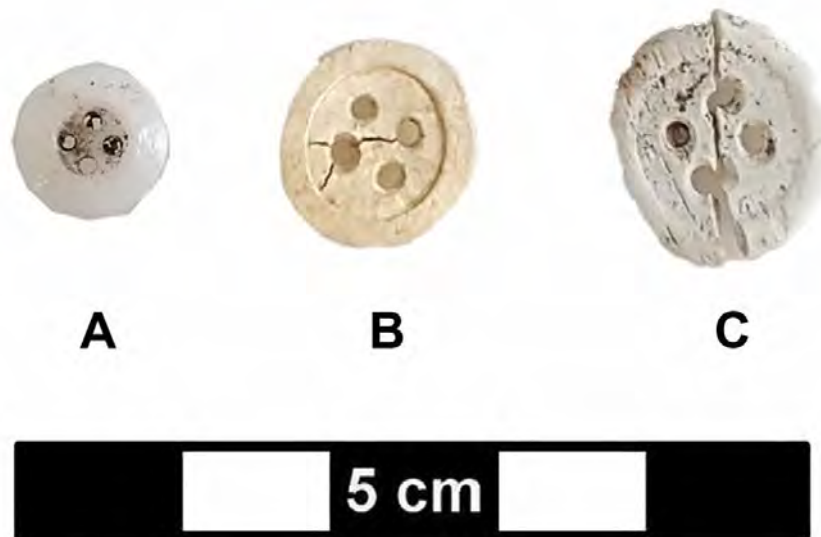


Photo 4-85 Porcelain and bone buttons found at FgCg-01 Locus D (A: Porcelain; B: Bone.)

4.7.5.2 Hooks

There were 28 iron wire hook and eye clothing fasteners recovered from FgCg-01 Locus D. The fasteners consist of a bent metal hook and an eyelet of the same material into which the hook fits (Photo 4-86). Fasteners such as these are poor chronological markers as they are still currently in production.

Fifteen of the 26 fasteners were recovered inside Structure 2, while an additional four were located outside the south wall. Four were recovered outside of Structure 3, two in midden Feature 20 below Structure 2, one was found north of Structure 1. Length of the hook portion ranged from 14.0 to 27.4 mm, while length of the eyelet ranged from 13.1 to 15.1 mm.

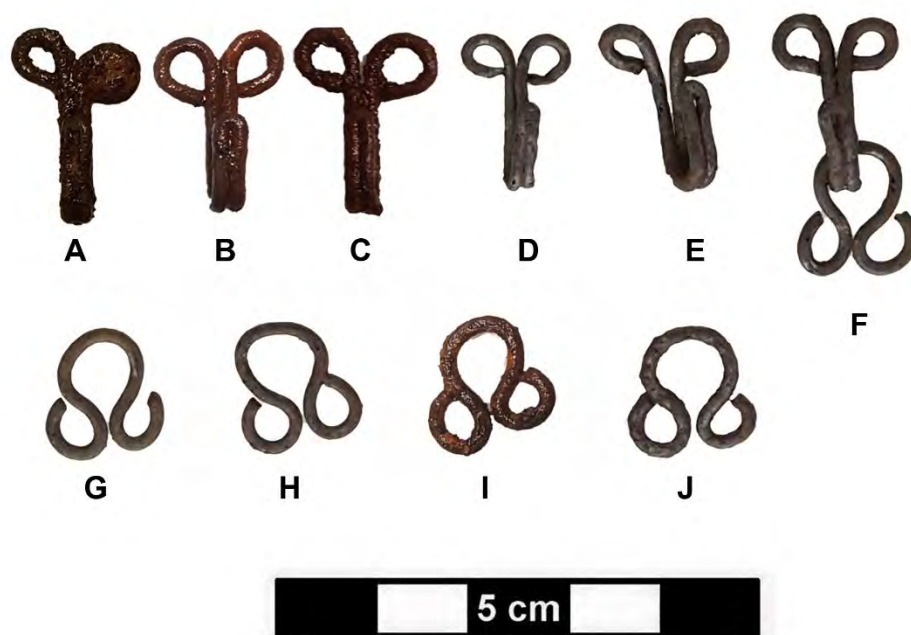


Photo 4-86 Hook and Eye Fasteners Recovered from FgCg-01 Locus D.

4.7.5.3 Beads

The classification system developed by Kidd and Kidd (1970) was used for analysis of the Sandy Banks bead assemblage (Table 4.9). There were 76 beads recovered from FgCg-01 Locus D in 2016. As with the fasteners, the majority of the beads were recovered in or near Structure 2.

There were 71 beads manufactured by the hollow cane drawn method and 5 by the wire wound process. The hollow cane method refers to an artisan drawing out a bubble of molten glass into a long, slender tube. When cooled the tube was cut in desired lengths (Kidd and Kidd 1970:48). Wire wound beads are made by winding threads of molten glass around a wire which is later withdrawn (Kidd and Kidd 1970: 48). The beads are then cut into various sizes.

There were two types of hollow cane drawn beads: Type IIa and Iva. Type IIa are monochrome beads and these were of two size categories, less than 4 mm and greater than 4 mm (Figure 4-33). Type Iva beads are red and white layered specimens often referred to as *cornaline d'aleppo* (McLeod 1983:240).

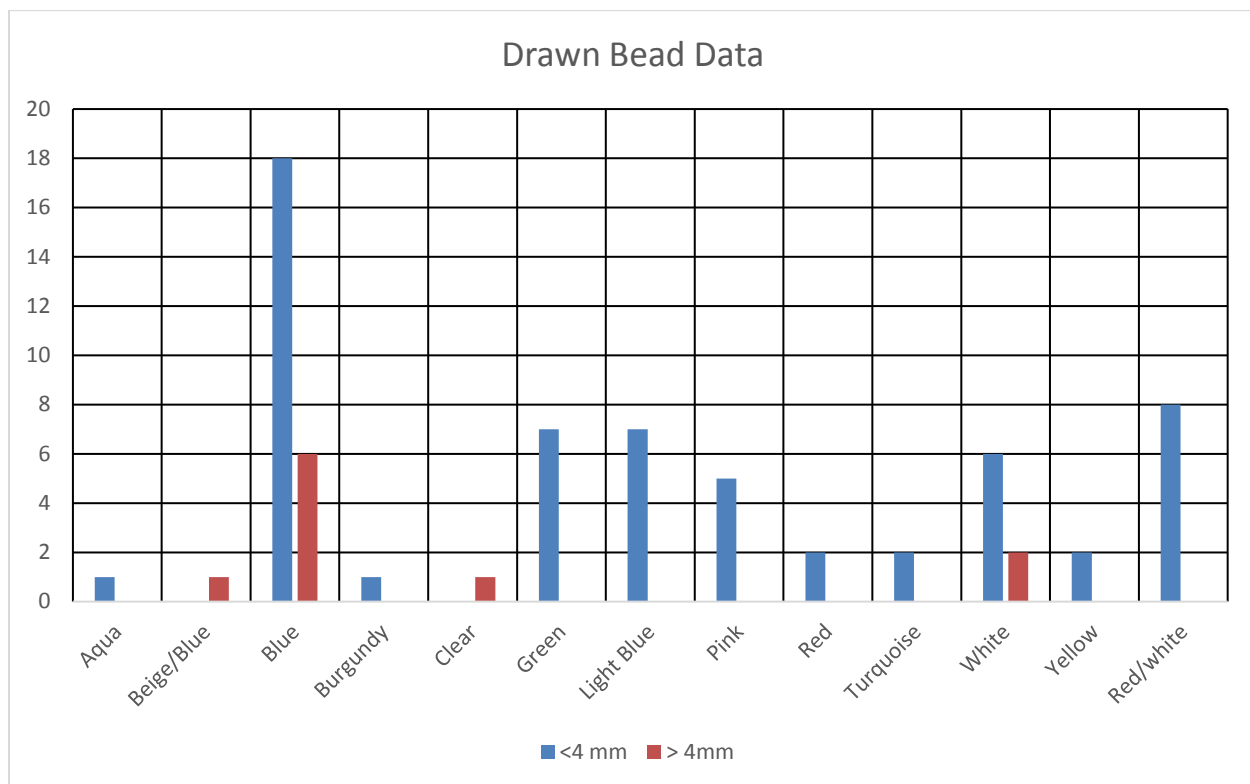


Figure 4-33 FgCg-01 Locus D 2016 Drawn Bead Data

One of the drawn beads was beige with inset blue dots surrounded by a layer of white (Photo 4-87: A). The bead had a diameter of 8.22 mm and a length of 8.58 mm. It was recovered in Feature 20 below Structure 2 (Event 14).

All wire wound beads were blue and ranged in diameter from 5.62 to 6.29 mm and in length from 5.21 to 6.46 mm (Photo 4-87: C). One was recovered along the south wall of Structure 4 in Event 74, one south of the south wall of Structure 2 in Event 74, and three inside Structure 2 in Events 42, 2, and 74. Bead data are summarized in Table 4.9.

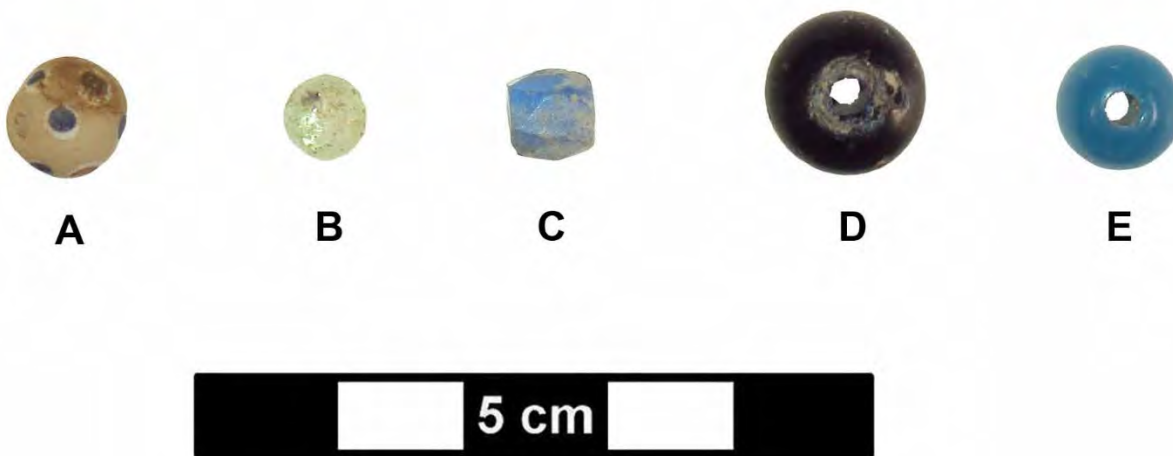


Photo 4-87 Wire wound bead from FgCg-01 Locus D (Drawn: A-B, D-E; Wire Wound: C)

Table 4.9. FgCg-01 Area Bead Data

Catalogue Number	Manufacturing Technique	Kidd Type	Quantity	Colour	Length mm	Width mm	Thickness mm	Event	Collection Unit
22318	Hollow cane drawn and tumbled	Ila43	1	Blue	1.26	1.26	0.61	110	N28E46
22322	Hollow cane drawn and tumbled	Ila43	1	Blue	1.29	1.29	1.02	110	N26E46
22323	Hollow cane drawn and tumbled	Ila43	1	Blue	1.37	1.37	0.76	110	N26E46
22337	Hollow cane drawn and tumbled	Ila43	1	Blue	1.39	1.29	0.92	109	N28E46
22310	Hollow cane drawn and tumbled	Ila43	1	Blue	1.65	1.43	0.76	100	N26E42
22295	Hollow cane drawn and tumbled	Ila11	1	White	1.65	1.65	1.33	65	N22E44
22300	Hollow cane drawn and tumbled	Ila11	1	White	1.82	1.71	1.31	65	N22E44
22340	Hollow cane drawn and tumbled	Ila58	1	Pink	1.84	1.84	1.29	110	N28E46
22315	Hollow cane drawn and tumbled	Ila58	1	Pink	1.85	1.85	1.22	98	N26E46
22314	Hollow cane drawn and tumbled	Ila58	1	Pink	1.86	1.86	1.45	98	N26E46
22298	Hollow cane drawn and tumbled	Ila11	1	White	1.87	1.83	1.72	2	N20E36
22290	Hollow cane drawn and tumbled	Ila1	1	Red	1.88	1.88	1.2	1	N30E18
22294	Hollow cane drawn and tumbled	Ila1	1	Red	1.88	1.88	1.13	1	N30E18
22312	Hollow cane drawn and tumbled	Ila58	1	Pink	1.92	1.92	1.33	110	N28E46
22321	Hollow cane drawn and tumbled	Ila58	1	Pink	2.18	2.18	2.09	110	N28E46
22293	Hollow cane drawn and tumbled	Ila28	1	Green	2.25	2.25	1.24	1	N30E18
22311	Hollow cane drawn and tumbled	Ila11	1	Yellow	2.34	2.34	1.76	98	N26E46
22443	Hollow cane drawn and tumbled	Ila28	1	Green	2.35	1.45	1.07	21	N34E66
22289	Hollow cane drawn and tumbled	Ila28	1	Green	2.36	2.25	1.68	45	N32E52
22327	Hollow cane drawn and tumbled	Ila43	1	Blue	2.49	2.49	1.52	2	N24E46
22332	Hollow cane drawn and tumbled	Ila11	1	White	2.59	2.41	1.52	74	N24E44
22307	Hollow cane drawn and tumbled	Ila28	1	Green	2.59	2.59	2.08	74	N24E46

Catalogue Number	Manufacturing Technique	Kidd Type	Quantity	Colour	Length mm	Width mm	Thickness mm	Event	Collection Unit
22324	Hollow cane drawn and tumbled	Ila43	1	Blue	2.68	2.68	2.74	74	N24E4
22285	Hollow cane drawn and tumbled	Ila43	1	Blue	2.79	2.79	1.87	22	N20E56
22325	Hollow cane drawn and tumbled	Ila43	1	Blue	2.8	2.8	1.85	74	N24E46
22308	Hollow cane drawn and tumbled	Ila43	1	Blue	2.82	2.7	2.62	78	N26E44
22333	Hollow cane drawn and tumbled	Ila28	1	Green	2.83	2.8	2.29	74	N24E44
22319	Hollow cane drawn and tumbled	Ila11	1	White	2.9	2.88	2.77	110	N28E46
22302	Hollow cane drawn and tumbled	Ila25	1	Aqua	2.96	2.96	2.11	74	N26E46
22306	Hollow cane drawn and tumbled	Ila28	1	Green	2.98	2.79	2.73	74	N24E46
22313	Hollow cane drawn and tumbled	Ila28	1	Green	2.98	2.93	2.46	110	N28E46
22286	Hollow cane drawn and tumbled	Ila25	1	Turquoise	3.01	3.01	2.34	2	N24E46
22305	Hollow cane drawn and tumbled	Ila43	1	Blue	3.02	2.76	2.29	74	N24E46
22304	Hollow cane drawn and tumbled	Ila11	1	Yellow	3.02	2.93	2.43	74	N24E44
22436	Hollow cane drawn and tumbled	Ila25	1	Turquoise	3.07	2.47	1.11	1	N28E60
22335	Hollow cane drawn and tumbled	Ila43	1	Blue	3.09	3.02	1.99	74	N24E44
22301	Hollow cane drawn and tumbled	Ila43	1	Blue	3.11	2.98	1.97	78	N28E44
22320	Hollow cane drawn and tumbled	Ila43	1	Blue	3.19	3.1	2.19	110	N27E46
22435	Hollow cane drawn and tumbled	Ila43	1	Blue	3.31	2.28	0.8	1	N28E60
22338	Hollow cane drawn and tumbled	Ila6	1	Burgundy	3.64	3.08	2.77	98	N26E46
22446	Hollow cane drawn and tumbled	Ila43	1	Blue	3.8	2.09	1.01	18	N18E56
22303	Hollow cane drawn and tumbled	Ila11	1	White	3.87	3	2.58	74	N24E44
22437	Hollow cane drawn and tumbled	Ila9	1	Clear	6	4.71	4.97	2	N38E56
22432	Hollow cane drawn and tumbled	Ilg4	1	Beige/blue dots/white	8.58	8.22	1.71	14	N16E54
22299	Hollow cane drawn and tumbled	Ila25	1	Turquoise	9.07	9.04	7.6	628	N16E40

Catalogue Number	Manufacturing Technique	Kidd Type	Quantity	Colour	Length mm	Width mm	Thickness mm	Event	Collection Unit
22329	Hollow cane drawn and tumbled	Ila43	1	Blue	9.26	6.71	7.04	110	N28E46
22328	Hollow cane drawn and tumbled	Ila43	1	Blue	9.99	9.99	7.5	110	N28E46
22339	Hollow cane drawn and tumbled	Ila43	1	Blue	10.05	10.05	7.47	110	N28E46
22336	Hollow cane drawn and tumbled	Ila43	1	Blue	11	11	8.86	74	N26E46
22444	Hollow cane drawn and tumbled	Ila43	1	Blue	11.1	8.99	2.63	23	N18E52
22330	Hollow cane drawn and tumbled	Ila43	1	Blue	11.61	11.55	10.05	96	N18E32
22292	Hollow cane drawn and tumbled	Ila33	2	Light blue	1.57-2.29	1.57-2.29	1.16-1.12	1	N30E18
22291	Hollow cane drawn and tumbled	Ila33	5	Light blue	1.58-1.93	1.58-1.93	1.17-1.31	1	N30E18
22334	Hollow cane drawn and tumbled	Ila11	2	White	2.47-2.46	2.32-2.35	1.45-1.63	74	N24E44
22317	Hollow cane drawn and tumbled	Ila43	2	Blue	9.04-9.98	9.04-9.34	6.81-6.87	98	N26E46
22316	Hollow cane drawn and tumbled; layered	IVa2	1	Red	3.96	3.96	2.49	98	N26E46
22284	Hollow cane drawn and tumbled; layered	IVa2	4	Red	2.72-3.36	2.44-3.04	1.24-1.24	17	N18E56
22297	Hollow cane drawn and tumbled; layered	IVa2	3	Red	3.13-3.85	1.64-2.47	1.32-2.90	74	N30E48
22326	Wire drawn	WIIf5	1	Blue	5.62	5.21	4.67	110	N28E46
22331	Wire drawn	WIIf5	1	Blue	5.86	5.81	1.65	74	N22E48
22288	Wire drawn	WIIf5	1	Blue	5.92	5.55	4.78	42	N28E48
22287	Wire drawn	WIIf5	1	Blue	5.93	5.93	4.64	2	N24E46
22309	Wire drawn	WIIf5	1	Blue	6.22	6.14	5.2	38	N34E64

4.7.5.4 Textiles

All the textile fragments collected from FgCg-01 Locus D were recovered from the block-lifted clay (Event 117) at the base of the Feature 6 privy pit. In addition to 15 small textile fibre samples collected during froth flotation, 42 larger pieces of textile were manually extracted from the clay matrix by the project Conservator. Seven flecks of yellow metal may also pertain to the textile assemblage.

The textiles collected from Feature 6 are interpreted as cloth scraps cut or torn from garments and used as sanitary wipes during use of the privy.

Destructive analysis for fibre type(s) has not been undertaken, but most fragments, although fragile, show high stability and integrity, indicating that they were fabricated from a durable protein-based yarn such as wool (Cybulska and Maik 2007). Three fragments however, exhibit deteriorated or partially-deteriorated wefts, suggesting a less durable weft yarn such as linen or cotton (or a lower-twist woolen weft yarn).

Virtually all pieces are of a uniform grey-tan colour, although some or all may have been dyed originally (Cybulska and Maik 2007). Three pieces are pink-violet-grey, and may originally have been dyed red.

In terms of fabric structure, one fragment appears to be a somewhat unraveled knit, but the remainder are clearly woven. The weaves appear to be both plain weaves and plain twill weaves, derived from warm shirts (i.e. "work shirts") and jackets.

Four fragments were partially edged with turned and sewn hems (e.g. Photo 4-88). A further three fragments exhibited faint lines which had formerly been stitched, although the stitching threads were no longer present. On one of these fragments (Photo 4-89), the stitching rows defined three sides of a rectangle, outlining the margins of a shirt pocket.



Photo 4-88 Hemmed Textile Fragment Recovered from Feature 6 at FgCg-01 Locus D. Note the deterioration of the weft yarns on the right-hand side of the piece.



Photo 4-89 Textile Fragment Recovered from Feature 6 at FgCg-01 Locus D, Showing Stitching Rows

4.7.5.5 Footwear

Five pieces of a shaped/sided shoe or boot were recovered from the uppermost mulch layer (Event 1), atop the Structure 2 north berm.

The largest single component appears to be a treadsole, with regular, closely-spaced stitching holes arrayed along a channel on the perimeter of the waist of the sole, to prevent thread-wear (Anderson 1968; see Photo 4-90: E). The regular spacing of the stitches indicates that the shoe or boot was machine-stitched, and the relatively-close spacing of the stitching holes (4 stitches per centimeter) is consistent with medium-quality 19th century footwear (Veres 2005). The toe area of the sole is poorly-preserved; the heel is partially present except for the back of the heel, where a straight cut in the leather indicates that the heel was made (or subsequently re-heeled) in two parts. A compressed area at the heel of the sole indicates where the lift and heel would have been attached. This compressed leather heel attachment area contains four irregularly-spaced perforations, presumably the holes for wooden pegs joining the lift, heel, and sole elements. There are no such holes on the waist or toe portion of the sole. The next-largest piece (see Photo 4-90: D), recovered along with the sole, is a waisted but otherwise rather amorphous thick sheet of softer leather, presumably part of insole. Two smaller pieces (see Photo 4-90: A-B) may be from fillers or lifts; one of these has three peg holes. The final piece is a long-arc'd piece that may be a counter (a heel reinforcement; see Photo 4-90: C). None of the shoe-leather fragments are thin enough to be from the vamp, tongue, or other upper elements, nor were there clearly-identifiable welts (stitched leather strips at the joins between the uppers and the soles). No wooden pegs or metal nails or screws were present.



Photo 4-90 Leather Artifacts Recovered from FgCg-01

The machine stitching indicates that this shoe or boot was manufactured after 1846 (Anderson 1968), consistent with most of the period of occupation of the HBC post at Sandy Banks. The context (the Event 1 mulch layer overlying the Structure 2 berm) allows for the discard of this item either in the latter part of the HBC occupation of the site, or even in the later 19th century after the post was abandoned.

The only other piece of leather recovered from FgCg-01 Locus D was a small “knob” of leather collected from the mulch layer (Event 1) south of Structure 4.

4.7.5.6 Thimbles

Three complete thimbles were recovered from FgCg-01 Locus D: two from southeast of Structure 4 in Events 21 and Event 30. The third was recovered at the base of the embankment slope below Structure 2 in Event 72.

All three thimbles were cone-shaped, had straight rims, and were made of brass (Photo 4-91). The thimble found at the base of the embankment measured 20.20 mm long, was 16.24 mm at the rim, and the opening was 14.8 mm in diameter. The thimble displayed two bands of incisions on the lower rim. The two straight rimmed thimbles also displayed incised lines on the lower rim. Length ranged from 18.10 to 22.16 mm, rim diameter from 14.69 to 19.36 mm and opening diameter ranged from 12.20 to 17.60 mm. All objects are diagnostic of the period ca. 1800 to ca. 1870 (Kenyon and Kenyon 2008).



Photo 4-91 Thimbles Recovered from FgCg-01 Locus D

4.7.5.7 Scissors

Scissors are generally comprised of two halves working in opposition to one another. Each half consists of a blade cutting edge, a shank, and a loop handle (Wade 1982:20). The halves are riveted at the joint some distance below the loops.

A complete set of scissors was recovered from Unit N26/E22 (Event 70). The scissors were 178.77 mm long and measured 56.13 mm at the widest point (Photo 4-92: B). The design of the scissor loops and overall morphology suggested that the artifact may be relatively recent and post-dates the HBC occupation at Sandy Banks.

One scissor loop and portion of shank was recovered along the embankment below Structure 2 in N16/E53 (Event 3). The loop had a diameter of 22.1 by 15.1 mm (Photo 4-92: A). The scissor loop dates from the last quarter of the 18th century to the third quarter of the 19th century (Wade 1982: 20).



Photo 4-92 Scissor artifacts from FgCg-01 Locus D (a - FgCg-01-14183: N16/E53 (Event 3); b - FgCg-01-15258: N26/E22 (Event 70)).

4.7.5.8 Bale Seals

Two bale seals were recovered, one in Structure 2 in Event 74 and the second on the slope below Structure 2 in Event 3. Bale seals were lead discs that were used to seal bundled materials such as blankets or furs prior to shipment; they were often marked to indicate the grade or quantity of the contents.

The seal from Structure 2 displayed a hand-incised number "44" under a hand-incised line on the front and a sitting fox surrounded by a belt on the back (Photo 4-93: A). The seal was 36.81 mm long, 27.10 mm wide, and 3.00 mm thick.

The second seal displayed an incised line above an illegible number on the front and an embossed "PACK" in a hand-incised circle on the back (Photo 4-93: B). It was 39.39 mm long, 31.18 mm wide and 2.85 mm thick.



Photo 4-93 Bale seals recovered from FgCg-01 Locus D (A – Incised “44” and stamped sitting fox (Event 74); B – Illegible number and “PACK” (Event 3).

4.7.6 Personal Group

The Personal Group is a diverse functional class of artifacts, including a variety of objects brought on-site for personal use. Clay tobacco pipe fragments represent the largest single category within this group.

4.7.6.1 Crucifixes

Two crucifixes were recovered from FgCg-01 in 2016. The first crucifix (FgCg-01:22689 or 23190?) is made of copper(?) from a mold and measures 29.85 mm in length and 20.53 mm in width (Photo 4-94: E). One side depicts Jesus Christ and the other, a depiction of the Virgin Mary or Madonna. The presence of an attached loop at the top suggest that it was suspended, likely a rosary given its close association with Virgin Mary. It was recovered in unit N26E58 at southeast corner of Structure 1.

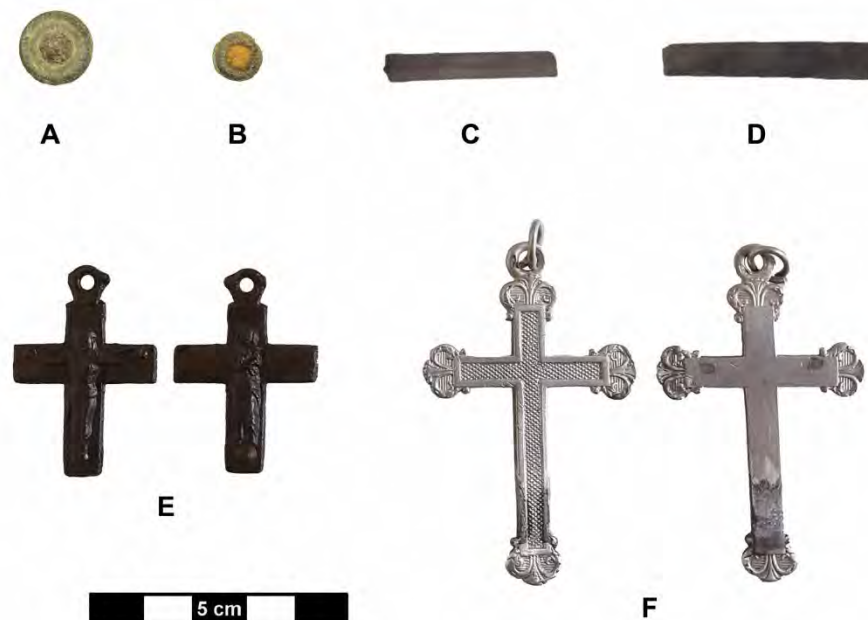


Photo 4-94 Assorted Artifacts of the Personal Group Recovered from FgCg-01 Locus D

The second crucifix is a cross is made of white metal, apparently with a high zinc content, and measures 48.33 mm in length and 29.36 mm in width (Photo 4-94: F). It exhibits decorative crown elements at all four extremities and has a loop element at top for use as a necklace or rosary, rather like the first crucifix. One side of the cross is molded or stamped with beaded texture decoration, while the other is plain. It is unclear which side represents the front, however, the plain side has solder marks where the hands and feet of Christ would have been, suggesting that the figure of Christ has since become separated and that this would therefore have been the front. This piece was recovered from unit N24E36 just east of Structure 3.

4.7.6.2 Gaming Pieces

Two small embossed discs of indeterminate material, possibly unglazed clay, were recovered at FgCg-01 Locus D. One of these (Photo 4-94: A) most closely resembles a backgammon piece, but could also be a checker piece. The second (Photo 4-94: B) is significantly smaller, but may also be a backgammon or checker piece.

4.7.6.3 Slate Pencils

Two slate pencils (Photo 4-94: C-D) were recovered at FgCg-01 Locus D. Both were found in association with Structure 2.

4.7.6.4 Jaw Harp

A single Jaw Harp was recovered from FgCg-01 in 2016 (Photo 4-95). It was recovered from unit N26E46 within Structure 2. Only the iron frame is preserved. The reed or tongue is missing.

The Jaw harp or Jew's harp was one of the more popular European musical instruments adopted by the Inuit during early interaction and throughout the history of trade in the Arctic and Labrador, perhaps due to its similar sound to throat singing (Whitridge 2015). Its portability may also have been a factor in its popularity. Jaw harps are commonly encountered in HBC archaeological contexts (e.g. Karklins 1981; Steer, Rogers and Lutick 1979; Dawson 1969; see also Kenyon and Kenyon 2011).



Photo 4-95 Jaw Harp Recovered from FgCg-01 Locus D

4.7.6.5 Tobacco Pipes

In all, 1,880 tobacco pipe fragments were recovered from FgCg-01 in 2016. All were manufactured of kaolin clay (strictly-speaking, "ball-clay"), and, for the pieces that could be identified, all were made in English factories. No pipe fragments were made of porcelain or stone. The distribution of all tobacco pipe fragments is indicated in Figure 4-34. On the terrace top, tobacco pipe

fragments are particularly associated with the southern frontages of Structures 1 and 2, and more specifically with the western side of the southern berm of Structure 1 and the eastern side of the southern berm of Structure 2. In both cases, these concentrations may flank the front entrances of these two structures. To a much lesser extent, tobacco pipe fragments are also associated with the southern frontage of Structure 4 and the interior of Structure 3. Finally, dense clusters of tobacco pipe fragments on the terrace slopes south of Structures 1 and 2 and southeast of Structure 4, may represent secondary deposits resulting from housecleaning in front of the principal structure at the site.

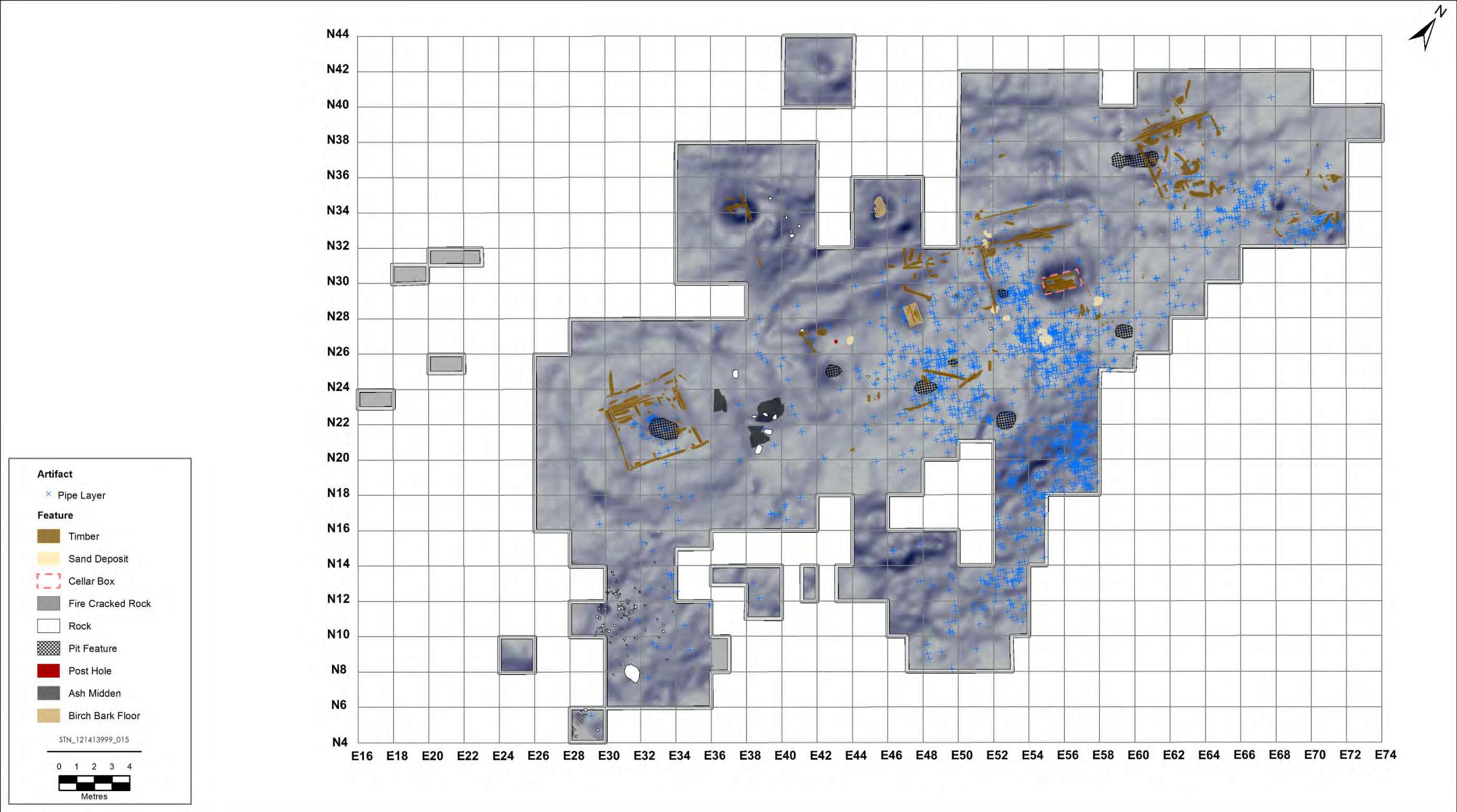


Figure 4-34 The Distribution of Clay Tobacco Pipe Fragments at FgCg-01Locus D (2015 and 2016 Collections Combined)

The majority (1099 pieces, or 58.5%) were stem fragments, and the most of these exhibited no decoration or maker's marks.

A total of 193 of these stem fragments were factory-cut mouthpieces (Photo 4-96: A-D), and these fragments constitute the minimum number of tobacco pipes recovered from the site in 2016. Five of these factory-cut mouthpieces are relatively thick and contain traces of apple-green glaze (Photo 4-96: F-G); the remainder are slender, unglazed mouthpieces (Photo 4-96: A-D). Another four pipestems are midsections but exhibit spatters of apple-green glaze indicating that they were broken close to the mouthpiece end (e.g. Photo 4-96: H), and a fifth midsection shows traces of a red pigment, most likely from a red-waxed mouthpiece. Another 22 pipestems are clearly midsections, but have worn or tooth-marked ends. In addition, three bowl-stem fragments have worn ends indicating continued use after breakage of the original factory-cut mouthpiece. Where these curated "stubs" can be linked to pipebowls or spurs, they range from 5-8 cm long (e.g. Photo 4-97: G), with two specimens as little as 2 cm long, suggesting that tobacco pipes at the site were intensively used and re-used after breakage. In one case, a 2 cm-long pipestem has been deeply scored 3-4mm from the worn end, presumably so that the user could clench the short-stemmed broken pipe more effectively in his or her teeth (Photo 4-96: I). Curated pipestems are particularly associated with the front of Structure 1, the front of Structure 2, and the artifact scatter extending downslope toward the river in front of the site (Feature 20).



Photo 4-96 Tobacco Pipe Stems Recovered from FgCg-01 Locus D

Relatively few of these pipestems were decorated or marked. Seven pipestems with prominent mold-seams were decorated with spiral fluting and triangle-and-dot banding. Four of these bore, in whole or in part, the maker's mark "RING BRISTOL" on one side and "OHIO" on the other (e.g. Photo 4-96: L, O-Q). Another eight were decorated with a trefoil or "birdsfoot" running motif along the mold seams; four of these were also marked "RING BRISTOL" on one side and "OHIO" on the other (Photo 4-96: E, J-K). Two of these trefoil-decorated stems also had spatters of apple-green glaze (Photo 4-96: E, J). These are clearly products of the Ring company of Bristol, which manufactured clay tobacco pipes through most of the 19th century. Between 1816 and 1849 they specifically advertised as a maker of "Ohio" tobacco pipes (Walker 1971), so the Ring pipes from FgCg-01 may be dated to this period. Ring certainly exported to North America; a pipestem identical to the spiral-fluted examples from FgCg-01 was recovered from Fort Couteau du Lac, Quebec (Walker 1971: Plate 1) and a similar example, marked "T D" on the bowl, derives from an unspecified site in Ontario (Kenyon and Kenyon 2008), although these pipes do not appear to have been common. FgCg-01 also yielded a spiral-fluted stem marked "T D" on the spur (see Photo 4-97: D). The only other TD-marked spur in the collection belonged to a "Turkish Man" pipebowl (see Photo 4-101: A) and it is possible that the spiral-fluted stems and the "Turkish Man" pipebowls both belong to pipes manufactured by Ring of Bristol.

The tobacco pipe collection also included 781 pipebowl, bowl/spur and bowl/spur/stem fragments. Pipe bowls are thin and fragile and vulnerable to trampling in high-traffic areas of historic sites, and most pieces recovered from FgCg-01 are therefore small fragments. However, 14 complete or substantially-complete bowls were recovered (e.g. Photo 4-97: E-I, K, L); all but one these were associated with three deposits: a buried sod layer (Event 74) beneath the southeastern corner of the Structure 2 berm, the Structure 2 berm fill itself (Event 65), and the artifact scatter on the slope in front of Structures 1 and 2 (Feature 20).



Photo 4-97 Plain, Spur-Marked, and Substantially-Complete Pipe Bowls Recovered from FgCg-01 Locus D

The overwhelming majority of bowl sherds (646) are undecorated and unmarked; spurs are generally blunt but a small number are spike spurs (e.g. Photo 4-97: A, B).

Thirty-nine spur fragments or spurs from otherwise undecorated bowls are plain (Photo 4-97: E, K); two of these are spike spurs, the remainder are blunt). A further 49 spur fragments or spurs from otherwise undecorated bowls are marked with the molded raised initials "I F" on either side of the spur (three of these are sharp, slender spurs, the remainder are blunt; see Photo 4-97: A-C, F-J, L). The "I F" spur mark is the single most frequent marking found on tobacco pipes from FgCg-01 (e.g.

Photo 4-97: D). Tobacco pipes with this mark are common in HBC contexts elsewhere in Canada (e.g. Forsman 1985). Although there were some ten pipe makers with the initials "I.F." operating in London during the 19th century (see Hamilton and Lunn 1984), these HBC-related pipes, including the example from FfCi-02 Locus B, were almost certainly produced by the firm of John Ford (later Jesse and Thomas Ford), who exported tobacco pipes to the HBC from ca. 1846 (or possibly earlier) until 1877 (Walker 1971). One additional marked spur combines spiral fluting along the stem (associated with Ring Ohio pipes) and the molded raised initials "T D" on the spur.

Eighty-four pipebowls or bowl sherds contain evidence for decoration or maker's marks.

Among the most common are 14 bowl fragments marked on the back of the bowl with portions of an impressed mark consisting of the words "FORD" and "STEPNEY" surrounding a small oval flanked by short radiating ticks. In nine cases, this mark was enclosed by a fine rouletted circle; the remaining fragments lack the rouletting (see Photo 4-98). This is another mark of the Ford company (Walker 1971; Pfeiffer 2006), and in fact one example is also marked "I F" on its spike spur. The ticked oval (the "insect" mark: Pfeiffer 2006) is one of several Ford bowl marking motifs. Other Ford markings may include a stylized bee, or a simplified coat of arms of the City of London (see also Walker 1971); however, only the "insect" mark was encountered at FgCg-01.

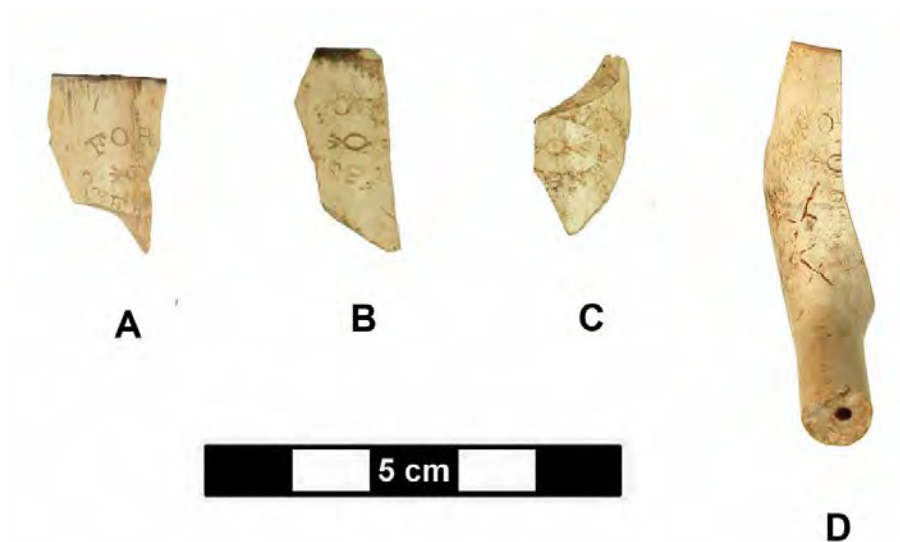


Photo 4-98 Tobacco Pipe Bowls with Impressed "Ford Stepney" Markings Recovered from FgCg-01 Locus D

Eleven bowl fragments bear a different impressed mark on the back of the bowl: the letters "T D" with small arabesque scrolls above and below, the whole enclosed within an oval rouletted cartouche (see Photo 4-99). By the 19th century, "T D" was no longer a maker's mark as such, but rather a class of tobacco pipe made by many different manufacturers (Walker 1966). In fact, two of the incised "T D" pipebowl fragments from FgCg-01 have spurs marked with the molded letters "I F" (e.g. Photo 4-99: B), so these would appear to be another product of the Ford company of London.



Photo 4-99 Tobacco Pipe Bowls with Impressed "T D" Markings Recovered from FgCg-01 Locus D

Another eleven, relatively narrow, bowl fragments are characterized by large, well-formed raised molded letters "T" and "D" high on the back of the bowl, just below the rim. The "T" and "D" flank prominent mold seams (see Photo 4-100: A-C). Similar "T D" marks may be associated with spiral-fluted-stem pipes manufactured by Ring of Bristol (Kenyon and Kenyon 2008), but at FgCg-01 there is no evidence to link this "T D" mark to any particular stem decoration. Four of these pipebowls have unmarked spurs.

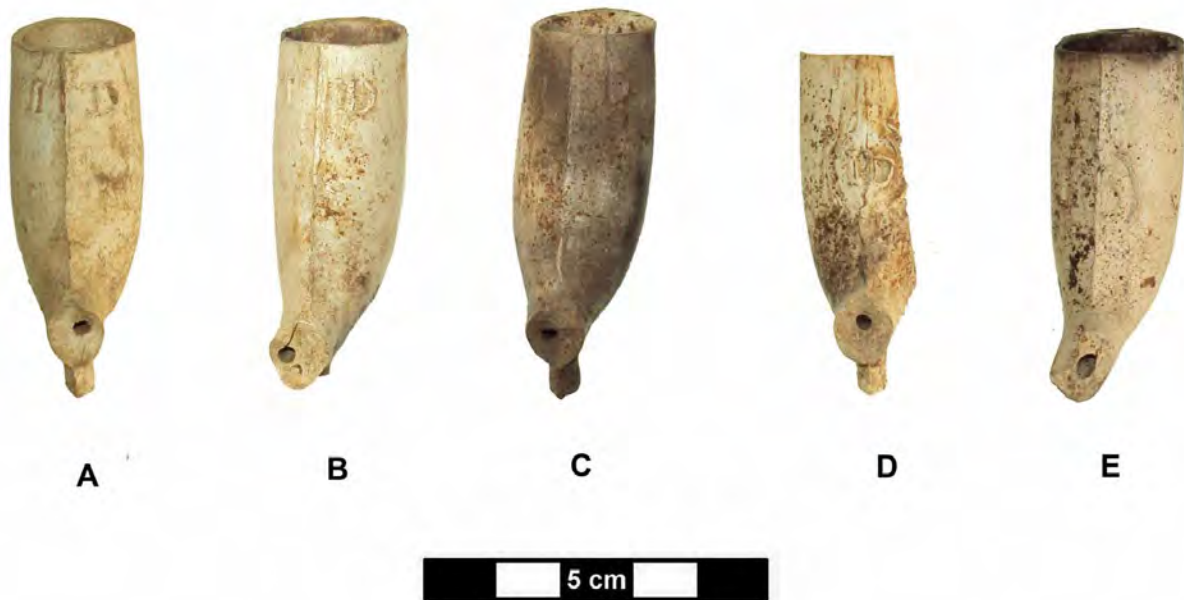


Photo 4-100 Tobacco Pipe Bowls with Molded "T D" Markings Recovered from FgCg-01 Locus D

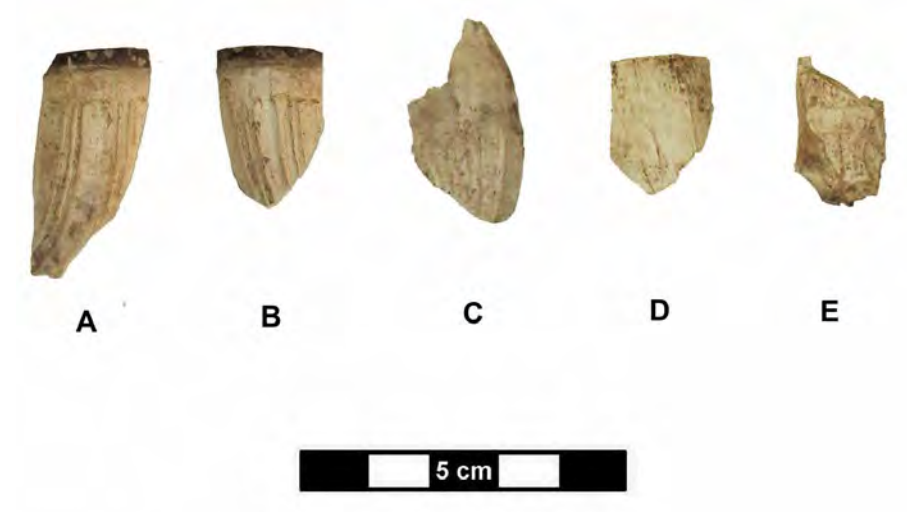
Eight bowl fragments exhibit yet another style of "T D" mark: crudely molded raised letters on the back of the bowl, enclosed by a molded rayed circle (see Photo 4-100: D, F). One fragment includes an unmarked spur. Similar examples have been excavated from kiln-waste deposits at 19th century pipe factories in Bristol (Jackson, Beckey and Baker 1991; Jackson and Jackson 1984).

Thirteen bowl fragments belong to human effigy pipes. The most complete is a "Turkish Man" pipebowl (see Kenyon and Kenyon 2008; Conway 1986), depicting a moustachioed male face with prominent eyebrows, ears, and curly hair, wearing a cylindrical fluted headdress. On this example, the spur is present, and bears molded letters "T" and "D" on either side of the spur (see Photo 4-101: A). The remaining pieces include fragments with molded decoration of hair, ears, moustaches, and cylindrical headdresses, clearly belonging to similar effigy pipes (see Photo 4-101: B, C).



Photo 4-101 Molded "Turkish Man" Effigy Tobacco Pipe Bowls Recovered from FgCg-01 Locus D

Another twelve bowl fragments exhibit various kinds of molded fluted decoration (see Photo 4-102: A-C), some of them likely from variants of the 19th century “Four-Band Fluted” style of tobacco pipe (Kenyon and Kenyon 2008). In two cases, the spur is present but unmarked.



**Photo 4-102 Tobacco Pipe Bowls with Molded Fluted and Botanical Decoration
Recovered from FgCg-01 Locus D**

Eight pipebowl fragments of white clay exhibit various molded masonic motifs, generally associated with wide fluted decoration around the base of the bowl. Two of these fragments depict portions of a set-square-and-compass, a clear diagnostic of masonic symbolism (see Photo 4-103: C, F). Both also depict several small stars. Other sherds include various combinations of masonic symbols, including stars (the seven stars), a sunburst (or "Blazing Star"; (see Photo 4-103: B, E), and bird. Detail is soft and indistinct on all pieces.

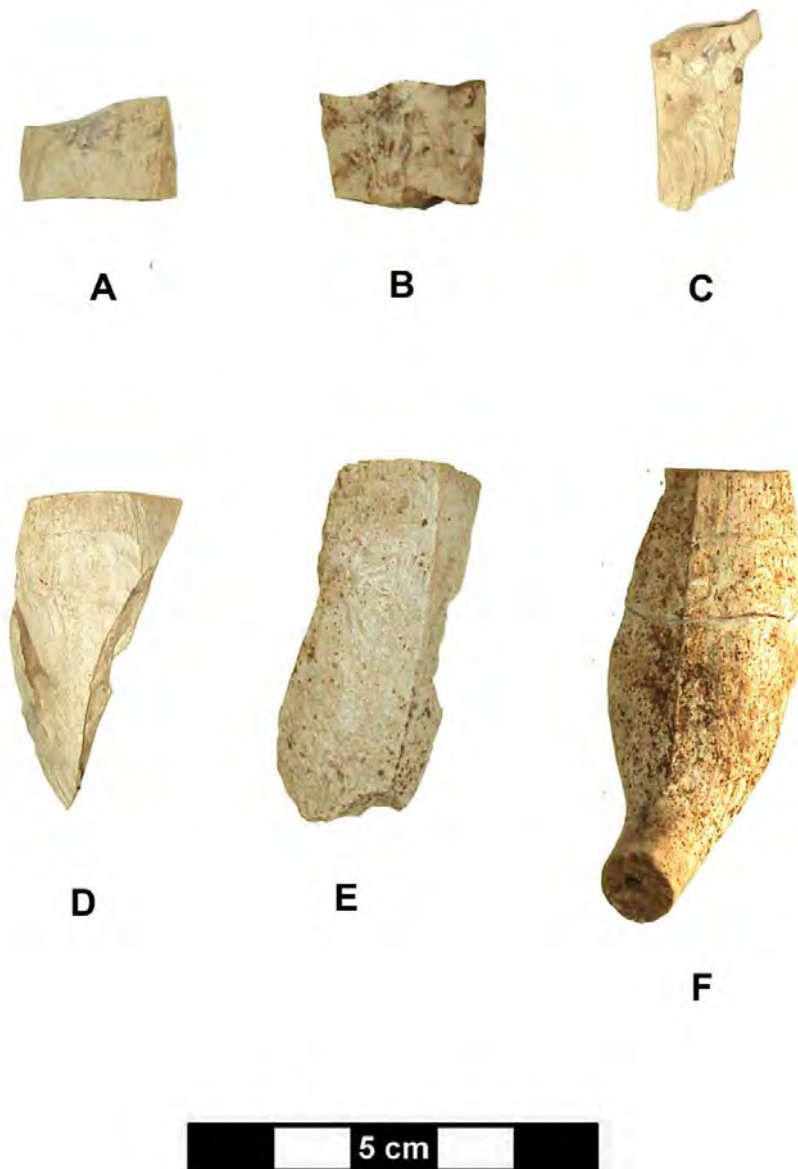


Photo 4-103 Tobacco Pipe Bowls with Molded Masonic Motifs Recovered from FgCg-01 Locus D

Finally, seven bowl sherds exhibit worn, fragmentary, or otherwise indistinct impressed or molded decoration. Two of these sherds appear to depict botanical elements (see Photo 4-102: D, E), but the overall designs are indeterminate.

In summary, FgCg-01 yielded a large assemblage of tobacco pipe fragments. These are distributed along the southern frontages of Structures 1 and 2, where these concentrations may flank the front entrances of these two structures. Dense clusters of tobacco pipe fragments on the terrace slopes south of Structures 1 and 2 and southeast of Structure 4, may represent secondary deposits resulting from housecleaning in front of the principal structures at the site.

Most are plain, and all the marked and decorated pieces fall within a limited range of types. The overwhelming majority of marked examples appear to have been manufactured by Ford of London, and supplied under contract to the HBC between 1846 and 1877. A smaller number of marked stems were manufactured by a different firm, Ring of Bristol, likely dating between 1816 and 1849. Although the sample size of marked and decorated pipes is relatively small, these appear to be associated particularly with Structures 1 and 2, and with the Feature 20 artifact scatter in front of Structures 1 and 2. Masonic motifs are found primarily in front of Structure 1. Other marked and decorated types found associated with Structure 2 (including the Ring-marked pieces) primarily derive from the buried sod underlying the Structure 2 berm (Event 74), suggesting that these may predate Structure 2, and therefore may also be associated primarily with the neighbouring Structure 1. This is also the case for some of the Ford pipes; five of these (two Ford-impressed and three IF-marked spurs) were also recovered from Event 74. In addition, two more IF-marked spurs were recovered from deep within the Structure 2 berm (Event 65): one 7 cm below the top of the south berm, and the other 20 cm below the top of the north berm. These pieces were clearly re-deposited within the Structure 2 berm during the berm re-building phase.

4.7.7 Activities Group

4.7.7.1 Axes

There were six examples of axes recovered from FgCg-01, making this one of the more common tool types recovered. Of these, three were complete and intact, one was complete but broken, one was a single broken bit, and the last was a preserved small hatchet including a portion of the handle. Aside from the broken fragment, which is not diagnostic, all axes are of the single-bit style.

Of the five complete axe heads recovered, four distinct styles were identified. The first of these (Photo 4-104: A) measures 18.27 cm in length and has a maximum length of 8.41 cm. Despite superficially resembling other axes from the site it shows a unique upward turned top edge which places the upward tip of the bit above the poll. This is notable in that all HBC trade axes are noted as having a 90° orientation to the handle, with no rise or drop along the edge. This axe is also unique in the collection for being the only example with hammering on the reverse of the poll. It is unclear whether this use wear is related to construction or subsequent use of the axe but it was clearly intended for this purpose as this section of the head has had additional metal added. The

axe is marked with "EDGE & ONNER" and "37" (Photo 4-105: A). "EDGE & ONNER" remains an unidentified manufacturer and was not found on any of the supplier lists associated with the HBC.

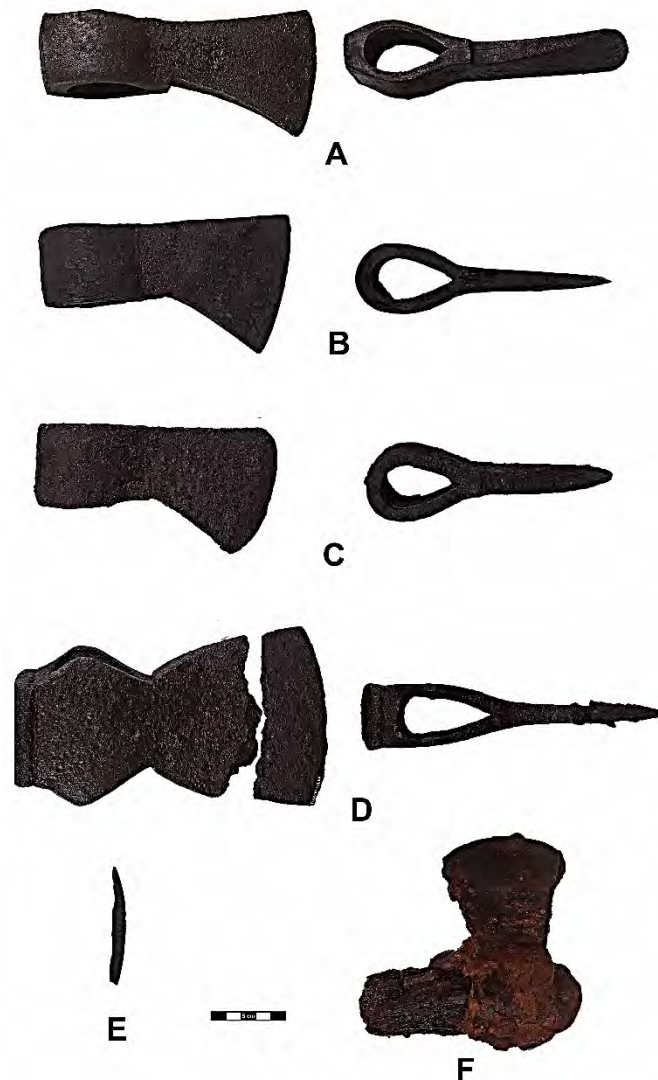


Photo 4-104 Axe Heads Recovered from FgCg-01 Locus Ds

Two of the axes (Photo 4-104: B and C) are near identical in dimensions (15.62 x 8.58 cm and 16.74 x 8.37 cm) with the small variations likely due to the fact that one (Photo 4-104: C) appears to have been heavily used while the other (Photo 4-104: B) appears almost new. In design, both follow the expected pattern for HBC trade axes with bits straight to handles and almond shaped handle holes. Both are marked with a stylized "AW", this mark is again of uncertain origin.

Axe D is of a significantly different design and is almost certainly related to the construction of the post rather than a trade item. The shape/style of this axe is referred to as a Kent or ship-builders axe. Rather than a variation of felling axes like the previous three examples, Kent axes are used near exclusively for hewing, and squaring of logs. The use of this ax to square logs may explain its breakage; the break occurred midway down the bit and appears to have a bending break from applying a twisting force to the axe, and this is the manner in which this axe is used while performing initial squaring. The connection with this axe and shipbuilding is significant as the HBC were known to employ ship builders to construct their posts and this tool may have been a carry over. The axe is unmarked but does have a rope motif surrounding the flat surface behind the poll (Photo 4-104).

The broken bit (Photo 4-104: E), the distal end of the axe blade, is an item produced from the repair of axes. If an axe's shape needed to be changed, or if the axe was chipped, the bit would be cut away to allow for repair. The scarcity of examples of this generally common item likely hints that many axes on site were being either ground with files into shape as required, or that they were potentially being transported for repair to larger HBC posts equipped with smithies.

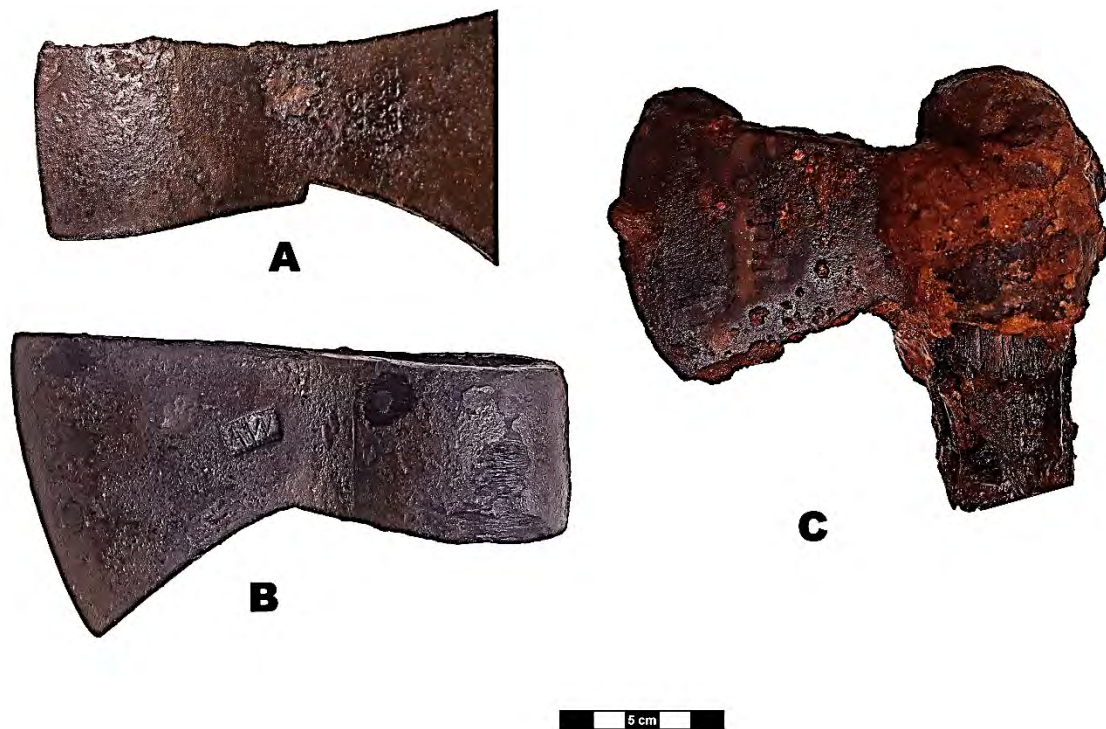


Photo 4-105 Maker Marks on Axes Recovered from FgCg-01 Locus D

The final axe (Photo 4-104: F) was recovered from fill within Feature 10. When the axe was excavated, there was a negative impression of the handle still visible (Photo 4-106) from this, the handle length may be estimated as approximately 35 cm. This short handle length and the small blade width (7.91 cm) hint that this axe was possibly more of a belt axe rather than the larger trade axes recovered. Despite this small size, the form of this axe is like that seen in the two "AW" axes, matching the HBC pattern. There is an impressed mark of "MATHE" with the last letters uncertain (Photo 4-105:C). Despite "Mathers" being a known axe producer the production dates are much too early, "Mathews" being another option does not appear as a tool producer and is not mentioned as a HBC supplier.



Photo 4-106 *In Situ* Axe with Degraded Handle from Feature 10

4.7.7.2 Tools

As with many items that have been recovered from FgCg-01, all tools on site can be fitted into two separate groups, tools used for the construction and maintenance of the post or tools that were transported to the site with the intention of trading. In both categories, the total collection of tools seems rather small, often with only a single example of each tool, and some tool types that must have been used, such as saws, were lacking in the collection.

Files

A collection of seven fragments, constituting six files, were recovered from FgCg-01 Locus D. Though fragmented, the files are all well-preserved, owing to the high quality of steel generally used in file production. All are of the bastard tooth size and intended for working metal. Four are the flat or mill variety, one being a half-round file, and the last being too fragmentary to determine type. Only a single object (Photo 4-107: B) seems to have been damaged beyond simple breakage, and shows evidence of melting and possible hammering.

The four flat files are rectangular in cross section with roughly parallel sides that only contract near the distal point. All are of a double-cut style, with offset scoring giving the surface a diamond appearance, on both wide faces and single cut along the thin edges. Except for the one example, which is a distal tip, all the flat files had tangs. Along with the tang of the file of unknown

type (Photo 4-107: E), all the flat file tangs are sharply contracting and maintain a constant thickness. The single half-round file, convex on one surface and flat on the other, is parallel sided and uniform in thickness. It is single cut and being a medial section does not give any sense of style of tang.

Three of the flat files have visible maker's marks. One (Photo 4-107: A) bears the impressed mark "Loxley" along the tang with an additional small illegible mark above the name. The second (Photo 4-107: B) is marked "TURNER" with a motif of two diamonds above. The third (Photo 4-107: C) is marked "EXTRA CAST STEEL" and has the beginning of the name "J.S.MI". These manufactures are unidentified but are all likely of English production.

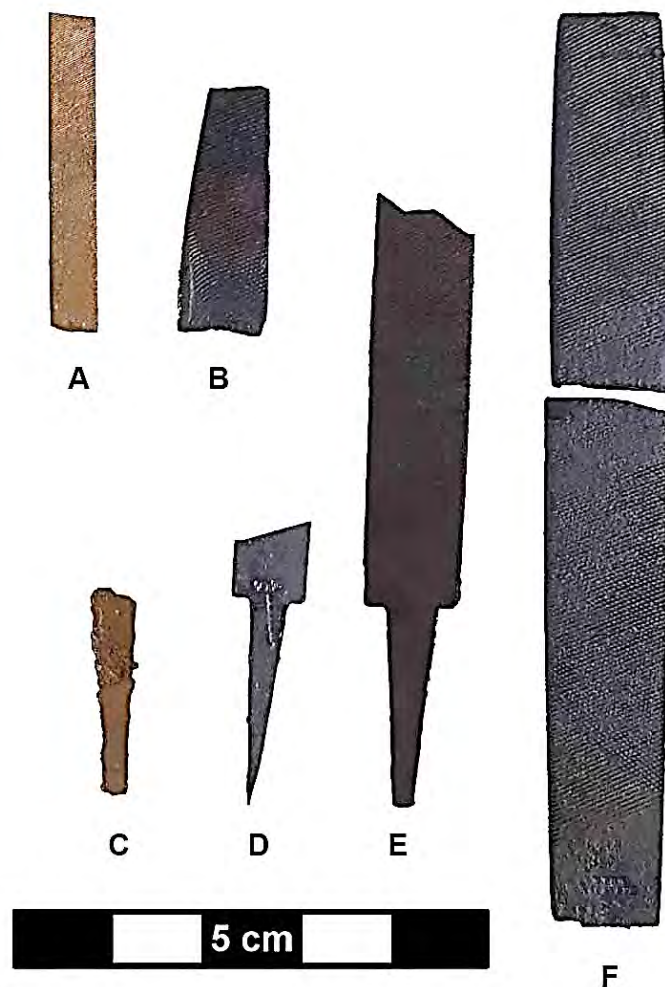


Photo 4-107 Files

Chisels

Two examples of wood-working chisels were recovered. They are near complete, with a third handle/tang fragment that is grouped here due to similarity in quality of steel and overall dimensions (Photo 4-108). The two complete examples are of a similar style with long thin tangs that were likely completely encased in wooden handles, with one showing a flattened proximal end that would have been used to secure a handle. Both are of a simple design with an expanded blade, with no indication of beveling on lateral or working edges. The longer example of the two seems more roughly made with an edge that appears to have been cut by shears or a metal chisel. As will be discussed below there seems to have been at least some metal working occurring on site and this chisel may have been produced on site.



Photo 4-108 Chisels Recovered from FgCg-01 Locus D

Buckets

A diverse collection of fragmentary pieces has been identified as the remains of buckets. These buckets seem to be made of low quality metals, and have mostly degraded beyond recognition. The identifiable features consist mostly of handle lugs, folded body sections (Photo 4-109: A and B), and handles (Photo 4-109: C). No minimum number count or size estimates of buckets were possible from the small number of iron fragments that could be identified as bucket pieces.

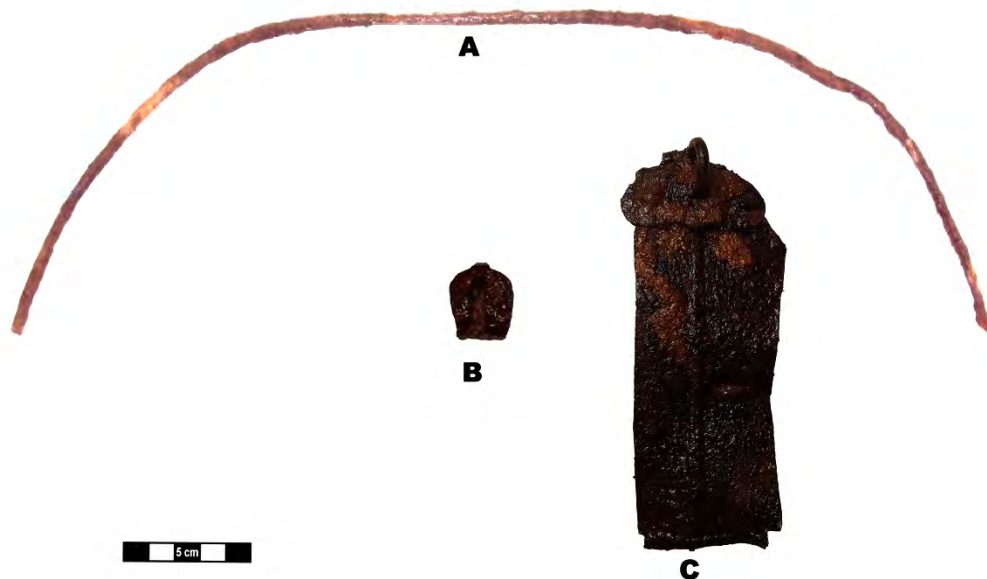


Photo 4-109 Bucket Fragments Recovered from FgCg-01 Locus D

4.7.7.3 Tools with Only a Single Example

The total number of tools recovered from the site was low, and many types are represented by only a single example each.

Shovel Blade

A broken shovel blade was recovered from the western berm of structure 2 (Photo 4-110: A). The blade is mostly intact but is clearly missing pieces of edges at the distal tip and one lateral edge and measures 26.68 x 20.42 cm with a thickness of 3.3 mm. The style is essentially modern with a compound curve from front to back and across the width. The intact back edge is slightly curved across the width and is the same width as the rest of the blade suggesting that the shovel was not meant to be kicked. The way the blade was attached to the handle is indeterminate but there are semi-circular in-cut marks where a handle would have passed through the blade.

Shell Gimlet

A single long shell gimlet was recovered (Photo 4-110: B), gimlets are a well-documented tool and are often related to the opening of barrels, but was also used in both cabinet making and boat building prior to the introduction of twist and push drills. The crimped/riveted end of the shaft indicates that this gimlet was used with a wooden cross handle rather than being fitted to any other tool. This example is made of high quality steel that has resisted corrosion much better than many other ferrous metals on site.

Claw hammer

A small claw hammer head was recovered from Structure 3; this hammer has a head that expands out from the square handle hole (Photo 4-110: C). The face of the hammer is round while the expanded head is eight sided with a sharp angle connection to the rest of the object. This object has clearly been in use and has evidence of use on both the hammer head and the claws but seems too small to have been used for the main construction tasks on site and suggests that finer, light duty work was also being completed on site.

Wood Plane

An uniaxially-sharpened blade made of a high-quality steel is interpreted as a fragment of a plane blade, based on the blade profile (Photo 4-110: D) and that fact that the piece does not match the other objects identifiable as chisels.

Crooked Knife

Two fragments of a crooked knife were recovered at FgCg-01 Locus D (Photo 4-110: E). This style of draw knife is still in use by Innu people in the region. The knives are almost exclusively made from re-purposed files, and this example is made from what was originally a flat, double cut file that has blistering and distortion indicating some variety of heat treatment. Along with this heat treatment some of the file has been flattened/hammered reducing the thickness down to less than 5 mm. The fragmentary nature of the piece, along with the lack of a sharpened edge, suggest that this tool was abandoned during production and was therefore a crooked knife preform rather than a finished tool.

Fire Steel

Fire steels were employed for starting fires by striking a piece of flint and producing a spark that would ignite tinder. Despite the numerous strike-a-light flint pieces recovered on site (see Section 4.7.4) only a single fire steel was collected from the interior of the Structure 1. The steel is curved, with a straight striking surface with an overall thickness of 6.49 mm. Both ends of the object are finished: one with a projecting horn which would have aided in holding it while in use, while the other end is a decorative spiral (Photo 4-110: F). This tool is made of high quality steel and is better preserved than many tools recovered. This style of fire steel has proven difficult to match to other examples and differs from the example from the nearby FgCg-04 (see Section 5.0).

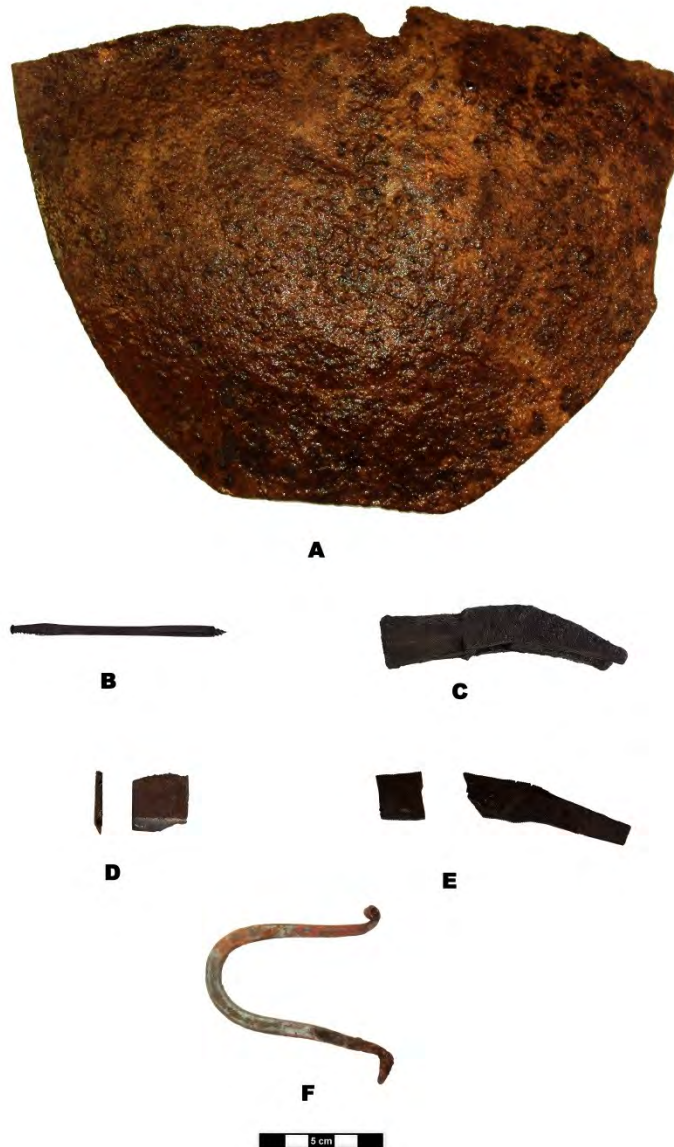


Photo 4-110 Assorted Tools Recovered from FgCg-01 Locus D

4.7.7.4 Trap Fragments

Traps were obviously essential to the fur trade economy and are well represented in the collection, with 27 separate pieces identified as belonging to traps. The majority (n=18) consist of lengths of trap chain and chain links.

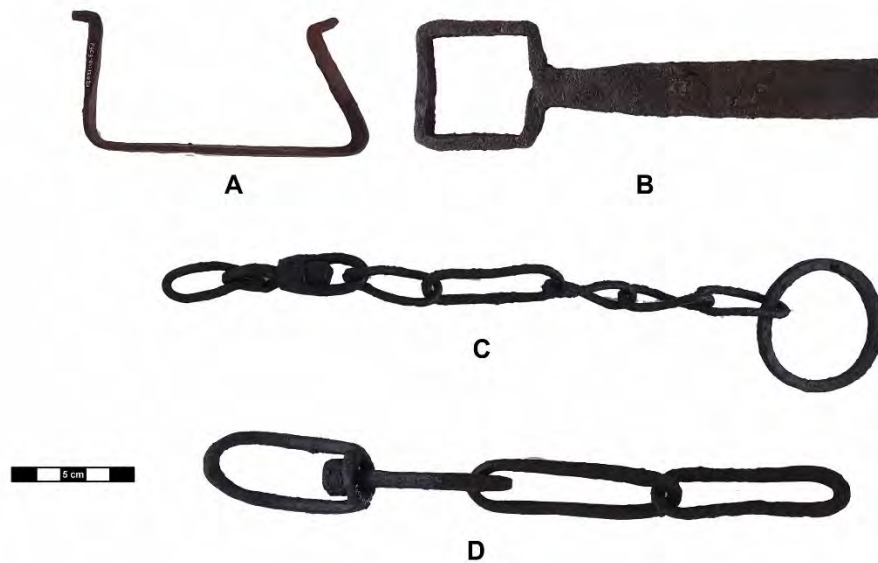


Photo 4-111 Assorted Trap Pieces Recovered from FgCg-01 Locus D

Other trap pieces are less common but the few examples do hint at the range of sizes and styles of trap used and traded at the post. The recovered trap spring (Photo4-111: B) is from a large heavily trap, in contrast to the single trap jaw recovered, which is from a trap half the size of the one suggested by the spring. Three trap frames were recovered on site (Photo 4-112). The three examples are similar in size and style and appear to have been made by hand, with one unfinished example being made of a fragment of barrel hoop. As to size, the recovered jaw fits perfectly with any of the three frames.



Photo 4-112 Trap Frames Recovered from FgCg-01 Locus D

Trap tongues (see Photo 4-113), part of the trigger mechanism, were the second most plentiful trap-related object, with four examples recovered. These pieces are easily mistaken for small door hinges but are identifiable due to the lack of holes and the tapered distal end which interacts with the trap plate. The high number of this trap piece is likely related to the high likelihood of the trap trigger being a point of failure for traps and were brought back to the post for maintenance. Only a single example of a trap plate was recovered (Photo 4-113: E).



Photo 4-113 Trap Plate and Tongues Recovered from FgCg-01 Locus D

4.7.7.5 Barrel Hoops

Barrel hoops (Photo 4-114) were relatively abundant at FgCg-012 Locus D, with 41 fragments and complete hoops recovered. The sizes of the hoops vary widely with diameters between 35 cm and 60 cm. The other dimensions of the hoops are equally inconsistent with thicknesses ranging from 6mm to 11mm and widths from 5 cm to 12 cm. The presence of nail holes in hoops is in not universal, however, when present these are square in appearance and are equally-spaced. All the complete hoops, and many of the fragments, contain a single hot-hammered rivet that connects the strap into a hoop, with 25% of these joins showing that the corners of the strap have been removed.

Barrel hoops appear to have served as a ready source of metal at the post, and many fragments appear to have been cut or purposely broken. Due to this dismantling and reuse, there are many metal fragments that are likely barrel hoops but are too fragmentary to identify.

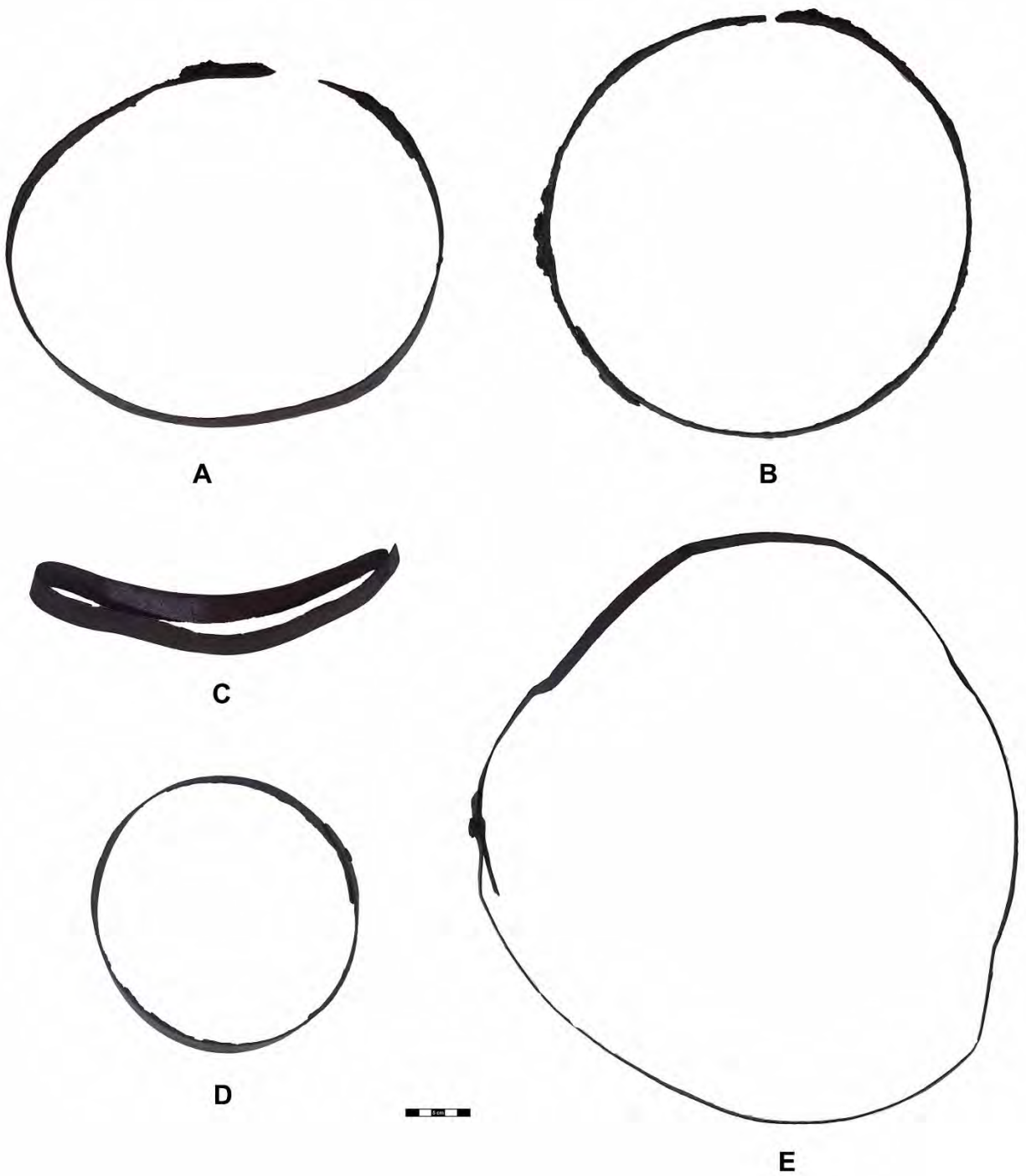


Photo 4-114 Barrel Hoops Recovered from FgCg-01 Locus D

4.7.7.6 Clasp Knives

Several clasp knives, two of which are relatively complete, were recovered from FgCg-01 in 2016. The first knife (Photo4-115: E), measuring approximately 96.25 mm in length and 30.74 mm in width, was recovered from the southern terrace slope. This complete iron knife, which is folded into the handle, is a single-bladed knife in which the blade is pivoted on pins and folded into the recess of the handle, although the blade and other features are indistinguishable given that the knife is in a permanently closed position. The straight handle is decorated with a cross-hatched design and displays a rounded bolster on one end and one attachment pin, with raised areas, at the hinge end.

The second relatively complete clasp knife, measuring 164.30 mm in length and 20.57 mm in width, is a single-bladed composite knife in extended position with a spear-point blade (Photo4-115: D). The bolster lining is covered with bone handle plates at the bulbous end and a steel bolster that is approximately one half the length of the handle. It is possible that this was a personal eating implement, carried by its owner for convenience.

The remainder of the recovered clasp knives are fragmentary, including a single spear-point blade marked with "CAST-STEEL" with a single rivet hole at the base of the blade (Photo 4-115: C). This blade, measuring 73.05 mm in length and 17.71 mm in width, was recovered immediately south of Structure 3. A relatively small bolster lining, partially covered with bone and badly deteriorated, was also recovered from the southeastern corner of Structure 3 (Photo 4-115: A). Measuring 79.91 mm in length and 13.65 mm in width, the handle appears to be from a pen knife and has three attachment pin holes and a short metal tang protruding from the bolster lining. A single steel bulbous-shaped bolster lining, measuring 98.94 mm in length and 23.37 mm in width, was recovered just north of the northwestern corner of Structure 4 (Photo 4-115: B) and three fragments, including two steel bolster linings, one with two attachment pin holes and one with a single attachment pin hole, and an associated bolster with a single hole, were recovered from the edge of the southern terrace slope, in front of Structure 3 with (Photo 4-115: F).



Photo 4-115 Clasp Knives Recovered from FgCg-01 Locus D

4.7.7.7 Awls

Awls are perforating tools most commonly used to make holes in heavy fabric or leather. They could be considered part of the "Clothing Group," though not all applications would have been clothing-related, and therefore they are included in the Activities Group. These tools consisted of an iron point set into a wooden or bone handle. Offset awls are a particular type of awl distinguished by being bi-pointed, with the opposite ends being offset by the width of one prong. Either end of such double-pointed awls could be used as a hafting tang, with the offset acting as an efficient brake against deep penetration of the tang into the awl handle; offset awls are a common artifact on HBC archaeological sites (Noble 1973).

Three double-pointed iron awls with a Z-shaped offset at the middle were recovered, along with a fourth fragment that may belong to a simple, straight awl (Photo 4-116). For the three mostly complete examples length and width and thickness are consistent. The broken fragment matches the others in thickness and length below the offset. All of the awls are rectangular in cross-section and the one complete example is symmetrical with matching tapers on both points. All of the awls have been used, with two (Photo4-116: A, C) both missing the distal tip of a single prong while a third (Photo4-116: B) is complete but bent.

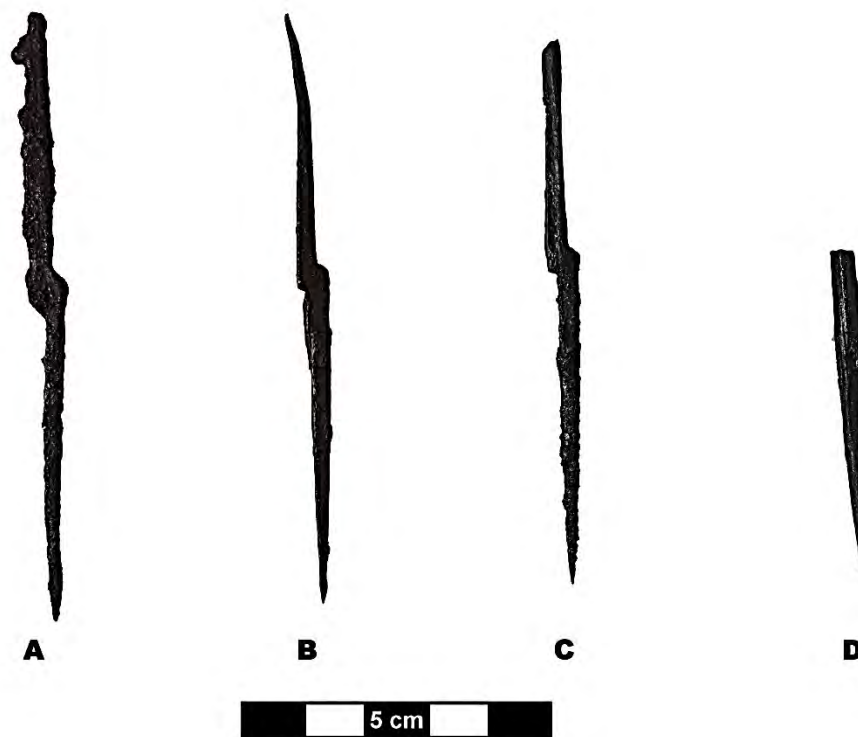


Photo 4-116 Awls Recovered from FgCg-01 Locus D

4.7.7.8 Scrap Iron and Copper

Unidentifiable metal fragments constitute a large portion of the artifact assemblage from FgCg-01 Locus D with 2,412 pieces recovered. Of this number, ferrous objects, predominantly iron and tin, make up 93.2%, with copper and copper alloys making up the remaining 6.8%. There was no significant clustering or patterning in the distribution of scrap metal, which mirrors the overall artifact distribution across the site.

Scrap copper (Photo 4-117) appears to have been a valuable material on site and the few pieces recovered do not have any evidence of subsequent reworking. Unlike the ferrous scrap metals, copper seems to have come from limited sources and is usually in the form of thin (0.5-1 mm) sheets. The likely source for this material was copper kettles and pots, known historically to have been cut and re-purposed (Berdard 1990:178). Copper seems to have been cut either by incising lines until the material was able to be broken by hand or using shears which results in an easily-identified spiral pattern. There are other sources for scrap copper aside from cookware, as two recovered pieces were significantly thicker (>5 mm) and appear to have been cast rather than rolled. The original use of these objects has not been identified but one does show evidence of

reuse. The 19th century Innu campsite at FfCi-02 on Gull Lake, excavated in 2015 (Stantec 2016), yielded comparable pieces of reworked copper.



Photo 4-117 Scrap and Reworked Copper Recovered from FgCg-01 Locus D

The scrap category for ferrous metals incorporates multiple types of materials, most commonly strapping and sheet metal. Strapping may include barrel hoop fragments that have no identifying features (Photo 4-118: B). Sheet metal could have a variety of sources from the reuse of large cans to much larger sheets that may have been used as structural elements. Some pieces of tin/iron were clearly part of other, more complex objects that were dismantled or destroyed (Photo 4-118: A-C, D-E). Much of what is classified as scrap still has turned edges or drilled holes indicating it was once part of a finished object, rather than blacksmith's stock (Photo 4-118: F-G).

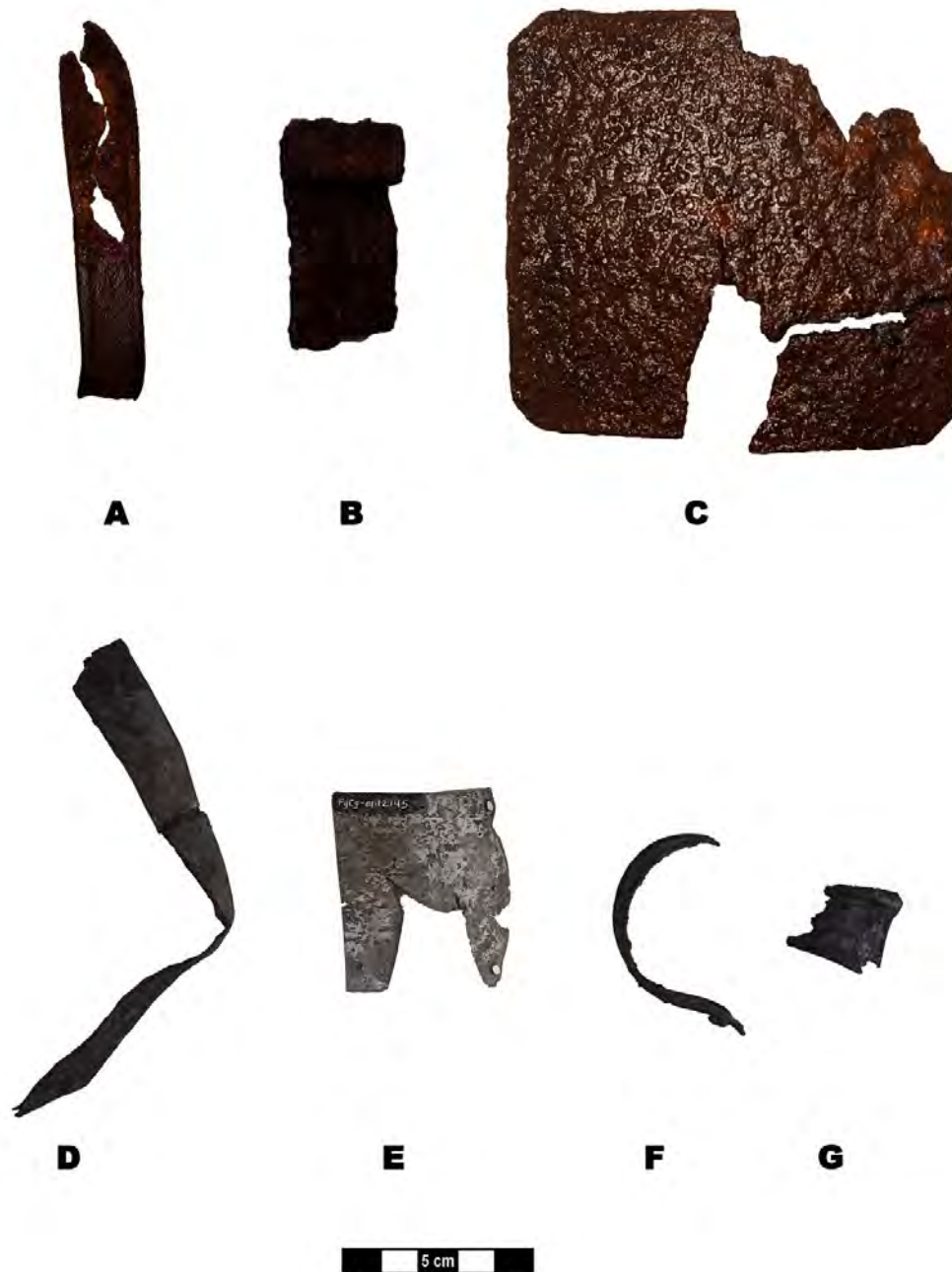


Photo 4-118 Ferrous Scrap Metal Recovered from FgCg-01 Locus D

4.7.7.9 Wooden Artifacts

Although most wood samples collected from FgCg-01 Locus D pertain to structural timbers, two appear to be from artifacts that belong in the Activities Group.

One sample of two pieces (Photo 4-119: A-B) derives from a fragmentary unburned wooden stick 3 m long and 3-4 cm in diameter recorded in the Structure 1 builder's trench. The stick has clearly been axe-cut (see Photo 4-119: A) and although its function is indeterminate, it may have served as the shaft of a long-handled implement such as a gaff hook.

A second sample of three pieces of unburned wood belongs to a thin (7-15 mm) sawed board with one angled and beveled end (Photo 4-119: C). This appears to be part of the head piece of a small wooden barrel or cask.



A



B



C

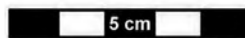


Photo 4-119 Wooden Artifacts Recovered from FgCg-01 Locus D

4.7.8 Food Refuse Group

The food refuse group consists of macrofaunal remains, including animal bones and teeth, which were distributed widely across FgCg-01 Locus D, and small assemblages of microfaunal and ethnobotanical remains, which were almost entirely restricted to the privy (Feature 6). Microfaunal remains include some elements (parasites and insect parts) that were not intentionally part of the diet of the historic occupants of the Sandy Banks HBC post.

4.7.8.1 Faunal Remains

Excavation at FgCg-01 Locus D in 2015 led to the recovery of 89 pieces of faunal bone. Excavation work in 2016 has led to the recovery of an additional 2,351 pieces. The collection includes large unburned animal bones and teeth. In addition to small calcined fragments.

Detailed faunal analysis has not yet commenced, but preliminary assessment of the collection indicates that some of this bone is clearly from domesticated species (cattle and pig), presumably brought on-site preserved in barrels as salt beef and salt pork. However, most of the pieces in the collection appear to derive from wild species, including small game, furbearers, caribou, and bird.

The distribution of faunal remains is indicated in Figure 4-35. The most conspicuous concentrations are found at some remove from the principal structures, in the two terrace slope discard areas (Features 14 and 20). Clearly the predominant disposal practice for refuse bone was to discard it down the front of the terrace.

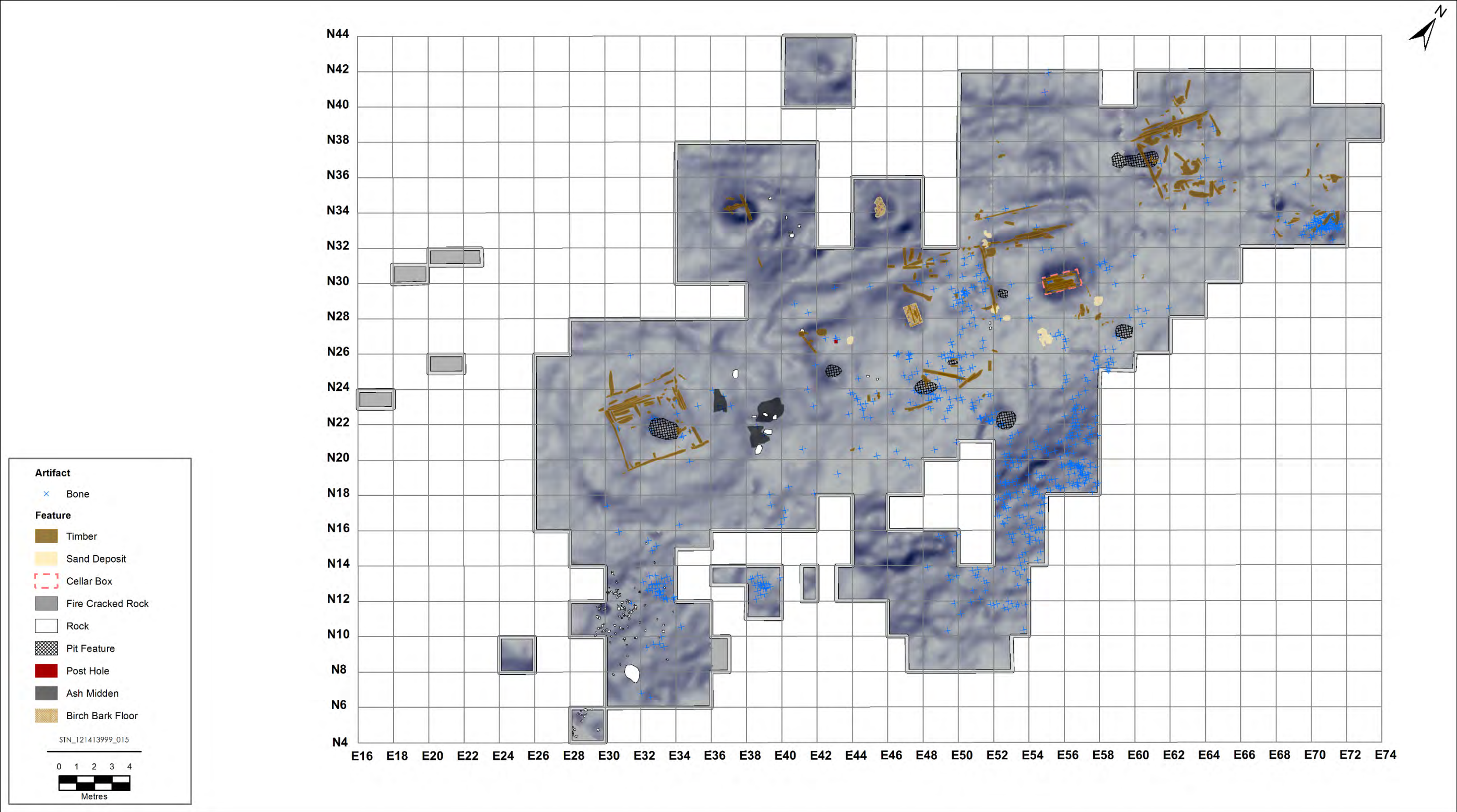


Figure 4-35 The Distribution of Faunal Remains at FgCg-01Locus D (2015 and 2016 Collections Combined)

Otherwise, bone is sparsely distributed across the site, particularly between and in front of Structures 1 and 2. It should be noted that much of the bone associated with these structures was actually recovered from Event 74 (the buried sod beneath the berms, predating construction of the buildings) or was incorporated as secondary deposit into the berms themselves (Events 29 and 65) when the berms were built or rejuvenated. Most of the faunal material recovered from Structures 1 and 2 may not in fact be associated with those two buildings.

4.7.8.2 Ethnobotanical and Microfaunal Remains

Botanical and microfaunal remains were recovered from the block-lifted basal layer of Feature 6 (the privy; see Section 4.6.1). These remains were extracted from block-lifted clayey soil by means of a forced-air flotation machine at Memorial University of Newfoundland.

The botanical remains extracted from the sample (Deal, Dinham and Wilkie 2016) included fir needles, likely of natural origin, and woodchips which pertain to Event 124, the woodchip layer at the base of the privy pit (see Section 4.6.1). However, the principal botanical elements were grape seeds (*Vitis vinifera*, 295 specimens), raspberry seeds (*Rubus* sp., 198 specimens) and pin cherry seeds (*Prunus pennsylvanica*, 21 specimens). These are interpreted as dietary remains, and in the case of the grape seeds, clearly indicate consumption of imported food products, most likely in preserved form, either jam, or, more likely, raisins.

Microfaunal remains (Deal, Dinham and Wilkie 2016) included 21 porcupine quills. These were likely not deposited in fecal matter, but discarded after cleaning porcupine, and may therefore indirectly reflect wild small game consumption on-site. Insect parts comprised the bulk of the microfaunal remains, and these included one wasp stinger, one ant head, and one pubic louse. The louse was presumably a human parasite. Also recovered in flotation were three pinworms, two of them alive, indicating the presence of viable eggs in the deposit. These parasites were certainly introduced in human fecal matter. Finally, the microfaunal assemblage included four clumps of as-yet-unidentified animal hair, and strands of human pubic hair.

Aside from the material recovered in flotation from Feature 6, only one other botanical element was recovered from FgCg-01 Locus D, this being an unidentified charred pod or bean from the mottled buried A Horizon (Event 55) beneath the Structure 1 eastern berm.

4.7.9 Miscellaneous Group

A final 57 objects are of unknown material and/or function. These include four mudstone spheres that appear to be objects of natural waterworn clay that nevertheless may be manuports, brought on-site from the beach below as curiosities.

Thirty-five objects are iron concretions, clearly artifacts but too corroded to be further identified. It should be noted that except for these items, the collection of ferrous objects recovered from FgCg-01 Locus D was generally relatively well-preserved,

Eight amorphous, apparently melted metal objects recovered from the site exhibit the verdigris patination of copper, respond to a magnet like iron, and have the mass of lead. They may be unusual alloys, or may simply be melted conglomerations of several metal objects. Their original nature and function is indeterminate.

Another eight objects are tiny fragments of a scarlet substance with a waxy lustrous finish. They may be pieces of hardened sealing wax, or may be vermilion pigment (for a similar collection of ambiguous vermilion-coloured objects from an HBC post in the Yukon, see Castillo 2012). These items were associated with Structure 2, and four were specifically-associated with the cellar fill deposits in Feature 4 (the Structure 2 cellar).

Finally, one worked slate object was recovered from the terrace edge in front of Structure 1. This item, which has not been obviously ground or polished, has nevertheless been perforated with a drill. It may be the hafting end of an *ulu* blade, or conceivably a pendant.

4.7.10 Cultural Materials Summary

Archival evidence indicates that the Sandy Banks post was an outpost of the HBC for most or all its period of operation, and indeed, the range of artifact types recovered from FgCg-01 Locus D generally reflects the range of materials expected on an HBC post. This includes artifacts for the use of HBC personnel (particularly those in the Kitchen Group). The assemblage also includes artifacts specifically for trade, including beads, tobacco pipes (and presumably tobacco), and firearm-related objects such as muskets, gunflints, shot (and presumably powder). It may be noted, though, that the archival evidence implies that the Sandy Banks outpost served primarily as a winter quarters for HBC personnel, and trade may well have been a very secondary function of the site.

The scarcity of liquor bottle glass is also consistent with an HBC affiliation for the post at FgCg-01 Locus D.

Where makers' marks are present and identified, these generally pertain to known HBC suppliers, including the Ford company of Stepney (tobacco pipes), Garret and Copeland (refined white earthenwares), the Carron Company (woodstoves) and William Parker (the musket lock mechanism), although many marks are unidentified, and some (e.g. the Dillwyn and Davenport ceramics, and the Ring tobacco pipes) were not acquired through the normal HBC supply chain and may represent private purchases by HBC personnel, or by individuals not affiliated with the HBC.

The dating of these artifacts is generally consistent with the known dates of HBC operations at Sandy Banks (1839-1876), although it should be noted that very few pieces (the ironstone sherds, and sherds of the Copeland and Garrett "Ruins" pattern) can be conclusively dated after 1848 (i.e., to the latter half of the occupation period). Virtually all the dateable artifacts were potentially available at or near the beginning of the known occupation period for Sandy Banks, possibly suggesting that the outpost saw surprisingly little re-supply of non-perishable items after its initial

outfit. The corollary of this is that there is no clear artifactual evidence for occupation of the site after ca. 1876.

In this regard, it is also interesting to note the "old-fashioned" character of the firearms-related artifacts recovered from FgCg-01 Locus D. No percussion caps were recovered from the site, and although one percussion-cap lock mechanism was recovered, this may have been converted from an earlier flintlock weapon. In contrast, gunflints from flintlock muskets were abundant. This may be because they were introduced on-site primarily for trade (since First Nations peoples in northern Canada continued to use flintlocks after they had become obsolescent elsewhere). It is also possible that in relatively-remote Labrador, even the HBC personnel continued to rely on older flintlock weapons.

4.8 Site Interpretation and Summary

The focus of recovery work in 2016 at FgCg-01 was specifically on Locus D, the site of the Sandy Banks HBC outpost. Locus 2 was found to have both a precontact component and a 19th century historic component.

4.8.1 The Precontact Component

The precontact component at FgCg-01 Locus D consisted primarily of a single concentration of rock and firecracked rock along with lithic debitage and artifacts (Feature 19) situated in the southwestern corner of Locus D. The fact that this feature was preserved *in situ* indicated that this area lay beyond the margins of the later 19th century occupation area. The lithic assemblage consisted of 944 pieces of debitage, virtually all of which were quartzite, and 70 quartzite artifacts, including various expedient tools (retouched and utilized flakes, linear flakes, and cores), along with a small collection of preforms and few finished bifaces, as well as three cobble hammerstones. This feature closely resembles other small quartzite-dominated precontact sites previously excavated in the Churchill Valley (see Stantec 2014a; 2014b; 2015), and is similarly interpreted as a hearth and associated lithic scatter representing a small precontact campsite.

Aside from Feature 19, precontact lithics (as well as a single sherd of grit-tempered ceramic) were dispersed across the entire site, but the general precontact scatter was extremely sparse and there is no indication that the later historic occupation of the site disturbed any significant precontact occupation.

4.8.2 The Historic 19th century HBC Occupation

The majority of the features and materials excavated at FgCg-01 Locus D pertain to the 19th century historic occupation of the Sandy Banks HBC outpost, operated 1839-1876. A large assemblage of artifacts was recovered from the site and these are consistent with HBC archaeological sites excavated elsewhere in Canada (e.g. Forsman 1986; Castillo 2012), and specifically with the documented period of occupation of Sandy Banks. In addition to several small pit features, mounds, and midden deposits, excavated revealed evidence for four principal

structures, one outbuilding (a privy) and one deep storage pit, which may or may not have had a wooden superstructure of some sort. There is archival reference to two buildings at the site in 1841-42: a dwelling house and a store. Again, in 1875 there is reference to a plan to build a store and repair the house (see Section 3.1.1 above).

4.8.2.1 The Layout and Construction and Functions of the Principal HBC Structures at FgCg-01 Locus D

The four structures excavated at FgCg-01 Locus D are arrayed in a line, oriented approximately NE-SW, parallel to the edge of the terrace overlooking the Churchill River. The two westernmost buildings (Structures 2 and 3) have the exact same orientation, and their back walls are aligned, suggesting that they may have been erected together. Structure 1 is oriented slightly differently, while Structure 4 is offset to the northwest of the other buildings.

In terms of construction, Structures 1, 3, and 4 were clearly of timber construction, embanked on the exterior with earthen berms. Although clear evidence for floorboards was encountered only in Structure 3, and only Structure 4 exhibited evidence for possible sleepers, the presence of a cellar (in Structure 1) and sump pits (in all three buildings) indicates that they had wooden floors. All three of these structures had burnt, and the remaining timber sills were charred and compressed, obscuring the precise construction methods employed, but the overlap of sills suggests either post-on-beam (*piece sur piece en coulisse*) or lapped-corner horizontal log construction. All three buildings appear to have had glass-paned windows, at least along their front (southeast-facing) walls and Structure 1 may also have had windows on the side walls. Artifact distributions and compression of the middle of the front berm suggests that Structure 1 had a central door, and this may have been the case with the other structures as well. Structure 1 was extensively chinked and plastered with clay, either on the walls or on the roof, or both. The other buildings appear to have been minimally chinked with mud, if at all. No evidence was found for chimney construction at any of the structures, so wood stoves appear to have been used for heating. This is certainly the case at Structure 1, where numerous cast-iron stove fragments had been deposited beside the front door. In terms of size, Structures 3 and 4 were almost identical, measuring 3.7 x 4.25 m, while Structure 1 was somewhat larger, measuring 4 x 4.5 m. In addition, Structure 1 had significantly higher and more pronounced earth berms, particularly along the rear (northwestern) wall.

Structure 2 was somewhat unique in several respects. Like Structure 1 it exhibited a very high, pronounced berm, particularly along the rear wall, and like Structure 1 it contained a deep sub-floor cellar near its northeastern end, and a shallow sump near its southwestern end. However, unlike the other structures at the site, it lacked any evidence for sill timbers and its wooden superstructure appears to have been deliberately dismantled, rather than left to decay *in situ*. Moreover, Structure 2 was a significantly larger building than any of the others identified at the site. Based on the distances between the interior toes of the berms, approximately where the sills would once have been, it measured 4 x 7.5 m long.

These four buildings may be classified by their formal attributes into two distinct pairs. The two central buildings (Structures 1 and 2), although dissimilar in size, were both relatively large, with high earth berms and interior storage cellars and sumps, while the two flanking buildings (Structures 3 and 4) were both small (in fact, identical in size), and had sump pits but lacked cellars.

4.8.2.2 Chronology of Construction of the Principal HBC Structures at FgCg-01 Locus D

The distribution of artifacts across the terrace top indicates that the differences in form between these two pairs of buildings reflect differences in function as well. Structure 1 (the most extensively-daubed and sealed of all the buildings) and Structure 2 both yielded high frequencies of artifacts in the Kitchen/Domestic Group, particularly refined white earthenwares, indicating that they most likely served as dwelling houses. Structures 3 and 4, on the other hand, yielded few artifacts of domestic function. Structure 3 yielded few artifacts in general, while Structure 4 contained most of the stoneware storage vessel fragments, along with high frequencies of shot and unused gunflints. Structures 3 and 4 are therefore interpreted as stores rather than dwellings.

The documentary evidence mentions only a single dwelling and a single store at the post at any one time, so the presence of four structures, interpreted as the remains of two houses and two stores, suggests some sequence of rebuilding phases during the period of occupation of the site. These same sources suggest two principal building phases at the site, one in 1841-1842, and another in 1875-1876, although details are sparse and we must be cautious in interpreting this evidence; some building or rebuilding operations may have been planned but never executed, while some intended re-buildings may have ended up simply being repairs (or vice versa).

Unfortunately, it is not possible to seriate these four buildings stratigraphically. The only clear stratigraphic relationship we can identify between buildings is the superposition of Feature 6 (privy) fill over the Structure 2 builders trench, indicating that the privy pit was dug after the construction of Structure 2. Relatively late construction of the privy may account for the unexpectedly limited fecal deposits, and the relatively scarcity of artifact discard, within the privy pit. Moreover, because of the relatively brief period of occupation (ca. 40 years), and since very few of the artifacts recovered from the site can be dated firmly after ca. 1850, all archaeological contexts at the site appear to be (archaeologically) contemporary. Aside from the stratigraphic relationship between Structure 2 and Feature 6, the few chronological indicators we have may be summarized as follows:

- The buried sod beneath the Structure 3 berm yielded virtually no artifacts, indicating that this building was erected on a virgin site (or a virgin portion of the site, since the series of ash middens buried beneath the Structure 2 and Structure 3 berms indicate historic occupation prior to the construction of either building;
- The buried sod beneath the Structure 4 berm was burnt and contained significant frequencies of artifacts, although these were not burnt;
- The buried sod beneath Structure 1 yielded artifacts, but primarily only shattered windowpane glass which may have been deposited during construction;

- The buried sod beneath the eastern half of Structure 2 contained an abundance of artifacts, including artifacts from the Kitchen/Domestic Group, suggesting that it was constructed atop an already rich sheet midden;
- The Structure 1 front and northeastern berms incorporated a layer of melted window glass, indicating a burning episode had occurred nearby, most likely to the north, around Structure 4, after construction of Structure 1, but before the earthen berm was rebuilt;
- The analysis of window glass thickness was largely inconclusive but suggests a higher frequency of thicker (later) glass, indicating new glazing or repairs, in Structures 2 and 3;
- Structures 2 and 3 share common alignment and orientation, suggesting that they were constructed jointly, or at least according to an overarching plan, in contrast with Structures 1 and 4, which diverge in orientation (Structure 1) or alignment (Structure 4);
- Although the sample size is small, refined white earthenware sherds of the "Ruins" pattern (1848-20th century) are particularly associated with Structure 1. While none are in a context that serves to date initial construction, this does suggest that this building remained in use after the 1841-1842 HBC building/rebuilding phase;
- Structures 1, 3, and 4 appear to have been burnt in severe fires, although it is not clear that they burnt at the same time;
- Feature 6 does not appear to have been burnt, and the relative scarcity of building timbers may suggest that it was deliberately dismantled;
- Structure 2 appears to have been deliberately dismantled. It is unclear whether it burnt as well;
- Burned stoneware presumably derived from Structure 4 was recovered from the slope midden on the front of the terrace, indicating that the site was cleaned up after the burning of Structure 4; and the fragments of cast-iron woodstove discarded outside the front door of Structure 1 were not cleared away, suggesting that the stove was removed from Structure 1 during or after the site was abandoned.

It is tentatively hypothesized that Structures 1 and 4 may represent the initial dwelling house and store at the site. In fact, it is possible that these structures pre-date the HBC occupation and were initially constructed by Comeau in the 1830s, Structure 4 being the store partially burnt by HBC personnel, and perhaps subsequently repaired and re-used by its new owners between 1839 and 1842. Certainly, it does appear that some debris from Structure 4 was cleared away and discarded, both over the terrace slope and into the Structure 1 berm during renovations. If this hypothesis is correct, then Structures 2 and 3, with their distinct orientation and alignment, would represent a later building phase or phases at the site; these buildings may have been constructed in 1876, or may reflect an earlier re-building phase, otherwise unattested in the archival records. In either case, the density of artifact debris associated with Structures 1 and 4 suggests that if those structures were replaced by later construction, then that portion of the site was nevertheless never diligently cleared of debris.

However, it must be conceded that a variety of building-sequence scenarios might account for these diverse indicators. Both the archaeological and archival evidence suggest that at any one time, the Sandy Banks outpost consisted of a dwelling house and a store, that the dwelling house was renovated or rebuilt at least once, and that the store was rebuilt at least once. Beyond that, it is difficult to present a conclusive sequence of construction events at the site.

4.8.2.3 Post-Abandonment Processes and Events

When Albert Low passed through the Sandy Banks area in 1894, he did not record any ruins or standing buildings at the Sandy Banks outpost site, noting only "a new growth of birch" marking the former location of the post (Low 1896). This would appear to indicate that the outpost had been abandoned for some years by that date, and the artifacts recovered from FgCg-01 Locus D in 2016 are consistent with this, indicating no clear evidence for occupation after the 1870s.

Whenever the occupation of the Sandy Banks outpost finally ceased, there are two post-depositional processes which may have significantly affected the remains of the outpost during and after its eventual abandonment.

The first consists of fire. Three of the buildings recorded at the site (Structures 1, 3, and 4) were clearly destroyed by fire, and while fire may have impacted Structure 4 during the occupation period, it is likely that one or more of the buildings still standing when the site was abandoned were destroyed in a terminal fire event occurring at, or following, the end of the HBC occupation.

It is possible that the final buildings at the post were destroyed in a natural forest fire, and this would certainly provide a rationale for the final abandonment of an outpost that the Company had considered closing for years. However, it is worth noting that one apparently late building, the privy (Feature 6), shows no evidence for burning at all; while few timbers are present, and the building may have been dismantled, the timber fragments that remained were clearly unburnt. Moreover, Low's description of a "growth of birch" marking the post site suggests, not a widespread fire, but rather something more localized. Instead, it is hypothesized that any buildings still standing at the end of the HBC occupation were individually burnt, deliberately razed to the ground, perhaps to prevent occupancy by a competitor, or perhaps to salvage iron nails from the timbers.

This brings us to the second cultural post-depositional process that may be significant at the site: the scavenging and salvage of useful materials by later inhabitants of the Churchill valley. As has been noted, neither Structure 2 nor Feature 6 contained evidence for *in situ* timbers, and both buildings appear to have been deliberately dismantled, presumably to salvage timbers for use elsewhere. There is some limited but suggestive evidence for salvage of other useful materials from the site. Most notable is the scatter of cast-iron Carron woodstove plates beside the front door of Structure 1. This stove, which shows signs of severe melting and numerous repairs, may no longer have been functional when the post was finally abandoned, but nevertheless, it appears to have been pulled from the building and beaten into fragments on the ground beside the door, presumably in a search for useful scrap metal. However, this is not the only evidence for scavenging from the site. Further insight into the extent of post-abandonment scavenging

activities, and where the salvaged materials may ultimately have been brought, may be seen at the second site excavated in 2016: FgCg-04, another historic site situated some 700 m downstream from FgCg-01 Locus D. This site is described in more detail in Section 5.0.

5.0 STAGE 3 RECOVERY RESULTS: FGCG-04

FgCg-04 was located through test pitting in 2006 (Minaskuat 2008), which resulted in the discovery of two clay smoking pipe fragments, a barrel hoop, and a large iron key. The site is located 700 m downstream from FgCg-01, approximately 7 m to the east of a small brook and 20 m from the shoreline of the Churchill River.



Photo 5-1 **Excavation in Progress at FgCg-04**

Recovery work at FgCg-04 in 2016 consisted of the gridding and complete excavation of 112 m² which exposed the remains of a 19th century log tilt and associated artifacts (Photo 5-1).

5.1 Site Stratigraphy, Structure, and Features

5.1.1 Stratigraphy

The basic stratigraphy at FgCg-04 (Figures 5-1, 5-2) conformed to the typical soil development profile encountered at pre-contact archaeological sites previously recovered in the Churchill Valley. The topmost layer of sphagnum moss and forest litter achieved thicknesses of 20-25 cm, particularly on the downhill slope. This duff generally overlies a gray-white, sandy A Horizon which varied in thickness from 1-5 cm which in turn terminated at an iron-rich, orange-red, sandy B Horizon. This natural stratigraphy is only interrupted in areas directly associated with the remains of the tilt.

In the culturally-modified areas near this structure, a more complex stratigraphy was encountered. This culturally-modified stratigraphy consisted of a thin 5-10 cm duff layer which overlies a grey sand which appears to be A Horizon. Below this layer, rather than the expected B Horizon, a yellow-white, fine grain sand is found varying in thickness from 3-15 cm. This sand is like that currently found on the beach near the site and was likely transported as fill during construction of the structure. Below this culturally-modified layer, the natural soil development is found intact. This consists of a compressed/degraded organics layer which overlies a white-grey sand, and below this, an orange/red sand.

This stratigraphic profile, consisting essentially of two series of typical soil development profiles separated by a transported fill layer, fits with the suggested construction methods for the structure discussed below. The only major exception to this generalized profile is the inclusion of layers of structural wood. Where this structural wood was recovered, it appears directly below the duff layer and overlies the culturally transported yellow-white sand. This layer represents the relatively recent wall collapse of this structure and is nearly absent in the north-south profile except for a one-meter-long stretch where the wall intersected the profile. The only other structural wood to appear in the profiles are the timbers, interpreted as sills that are typically recovered at near the same level as the buried organic layer.

Excavation of FgCg-04 revealed the remains of a log tilt (Structure 1), along with three associated features (Features 1-3).

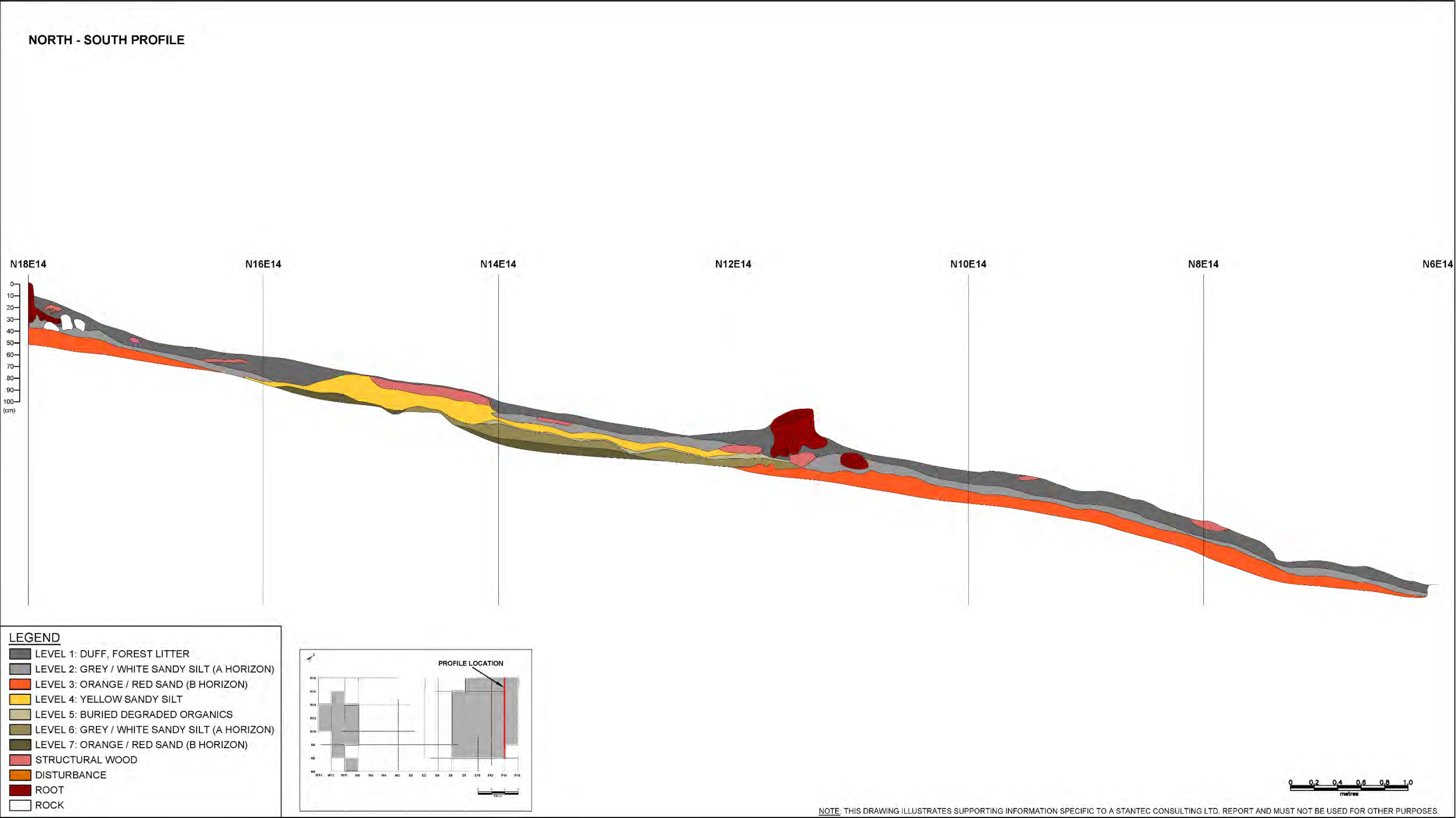


Figure 5-1 FgCg-04 – North-South Profile

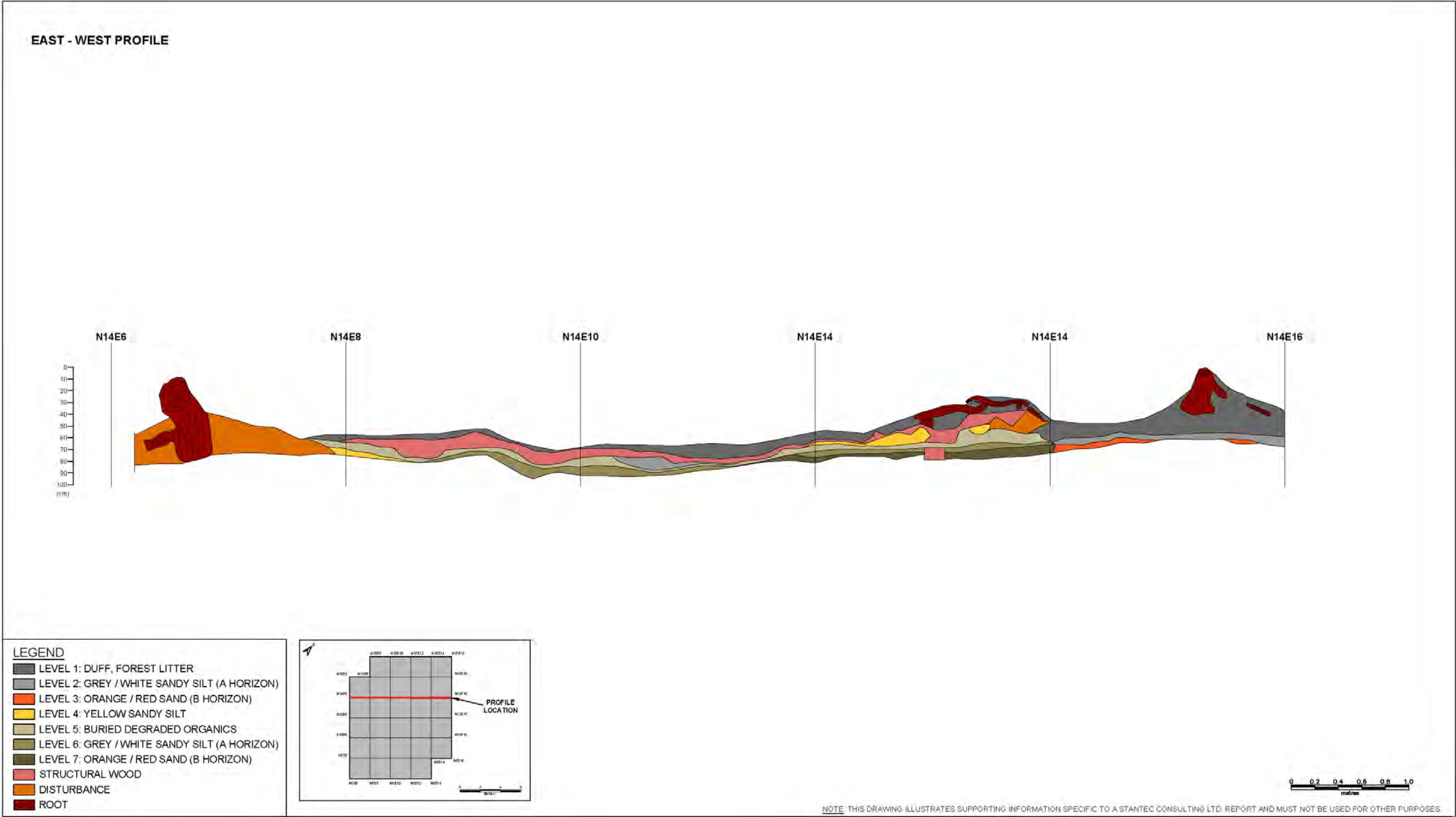


Figure 5-2 FgCg-04 East-West Profile

5.1.2 Structure 1

Prior to excavation of FgCg-04, there was no indication of the presence of Structure 1 (Photo 5-2). The situation of the structure on a gradual but significant slope, along with a heavy layer of sphagnum moss, served to obscure the structure completely.



Photo 5-2 View Northwest across FgCg-04 Prior to Excavation

Subsequent excavation and recovery revealed prepared culturally-modified subsoils, structural foundation timbers, and superstructure of collapsed walls. The construction practices and elements of Structure 1 are described below.

5.1.2.1 Building Timbers

A total of 29 individual timbers were recorded on FgCg-04, all being either sills or structural timbers that were at the same depth as sills. This number does not include the degraded structural wood that had composed the walls. These collapsed wall timbers were plentiful enough to comprise a stratigraphic layer of their own, but were too decomposed to count in any reliable way (Photo 5- 3).



Photo 5-3 Collapsed Wall Timbers at FgCg-04 Structure 1

The timbers are arranged in a square which would have originally marked the footing of the walls. The walls have twisted and shifted with collapse, appearing to fall inward while the bottoms slid outward from the foundations. A small number of preserved logs lay completely outside the square formed by the sills and the surrounding berm and it is difficult to determine whether these derive from natural tree falls or pertain to rafter sticks.



Photo 5-4 Structure 1 Sills Underlying Collapsed Wall Timbers

Timbers were compressed and extremely degraded with no signs of modification or construction practices, except for a small number with *in situ* spikes. No saw, axe, or hewing marks could be identified and no evidence of joinery could be seen. The small minority of structural timbers that are still in their original position (Photo 5-4) are discussed along with the berm deposit in Section 5.1.2.2 below.

5.1.2.2 Berms and Transported Soil

The berms enclosing the foundations of Structure 1 at FgCg-04 are quite subtle when compared to the significant constructions seen at FgCg-01 Locus D. Due to the large amount of degraded structural wood that had collapsed over the footings a perimeter site berm was only recognized late in the excavation, following the removal of the collapsed walls. The berms have a gentle slope exterior to the structure and a sharp angle on the interior, presumably where the sand for the berm was shoveled against the foundations.



Photo 5-5 Structure 1 Western Berm View North. Infill Sand to Right of Photo.

The berms on site seem to be constructed exclusively of yellow sand (Photo 5-5). This sand does not appear outside of the culturally modified areas on site and there is no evidence of pits or builders' trenches. Visually this sand resembles that seen on the nearby beach and was probably collected there specifically for building purposes.

This yellow sand, in addition to its use in the construction of perimeter berms, seemingly served to level areas on the site. This is most notable under the southern wall sill, which would have had to be significantly raised above the natural ground surface to level it with the upslope north wall (Photo 5-6). This infill pattern is seen on the eastern and western walls with a small section visible in the north-south profile. The large amount of this sand that was excavated from the interior of the structure suggests that this leveling continued beyond the sills and may have composed part of the floor.



Photo 5-6 Structure 1 Southern Sill Supported by Infill with Original Ground Surface Beneath

The berms and associated infill soil were mostly, but not completely, devoid of artifacts. For the most part the artifacts recovered were either resting on top of the sand or only shallowly embedded (Photo 5-7). No artifacts were recovered from the buried organic layer that is found below the sand layer.



Photo 5-7 Largely Intact Window Pane Recovered from the Southern Berm

5.1.2.3 Structure Interior

The interior of Structure 1 measured approximately 4 m x 4 m, although this is approximate due to the incomplete foundation outline provided by the sills. The interior soil types are exclusively composed of A Horizon and the infill yellow sand, with a higher incidence of infill sand in the south-east corner. Artifacts are equally distributed throughout the interior of the structure with no obvious voids and, except for Feature 1, no specific clusters. No evidence of floorboards was recovered, but many nails were recovered throughout the interior including a single example with fragmentary wood that is of a thickness consistent with sawn boards.

5.1.2.4 Structure 1 Summary

Structure 1 is the only structure present at FgCg-04. It was a timber structure measuring 4 m x 4 m. The sills on which it was constructed were artificially raised with the transport and deposition of nearby beach sand. The construction method is uncertain, but post-on-sill construction is likely based on the flat pattern of collapse of the walls. The wall and sills seem to have only been

minimally dressed and no evidence of daub or bark waterproofing was present. The presence of large curved pieces of rolled-tin consistent with a stovepipe suggest that a stove was used as a heating source, despite only a single possible stove fragment having been recovered. The distribution of large pieces of window glass sherds found on top of the southern berm as well as in the interior of the structure suggest river-facing windows and a possible entrance. Sand berms were banked against the exterior walls likely at the time of construction.

Based on the distribution of artifacts, especially bone, which accumulated in an area slightly to the west of the center of the southern sill a central entrance and possible path along this wall is likely.

5.1.3 Feature 1

Feature 1 (Photo 5-8) is situated inside Structure 1 near the front southern wall. It consists of a highly concentrated (20 cm x 20 cm) collection of nails, roves, and degraded tin with a very small portion of textiles that could not be collected. The total number and orientation of the recovered objects implies that they were originally in a container. The otherwise unassociated degraded metal in this context is interpreted as a tin can that held the nails, spikes, and roves. This is significant since very few roves were collected on FgCg-04 and no complete rove and nail combinations. Use of roves was quite common on FgCg-01, however, and it is possible that this tin of hardware was transported from FgCg-01.



Photo 5-8 **Remains of Degraded Tin with Nails and Roves**

5.1.4 Feature 2

Feature 2 is a collection of bones recovered from a 1 m diameter concentration near the center of the exterior side of the southern wall of Structure 1 (Photo 5-9). This feature is wholly-defined by the high density of bones of various types that it contained. No stones, timbers, or other structural elements were recovered from this area but it did produce 75% of the total faunal collection from the site. Though not fully analyzed the bones recovered from this feature include bird, mammal, and fish remains and seems to represent both domestic and wild game. Location and assemblage point to this feature as a midden.



Photo 5-9 Feature 2 Faunal Midden at FgCg-04

5.1.5 Feature 3

Feature 3 is a tightly packed scatter of rocks situated southeast of Feature 2 (Photo 5-10). This cluster of rocks likely lay alongside any path that may once have led up from the river to the entrance of Structure 1.



Photo 5-10 Feature 3 (Rock Cluster) at FgCg-04

5.2 Cultural Materials

Excavation at FgCg-04 produced an assemblage of cultural materials consisting of 3,672 objects. This assemblage included all the expected materials and objects for a mid to late 19th century trapping tilt, including sherds of transfer-printed refined white earthenware, clay tobacco pipes, gunflints, windowpane glass fragments, and a faunal collection. A large collection of iron objects was recovered, including iron nails and roves, complete and fragmentary barrel hoops, tin sheeting, trap and gun parts, and lead shot. In addition, the collection also included several unique objects such as a hammer, parts of a grinding wheel, and a kettle.

5.2.1 Kitchen/Domestic Group

5.2.1.1 Ceramic Tableware

The collection from FgCg-04 included 299 ceramic sherds, all refined white earthenware. All decorated sherds were transfer-printed, with floral and geometric designs, primarily in light and dark blues consistent with mid-19th century styles (Miller 1987). The sherds recovered were of a highly-fragmented nature and considerably exfoliated, but showed no evidence of burning. These fragments were recovered from two separate but bounded contexts, allowing the vessels to be substantially reconstructed. Refitting allowed for the identification of three separate vessels: a small dinner plate or saucer (Photo 5-12), a small bowl (Photo 5-11), and a small portion of foot

from a third, undecorated container. For both decorated vessels, no central motif is present and a pattern of interlocking diamonds and floral leaves and vines surround the edge. The bowl has the inside and outside lip decorated while the plate has an identical design but only on the upper surface. This edge pattern is the same as the Copeland and Garrett pattern called "Antique Vase" (Sussman 1979a).

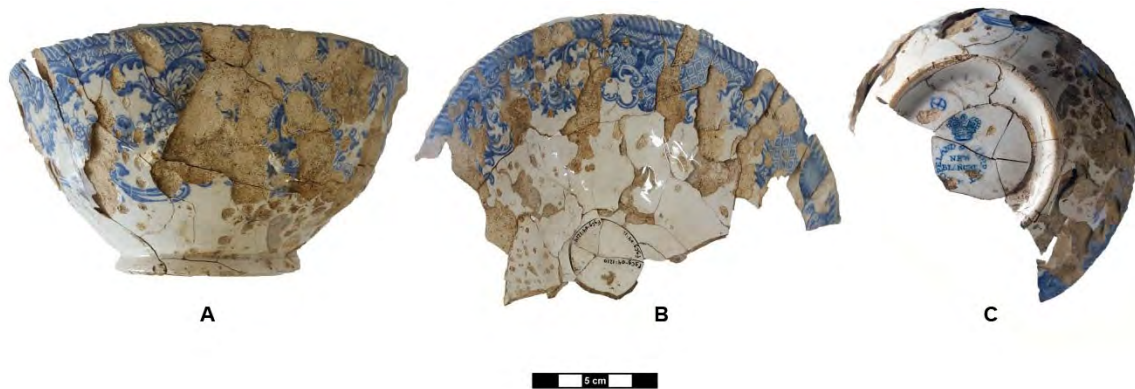


Photo 5-11 Refined White Earthenware Bowl from FgCg-04

both near complete vessels have near complete printed maker's marks. On the bowl, a circular outer ring of text reading "COPELAND & GARRETT," topped with a crown and an interior text reading "New Blanche". Apart from this maker's mark is a hand painted workman's mark of a crossed circle. On the plate the circular text reads "COPELAND GARRETT" with the ampersand omitted along with the central text. The adorning crown is identical but the word "ALBA" is present below the circle of text. There is also an additional painted mark on of this piece in the form of a stylized "L." Large quantities of Spode/Copeland transfer-printed wares have been recovered from excavated HBC posts; both of these "Copeland & Garrett" marks can be dated to the period 1833 to 1847 (Sussman 1979a: Appendix C), contemporary with the Copeland and Garrett ceramics recovered from FgCg-01 Locus D, although it may be noted that neither these precise marks, nor the specific "Antique Vase" pattern, were encountered at the latter site.

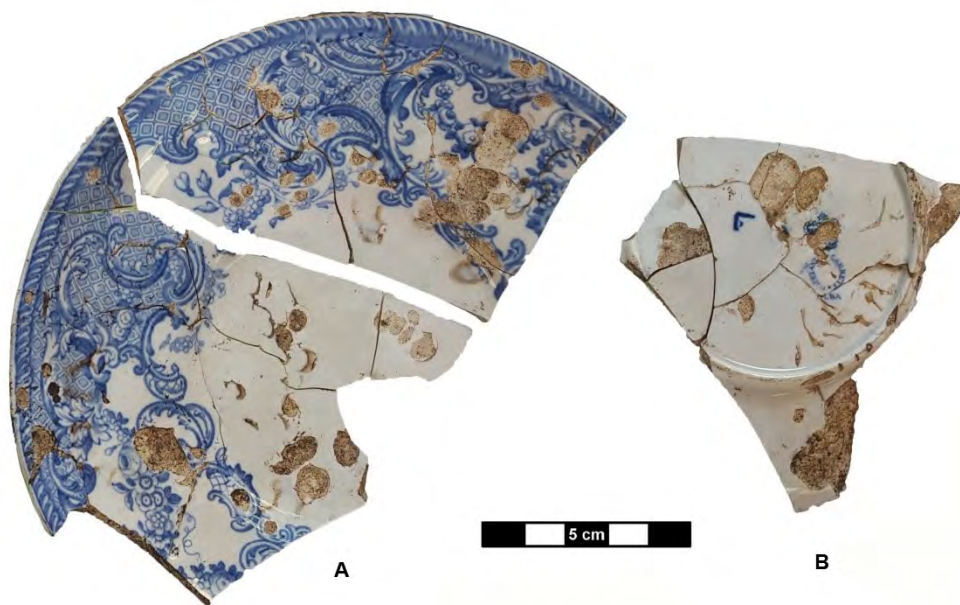


Photo 5-12 Refined White Earthenware Plate from FgCg-04

5.2.1.2 Flatware

The flatware collection recovered from FgCg-04 consisted of three pieces; two knife fragments and the metal element from a composite fork (Photo 5-13).

The two knives are of a similar style with straight blade spines and full tang scale handles meeting a thick bolster. The first example (Photo 5-13: A) has a rounded blade profile before ending in a break. The other knife (Photo 5-13: B) has a contracting blade profile, again ending in a break. Both fragments are medial sections, with blade and handle sections present. The scale handles for both knives were attached with iron rivets, one of which is still intact on the second knife. The first knife measures 123.3 mm in length and 26.6 mm in width, where the second is 129.8 mm in length and 24.0 mm wide.

The first knife is marked with a "cross-over-L" and just below this a "formée" cross (arms narrow at the center, expanding toward the ends). This pattern of "cross-over-L" mark was used on knives shipped to York Factory in the 19th century (Evans 1965: 47), but it may not be a mark exclusive to the HBC, since it has also been encountered on North West Company sites. Dates for this mark range from at least 1780 until the 1830s (Karklins 1981). The second knife is significantly more degraded but appears to have the letters "eaves". "Greaves" and "Greaves and Sons" were both known HBC suppliers. "Greaves and Sons" was also a manufacturer of blades for sites throughout Quebec into the mid 1800's.



Photo 5-13 Flatware Recovered from FgCg-04

The fork (Photo 5-13: C) is the metallic part of a three-tined composite fork with no visible markings. The tines have a forward curve with square shoulders, a balustroid-shaped shank, and a rat-tail tang. There was no evidence of the handle associated with the fork but a single piece of dense weathered bone with a sawn end was recovered and matches the handle material of flatware recovered at Sandy Banks. The fork measures 143.2 mm long, 19.0 mm wide and approximately 6.5 mm thick.

5.2.1.3 Iron Utilitarian Vessels

Three large, iron objects represent the collection of utilitarian cooking vessels from FgCg-04. Two nearly-complete objects were recovered: a large cast iron pot lid (Photo 5-14), and a tin lamp (Photo 5-15). The pot lid has a total diameter of 36.5 cm, with a flanged lip that is 1.6 cm wide. This outer lip is flat while the rest of the lid is slightly convex allowing for the lid to rest within a vessel. At the apex of the lid there is a handle which is integral to the lid. A small missing fragment of the lid lip was recovered 700 m to the southwest at FgCg-01 Locus D. This suggests that this lid was likely removed from Sandy Banks not as a trade item, but rather, collected after it was used and abandoned.



Photo 5-14 Pot Lid Recovered from FgCg-04

The tin lamp is of the slut style with an open reservoir for oil and a hole for a thick wick in the handle (Photo 5-15). It is possible that this object could have been used for other purposes as well, but there is no use wear or burn marks to give an indication of its use.



Photo 5-15 Lamp Recovered from FgCg-04

The last kitchen-related object consists of a fragmentary iron kettle (Photo 5-16). The kettle is 12.80 cm tall and has a diameter of 23.96 cm. The sides angle out slightly and have a convex profile, there is an apparent weld/join 2 cm below the sharp edge inward angle that closes the walls into the opening for the lid. The spout is a separate piece that was joined to the kettle from the outside with no welds or solder visible on the interior. The lid for this kettle was also recovered. It is convex in shape and has a flanged edge which forms a seal when in place. The lid has been repaired with a riveted brace on the interior surface.



Photo 5-16 Cast Iron Kettle Recovered from FgCg-04

As with the pot lid, a portion of this kettle was recovered from FgCg-01: six fragments of 5 mm thick flat iron from the latter site comprise the base of the kettle, and fragments from both sites exhibited parts of an embossed makers mark reading "A. Kenrick and Sons" "No 3" and partial letters that appear to read "Spout C". Kenrick is an English cast iron manufacturer that has been in business since 1805. The "Kenrick and Sons" mark specifically dates this object after 1827.

5.2.2 Architectural and Furniture Group

5.2.2.1 Windowpane Glass

A total of 518 pieces of windowpane glass were recovered during excavations at FgCg-04. In contrast to the extensive burning and melting of window glass at FgCg-01 Locus D, only a single

shard of glass from FgCg-04 showed any evidence of burning. Large sherds (3 cm and greater) are well represented (13%) and factory-cut edges or corners (e.g. Photo 5-17: A-B) are common.

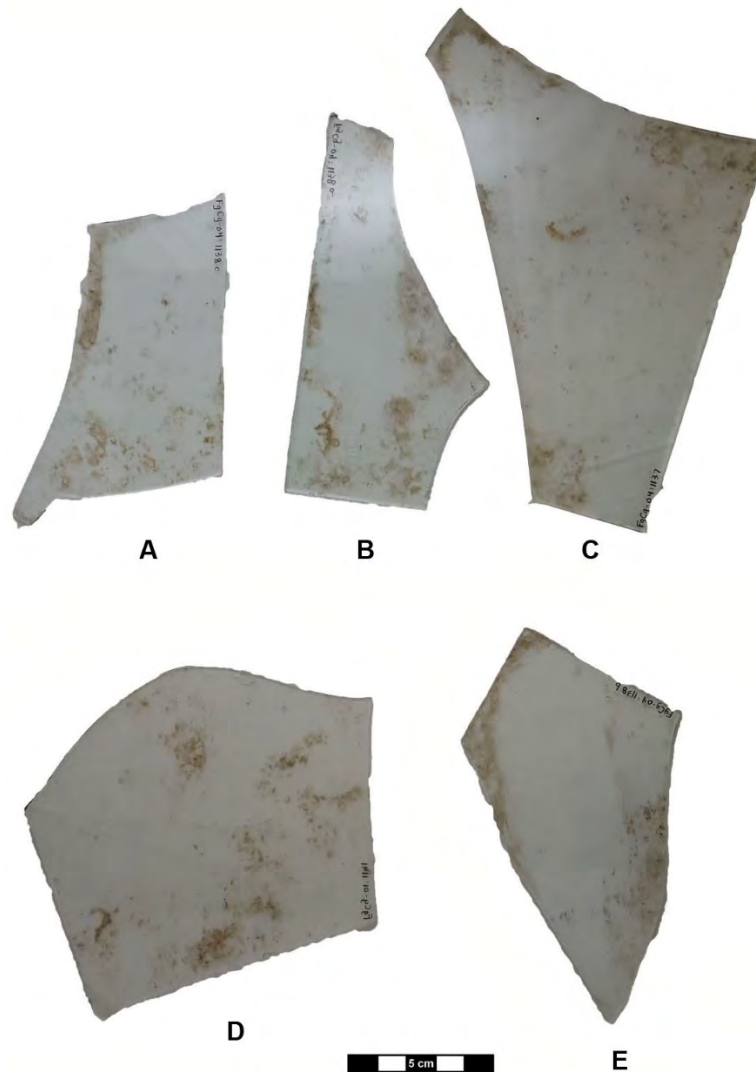


Photo 5-17 Examples of Window Glass Sherds Recovered from FgCg-04

The distribution of window glass sherds at FgCg-04 is shown in Figure 5-3. Windowpane glass is distributed in a wide scatter to the southwest, with the highest density of large fragments coming from directly above the southern building sill. This distribution of sherds suggests that it was the river facing wall of this structure that had windows and that they remained intact through the initial period of collapse that followed the abandonment of the site. The extended scatter, especially

of the small lighter glass, seems to follow the natural contours of the site and post-depositional flooding has moved glass toward the small creek to the west of the structure.

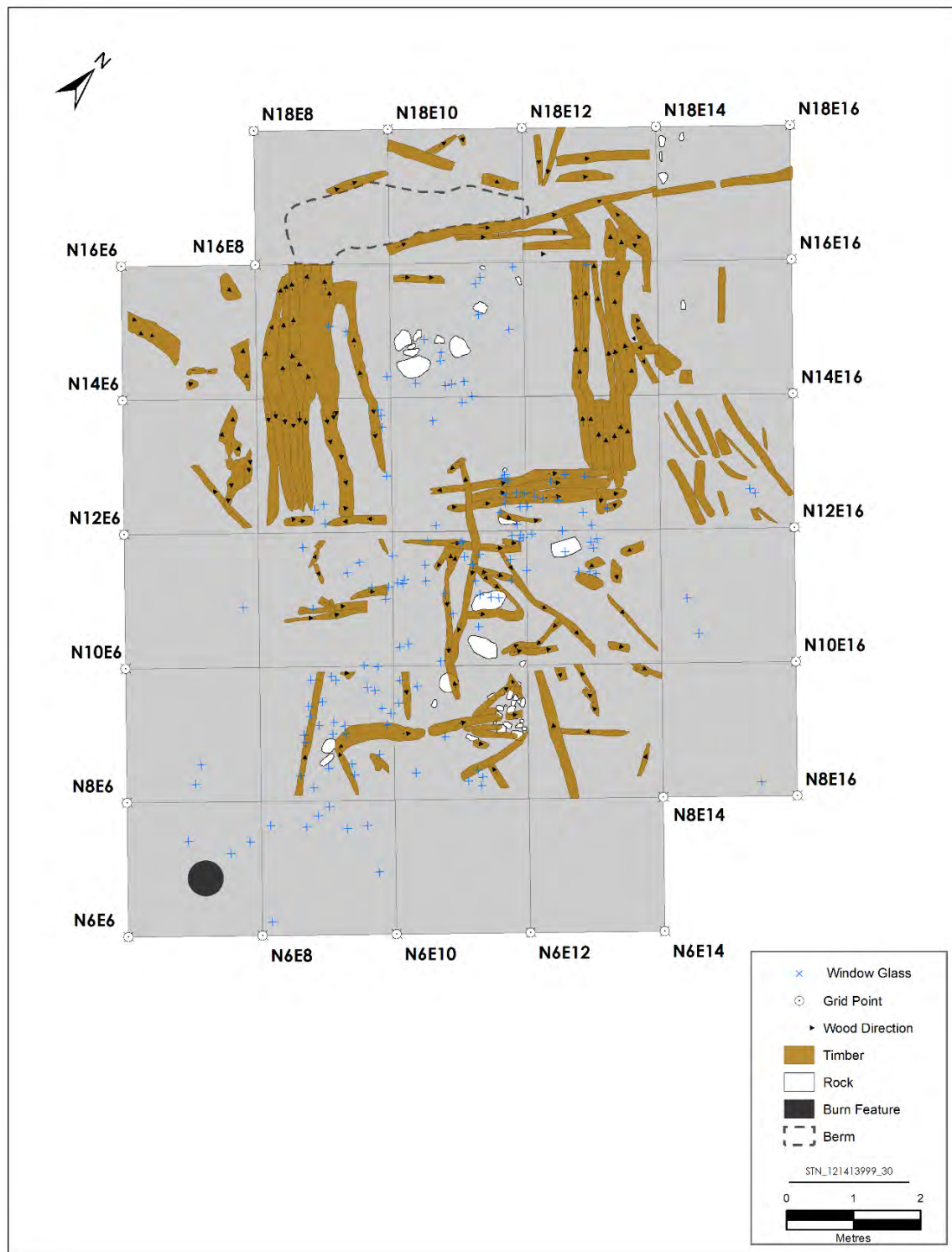


Figure 5-3 The Distribution of Window Glass Sherds at FgCg-04

Nails

A total of 429 iron nails and spikes were recovered from FgCg-04 in 2016. The manufacturing techniques seen at FgCg-01 (hand forged, machine cut) are represented, as well as some whose manufacturing technique could not be identified. The vast majority are hand forged, with larger examples (length > 10 cm) being exclusively made in this manner.

The frequency of modified nails is lower on FgCg-04. Nails with purposely removed heads are notably absent at FgCg-04. The few examples of missing heads are likely due to preservation. Clenched nails are present, but again in much lower numbers, a likely effect of the rounded timber that was used in the construction of the tilt. The most easily identified cut nails that were recovered may have been used as flooring nails.

The distribution of nails on the site is, for the most part, as would be expected, with the majority associated with walls or with what has been interpreted as the collapsed roofing super-structure. A significant number of the larger spikes were recovered *in situ*, marking the corners of joints between walls and roofing sticks. An unexpected concentration of nails was recovered from what would have been the center of the tilt (Feature 2).

5.2.2.2 Door and Building Hardware

In total, 10 pieces associated with door hardware including hinges, staples, lock plates, and a pintle, were recovered from FgCg-04. These were mostly recovered from the south facing wall of the structure, some in association with window glass. The hinges vary in size and style but the larger examples appear to be sized to work along with the recovered pintle (Photo 5-19: C), and are large enough to have been door hinges (Photo 5-18).



Photo 5-18 Selected Hinges Recovered from FgCg-04

Additional building hardware elements include heavy-duty staples that are interpreted as part of door latches (Photo 5-19: A) and a lock plate constructed from thick iron sheet (Photo 5-19: B).



Photo 5-19 Door and Gate Hardware Recovered from FgCg-04

5.2.2.3 Sheet Metal

Excavation at FgCg-04 led to the recovery of 1,416 pieces (6.2 kg) of sheet metal. The recovery of large amounts of sheet metal on HBC-affiliated sites is rare. That both FgCG-01 and 04 contained large amounts of this material again suggests a connection between these two sites.

As indicated in Figure 5-4, the distribution of sheet tin is most concentrated in the interior of the structure with diminishing numbers heading downslope to the south west.

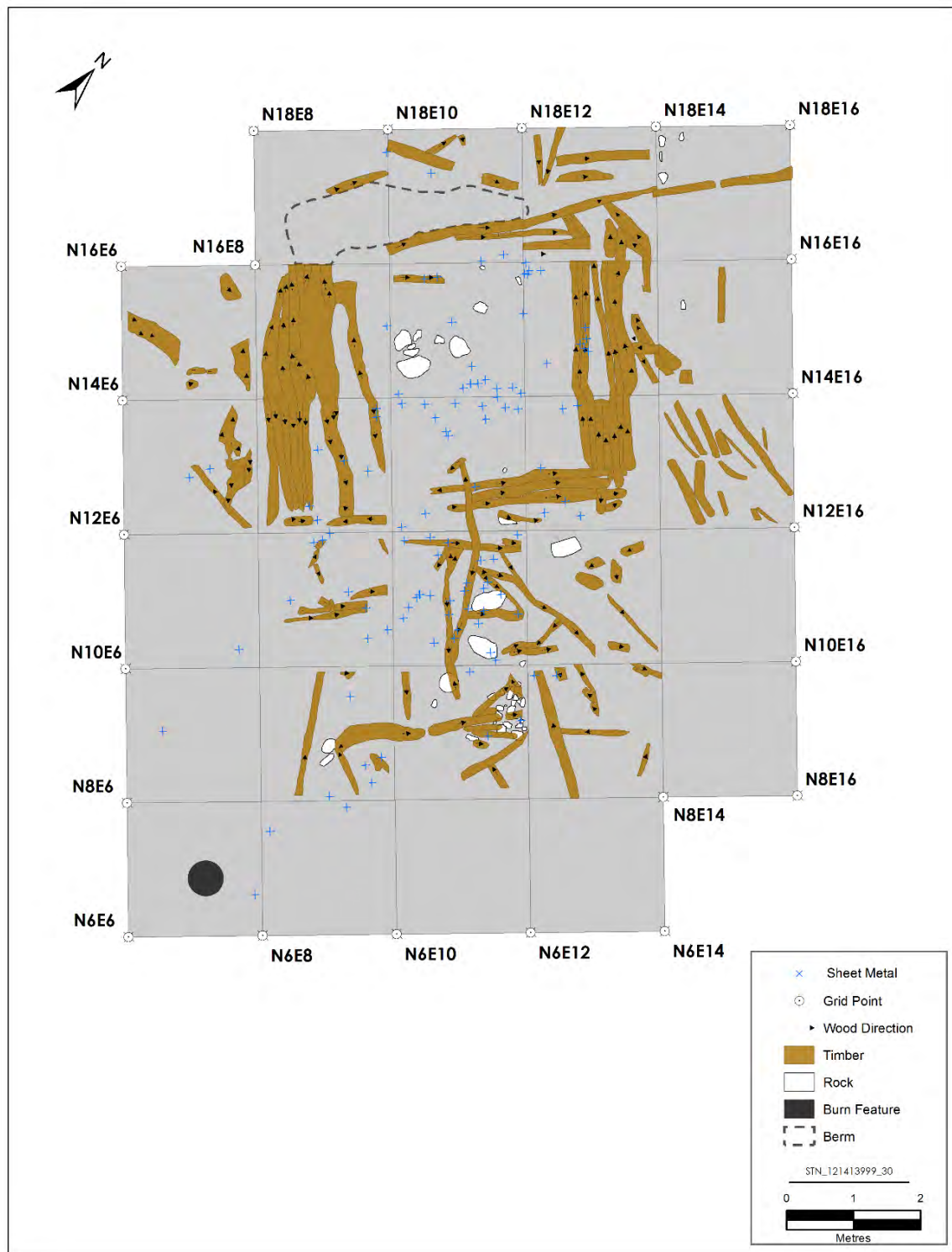


Figure 5-4 The Distribution of Tin Sheet Fragments at FgCg-04

The scatter of tin sheeting from the centre of the structure suggests the presence of a stove within Structure 1 that had subsequently been removed. Most larger pieces recovered from the interior were curved and many had evidence of a seam. This, along with the linear nature of the distribution, suggests that despite the removal of the stove, stove pipes were left in place until the collapse of the structure.

Many small unidentifiable pieces of tin sheet were recovered throughout the site and these too may be fragments of stove pipe, although their function cannot be confirmed.



Photo 5-20 Tin sheet Fragments *In Situ* at FgCG-04

5.2.3 Arms/Ammunition Group

As in other artifact categories, objects of the Arms/Ammunition Group from FgCg-04 closely resemble those from FgCg-01 Locus D, and include musket balls, shot, lead sprue, and one firearm component. However, FgCg-04 did yield some types not found at FgCg-01 Locus D, such as percussion caps, a bullet, and gunflints of unusual raw material.

5.2.3.1 Gunflints

Based on similarity of materials and size it appears that FgCg-04 and FgCg-01 likely shared a supplier for gunflints. A total of 22 gunflints/altered gunflints were recovered from FgCg-04 (Photo 5-21), most which are glossy English cherts varying from black to dark brown. Three fragmentary

exceptions exist, one consisting of a matte white/brown example with a much steeper striking surface than that seen in the English flints. The remaining non-English flint types are a honey brown colour tending toward translucent. Though these pieces are too fragmentary to determine original form they do seem to match the general description of French flints of the period. Following the pattern seen at FgCg-01, all the flints recovered from FgCg-04 showed obvious signs of use, including some that had been so heavily used that the original shape had been whittled away leaving only a small central segment.

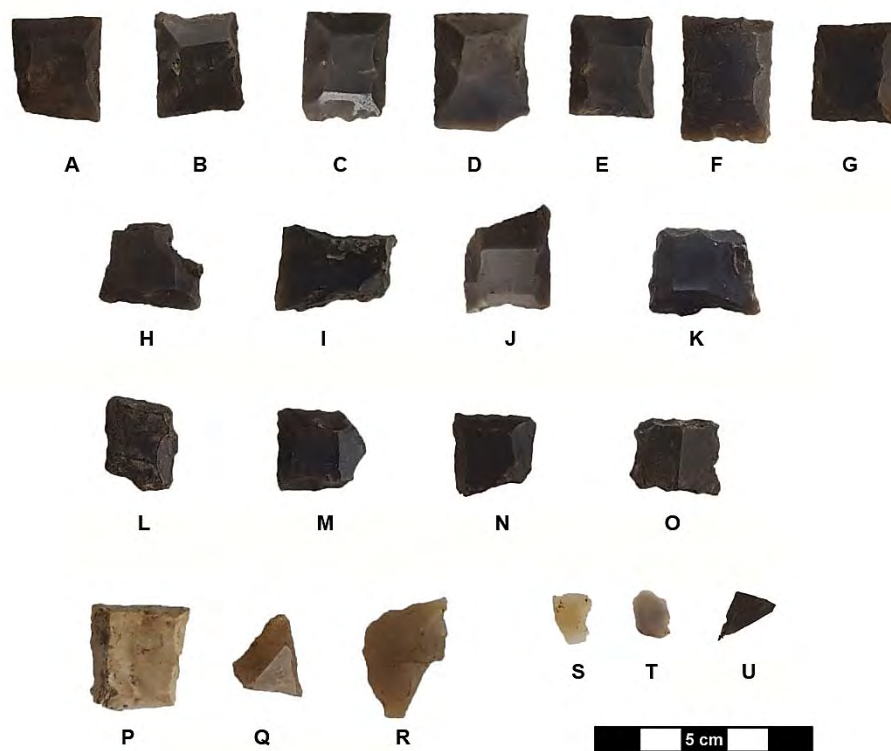


Photo 5-21 Gunflints, Gunspalls, and Strike-a-Lights Recovered from FgCg-04

Considering the heavy wear that is present on the FgCg-04 gunflints, they show remarkable consistency in size. For all recovered gunflints in which the striking edge could still be determined, no examples exceed 28 mm or are smaller than 23 mm. This is consistent with the expected sizes for trade guns of the period. This narrow size range of flints at the site suggests that only a single size of flintlock was present, and all may have been employed on a single weapon.

Four flints have noticeably concave sides suggesting use as strike-a-lights. In contrast to the small ratio of strike-a-lights vs. gunflints recovered on FgCg-01 (less than 1% of European lithics), four flint strike-a lights were recovered from FgCg-04 composing just under a quarter of recovered lithics (Photo 5-21: H-K), these are of the expected brown/black fine grain flint seen in gunflints suggesting that these strike-a-lights were recycled gunflints.

5.2.3.2 Ammunition

A small collection of three musket balls (Photo 5-22) was recovered from FgCg-04, two with near identical sizes of 14.22 mm and 14.33 mm with a third at 17.07 mm. These three musket balls have a uniform surface with no sign of casting marks or cut marks. All musket balls were recovered from the interior of the structure and appear to have been unfired.

An extremely small collection of 14 pieces of lead shot was also recovered (Photo: 5-22). Most shot was recovered from the midden directly to the south of Structure 1 (Feature 2). The size of shot was densely clustered in the 4.5 mm range suggesting a BB size. This is consistent with the small mammal and bird remains that were also recovered from the midden.

In addition to evidence of flintlock related firearms, FgCg-04 provided evidence for both percussion cap and primer ammunition. Despite the presence of percussion cap gun components from FgCg-01 Locus D, including a lock plate, there was no recovery of percussion caps at the latter site. FgCg-04 on the other hand contained a collection of six percussion caps, all of which are near identical in size and style. These caps are consistent in size with rifles rather than pistols, and are perfectly fitted with the mechanism recovered from FgCg-01.

A single, jacketed bullet was recovered (Photo5-22: J-K); the diameter 10.69 mm does not convert into a standard modern calibre measurement but approximates a .45 calibre (11.43 mm).

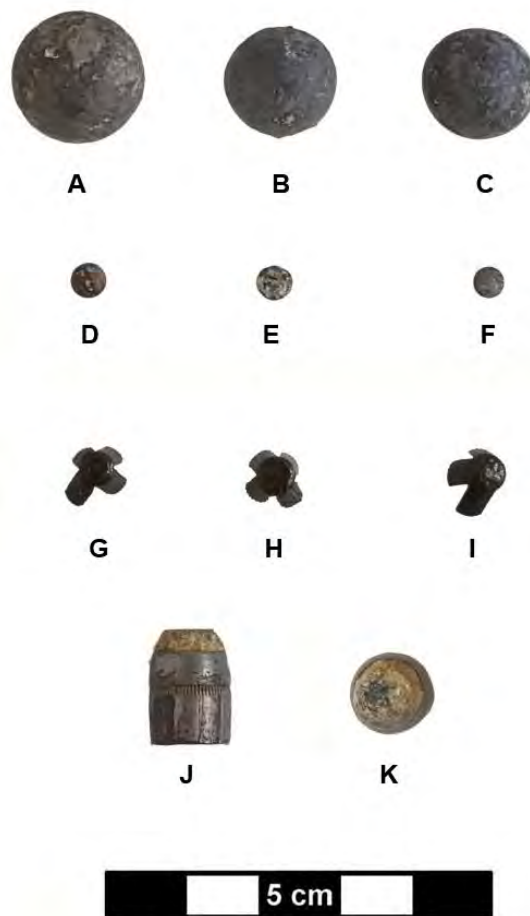


Photo 5-22 Musket Balls, Shot, Percussion Caps and Bullet Recovered from FgCg-04

5.2.3.3 Firearm Components

The only potential firearm component recovered from FgCg-04 is a fragment of a smoothbore musket barrel (Photo 5-23: A). A similar barrel was recovered in 2015 from the historic Innu occupation area at FfCi-02 (Stantec 2016).

A second recovered object related to the use and maintenance of firearms was a gun worm (Photo 5-23: B). The worm itself consists of a spring steel screw similar in appearance to a cork screw that is mounted to long wooden shaft and was used to clear blockages from the barrel.



Photo 5-23 Musket Barrel and Gun Worm Recovered from FgCg-04

5.2.3.4 Lead Sprue and Fragments

Despite the low numbers of musket balls and shot recovered on FgCg-04 the production of ammunition seems to have been a repeated activity on site (see Photo 5-24). Lead sprue, the telltale evidence of forming lead, was recovered in low amounts. Additionally, lead ingots of nonspecific form were recovered, many of which have been cut with some variety of shears. A single example of a small (53 mm x 7 mm) rolled sheet of lead was recovered. While this may have been raw material for shot-making, it may also have served as an expedient fishing-line or net weight.

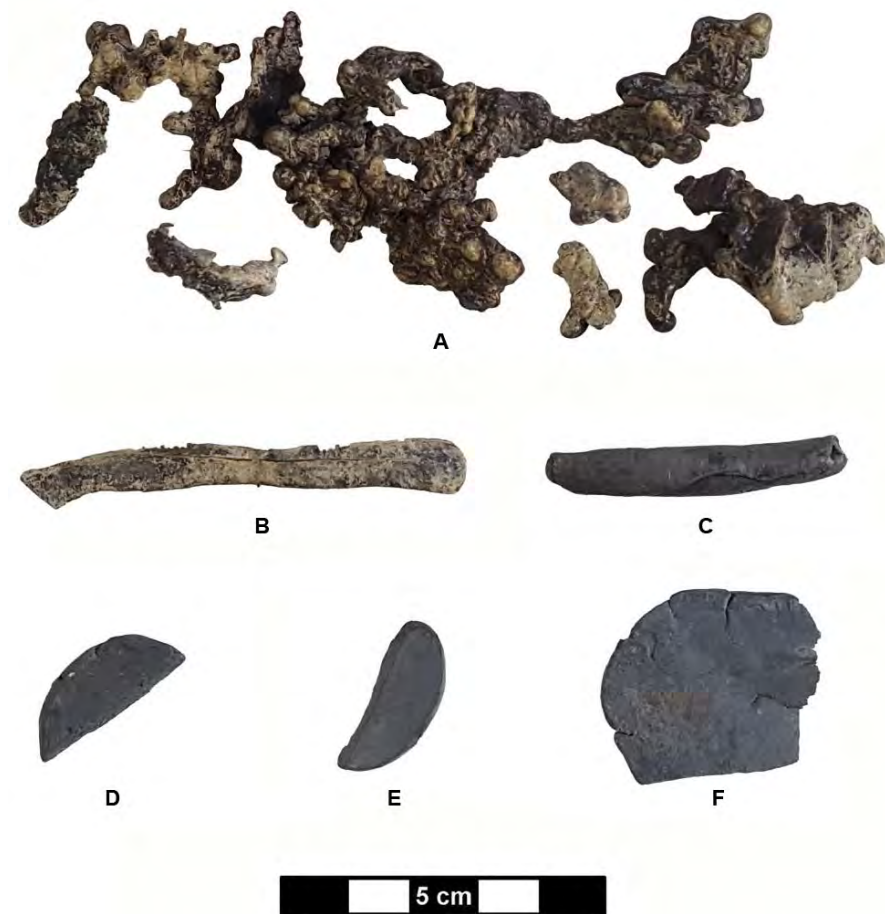


Photo 5-24 Melted Lead and Rolled Sheet Recovered from FgCg-04

5.2.4 Clothing Group

5.2.4.1 Buttons

The FgCg-04 button assemblage consists of a single example each of a bone and a brass alloy button. Both buttons were recovered from the interior of the structure and were not associated with any other clothing-related objects.

Type 1.0 Bone

The bone button (Photo 5-25: A) was a four-holed sunken panel button similar in size and design to the bone buttons from FgCg-01. It is unbroken and of slight construction consistent with those used in shirts or undergarment.

Type 2.0 Brass

The recovered brass button (Photo 5-25: B) was highly polished and flat in appearance. It would have been attached by an extended eye that protruded from the back but this portion is missing.



Photo 5-25 Buttons, Buckle and Beads

5.2.4.2 Buckles

A single small, iron buckle (Photo 5-25: C) was recovered from the interior of the structure. The small size (23 mm x 19 mm) and two prong style of the buckle suggests use in clothing or footwear as opposed to a hardware use.

5.2.4.3 Beads

Only two glass beads were recovered at FgCg-04 (Photo 5-25: D-E). Both beads were manufactured by the wire-wound method and, despite a significant size difference (1.5 mm vs. 5 mm), are near identical in their light blue colour. The larger of the two beads has facet ground decoration identical to one recovered at FgCg-01 Locus D, again suggesting connections between the two sites.

5.2.4.4 Scissors

One scissor fragment (Photo 5-26) was recovered from near the center of the tilt where the stove was likely located. The blade is thick bodied with a square tip and seems to be suited to heavier work. This sturdy blade along with a centre rivet 6 mm in diameter suggest something closer to fabric shears. Shears of this style have been in continuous use from the late 18th century, but the machined quality of this piece suggests a mid to late 19th century date.



Photo 5-26 Scissor Blade Recovered from FgCg-04

5.2.5 Personal Group

5.2.5.1 Tobacco Pipes

Tobacco pipe fragments represent a relatively small proportion of the artifacts recovered from FgCg-04 (n=178). No complete, or near complete, examples of pipes were recovered. Of the fragments recovered, 32% (n=58) consisted of pipe bowls or bowl fragments, with the remainder (n=120) consisting of factory-cut mouthpieces or midsection stems.

Of the three factory-cut mouthpieces, two were unglazed and undecorated while the third is noticeably thicker with an orange-red glazed or waxed end. There were no examples of the chipped/chewed ends of pipes in FgCg-04 and of the small number (6) of pipe bowls with attached stems that would still be functional there is no evidence of use. Of the midsection stems there are no examples of decoration or maker's marks.

Six spurs and spur fragments are marked with the molded raised initials "I F" on either side of the spur; this is the only mark found on any of the FgCg-04 pipes. The "I F" spur mark is also the single most-frequent marking found on tobacco pipes from FgCg-01 Locus D and is linked to a known supplier to the HBC between 1846 and 1877.

The tobacco pipe collection consists of 32% pipe bowls, bowl/spur, and bowl/spur/stem fragments. The high number of complete/near complete bowls (8) likely relates to the much lower incidence of trampling due to the smaller site size.

5.2.6 Activities Group

5.2.6.1 Barrel Hoops

Barrel hoops and fragments are well represented on site with a total of 22 identified hoops and hoop fragments (Photo 5-27). Four complete hoops were recovered, and although some are deformed, original diameters of 25 cm for the three smaller examples and 45 cm for the larger

example were determined. The thicknesses of the metal are roughly consistent, ranging from 1.5 mm to 3 mm and widths averaging 45 mm. The hoops are closed with rivets, only one example having two rivets. Many of the barrel hoop fragments also have rivets (Photo 5-28). This may point to this segment of the barrel hoop not being as useful in reuse as the uninterrupted segments.

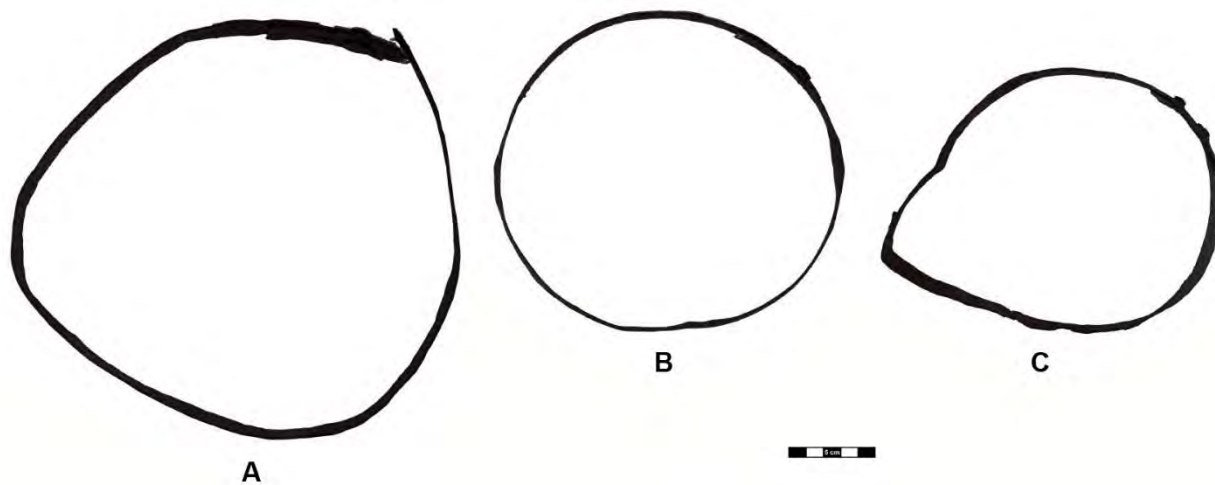


Photo 5-27 Selected Barrel Hoops Recovered from FgCg-04

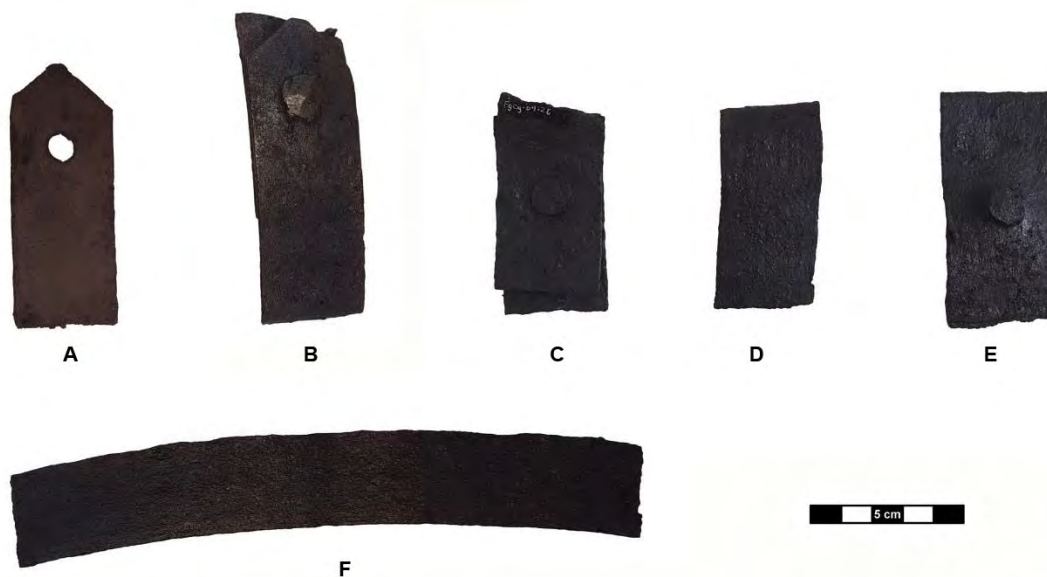


Photo 5-28 Selected Barrel Hoop Fragments Recovered from FgCg-04

As stated for FgCg-01, hoops from empty barrels provided a source of metal that required minimal effort to transform into other objects. Some fragments recovered from FgCg-04 have chisel cut

ends, while others appear to have been repeatedly bent until breaking with turned and broken edges. Though the barrel hoop fragments from FgCg-04 are not as plentiful as at Sandy Banks, the same difficulty in determining actual numbers of barrels on site persist. The breaking down of hoops for raw materials and removing of identifying features is at least as prevalent as at Sandy Banks. A small collection of objects (n=4) recovered from FgCg-04, made exclusive from barrel hoops (Photo 5-29) highlights this fact.



Photo 5-29 Hooks Improvised from Barrel Hoop Fragments at FgCg-04

These improvised hooks consist of cut sections of barrel hoop with an original length of 20-25 cm that have been bent with a "Z" profile to create an offset hook. Though no specific use for these objects can be determined, they may have served as pot-hooks.

5.2.6.2 Tools

At FgCg-04 the collection of tools consists almost entirely of single unique examples of each tool type.

File

A single file was collected at FgCg-04 (Photo 5-30: A). It is of a half-round style, convex on one surface and flat on the other, predominantly parallel-sided except for a slight constriction near the distal tip with uniform thickness throughout. The tang is flat in cross section and contracts to a point where it has been crimped, likely to secure the file to a handle. The file has a single cut pattern and appears to have been heavily used, with the cutting surface heavily worn. The file is unmarked and has no indication of manufacturer or origin.

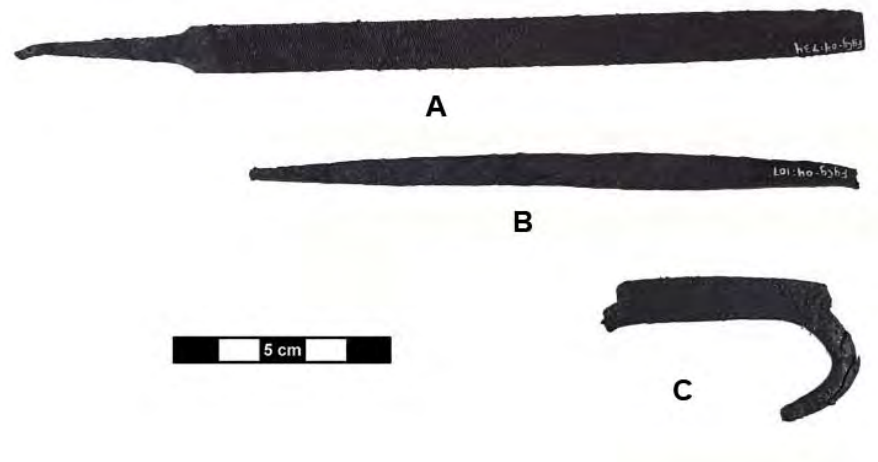


Photo 5-30 File, Punch and Fire Steel Recovered from FgCg-04

Punch

The single object identified as a punch (Photo 5-30: B) is a broken, triangular, iron object which contracts on both ends. One end is bent and has been broken, while the opposite end has evidence of having been hammered. This is the only example that was found, but based on the high quality of the metal it is unlikely to be anything other than a tool. Although the missing working end complicates interpretation, it is likely that this object was set in a handle and was used as a punch.

Fire Steel

A fire steel (Photo 5-30: C) was collected from the interior of Structure 1 near the area interpreted as the location of the stove. This example is factory made with a length of 4.84 cm, a width of 3.24 cm, and a thickness of 1.3 cm. A straight striking surface has been expanded beyond the curving frame. One of the incurving ends of the frame is still present.

Strap Hammer.

A heavily-used claw strap-hammer (Photo 5-31) was recovered in three pieces from the interior of Structure 1. This example has an expanding six-sided head ending with a striking surface larger than the area where the head connects to the handle, the overall head length being 14.20 cm. Though one side is broken, both straps that would have extended down on either side of the handle and been riveted in place were recovered and have a maximum length of 13.12 cm. The handle straps are connected at the top and would have completely encased the wooden handle at the top of the head.

Before breaking, this object was clearly heavily-used. The striking surface is battered to such an extent that it has developed a turned edge and is angled on the lower half of the face. The claws have also been extensively used with both distal edges having turned and battered edges.



Photo 5-31 Strap Hammer Recovered from FgCg-04

Grinding Wheel.

The single largest object recovered from FgCg-04 was a fragmented grinding stone and its associated drive mechanism. A grind wheel consists of a large abrasive wheel which is turned by means of a crank or pedals. They were used for a variety of grinding purposes, most commonly for maintaining and sharpening edged tools such as knives or axes. These large heavy objects were generally stationary and were a common installation at blacksmiths shops.



Photo 5-32 Grinding Stone Fragments Recovered from FgCg-04

The grindstone itself (Photo 5-32) was identified from 45 separate fragments of a fine grained yellow/tan sand stone. These fragments were recovered in a scatter across the southern extent of the excavation. The pieces were quite small with the largest only measuring 103 mm x 76.91 mm x 48.98 mm and the combined weight for all pieces was less than 3 kg. When reassembled, a small segment of a finished edge was present and allowed for an estimated total wheel diameter of 65 cm and a thickness of 8-10 cm. This size is consistent with examples of grindstones that exist within the Rooms Museum historic collection in St. John's NL. A small number (3) of the fragments had evidence of 2-3 cm holes which had been drilled through the wheel, though no complete examples could be constructed. These holes are again consistent with historic examples of mounted grind wheels which sometimes reinforced the large wheel with metal plates. Only a small portion of wheel was recovered, and it is possible that some or all the missing pieces of the wheel were subsequently re-used as handheld whetstones.



Photo 5-33 Components of Grinding Wheel Drive Mechanism Recovered from FgCg-04

The fragmentary but largely-complete drive system for this grind stone (Photo 5-33) was also recovered on FgCg-04. The drive consists of an axle and a crank, both of which were made of wrought iron (Photos 5-33, 5-34). The axle, a round bar with a rectangular mid-section on which the stone would rest, was recovered in two pieces. The axle is 53 cm in length, with the square center section having a width of 3 cm. One end of the axle is reduced to a thickness of 2 cm and has a drilled hole that would have served to hold a pin to connect it to the crank. A round stop is permanently connected to the axle, and this stop would have been placed in a cut-out section of the wooden frame work of the grind wheel to prevent it from becoming dislodged. The crank consists of a curved drive arm and a handle that would project perpendicular to the wheel. The end of this round bodied handle has been hammered flat; this may indicate that a secondary rotating handle once existed. The end of the crank arm has an open socket that the thin end of the axle would pass through before being pinned in place. This type of modular construction may indicate that this wheel was intended to be portable. This grind stone may have been retrieved from FgCg-01 Locus D after the HBC post was abandoned.



Photo 5-34 Component of Grinding Wheel Drive Mechanism Recovered from FgCg-04

5.2.6.3 Trap Fragments

Traps and related objects compose only a small proportion of the assemblage at FgCg-04. Only 12 items were identified as relating to traps, with chains, and chain hardware accounting for two thirds of this (Photo 5-35). Examples of the variety of chain with elongated links which was well represented on Sandy Banks were recovered from FgCg-04. A second chain type with offset links was also recovered, but with no associated hardware. Aside from broken and cut chain links, two swivel links were also recovered; these are noteworthy in that they are integral to traps and can generally only be removed by breaking or extensively dismantling a trap. The numbers of broken chains and chain links suggest that they were a common point of failure with traps and likely needed repeated repair and replacement.

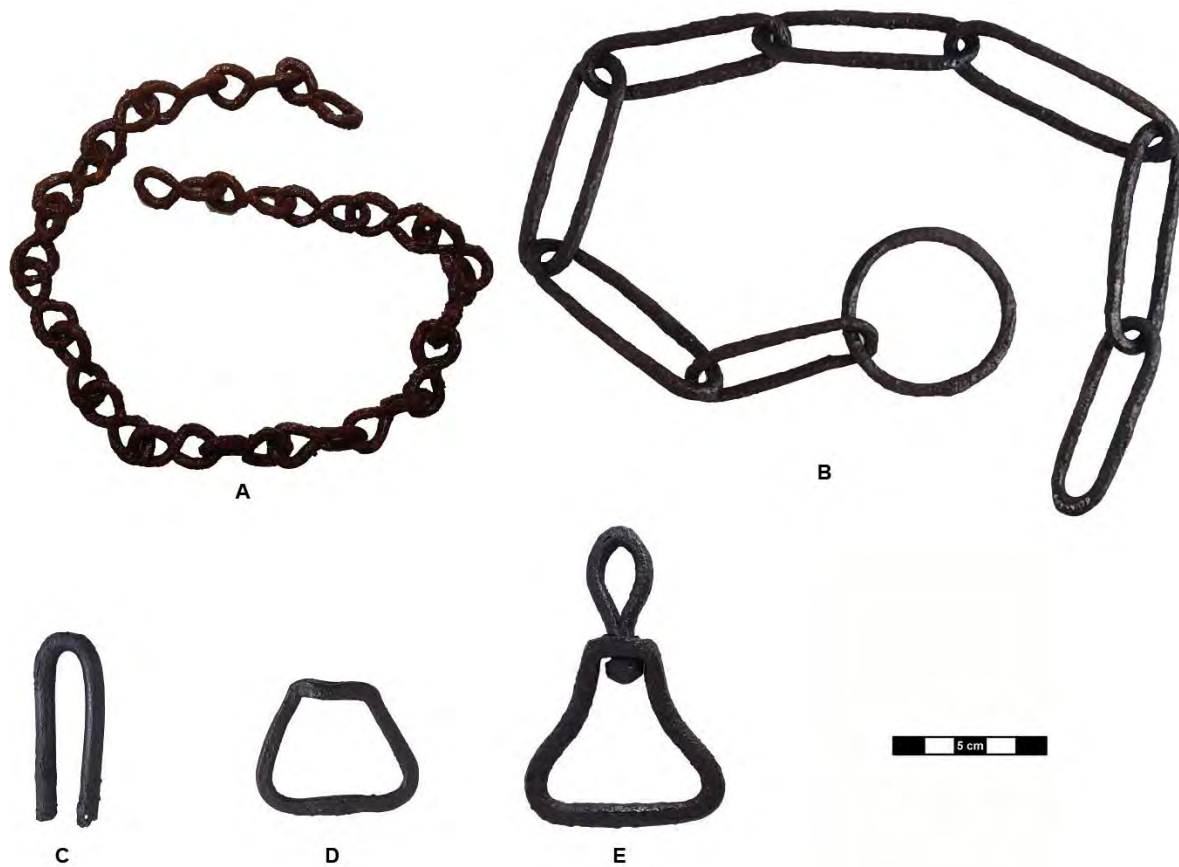


Photo 5-35 Selected Trap Chains and Chain Fragments from FgCg-04

The only other type of trap part recovered from FgCg-04 was trap springs. The four trap springs recovered represent three different styles of trap construction. The first example (Photo 5-36: A) is the most common and is what has been recovered from the Sandy Banks site and related modern tilts. Another (Photo 5-36: D) represents an unknown spring style but has the overall form of other traps with a central space that would force trap jaws together. The remaining two springs are of a coil wound style (Photo 5-36: B-C) and roughly equal in size and shape.



Photo 5-36 Trap Springs Recovered from FgCg-04

5.2.6.4 Miscellaneous Scrap Iron and Copper

The majority of scrap metal on FgCg-04 was addressed in the discussion of tin sheeting on site. Beyond this, there was a small collection of copper fragments from unknown objects. A total of 36 copper fragments was recovered, with the collection exclusively consisting of cut and fragmentary copper sheet. The fragments of this sheeting are quite small with a combined weight of only 258 g.

This material comes in the form of thin (0.5-3 mm) sheets, likely derived from copper kettles and pots. Processing of source material seems to have been completed by repeated incising or shears. The stereotypical curled pieces that seem a byproduct of cutting copper with shears are present on FgCg-04. The final intended use of this cut copper is unclear as no recovered pieces have a clear purpose or identifiable form.

5.2.7 Food Refuse Group

5.2.7.1 Faunal Remains

Just over a kilogram (1152 g) of faunal material, including bone and teeth, was recovered during excavations at FgCg-04. The collection includes a wide range of bird, fish, and mammal bones with examples of both wild game and domesticates (Photo 5-37).



Photo 5-37 Faunal Remains Recovered from FgCg-04

Detailed faunal analysis has not yet commenced but the presence of pig crania and mandibles is a strong indication of the transport of barreled salt pork. Unsurprisingly most the collection is composed of wild game with undetermined bird species being the most frequent elements.

The distribution of faunal remains is indicated in Figure 5-5. A clearly defined disposal area for bone exists just to the south of the sill that marked the river facing wall of the structure. It is likely that this midden was directly next to the path used to access the structure.

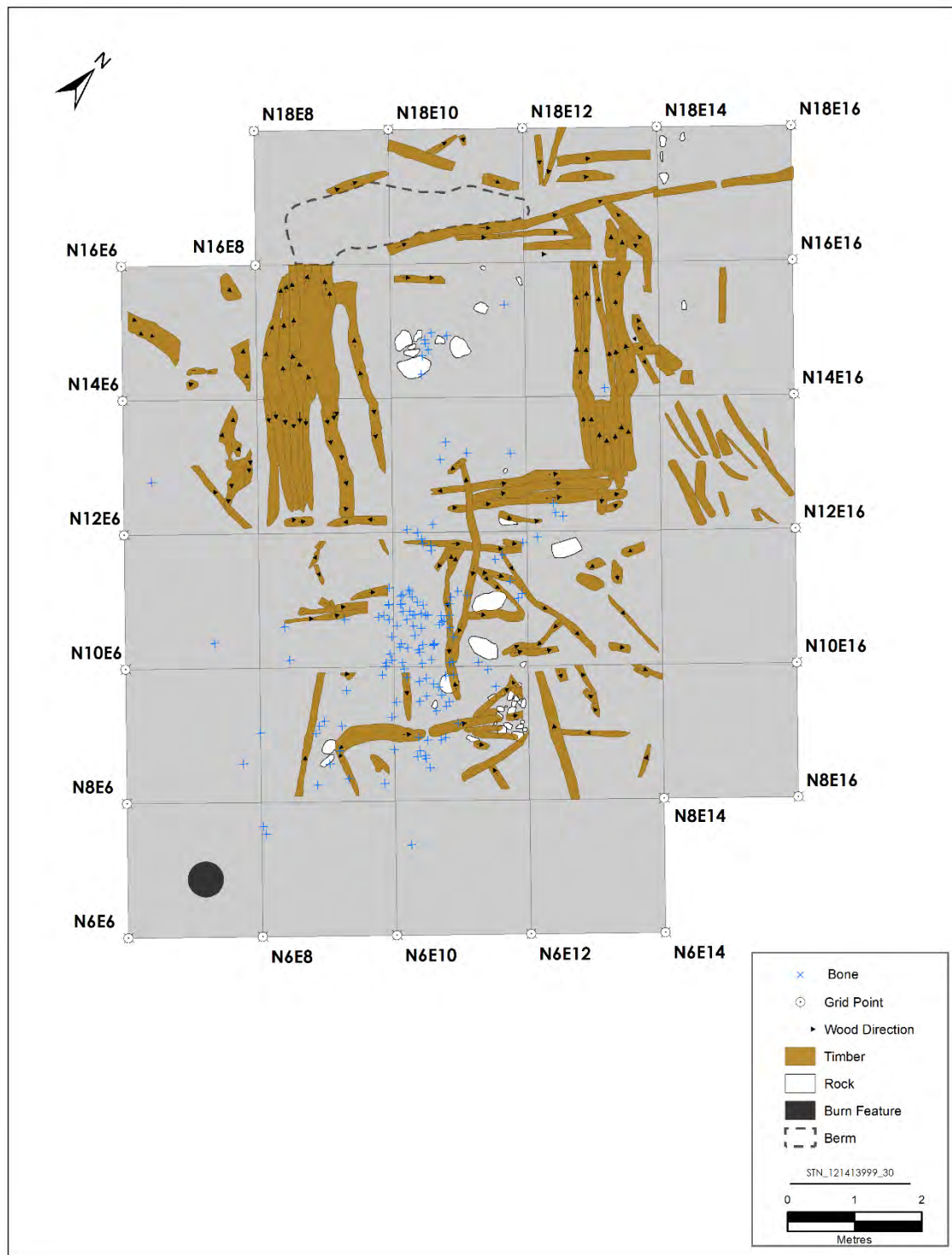


Figure 5-5 The Distribution of Faunal Remains at FgCg-04

5.3 Site Interpretation and Summary

Recovery work at FgCg-04 in 2016 involved the excavation of 112 m² revealing one structure (Photo 5-38) along with one internal feature and two external features. 3,672 artifacts were recovered, with tin fragments, bone, and nails dominating the assemblage. The assemblage is consistent with occupation of the site in the latter half of the 19th century.



Photo 5-38 View Toward the North of FgCg-04, Showing *In Situ* Sills of Structure 1

The construction practices and artifacts recovered from the structure identified at FgCg-04 indicate that the structure served as a dwelling and was a small but substantial construction: the large investments of effort in the transport of infill sand, the construction of a full perimeter berm and the evidence of large window glass panes all point toward an intention that this structure should be a long-standing building versus an expedient shelter. Nevertheless, the size and solitary nature of Structure 1 at FgCg-04 are consistent with the interpretation of this building as the remains of a trapper's cabin.

The artifacts recovered point toward a latter 19th century date. Many artifacts are demonstrably contemporary with those recovered from FgCg-01 Locus D (i.e. mid-19th century) and seem to have been acquired through the same HBC supply chain as the artifacts from FgCg-01 Locus D. On the other hand, FgCg-04 did contain evidence for an admixture of seemingly later technologies, particularly in the Arms/Ammunition Group. A final aspect of the site's artifact assemblage, related to its proximity to FgCg-01, is the examples of cross-mends between the sites,

along with objects that seem out of place or unlikely for a trapper's cabin, such as the collection of unused roves and the presence of a large grinding wheel. These objects all point toward contact between the two sites, but the transport of broken objects seems to preclude a trading connection, and instead suggests scavenging by the occupants of FgCg-04 after the abandonment of the HBC post at Sandy Banks.

The functions and activities associated with the site are for the most part ephemeral. Except for a midden and a rock pad, possibly associated with a pathway, no obvious clustering or patterning of artifacts is evident outside the defined features. A slightly higher percentage of construction-associated artifacts such as nails and glass was recovered inside the structure, but these objects are plentiful to the south of the structure as well. The overall pattern of artifact distribution to the south of the structure may relate to the collapse of the southern wall of the structure and any superstructure.

FgCg-04 is therefore interpreted to represent a late 19th century trapper cabin or tilt built in the same architectural tradition as the nearby Sandy Banks post, by occupants who acquired many of their goods through the HBC supply chain. This structure eventually collapsed *in situ*, and, unlike the buildings at FgCg-01 Locus D, it was never burned. The artifact assemblage represents a range of tools and objects especially suited to hunting, the trapping of animals, and associated tasks, and suggests that Structure 1 at FgCg-04 post-dates the abandonment of FgCg-01 Locus D by some years. The presence of objects that cross-mend between sites indicates that the occupants of FgCg-04 scavenged the ruins of the Sandy Banks HBC post for useful items and raw materials.

6.0 DISCUSSION AND SUMMARY

The 2016 historic resources management program involved completion of recovery at two archaeological sites, both situated in the Sandy Banks area on the Churchill River, midway between Muskrat Falls and Gull Lake.

The larger of the two sites was FgCg-01, where limited collection was undertaken in two site loci that had been investigated in previous years. This included collection of five soil samples for potential Optically-Stimulated Luminescence (OSL) dating at the precontact occupation area designated Locus B, as well as collection of two historic artifacts (a stove and a marten trap) from the vicinity of the 20th-century Sandy Banks trappers tilt designated Locus C. However, the primary focus of recovery work at the site in 2016 was on completing the recovery of Locus D, a multi-component precontact and 19th century historic HBC trading post.

The second site recovered in 2016 was FgCg-04, a single-component site situated 700 m downstream from FgCg-01. FgCg-04 contained evidence for a further 19th century historic occupation.

6.1 FgCg-01 LOCUS D PRECONTACT COMPONENT

The precontact component at FgCg-01 Locus D included a sparse scatter of precontact lithics (as well as a single sherd of grit-tempered ceramic) dispersed across the entire site. However, evidence for precontact occupation consisted primarily of a concentration of rock and firecracked rock along with lithic debitage and artifacts (Feature 19) situated in the southwestern corner of Locus D, just beyond the margins of the later 19th century occupation area. This feature closely resembles other small quartzite-dominated precontact sites previously excavated in the Churchill Valley (see Stantec 2014a; 2014b; 2015), and is similarly interpreted as a hearth and associated lithic scatter representing a small precontact campsite.

The collection of quartzite tools recovered from Locus D, consisting of a variety of expedient tools (linear flakes, flake cores, cobble-spall scrapers), along with a few bifaces and preforms, is broadly-comparable to the assemblages recovered nearby at FgCg-01 Locus B (Stantec 2015; 2016), and particularly to the collections recovered from smaller sites in the Sandy Banks area, such as FgCg-05 and FgCg-02 (Stantec 2015). Similar tool types were encountered in the cluster of quartzite lithic scatters excavated on the North Spur of Muskrat Falls in 2013 (Stantec 2014b). The prevalence of expedient tools and debris from primary lithic reduction at these sites contrasts with the wide range of artifact types recovered from FfCi-02, a large quartzite-dominated site on Gull Lake in 2015, and it seems likely that this latter represents a series of longer-term campsites, while the small lithic scatters in the Sandy Banks area and on the North Spur represent short-term travel stops. All these quartzite-dominated assemblages may be attributed to the North West River Phase at North West River, dated approximately 1800 BP (Fitzhugh 1972). One important element distinguishing the precontact assemblages of the Churchill Valley from those of the North West

River Phase (and indeed, from all precontact culture-historical units at North West River) is the presence of Aboriginal ceramics. One sherd of grit-tempered ceramic was recovered from FgCg-01 Locus D in 2016 (although not in association with Feature 19). In the Churchill Valley, the discovery of Aboriginal ceramics on precontact archaeological sites is now routine, and low-fired grit-tempered ceramics have now been recovered from eight sites in the Churchill Valley: five at Muskrat Falls, two in the Sandy Banks area, and one on Gull Lake.

6.2 FgCg-01 LOCUS D HISTORIC COMPONENT

Recovery work at FgCg-01 Locus D confirmed that this site locus was the location of the 19th century HBC outpost at Sandy Banks, in operation between 1839 and 1876. Excavations in 2016 yielded a large assemblage of artifacts consistent with an HBC occupation, and specifically with the documented period of occupation of Sandy Banks.

In addition to artifacts, excavations in 2016 confirmed evidence for four principal structures and one outbuilding (Feature 6, the privy).

The principal buildings were arrayed in a line parallel to the edge of the terrace overlooking the Churchill River, with the privy situated behind this line of buildings. Three of these buildings (Structures 1, 3, and 4) yielded preserved wooden sills and were clearly either of post-on-beam, or lapped corner timber construction. Structure 2 and Feature 6 lacked in situ timbers and appear to have been dismantled. All the principal structures, and the privy, were surrounded by mounded earthen berms banked against the walls. All structures except the privy, had glazed windows, at least along their front walls, and one (Structure 1) was extensively chinked with clay daub. No chimneys were present, and all four of the principal structures appear to have been heated with stoves. The basic construction methods are consistent with HBC architecture encountered HBC posts excavated elsewhere in Canada; the absence of stone chimneys is not typical, but it is not unheard-of. The earthen berms, on the other hand are an unusual feature.

These four buildings may be classified by their formal attributes into two distinct pairs. The two central buildings (Structures 1 and 2), although dissimilar in size, were both relatively large, with high earth berms and interior storage cellars and sumps, while the two flanking buildings (Structures 3 and 4) were both small (in fact, identical in size), with low berms, and had sump pits but lacked cellars. The distribution of artifacts across the terrace top indicates that the differences in form between these two pairs of buildings reflect differences in function as well. Structures 1 and 2 are interpreted as dwelling houses while Structures 3 and 4 are interpreted as stores.

The documentary evidence mentions only a single dwelling and a single store at the post at any one time, so the presence of four structures, interpreted as the remains of two houses and two stores, suggests some sequence of rebuilding phases during the period of occupation of the site. It is not possible to seriate these four buildings stratigraphically, and archaeological contexts at the site appear to be largely contemporary, in part because of the relatively short period of occupation. Consequently, it is difficult to reconstruct the building sequence at the site. However,

the limited evidence available indicates that Structures 1 and 4 may represent the initial dwelling house and store, while Structures 2 and 3 represent a later building phase or phases at the site. The privy appears stratigraphically to have been dug after the construction of Structure 2, indicating that it was a relatively late addition to the post. This may account for the relatively sparse contents of the privy pit.

Archaeologically, there is no evidence for occupation of the site after it ceases to be mentioned in the HBC archives in 1876. In fact, the material culture includes very few artifacts clearly datable after ca. 1850: virtually all the artifact styles and technology (including firearms technology) were current in 1840 but out-moded by 1876, giving the artifact assemblage a rather "old-fashioned" look for the supposed period of occupation. In the case of the trade goods, this may reflect a persistent demand for earlier artifact styles and technologies by the principal customers of the HBC, the Innu hunters and trappers of central Labrador. On the other hand, even the artifact classes that may have been imported primarily for the use of HBC personnel, such as the transfer-printed refined white earthenware ceramics, include very few pieces clearly dateable after 1850. It is possible that the Sandy Banks outpost saw little re-supply after its initial outfit in the late 1830s. It is also possible that the North West River post itself, of which Sandy Banks was only an outpost, was not well-supplied. Only further archaeological work at the North West River post and its other dependent outposts, such as Winokapau House and Fort Nascopie, will resolve these questions. All three of these HBC establishments have been archaeologically-sampled (see Fitzhugh 1972; McCaffrey 1989; IED/JWEL 2000; JWEL/IELP 2001a), but no extensive excavations have been undertaken.

Except for Structure 2 and Feature 6, which appear to have been dismantled, the remaining buildings at the site appear to have been destroyed by fire. In addition, there is some evidence that after the Sandy Banks outpost was abandoned, it continued to be visited to salvage scrap metal and other useful materials.

6.3 FgCg-04

FgCg-04 is a 19th century historic site situated only 700 m downstream from FgCg-01 Locus D. Excavation at FgCg-04 in 2016 uncovered the remains of a 4 m x 4 m post-on-sill structure built of minimally-dressed horizontal logs embanked with low exterior earth berms. The structure had glazed windows but was not chinked with clay; presumably any chinking between the logs was composed of moss. No evidence for a chimney was recovered, but fragments of sheet-tin stove pipe indicate that the building was heated with a stove. The log structure at FgCg-04 did not burn, but rather, collapsed in situ. Except for the lack of clay chinking, the log structure at FgCg-04 clearly belongs to the same architectural tradition as the post buildings at Sandy Banks,

The artifact assemblage recovered from FgCg-04 indicates a 19th century occupation, and is broadly comparable to the collection from FgCg-01 Locus D. The refined white earthenwares, for example, are Copeland and Garrett manufactures, apparently contemporary with those from FgCg-01 Locus D, although the pieces from FgCg-04 are all the "Antique Vase" pattern, not

represented at FgCg-01 Locus D. The few marked tobacco pipe fragments from FgCg-04 have the "I F" letter mark on their spurs. These are not only broadly contemporary with pieces from FgCg-01 Locus D, but they clearly were sourced through the same HBC supply chain. Other artifact classes suggesting contemporaneity between the two sites include the nails, which are almost entirely hand-forged rather than cut, and the windowpane glass, which is similar in thickness to that recovered from FgCg-01 Locus D.

That said, there are some contrasts between the two sites. Most notably, the Firearms Group contains later artifacts not represented at FgCg-01 Locus D, including a collection of percussion caps, and the jacketed bullet. These suggest that FgCg-04 was occupied at a later date than FgCg-01 Locus D. Intriguingly, there are some cross-mends between the two sites. Both the missing rim fragments from the FgCg-04 pot-lid, and the fragmented base of the kettle from FgCg-04 were recovered from FgCg-01 Locus D. Certainly the kettle at FgCg-04, missing its base, was no longer functional when it was brought to FgCg-04. Both instances therefore indicate that the inhabitants of FgCg-04 scavenged FgCg-01 Locus D for scrap metal.

FgCg-04 is therefore interpreted as the remains of a log cabin that was not, in fact, contemporary with the HBC post at Sandy Banks, but built some years after the HBC post was abandoned. Nevertheless, FgCg-04 appears to have been at least indirectly connected to the HBC post. The site contained some artifacts comparable in age to those at the post, acquired either in trade from the same source (the HBC in central Labrador) or by scavenging of objects from the ruins of the Sandy Banks outpost, but some clearly later pieces as well. The nature of any indirect connection between FgCg-04 and FgCg-01 Locus D is not clearly-defined. However, we do know that in the early 20th century the Michelin family at least occasionally still used an "older tilt" in a location corresponding to FgCg-04 (see Section 3.1.2 above). It is hypothesized that FgCg-04 is the remains of the initial Michelin family Sandy Banks tilt, likely initially constructed in the 1890s by Joseph Michelin and replaced in 1922 by the more recent tilt designated FgCg-01 Locus C.

If this interpretation is correct, then FgCg-04 may represent a unique and important period in the history of central Labrador: the evolution of Settler trapping on the Churchill River from a pattern of HBC employees living in "winter quarters" to a system of independent trapping families harvesting furs from their own trapping territories along the river.

6.4 2016 SITE STATUS AND 2017 WORKPLAN

6.4.1 Site Status at the Close of the 2016 Field Season

The status of the Historic Resources Management Program for the Lower Churchill Project on completion of the 2015 field program may be summarized as follows:

- Artifact processing and conservation procedures and facilities are in place, ready for re-commencement of work in 2017.

- Stage 3 recovery operations are complete at FgCg-01 Locus D and therefore at FgCg-01 in its entirety.
- Stage 3 recovery operations are complete at FgCg-04.

6.4.2 2017 Workplan

With the completion of recovery at FgCg-01 and FgCg-04, recovery work is now complete in the Sandy Banks area and the remaining sites are all situated in the Gull Lake area.

The Historic Resources Management Program in 2017 will focus on completion of recovery at the eight remaining archaeological sites in the Gull Lake area. Seven of these (FgCh-01, FgCh-02, FgCh-03, FgCh-05, FfCh-02, FfCi-01 and FfCi-05) are precontact sites scheduled for Stage 3 recovery (SDR). In addition, in 2017, Stage 2 Assessment will be undertaken at one site (FgCh-06) in a final effort to determine whether any subsurface historic remains are present at the site.

6.5 Summary

Fieldwork for the 2016 Historic Resources Management Program commenced in June 2016 and was completed at the end of September 2016. The 2016 program involved excavation and recovery at two archaeological sites in the Sandy Banks area along the Churchill River, midway between Muskrat Falls and Gull Lake.

Stage 3 (SDR) recovery operations are complete at the large multi-component, multi-locus site designated FgCg-01. Recovery work at this site included limited collection activities from Locus B and Locus C but primarily focused on the excavation of Locus D, the site of the historically-documented 19th century HBC outpost at Sandy Banks. Excavation uncovered the remains of four principal 19th century buildings. These log-built structures embanked with earthen berms were arrayed in a line along the banks of the Churchill River. Each of the two central structures contained evidence for deeply-excavated storage cellars. Construction attributes and artifact distributions indicate that these two central structures were the remains of two post dwelling houses, while the two flanking buildings served as stores. Archival evidence suggests that only two of these buildings would have been in use at any one time: one dwelling house, and one store. Additional archaeological features identified at the site included a privy, a deep storage pit, other mound and pit features, sheet middens, and several footpaths. One dwelling house and the privy appear to have been dismantled in the historic period, but the remaining three buildings appear to have burned to the ground. A small, localized precontact occupation area was also identified in the southwestern corner of the site. A large collection of historic artifacts was recovered during excavation. The collection is broadly comparable to assemblages recovered from excavation of contemporary HBC posts elsewhere in Canada, and includes many artifacts manufactured by companies known to have been suppliers of goods to the HBC.

Stage 3 (SDR) recovery operations are complete at the smaller site designated FgCg-04. FgCg-04 was situated 700 m downstream from FgCg-01. Excavations uncovered the remains of a 4 m x 4 m post-on-sill structure built of minimally-dressed horizontal logs embanked with low exterior earth berms, similar in construction to the structures excavated at FgCg-01. The artifact assemblage is also broadly comparable to that from FgCg-01 and indicates a 19th century occupation. However, there are some differences in the artifact assemblages, most notably greater evidence for later firearms technology, indicating that FgCg-04 post-dates the HBC post. FgCg-04 is interpreted as the remains of an early Settler trapping cabin, most likely constructed by Joseph Michelin in the 1890s. This site therefore appears to attest to the evolution of Settler trapping in central Labrador, as former HBC employees and their families came to operate as independent trappers.

Further work scheduled for 2017 includes the completion of recovery work at eight sites situated on Gull Lake, the last of the sites scheduled for recovery within the Muskrat Falls reservoir area.

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