THE SPRUCE POINT SITE (DjKq-1): A LATE WOODLAND COMMUNITY PATTERN AND CULTURAL ASSEMBLAGE FROM NORTHWESTERN ONTARIO AND THEIR RELATIONSHIPS WITHIN THE SELKIRK COMPOSITE

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ABSTRACT

The Spruce Point Site (DjKq-1) in the northwestern sector of Lake of the Woods, Ontario, is a Selkirk site dated through ceramic seriational analysis to the sixteenth or seventeenth century A.D. It is rare for two reasons. First, it is a single component among a plethora of multi-component sites with collapsed stratigraphy which characterize the major portion of the Lake of the Woods prehistoric record. This factor allows for the first analysis and description of Lake of the Woods Selkirk community patterns, material remains, especially ceramics, and adaptive strategy free from stratigraphic interference. The assemblage is represented by ceramics and lithics akin to the Winnipeg River Complex and a faunal sample indicating an exploitation pattern using an unspecialized strategy and varied resources. Second, the site has remains of two house structures, unreported elsewhere for the Selkirk Composite, that are similar in floor plan and size to earlier Laurel structures and later Cree houses reported in the ethnographic literature. House style and geographic location, plus the faunal assemblage indicate the site was occupied during the summer and was chosen for its varied animal, plant and lithic resources.

FOREWORD

The Spruce Point Site project was funded by the Heritage Branch, Ontario Ministry of Citizenship and Culture, as part of its cultural resources management program, administered in Northwestern Region by C. S. "Paddy" Reid, Regional Archaeologist. He gave me the opportunity to excavate this excellent site and advised me throughout.

Many thanks to the 1976 crew of Ann Balmer, Nancy Schindelhauer and Anneli Tolvanen and the 1981 crew of Colleen Halverson, Ruth Hamilton and Tom Weigeldt. Thanks also to William A. Fox, now Regional Archaeologist in London for the Ontario Ministry of Citizenship and Culture, who identified and excavated the site initially in 1973, and attempted the flotation of soils recovered in 1981.

Plant samples from the site were identified by Val Macins, District Biologist in Kenora for the Ontario Ministry of Natural Resources, and faunal remains were identified by Ann Balmer, Jim Burns, Peter Lambert and Linda Roberts. The copper fragment was analysed by Eleanor Jenson of the Chemistry Department, Lakehead University, and I was aided in the lithic analysis by Virginia Petch, also of Lakehead University.

Many thanks to Mary Young and her staff of the Word Processing Centre, Ontario Ministry of Citizenship and Culture, for making sense of the pencil-scribbled text.

I am especially indebted to Dr. Louis Allaire of the Department of Anthropology, University of Manitoba, who acted as my master's thesis advisor, and to Dr. Thomas E. Vadney of the Department of History, University of Manitoba, Dr. Edward S. Rogers, Chairman of the Department of Ethnology, Royal Ontario Museum, and Dr. E. Leigh Syms, Curator of Archaeology, Manitoba Museum of Man and Nature, who were members of my thesis committee. They spent a great deal of time, and I reaped all the profits.

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CHAPTER I

INTRODUCTION

The Problem

The Selkirk Composite[1] of the Late Woodland period was defined in a pioneering effort by Richard S. MacNeish (1958) more than 20 years ago in southern Manitoba and was later expanded by Walter Hlady (1970, 1971) to include the Clearwater Lake and the Grass River ceramics in northern Manitoba, yet it remains somewhat of a mystery. While we can recognize its ceramics and lithics we know little of their associations to the preceeding Laurel Composite or to contemporaneous cultural assemblages especially Blackduck, Sandy Lake and Duck Bay. Selkirk chronology is still not established, and a scarcity of full-scale excavations of pure Selkirk components has meant that the prehistoric economy and community patterns of the Selkirk Phase remain largely unrevealed. No Selkirk house structures have been reported to date.

The Selkirk Composite, identified by MacNeish (1958) and Hlady (1970) was discovered in northern and southeastern Manitoba and has since been recognized in northern Saskatchewan (Meyer 1978) and in northern Ontario as far east as the Pic River (Wright 1967a), as far north as the mouth of the Severn River (Pilon 1981) and as far south as the Rainy River (Arthurs 1982). It is also represented in at least one assemblage in northwestern Minnesota (Lugenbeal 1976) although it was not recognized

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1. In this paper, I follow Syms' (1977:70-72) basic archaeological taxonomy to be consistent with recent published reports concerning Selkirk or Selkirk-related components. For instance, see Dickson (1980), Meyer (1981).

as such, and possibly also in northeastern Minnesota (Peters 1982). It is a major Late Woodland component of northwestern Ontario (Reid 1980; Reid and Ross 1981) including Lake of the Woods (Reid 1978).

MacNeish (1958:67) suggested that the Selkirk occupation of the Canadian Shield began about A.D. 1350 but since his research in the area others have produced radiocarbon dates as early as the eighth century (Wright 1971:10). Selkirk has also been found in association with historic objects in Manitoba (MacNeish 1958:47), northwestern Ontario (Reid and MacLeod 1980:137) and Saskatchewan (Meyer 1978b:37). It has been identified (MacNeish 1958, Wright 1968, Hlady 1970) as prehistoric Woodland Cree.

The ceramics types were defined by MacNeish (1958) but in the last 20 years researchers have found major difficulties with MacNeish's original efforts (a symposium of the Association of Manitoba Archaeologists was convened in 1978 to discuss this problem). MacNeish's work poses several problems. His ceramic identifications are based on excavations using arbitrary six-inch levels, now recognized as too deep for identification of strata in the area which are often very thin or collapsed (Syms 1977). Moreover, his use of typological constructs blur distinctions now recognized among the varied ceramics of the composite. For instance, it is not clear whether MacNeish includes Clearwater Lake Punctate sherds within the Sturgeon Punctate type; he doesn't include linear stamped decoration, and his Sturgeon Falls Fabric Impressed type includes sherds of various decorative techniques and motifs now recognized as dissimilar (c.f. AMA Symposium in The Manitoba Archaeological Quarterly 1978). In addition, MacNeish's seriation of six Selkirk components in southeastern Manitoba is based on counts of all sherds, not on minimum number of vessels based on rim sherds (1958:42 and 140). Finally, MacNeish defines fabric impressed body sherds as Alexander Fabric Impressed type (1958: Plate XVIII) rather than undifferentiated sherds, one even exhibiting exterior decoration when the type is defined as undecorated. It is not clear to what extent these inconsistencies have confused his seriation of Selkirk ceramics from southeastern Manitoba.

In this context, a reanalysis of Selkirk ceramics has become necessary in order to clarify Selkirk distribution and chronology and to facilitate the discovery of possible associations to Laurel and to other Late Woodland wares.

Recent researchers have attempted to clarify the relationship among the varied Selkirk and Selkirk-related ceramics by introducing the concept of regional variability. Syms (1977), using his taxonomic reclassification to express this variability, has suggested a Selkirk Composite which includes small regional expressions which he terms complexes. A complex (1977:70) is the expression of a number of assemblages left by the same people over a short period in which the cultural expressions underwent only minor changes. It resembles a phase of the Willey and Phillip's scheme (1958) except that a complex as defined by Syms can incorporate vast areas across differing ecological zones, unlike the regional limits defined in the phase concept.

Syms' composite (1977:71) comprises a number of complexes sharing traits that are sufficiently similar to indicate a common and recent ancestry but sufficiently different that micro-evoluntionary changes have taken place. Syms' taxonomy in Selkirk research has replaced the confusion of varied terminology based on at least two taxonomies in use by past researchers.

The Selkirk Composite, according to Syms, is represented in northern Manitoba and northwestern Saskatchewan by the Clearwater Lake Complex and possibly the Grass River Complex based on ceramics defined by Hlady (1970, 1971), and represented in southeastern Manitoba by the Winnipeg River Complex based on ceramics defined by MacNeish (1958). Dickson (1980) has added the Kame Hills Complex of the Southern Indian Lake region of northern Manitoba, containing pottery closely akin to the Clearwater Lake Complex but lacking a large bone technology characteristic of Clearwater Lake, and predating it. Meyer (1981) has suggested a

Pehonan Complex in northeastern Saskatchewan related to Selkirk in that it contains Clearwater Lake ceramics but related also to Plains Middle-Missouri and Saskatchewan Basin in its inclusion of pottery traits similar to those composites.

Snortland-Coles (1979) has defined Duck Bay Ware from western Manitoba containing two types, namely Duck Bay Punctate and Duck Bay Decorated Lip. The second type is closely similar to ceramics of the Winnipeg River Complex in that 11 of the 23 rims recovered of the Decorated Lip type share at least six of seven traits with types of the Winnipeg River Complex, including metrics, manufacturing technique, surface treatment (fabric impressed wth no exterior decoration), lip decoration (cord-wrapped stick, plain, linear stamped), lip shape and neck shape. Snortland-Coles (1979:50) has noted the similarities of Duck Bay Punctate to Blackduck ceramics. It appears that Snortland-Coles' assemblage forms a Duck Bay Complex with affinities to both Blackduck and Selkirk. It also has affinities to Saskatchewan ceramics in its sometime use of sharply angled shoulders.

Recent reports (eg. Dickson 1980) have concentrated on an analysis of full-scale excavations of pure Selkirk components but there are few to date and none so far in the Lake of the Woods area. Reid's (1978) survey of the lake has shown that Selkirk forms a major component of the Late Woodland in the area, but almost always on sites with collapsed stratigraphy, making isolation of the Selkirk cultural assemblage, faunal sample and community patterns difficult.

The above problem areas made the Spruce Point Site on Lake of the Woods a priority for excavation. It is a single component, rare in northwestern Ontario, and rarer still for the presence of preserved community patterns including structural features not yet discovered elsewhere for the Selkirk Composite. Stratigraphy, features and artifact patterning outlining the structures (Chapter II) are clearly defined, and the structures can be compared to traditional Cree houses in the ethnographic literature (Chapter VI). In addition, the orientation of the structures, their locations in relation to geographical features of the site and the faunal assemblage can provide a multiple approach to the analysis of site seasonality and adaptve strategy (Chapter VI). Further, the unusual single-component nature of Spruce Point provides an opportunity to analyse a Selkirk material assemblage typifying the Lake of the Woods area without the "noise" of collapsed stratigraphy so prevalent in the area. Statistical analysis of lithics (Chapter III) and ceramics (Chapter IV) outline the characteristic traits. Finally, the seriation of the Spruce Point assemblage with those of other Selkirk complexes can be used to define its relationship spatially and temporally within the Selkirk Composite (Chapter V).

Environmental Setting

The Spruce Point Site (DjKq-1), at 49°39'28" North latitutde and 94°40'43" West longitude, is on a west-facing, flat tip of land that forms the western point of the Northern Peninsula on Lake of the Woods (Figure 1). The area is in the Winnipeg River Watershed, a system of lakes and rivers that receives water from Rainy Lake and Rainy River to the south and carries it through Lake of the Woods to the Winnipeg River in the north and eventually westward to Lake Winnipeg. The water levels of Lake of the Woods are affected by dams at both the mouth of the Rainy River and the source of the Winnipeg River, often raising the levels by several metres. As a result, the site has been subjected to severe bank erosion, and at least five metres of shoreline has slumped into the lake.

The area, in the Superior Structural Province of the Precambrian Shield, is on the Wabigoon Greenstone Belt composed of volcanic and sedimentary rock. Outcrops and erratics of knappable chert and rhyolite appear throughout the northern Lake of the Woods zone including the Spruce Point area (Ministry of Natural Resources 1981:5-8).

The district lies between the Rainy River and English River Climatic Regions with a modified Continential climate characterized by short, warm summers with a mean temperature of 25°C and long, cold winters with a mean temperature of minus 22°C to minus 24°C (Ministry of Natural Resources 1981:4). Freeze-up and break-up vary but generally occur in late October and early May (Ministry of Natural Resources 1979:15). The climate could have accommodated a prehistoric seasonal travel schedule similar to that of the modern Mistassini (Rogers 1973) with fall travel and hunting from early September to late October, winter camp construction, hunting and trapping from early November to late April, spring travel and trapping from early May to early June and summer encampment from early June to early September.

The local topography is moderately broken upland (Ministry of Natural Resources 1981:9) with shallow clay soil (ibid:11) deposited by glacial Lake Agassiz. The organic loam deposit of the archaeological occupation area is heavily mixed with clays making soil flotation for the recovery of botanical remains extremely difficult because the soil tends to compact into clay cakes rather than separtate into granules.

The site occupies a transition zone between the Boreal Forest and Great Lakes-St. Lawrence Forest zones (Ministry of Natural Resources 1981:15), and is therefore characterized by burr oak, white birch, trembling aspen, black ash, jack pine and black spruce. The site and its environs are rich in plant species compared to some other areas of the lake; a list of plant species identified at the site in 1981 is included in Appendix C. The site has not been logged or subjected to forest fires within memory of the records of the Ontario Ministry of Natural Resources.

The environs of the site, on Crown land, has been described as having high capability for upland game including moose, high potential for mineral extraction, high capability for recreation and medium to high potential for wild rice harvesting, all of which making it not only a prime area for future development by the province but also an optimum area for the location of a prehistoric encampment.

Methods

Previous Excavations

Spruce Point had been the focus of local artifact hunters' surface collecting for years before William A. Fox of the Ontario Ministry of Natural Resources tested the site in 1973. Surface collections included ceramics of Laurel, Blackduck and Selkirk affiliation (Smith 1979) but Fox's test unearthed mainly Selkirk ceramics. Subsequent tests by C.S. "Paddy" Reid of the Ontario Ministry of Citizenship and Culture in 1975 and 1976 confirmed a major Selkirk occupation at the site and unearthed the remains of what appeared to be a house structure. The author chose Spruce Point for excavation in 1981 on the expectation that a pure Selkirk component existed and that the site contained preserved remains of community patterns, as yet undiscovered elsewhere. In addition, the site had been subjected to looting and substantial bank erosion making immediate salvage of the remaining portion imperative.

In 1973, Fox excavated an initial four-square-metre unit using five-cm levels and recording all features and artifacts in situ (Figures 2 and 3). In 1975 Reid excavated four one-metre units (Units 1-4 in Figure 3) using three-cm levels and recording all items in situ; he also opened Units 5 and 6 immediately north of Units 1 and 2 but they were severely looted before completion. Reid directed more excavations in 1976 (Units 9-19 in Figure 3) to expand on Fox's original test, and the results were an area containing an almost pure Selkirk occupation including what appeared to be the outlines of part of a structure, indicated by soil horizons on both the wall profiles (Figure 4) and floor plan (Figure 5).

1981 Excavations

A crew under the author's direction returned to the site in August of 1981 with three goals: (1) to test the entire Spruce Point area to delineate site size; (2) to excavate southward and eastward from the 1976 excavations, designated Area A, to expose the entire structure's outline; and (3) to conduct excavations where tests revealed other major Selkirk occupation areas on the point.

The first and third goals were accomplished and are decribed below, but the shoreline near the 1976 excavations had eroded and slumped about 50 cm into the excavated units, destroying whatever features extended toward the waterline, and looters had demolished any hope of extending the units eastward (see Figure 3). I had to be content with analysing data recovered in this area before 1981 which are are nevertheless considerable.

The entire area was surveyed by transit for a contour map (Figure 2) and sub-surface testing was conducted over the whole point. Tests were placed along five-metre-wide grid lines at five-metre intervals: holes were only shovel-blade wide to minimize disturbance. The results, plotted in Figure 2, show positive tests in Area A and westward toward the extreme point of land in three concentrations suggesting three occupation areas. Another positive test east of Area A produced only a broken side-notched point (Figure 22).

The area near the tip of land containing the largest concentration of positive tests was designated Area B and a series of one-metre units was gridded to cover two of the most productive tests (Figure 2). A large block of contiguous units was chosen over trenches or alternate units as it had become apparent at other sites in the boreal forest (Rajnovich, Reid and Shay 1982; Callaghan 1982; Reid 1978) that features, especially large ones such as house structures (Reid and Rajnovich 1979), are often not recognizable unless exposed over wide areas.

Excavation began in the southernmost units (Figure 12) and proceeded north as features were uncovered. Units 22, 23, 27 and 32 were left unexcavated to preserve large trees on the spot. Crew size and field time allotted to the project modified the excavation plan and by mid-October, 18 units had been completed to subsoil.

Units were excavated by trowel in three-cm arbitrary levels because natural stratigraphy was not visually apparent, and all backdirt was screened through quarter-inch mesh to ensure maximum recovery. All artifacts, faunal remains and features were recorded on a standard field note form for each level and profiles of walls and features were recorded as excavation proceeded. Soil samples were taken in each feature and in each quarter unit adjacent to the features. Charcoal samples were recovered throughout the excavations but many appeared to have been deposited by a forest fire which swept over the site after the prehistoric occupation. One sample from below the fire zone in Levels V and V1 of a feature in Unit 21 was submitted to Beta Analytic Laboratory for C^{14} analysis. Unfortunately the sample (Beta -4149) was statistically indistinguishable from that of the modern standard; presumably it is part of the remains of the forest fire.

The soil flotation was not successful in isolating charred seed remains. The soil contained a large portion of compact clay which could not be separated into granules for inspection of its contents.

CHAPTER II

FEATURES AND ARTIFACT PATTERNING

Introduction

The site is divided into three parts for description. Area A (Units 1-8) is the easternmost section of the excavations containing one four-square-metre test unit and one two-square-metre test unit. These are separated from the rest of Area A by several metres of looted area. Area A (Units 9-19), the central section of the excavations, contains several features including part of a structure. Area B, the westernmost section, also contains several features including part of a structure.

Area A: Test Units 1-8 (Figure 3)

Stratigraphy: This area contained 5-10 cm of leaves and root mat overlying the artifact-bearing stratum of 1-5cm of dark brown, fine loam resting on the subsoil of hard-packed, tan clay (Figure 4).

Features and artifact patterning: A small feature of rocks in Units 1-2, associated with artifact concentrations (Figure 5) may be a hearth but, unfortunately, units opened immediately north of Units 1 and 2 to expose this feature were looted before completion. No features were discovered in Units 7 and 8 but the concentration of artifacts in Unit 7 (Figure 6) and the soil profile (Figure 4), revealing the end of the artifact-bearing stratum midway through Unit 8, suggest this area is at the extreme northeast edge of the occupation area. Ceramics recovered include mainly Selkirk sherds but also four Blackduck vessels and remnants of a thick cord-wrapped paddle impressed vessel (Figure 48). In this paper, the term "cord-wrapped paddle impressed" is reserved for those vessels exhibiting vertical parallel-strand textile impressions and which do not exhibit horizontal or oblique cross-strands when viewed under a microscope. It is adopted as a descriptive term as it is the most common in the literature. Other terms such as "vertical textile-impressed" and "parallel-strand textile-impressed" have also been suggested (Syms: personal communication). The single Laurel sherd was recovered from Unit 1, Level IV.

Area A: Units 9-19 (Figure 3)

Stratigraphy: Leaves and root mat with a depth of 5-10 cm overlay a matrix of root mat mixed with dark brown, fine loam with a depth of 2-5 cm, over the major artifact-bearing layer of dark brown, fine loam of 2-5 cm, resting on the subsoil (Figure 7).

Features and artifact patterning: The artifact-bearing stratum, a single occupation as revealed by the distribution of features and mendable vessels, ends westward in the middle of Unit 18 and decreases to Units 15, 16 and 17 (Figure 8), creating a roughly oval occupation area. This contains three features (Figure 8) defined by fire-cracked rocks, only about 3 cm deep and with no definite profile. Two of the features, the westernmost and easternmost, are associated with bone deposits (Figure 9) and ceramic concentrations (Figure 10) and all three contain or are adjacent to lithic concentrations (Figure 11). At least two may be hearths, similar to the shallow, oval hearth of the Late Woodland component at the Fisk Site north of Spruce Point near the Winnipeg River (Rajnovich, Reid and Shay 1982).

The ceramic concentrations in Figure 10 are based on body sherds identifiable as belonging to the same vessel by the mendable sherds or by their surface finish. The lithic concentrations are based on flakes of the same raw material.

The concentration of Lake of the Woods chert flakes in the 1973 test unit and Unit 13 contained flakes of all sizes from primary to tertiary (flake width $<$ 5mm =

29, 5-9mm = 97, 10-19mm = 48, 20 - 29mm = 13, 30-39 = 1, > 39mm = 4). Its kidney-shaped distribution is reminiscent of a quartz concentration in the Late Woodland component of the Fisk Site (Rajnovich, Reid and Shay 1982), where Shay hypothesized that the broadcast pattern reflects the position of the knapper inside the arc of the kidney-shape. At Spruce Point, the shape may be due to the knapper's position facing northward or to the scatter of flakes around the western hearth. The concentrations of Lake of the Woods chert and quartz in the eastern hearth and middle feature also contain primary - to - tertiary flakes. The Lake of the Woods chert concentration in Unit 11 contains flakes of only final reduction activities. There were also 33 Hudson Bay Lowland chert flakes all less then 10mm wide scattered throughout the 1973 test units representing a retouch or refashioning operation in that area.

All of the lithic tools, except one scraper in Unit 9 and one point in Unit 16 were recovered from in and around the western hearth, in Units 13, 14 and 15 and the 1973 test unit.

The features and artifact patterning of Area A could represent one or more of a number of activity areas of a prehistoric encampment. Rogers (1967), Hanks (1979), Gordon (1980) and others have studied historic Cree camps and described areas such as refuse dumps, storage areas, hide processing and meat drying locations and other specialized working areas, external cooking areas, and living structures. The first two are rejected for Spruce Point on the basis of the presence of at least two hearths which would not be present at storage areas or refuse dumps. The external specialized working areas are rejected on the assumption that they would contain only specialized objects for a limited activity whereas Area A contained the entire tool kit and ceramics. The Spruce Point pattern reflects, rather, external cooking areas or living quarters, and the last alternative is accepted as the most likely: the Area A spatial pattern of a general oval outline containing internal features closely resembles the Fisk Site near the Winnipeg River (Rajnovich, Reid and Shay 1982), the Meek Site and the Bundoran Site, both on Lake of the Woods (Reid and Rajnovich 1979), where the outlines of structures were clearly distinguished by oval lines of rocks and post moulds, with internal hearths and pits. Therefore it is hypothesized that Units 9-19 at Spruce Point represent the remains of an oval house structure, hereafter called Structure A.

Area B: Units 20 - 43 (Figure 12)

Stratigraphy: Area B contained 3 - 5 cm of leaves and root mat overlying the artifact-bearing horizon of 9 cm of dark brown, fine loam resting on subsoil (Figure 13). Distribution of features and mendable vessels show that the area consists of a single occupation extending from Level II to Level IV with features extending into subsoil to a maximum depth of 18 cm.

Features: Four features were excavated (Figure 14). One long line of rocks extending roughly north-south through units 43, 39, 35 and 31 forms a boundary on the west side between the dark brown fine loam of the occupation area and the sterile tan clay outside the occupation. The north wall profile exhibits a similar break in the artifact-bearing stratum at the rock line (Figure 13). The east wall profile indicates a continuation of the occupation area eastward. A central hearth and two pits were located just to the east of the rock line and it is hypothesized on the basis of evidence from three other sites on and near Lake of the Woods already mentioned, that this excavated area represents part of a house structure (Reid and Rajnovich 1979, Rajnovich, Reid and Shay 1981). Profiles of the hearth and pits (Figure 15) are shallow and roughly bowl-shaped similar to those excavated in the Late Woodland stratum of the nearby Fisk Site (Rajnovich, Reid and Shay 1982). The entire area is hereafter called Structure B.

Artifact Patterning: Artifact and bone concentrations (Figures 16, 17, 18) are in and around the three central features and are located additionally in two north-south lines just to the east and west of them, a possible indication of the east and west peripheries of the occupation area. Time did not allow an expansion of units northward or eastward to confirm the structure outline in these directions. The southern limit of excavation is a few centimetres from the eroded bank edge.

One fragment of a bone harpoon point was recovered from Structure B in the south pit. It is a mid-section with a drilled hole and measures 28 mm long, 13 mm wide, 7 mm thick and 1.0 g in weight. The remaining hole is 3 mm in diameter.

As in Structure A, the ceramic distributions in Figure 16 are based on body sherds identifiable either by mendable sherds or by their exterior surfaces as belonging to the same vessel. The lithic concentrations are based on flakes of the same raw material. All of the Lake of the Woods chert/rhyolite concentrations contained flakes of primary-to-tertiary size. The chert and rhyolite flakes were combined in Figure 17 because these two raw materials can be found together at a single lithic source and some of the flakes are composed of both materials together in bands. The quartz concentrations in the northwest corner, the northern pit and the central hearth also contained primary-to-tertiary flakes, while that in the northeast corner of the excavation produced only secondary flakes and the others only tertiary flakes.

The lithic tool distributions of Structure B were not confined to one location as in Structure A but covered the entire excavated area. However, they tended to concentrate in or near the interior hearth; Units 29, 30, 33 and 34 contained 75% of the biface-scrapers, 50% of the cores, 44% of the projectile points, and 38% of the scrapers. The distributional pattern of tools is most simiar to that of the flakes, and less so to the ceramics and bone.

CHAPTER III

DESCRIPTION AND INTER-SITE COMPARISONS OF LITHIC ASSEMBLAGE

Introduction

Excavation produced 1,806 lithic objects comprising 1,704 flakes, 39 projectile points, 21 scrapers, 19 bifaces, 15 cores, four hammerstones, two pipe fragments and two drilled objects that are possibly weights. They are listed in Table 1 according to raw materials. Local chert and local quartz which are available as beach cobbles at the site and at other areas within four kilometres of Spruce Point are, predictably, the most prevalent lithic materials. Local rhyolite, also available as beach cobbles and often within the same cobble as chert, has a low frequency at this site, perhaps because its grainy texture and internal faults made it unattractive for most tool types.

Hudson Bay Lowland (HBL) chert occurs primarily on the Lac Seul Moraine just west of Lac Seul about 100 km northeast of Spruce Point but may have also been collected as beach cobbles along the English River. West Patricia chert is a green recrystallized chert with the appearance of green quartz, outcropping on North Caribou Lake north of Lake St. Joseph and occurring as erratics throughout West Patricia District, the vast area north of a line running from Red Lake through Lac Seul and Lake St. Joseph to the Albany River. Its occurrence, and that of Hudson Bay Lowland chert, indicate a contact either by means of trade or movement between Spruce Point and the areas at least 100 km north-to-northeast, probably along the English River system.

The presence of Swan River chert, a Manitoba chert, indicates contact also with the Lake Winnipeg area along the Winnipeg River which flows into the north end of Lake of the Woods. Gunflint Silica is found primarily in the Gunflint Formation west of Thunder Bay in the Quetico area and suggests contact along the Boundary Waters Route between Quetico Park and the Rainy River which flows into the south end of Lake of the Woods. The steatite is from the Pipestone Peninsula on the east side of the Lake of the Woods, and the granite, diabase and schist are available within one kilometre of the site.

The Selkirk stone tool assemblage from each structure at Spruce Point is as follows: Structure A - points 11 (36.7%), scrapers 7 (23.3%), knives 2 (6.7%), point preforms 1 (3.3%), knife preforms 2 (6.7%), cores 5 (16.7%), and hammerstones 2 (6.7%); Structure B - points 23 (40.4%), scrapers 8 (14.0%), knives 1 (1.8%), knife-scrapers 3 (5.3%), point preforms 3 (5.3%), knife preforms 7 (12.3%), cores 10 (17.5%), and hammerstones 2 (3.5%). The Coefficient of Similarity (Brainerd 1951) for the two assemblages is 165.2 (82.6%), showing a strong correlation between the structures.

The Coefficient is a figure computed by the subtraction of the percentage of each trait in one assemblage from that in the second assemblage. The results for each trait are then added together to express the total of differences between the whole assemblages, and that figure is then subtracted from 200 (100% of one assemblage plus 100% of the other assemblage) to express the degree of simiarlity between the two assemblages.

Table 1: Lithic Frequencies by Raw Material

Type	Local Chert	Local Quartz	HBL Chert	Local Rhyolite	West Patricia Chert	Local Steatite	Swan River Chert	Gunflint Silica	Local Granite	Local Diabase	Local Schist	TOTALS
Flakes	1192(70.0%)	337(19.8%)	103(6.0%)	71(4.2%)	---	---	---	1(0.6%)	---	---	---	1704(94.3%)
Projectile Points	22(56.4%)	8(20.5%)	4(10.3%)	3(7.7%)	2(5.1%)	---	---	---	---	---	---	39(2.2%)
(unnotched)	(6)	(5)	(1)	(1)	(1)	---	---	---	---	---	---	(14)
(side notched)	(7)	---	(2)	(1)	(1)	---	---	---	---	---	---	(11)
(corner notched)	(2)	(1)	(1)	(1)	---	---	---	---	---	---	---	(5)
(broken)	(7)	(2)	---	---	---	---	---	---	---	---	---	(9)
Scrapers	12(57.1%)	5(23.8%)	3(14.3%)	1(4.8%)	---	---	---	---	---	---	---	21(1.2%)
(end)	(6)	(4)	(1)	---	---	---	---	---	---	---	---	(11)
(end-side)	(5)	(1)	(2)	(1)	---	---	---	---	---	---	---	(9)
(side)	(1)	---	---	---	---	---	---	---	---	---	---	(1)
Bifaces	11(57.9%)	---	1(5.3%)	7(36.8%)	---	---	---	---	---	---	---	19(1.1%)
(knives)	---	---	(1)	(2)	---	---	---	---	---	---	---	(3)
(knife-scrapers)	---	---	---	(3)	---	---	---	---	---	---	---	(3)
(knife preform/ preform fragments)	(8)	---	---	(1)	---	---	---	---	---	---	---	(9)
(point preforms)	(3)	---	---	(1)	---	---	---	---	---	---	---	(4)
Cores	11(73.3%)	2(13.3%)	---	1(6.7%)	---	---	1(6.7%)	---	---	---	---	15(0.8%)
(random polyhedral)	(3)	(2)	---	(1)	---	---	(1)	---	---	---	---	(7)
(bi-directional polyhedral)	(6)	---	---	---	---	---	---	---	---	---	---	(6)
(unassigned fragments)	(2)	---	---	---	---	---	---	---	---	---	---	(2)
Hammerstones	---	---	---	---	---	---	---	---	3(75.0%)	1(25.0%)	---	4(0.2%)
Pipe Fragments	---	---	---	---	---	2(100.0%)	---	---	---	---	---	2(0.7%)
Drilled Objects	---	---	---	---	---	---	---	---	---	---	2(100.0%)	2(0.1%)
TOTALS	1248(69.1%)	352(19.5%)	111(6.1%)	83(4.6%)	2(0.1%)	2(0.1%)	1(0.05%)	1(0.05%)	3(0.2%)	1(0.05%)	2(0.1%)	1806(100.0%)

Projectile Points

The 39 small bifacially flaked tools were analysed initially using eight morphological attributes: blade edge shape, base edge shape, presence/absence of notches, notch placement, base length proportional to total length, base width proportional to total width, edge angle and percentage of surface flaked. Each point was compared to every other on the basis of the eight attributes and a series of Student's t-tests (Thomas 1976) were calculated to test the metric associations of each morphologically defined group. Attributes of these tools are listed in Table 2.

On the basis of combined morphological attributes, the 30 complete points form 11 clusters plus nine incomplete points.

Unnotched Points

There are three clusters of unnotched points:

Cluster A: Triangular Convex-based Points #1, 2, 3, 4, 17, 18 (Figure 19:1-6) -- Convex blade edges, Convex base edge, Blade edge angle of 40^{o} - 50^{o}, 50-100% of surface flaked, Length $\bar{X}$ = 27mm (S = 2.5), Width $\bar{X}$ = 15mm (S = 3.1), Thickness $\bar{X}$ = 6mm (S = 1.2).

Cluster B: Triangular Straight-based Points # 6, 7, 8, 9, 10, 19, 20 (Figure 19:8-14) -- Convex blade edges, Straight base edge, Blade edge angle of 30^{o} - 40^{o}, 20-100% of surface flaked, Length $\bar{X}$ = 20.4mm (S = 2.0), Width $\bar{X}$ = 12.5mm (S = 1.7), Thickness $\bar{X}$ = 3.4 (S = 0.8).

Cluster C: Triangular Concave-based Point # 11 (Figure 19:16) -- Convex blade edges, Concave base edge, Blade edge angle of 40^{o}, 40% of surface flaked, Length = 27mm, Width = 14mm, Thickness = 2mm.

Table 2: Projectile point attributes

#	Material	Fig. No.	Max. Lgth (mm)	Max. Width (mm)	Max. Thick-ness (mm)	Blade Edge Shape	Blade Edge Angle (o)	Notch Position	Notch Width (mm)	Notch Depth (mm)	Base Edge Shape	Base Lgth (mm)	Base Width (mm)	% of Surface Flaked	Weight (g)	Wear
Area A																
1	local quartz	19:1	9	7	3	convex	40	---	---	---	convex	---	---	100-100	0.2	
2	West Patricia	19:2	23	18	6	convex	50	---	---	---	convex	---	---	100-100	2.3	
3	local quartz	19:3	27	15	7	convex	40	----	----	----	convex	----	----	100-80	2.4	
4	local chert	19:4	27	10	4	convex	40	----	----	----	convex	----	---	60-40	1.1	
5	local quartz	19:7	---	14	4	convex	50	---	---	---	straight	---	---	100-100	---	Proximal edge crushed (16x)
6	local chert	19:8	19	10	2	convex	30	---	---	---	straight	---	---	100-70	0.4	
7	local rhyolite	19:9	18	12	3	convex	30	---	---	---	straight	---	---	40-40	0.5	
8	local quartz	19:10	20	15	4	convex	40	---	---	---	straight	---	---	100-70	1.3	
9	local quartz	19:11	19	13	4	convex	40	---	---	---	straight	---	---	100-100	1.0	
10	local quartz	19:12	23	11	4	convex	40	----	----	----	straight	----	----	60-60	1.3	
11	HBL chert	19:16	27	14	2	convex	40	---	---	---	concave	---	---	40-40	1.1	distal edge smoothed (16x)
12	local chert	20:1	13	9	3	straight	40	side	2	1	straight	3	9	60-60	0.3	distal edge smoothed and lateral edges smoothed near notches (40x)
13	local chert	20:8	22	13	4	convex	40	side	4	2	convex	5	13	100-100	1.2	

Table 2: Projectile point attributes (continued)

#	Material	Fig. No.	Max. Lgth (mm)	Max. Width (mm)	Max. Thick-ness (mm)	Blade Edge Shape	Blade Edge Angle (o)	Notch Position	Notch Width (mm)	Notch Depth (mm)	Base Edge Shape	Base Lgth (mm)	Base Width (mm)	% of Surface Flaked	Weight (g)	Wear
Area A continued																
14	local quartz	21:1	33	18	6	convex	40	corner	4	2	straight	---	14	100-100	3.0	lateral edges smoothed near notches (40x)
15	local chert	21:4	16	7	3	convex	50	corner	2	1	convex	---	6	50-40	0.3	distal edge smoothed (16x)
16	local chert	21:5	---	---	2	straight	50	broken	---	---	broken	---	---	40-40	---	distal edge smoothed (16x)
Area B																
17	local chert	19:5	28	14	4	convex	40	---	---	---	convex	---	---	100-50	1.9	proximal edge smoothed (16x)
18	local chert	19:6	30	17	6	convex	50	---	---	---	convex	---	---	100-80	2.5	
19	local chert	19:13	21	13	3	convex	30	---	---	---	straight	---	---	100-100	0.7	flat flakes on proximal edge (40x)
20	local chert	19:14	23	14	4	convex	30	---	---	---	straight	---	---	20-50	1.5	
21	local chert	19:15	----	16	3	convex	40	----	----	----	straight	----	----	40-40	----	
22	local chert	19:17	----	15	3	convex	40	----	----	----	concave	----	----	40-40	----	
23	local chert	20:2	----	----	3	broken	----	side	----	3	straight	5	12	40-40	----	
24	HBL chert	20:3	17	11	3	straight	40	side	3	2	straight	3	10	50-80	0.4	
25	local chert	20:4	19	11	2	straight	40	side	4	2	straight	5	11	50-50	0.4	
26	West Patricia	20:5	22	13	5	straight	50	side	4	2	straight	6	13	100-100	1.3	lateral edges below notches smoothed (16x)

Table 2: continued

#	Material	Fig. No.	Max. Lgth (mm)	Max. Width (mm)	Max. Thick-ness (mm)	Blade Edge Shape	Blade Edge Angle (o)	Notch Position	Notch Width (mm)	Notch Depth (mm)	Base Edge Shape	Base Lgth (mm)	Base Width (mm)	% of Surface Flaked	Weight (g)	Wear
Area B	continued															
27	local chert	20:6	26	15	4	straight	50	side	3	2	broken	6	15	100-100	1.5	lateral edges near notches smoothed (40x)
28	local chert	20:7	26	14	4	convex	40	side	4	2	straight	5	14	50-100	1.8	lateral edges below notches smoothed (16x)
29	local chert	20:9	26	16	3	convex	40	side	3	1	convex	3	16	50-50	1.6	proximal edge smoothed & lateral edges below notches smooth (40x)
30	local chert	20:10	26	11	4	straight	30	side	5	3	convex	6	11	100-100	0.9	
31	HBL chert	21:2	28	15	3	convex	30	corner	5	3	straight	----	12	60-100	1.4	
32	local rhyolite	21:3	33	21	3	convex	40	corner	5	3	convex	----	16	50-50	2.6	
33	local chert	21:6	----	10	3	convex	50	broken	----	----	broken	----	----	100-100	----	
34	local chert	21:7	----	11	2	straight	50	broken	----	----	broken	----	----	40-20	----	
35	local chert	21:8	----	17	4	convex	50	broken	----	----	broken	----	----	100-50	----	
36	local quartz	21:9	----	17	7	convex	50	broken	----	----	broken	----	----	100-100	----	
37	HBL chert	22:1	41+	26	4	straight	30	side	4	5	concave	9	26	100-100	----	
38	local chert	22:2	37+	22	7	straight	50	side	8	3	convex	6	----	80-80	----	
39	local chert	22:3	33	15	6	convex	50	corner	6	1	concave	----	14	100-80	3.8	

The metrics of Clusters A and B differ significantly according to Student's t-tests: Cluster A is longer, wider and thicker than Cluster B (df=10.α=0.05). Point #11 was not included in the statistical test as it is obviously smaller than the others and is an aberrant form of Category A.

Cluster C, comprising only one concave-based triangular point, falls between Clusters A and B on the basis of its metrics, having a length and width similar to A, but a thickness more closely aligned with B. Small, unnotched triangular points of the Woodland area have been called collectively Eastern Triangular (MacNeish 1958: 103). The Spruce Point sample shows that this point type should be divided into three sub-types based on both form and metrics, and possibly also on use wear patterns: one point of Cluster A has slight smoothing on the proximal edge while one in Cluster B shows flat flaking on the proximal edge, possibly an indication of different hafting techniques. The Spruce Point categories can be described as Triangular Convex-based, Triangular Straight-based, and Triangular Concave-based.

Side Notched Points

There are 11 side-notched tools from Spruce Point, defined as those tools with base widths equal to blade width and with notches horizontal to the vertical axis of the tool. These form three clusters:

Cluster D: Plains Side-Notched Points # 12, 24, 25, 26, 27, 28 (Figure 20:1-7) -- Straight or slightly convex blade edges, Straight base edge, Distinctly squared base lateral edges, Blade edge angle of 40^{o}- 50^{o}, 25-100% of surface flaked, Base length 18-30% of total length, Length $\bar{X}$ = 20.5mm (S=5.2), Width $\bar{X}$ = 12.2mm (S=2.2), Thickness $\bar{X}$ = 3.5mm (S=1.0), Base width $\bar{X}$ = 12.2mm (S=2.2), Notch width $\bar{X}$ = 3.3mm (S=0.8), Notch depth $\bar{X}$ = 1.8mm (S=0.4)

Cluster E: Prairie Side-Notched Points # 13, 29 (Figure 20:8 and 9): Convex blade edges, Convex base edge, Blade edge angle of 40^{o}, 30-100% of surface flaked, Base length 10-23% of total length, Length $\bar{X}$ = 24mm (S=2.8), Width $\bar{X}$ = 14.5mm (S=2.1), Thickness $\bar{X}$ = 3.5mm (S=0.7), Base width $\bar{X}$ = 14.5mm (S=2.1), Notch width $\bar{X}$ = 3.5mm (S=0.7), Notch depth $\bar{X}$ = 1.5mm (S=0.7)

Cluster F: Point # 30 (Figure 20:10) -- Straight blade edges, Convex base edge, Blade edge angle of 30°, 100% of surface flaked, Base length 23% of total length, Length = 26mm, Width = 11mm, Thickness = 4mm, Base width = 11mm, Notch width = 5mm, Notch depth = 3mm.

In addition, there are two large side-notched tools (Figure 22). Point #37 was recovered alone in a test pit east of Area A. It has affinities to Late Archaic or early Laurel points (Dawson 1981) and probably belongs to the destroyed Laurel or Archaic component at this site. Tool #38 is a large, roughly flaked specimen from House Structure B, and may be part of a hafted knife.

Student's t-tests show no significant differences in metrics between clusters D and E (df=6, =0.05) but they remain separate on the basis of blade edge shape and base edge shape. Cluster F is between clusters, resembling D on the basis of blade edge shape, and Cluster E on the basis of base shape. Several of the points in the side-notched categories have slight smoothing of the lateral edges above and below the notches, possibly the result of hafting.

The three types of small side-notched points are (d) Plains Side-Notched (Kehoe 1973:60-61), (e) Prairie Side-Notched (Kehoe 1973: 56-57) and (f) a deep-convex-based Side-notched Point as yet untyped elsewhere.

Corner-Notched Points

Five corner-notched small tools form three groups at Spruce Point. These have base widths less than the total width with notches oblique to the vertical axis of the point.

Cluster G: Points # 14, 31, 32 (Figure 21:1-3) -- Convex blade edges, Convex or straight base edge, Blade edge angle of 30° - 40°, 50-100% of surface flaked, Length $\bar{X}$ = 31.3mm (S=2.8), Width $\bar{X}$ = 18.0mm (S=3.0), Thickness $\bar{X}$ = 4.0mm (S=1.7), Base width $\bar{X}$ = 14.0mm (S=2.0), Notch width $\bar{X}$ = 4.7mm (S=0.6), Notch depth $\bar{X}$ = 2.7mm (S=0.6).

Student's t-tests (α=0.05) of the metrics of categories D, E, and G show that the corner-notched points are significantly longer than the side-notched categories.

In addition to the points in Category G, two others are corner-notched. Point #15 (Figure 21:4) is a tiny, roughly flaked tool with wide notches resembling MacNeish's Selkirk Side-Notched (corner-notched variety) (MacNeish 1958:104) except for its minuteness. Point #39 (Figure 22:3) is a very roughly flaked, thick point with incipient corner notches and may be a reject. Cluster G has been identified as Lewis Narrow Rounded Base Variety of Prairie Side-Notched type (Kehoe-1973:59) which Kehoe describes as appearing to be corner-notched.

The distribution of point categories at Spruce Point is shown in Table 3. Tools #37, 38, and 39 are not included as it is unclear whether #38 and #39 are finished projectile points and it is probable that #37 from a single test pit is from a destroyed Laurel or Archaic component.

Of the broken points, four are tip sections (#16, #33, #34, #35), one is a mid section (#36), two are bases of triangular points of Cluster B (#5, #21) one is the base of a triangular point of Cluster C (#22) and one (#23) is the base of a Cluster D point. The analyable broken points are included in Table 3, the distribution of points in the two structures.

The Coefficient of Similarity for the two house structures based on points is 117.2 (58.6%), much below those of the ceramic sherds. (see Chapter IV).

Table 3: Distribution of Analysable Projectile Points

	Point Category	Structure A	Structure B	Test Units	TOTALS
a)	Triangular convex-based	1 (9.1%)	2 (12.5%)	3 (75.0%)	6 (19.4%)
b)	Triangular straight-based	5 (45.4%)	3 (18.8%)	1 (25.0%)	9 (29.0%)
c)	Triangular concave-based	1 (9.1%)	1 (6.3%)		2 (6.5%)
d)	Plains side-notched	1 (9.1%)	6 (37.5%)		7 (22.6%)
e)	Prairie side-notched	1 (9.1%)	1 (6.3%)		2 (6.5%)
f)	Deep convex-based side-notched		1 (6.3%)		1 (3.2%)
g)	Lewis Variety	1 (9.1%)	2 (12.5%)		3 (9.6%)
h)	Selkirk	1 (9.1%)			1 (3.2%)
TOTALS		11(100.0%)	16(100.2%)	4 (100.0%)	31 (100.0%)

Scrapers

Of the 21 scrapers recovered (Figures 23 and 24), 11 are end, nine are end-side and one side. End scrapers are defined as tools unifacially flaked only on the distal edge, end-side scrapers on the distal edge and at least one lateral edge, and side scrapers on at least one lateral edge. The distal edge of the flake is defined as the working edge transverse to the longitudinal tool axis or percussion axis (Ahler 1975:162). Attributes are given in Table 4: Tools #1-#6 are from Test Units 1-8; #7-#13 are from Structure A and #14-#21 are from Structure B. The Coefficient of Similarity based on scraper types is 160.8 (80.4%). The entire sample has a mean length of 24.6mm (S=5.9), width of 19.6mm (S=4.4), thickness of 6.4mm (S=2.6) weight of 4.0g (S=2.4), and edge angle of 51.7^{o} (S=7.2). Student's t-tests (α =0.05) comparing the metrics of scrapers from Structures A and B show no significant differences in length, width, thickness, weight or edge angle and support the hypothesis of the Coefficient of Similarity that the two samples are nearly identical. The percentage of raw material types of the scrapers in Structure A and B are also similar.

Table 4: Scraper Attributes

#	Type	Fig. No.	Material	Length (mm)	Width (mm)	Thickness (mm)	Edge Angle (°)	Weight (g)	Wear
Area A									
1	End	23:1	local quartz	14	--	2	40	--	--
2	End	23:2	local quartz	23	18	6	55	2.3	Step flaking on dorsal face of distal edge.
3	End	23:3	local quartz	25	17	6	55	3.1	--
4	End	23:4	local chert	27	23	7	65	5.3	--
5	End-side	24:1	local quartz	23	15	6	40-30	2.1	--
6	End-side	24:2	HBL chert	22	21	6	40-30	3.2	Step flaking on dorsal face of distal edge.
7	End	23:5	local quartz	32	25	8	65	6.3	--
8	End	23:6	HBL chert	21	16	5	40	2.1	--
9	End	23:7	local chert	26	20	6	55	3.2	irregular flaking on proximal edge
10	End	23:8	local chert	22	20	8	65	5.2	--
11	End-side	24:3	local chert	26	17	6	35-50	2.7	--
12	End-side	24:4	local chert	30	26	6	60-70	6.1	--
13	End-side	24:5	local chert	30	25	11	60-30	9.7	Distal edge smoothed
Area B									
14	End	23:9	local chert	28	24	14	80	7.8	preform?
15	End	23:10	local chert	21	20	4	55	1.9	
16	End	23:11	local chert	18	15	6	40	1.7	
17	End-side	24:6	local chert	18	22	7	65-30	3.4	
18	End-side	24:7	HBL chert	21	16	6	55-60	2.1	
19	End-side	24:8	local rhyolite	21	8	3	40-40	0.7	
20	End-side	24:9	local chert	41	21	8	35-35	7.3	Striations on ventral surface, distal-proximal direction
21	Side	24:10	local chert	28	23	4	40	3.7	

Large Bifacial Tools

Of the 19 large bifaces recovered (Figures 25 and 26), only three are complete tools; the others are broken tools, preforms or fragments broken from preforms. Metrics are given in Table 5 with those from Structure A numbered #1-#5 and Structure B #6-#19. Test Units 1-8 held none. As there are no use wear patterns microscopically visible on the large bifaces, the preforms are defined as those with only rough percussion flake scars, and the tool functions are defined morphologically.

Tools #1 and #2 (Figure 25:1 and 2) are long, isoceles-shaped completely-flaked bifaces, probably knives, broken laterally. Tool #6 (Figure 25:3), is a complete isosceles-shaped biface with retouch-flaking around its entire perimeter and it is probably also a knife. Tools #7, #8, and #9 (Figure 25:4-6), complete tools bifacially flaked on the lateral edges and unifacially finished on the distal edge, are probably knife-scrapers. The other bifacially flaked tools exhibit only initial, percussion flaking, and are probably are complete or fragmentary preforms.

The preform sizes and shapes indicate Tools #5, #12, #13 and #14 (Figure 25:7-10) are point preforms; the others (Figure 26) are knife preforms. A series of round-robin t-tests for significance in difference of edge angle metrics for the projectile points, scrapers, knives, knife-scrapers, large preforms and small preforms give significant results (α=0.05) for points vs. knives, points vs. scrapers, scrapers vs. knives, small preforms vs. large preforms, small preforms vs. knives, large preforms vs. points, and large preforms vs. scrapers. That is, the large preforms are related by edge angle to knives and the small preforms are related to points.

The tests also show that points, scrapers and knives differ significantly from each other according to edge angle: scraper $\bar{X} = 51.7^{o}$ (S=7.2), point $\bar{X} = 40.0^{o}$ (S=6.9) and knife $\bar{X} = 26.6^{o}$ (S=11.5).

Table 5: Attributes of Large Bifacially Flaked Tools

#	Material	Fig. No.	Length (mm)	Width (mm)	Thickness (mm)	Weight (g)	Edge Angle (o)	% of Surface Flaked	Comments
Area A									
1	HBL chert	25:1	---	22	8	7.3	20	100	broken knife
2	local chert	25:2	---	24	6	6.3	20	100	broken knife
3	local chert	26:1	59	45	17	43.8	40	100	preform for knife?
4	local chert	26:2	60	24	11	17.6	20	100	preform for knife?
5	local rhyolite	25:7	25	16	4	1.6	30	20	preform for point?
Area B									
6	local rhyolite	25:3	41	24	8	7.5	40	20	flaked around perimeter
7	local rhyolite	25:4	31	25	5	5.7	40-50	60	bifacially flaked on lateral edge. Unifacially flaked on distal end. Knife-scraper?
8	local rhyolite	25:5	33	23	5	4.2	30-50	20	same as #7 above
9	local rhyolite	25:6	36	27	8	6.2	20-40	20	same as #7 above
10	local chert	26:2	63	32	10	26.7	40	30	preform
11	local chert	26:3	40	33	7	11.2	20	20	flaked on lateral edges
12	local chert	25:8	30	19	5	3.7	30	40	preform for point?
13	local chert	25:9	30	18	5	2.7	30	40	preform for point?
14	local chert	25:10	32	16	6	3.0	40	40	preform for point?
15	local rhyolite	26:5	58	40	17	20.9	20	10	flaked on lateral edge
16	local chert	26:6	--	41	15	21.1	50	100	broken preform
17	local chert		--	--	6	--	30	20	broken preform
18	local chert		--	--	5	--	30	100	basal and lateral edges of a preform
19	local chert		--	25	10	--	40	100	base of preform

Cores

Fifteen cores or core fragments (Figures 27 and 28) are of two types: random polyhedral and bi-directional polyhedral. These are defined as cobbles with flake scars indicating flake removal at random from several directions or systematically from two directions. All, except possibly the Swan River chert fragment, have been derived from non-quarried sources. Chert, quartz and rhyolite have been found in abundance as erratic beach cobbles at the Fox Island Site (DjKp-1) four kilometres from Spruce Point and in Ash Bay six kilometres from Spruce Point (Reid 1977), and some have been recovered from the beach of Spruce Point itself. All of these cores have at least one crushed edge, indicating the use of an anvil. The Swan River chert core fragment may have been imported along the Winnipeg River System from a source in Manitoba (Dickson: pers. comm.); the raw material has never been found naturally on Lake of the Woods. Core attributes are listed in Table 6: #1-#5 are from Structure A and #6-#15 are from Structure B.

There is no core preparation technology. The initial reduction technique was simply to smash up a cobble, as is clearly demonstrated by Core #6 which is actually three primary flakes recovered from the hearth in Structure B that fit together to form the original beach cobble (Figure 27). A flake scar from a hammer and slight crushing from an anvil are visible on the ends of the reconstructed cobble. Preforms were formed from such primary flakes. Core fragments #2-#5 and #9-#15 are detritus from the initial core reduction while #1 and #6-#8 are the core cobbles (Figure 28).

There are no significant differences in raw material or core type between the two structures.

Table 6: Attributes of Cores

#	Type	Material	Number of Crushed Edges	Length (mm)	Width (mm)	Thicknesss (mm)	Weight (g)	Comments
Area A								
1	Random Polyhedral	local quartz	4	81	66	50	367.3	- core with hinge fractures. Probably abandoned because of unsuitability.
2	Random Polyhedral	local rhyolite	3	57	32	21	47.0	- core fragment
3	Random Polyhedral	local chert	2	50	30	22	31.0	- core fragment
4	Random Polyhedral	local chert	3	47	39	10	21.9	- core fragment. Cortex
5	Bi-directional polyhedral	local chert	2	34	23	12	8.9	- core fragment
Area B								
6	Bi-directional polyhedral	local chert	2	75	49	34	147.5	- a single beach cobble split into 3 fragments
7	Bi-directional polyhedral	local chert	2	63	75	35	209.8	- beach cobble core
8	Random Polyhedral	local chert	4	61	55	23	104.7	- beach cobble core
9	Bi-directional polyhedral	local chert	2	34	36	7	13.3	- core fragment
10	Bi-directional polyhedral	local chert	2	33	17	12	7.5	- core fragment. Cortex
11	Bi-directional polyhedral	local chert	1	21	21	8	4.4	- core fragment
12	??????	local chert	1	22	15	7	2.8	- core fragment. Cortex
13	??????	local chert	1	21	18	6	2.4	- core fragment
14	Random Polyhedral	local chert	3	36	18	18	18.8	- core fragment. Hinge fractures.
15	Random Polyhedral	Swan River Chert	5	33	24	22	23.8	- core fragment

Flakes

The 1,704 flakes were analysed following Ahler (1975) whose method divides the flakes into different sizes according to widths to discover the number of flakes per stage of reduction. Before analysis of the Spruce Point flakes, Ahler's method was tested against Brose's (1970) more complex morphological method, using as a sample the 300 flakes recovered from the Ballysadare Site (DkKp-10) on the Winnipeg River (Rajnovich 1980). The two methods gave very similar results. The Spruce Point flakes are listed by widths and raw materials in Table 7.

Table 7: Flakes by Raw Material and Width Measurements

Raw Material	>39mm	30-39mm	20-29mm	10-19mm	5-9mm	<5mm	TOTALS
local chert	15 (1.3%)	20 (1.7%)	95 (8.0%)	493 (41.3%)	459 (38.5%)	110 (9.2%)	1192 (100%)
local rhyolite	4 (5.6%)	5 (7.1%)	14 (19.7%)	41 (57.7%)	5 (7.1%)	2 (2.8%)	71 (100%)
local quartz	3 (0.9%)	5 (1.5%)	28 (8.3%)	149 (44.2%)	116 (34.4%)	36 (10.7%)	337 (100%)
HBL chert		1 (1.0%)	1 (1.0%)	28 (27.2%)	54 (52.4%)	19 (18.4%)	103 (100%)
Gunflint silica			1 (100.0%)				1 (100%)
TOTALS	22 (1.3%)	31 (1.8%)	139 (8.2%)	711 (41.7%)	634 (37.2%)	167 (9.8%)	1,704 (100%)

The flakes with widths greater than 29mm are considered primary reduction detritus, those with widths between 10 - 29mm mainly secondary reduction flakes and those less than 10mm mainly final reduction debitage. The proportion of primary/secondary/tertiary flakes at Spruce Point for each raw material is the following: local chert 1/16/16, local rhyolite 1/5/1, local quartz 1/26/22, Hudson Bay Lowland chert 1/28/71; and for the flakes as a whole 1/16/15. A recent study by Hamilton (1981:31) compared flake proportions at the Wenasaga Rapids Site on Lac Seul to those from the Fisk Site near the Winnipeg River north of Kenora (Rajnovich, Reid and Shay 1981). The Wenasaga Rapids Site is not near a lithic source and Hamilton hypothesized that only final reduction or retouch of tools was carried out there on the basis of a flake proportions for Hudson's Bay Lowland chert, the most prevalent raw material, of 1/3/26. The Fisk Site is adjacent to a quartz quarry and its quartz proportions are 1/4/8.

It is clear that Spruce Point presents a different pattern for local chert, rhyolite and quartz with a greater proportion of secondary flakes than at Wenasaga or Fisk. This may reflect an off-site source for these materials and an emphasis on medium-sized beach cobbles rather than quarried blocks, collected and sometimes initially reduced nearby before transport to Spruce Point. The very large proportion of Hudson Bay Lowland chert tertiary flakes at Spruce Point suggests only final reduction or retouch of material imported from afar as at Wenasaga.

Table 8 lists the flakes per Structures A and B. The Coefficient of Similarity for flake raw materials in the Structures is 176.1 (88.1%), similar to the scrapers and ceramics other than rim sherds, and indicates that the two samples are nearly identical. Chi-square statistics (α=0.05) indicate that the major differences between the structures' flake raw materials are the larger proportions of Hudson Bay Lowland chert and quartz in Structure A.

The Coefficients of Similarity for flake sizes by raw material for the two structures is the following: local chert 176.8 (88.4%), local rhyolite 152.6 (76.3%), local quartz 178.4 (89.2%), and Hudson Bay Lowland chert 117.6 (58.8%): there is a greater percentage of Hudson Bay Lowland chert tertiary flakes in Structure A over Structure B.

Seventeen of the flakes have systematically removed microscopic flat or step flakes from one or more edge, indicating utilization. These comprise three local chert flakes in Test Units 1-8, one quartz and three local chert flakes in Structure A, and seven local chert, one local rhyolite and two Hudson Bay Lowland flakes in

Table 8: Flakes by raw material and width from structures A & B

Raw Material	>39 mm A	>39 mm B	30-39 mm A	30-39 mm B	20-29 mm A	20-29 mm B	10-19mm A	10-19mm B	5-9mm A	5-9mm B	<5mm A	<5mm B	TOTALS A	TOTALS B	TOTALS A&B
Local chert	5(1.8%)	7(0.8%)	4(1.4%)	15(1.8%)	23(8.2%)	62(7.4%)	94(33.3%)	372(44.6%)	121(42.9%)	310(37.1%)	35(12.4%)	69(8.3%)	282(63.9%)	835(75.4%)	1117
Local rhyolite	1(6.7%)	3(7.0%)	1(6.7%)	4(9.3%)	6(40.0%)	7(16.3%)	7(46.7%)	24(55.8%)	-----	3(7.0%)	-----	2(4.7%)	15(03.4%)	43(03.9%)	58
Local quartz	-----	3(1.6%)	3(3.0%)	2(1.1%)	9(9.1%)	15(8.2%)	41(41.4%)	79(43.2%)	30(30.3%)	69(37.7%)	16(16.2%)	15(8.2%)	99(22.4%)	183(16.5%)	282
HBL	-----	-----	-----	-----	-----	1(2.2%)	1(2.3%)	19(41.3%)	28(63.6%)	22(47.8%)	15(34.1%)	4(8.7%)	44(10.0%)	46(04.2%)	90
Gunflint Silica	-----	-----	-----	-----	1(100.0%)	-----	-----	-----	-----	-----	-----	-----	1(00.2%)	-----	1
TOTALS	6(1.4%)	13(1.2%)	8(1.8%)	21(1.9%)	39(8.8%)	85(7.7%)	143(32.4%)	494(44.6%)	179(40.6%)	404(36.5%)	66(15.0%)	90(8.2%)	441	1107	1548

Structure B. The flakes measure 11mm to 41mm in width (X=23.3, S=8.6) and are utilized on either a lateral (f=12) or distal edge (f=5).

The distributional pattern of the flakes has been discussed in Section 3.

Hammerstones

One diabase and three granite cobbles (Figure 29) all with at least one crushed surface, were excavated, and their attributes are listed in Table 9: #1 and #2 (Figure 29:1,2) are from Structure A and #3 and #4 (Figure 29:3,4) are from Structure B.

TABLE 9: Attributes of Hammerstones

#	Length(mm)	Width(mm)	Thickness(mm)	Weight(mm)	Comments
1	78	64	64	487.8	-Spherical. Crushed on 2 opposite surfaces.
2	74	54	47	285.2	-Oval. Crushed on 2 ends.
3	118	77	39	494.6	-Flattened oval. Crushed on one flat surface.
4	90	50	46	267.9	-Trihedral cone. Crushed on both ends.

Pipe Fragments

Two ground steatite fragments were excavated from Structure A. One is a tube squared on the exterior and broken lengthwise revealing two interior ground, circular shafts, one running lengthwise and one diagonally, almost meeting each other at the base. The exterior and top of the tube is completely ground and smoothed, and the bottom is partially ground. Its length is 23mm, width 21mm, thickness of the tube 5-7mm, shaft diameters 10mm and 6mm, and it weighs 8.6 g. The other steatite fragment is an irregular cone ground and smoothed on the base and part of the sides. The base of the cone is at a 140^{o} angle to the ground area of the side. It is 56mm long, 31mm wide at the base, 19mm thick and 38.2 g in weight.

Drilled Objects

Twoschist objects from Test Units 1 and 2 have drilled holes. One is a flat, oval stone with double notches drilled on the sides. It is 31 mm long, 21 mm wide, 4 mm thick and 3.5 g in weight. The notches are 11 mm from one end, 2-3 mm wide and 1-2 mm deep. A shist rectangle has a hole drilled at one end, and is broken laterally across the hole. It is 52 mm long, 39 mm wide, 3 mm thick and 2.5 g in weight. The remaining part of the hole is 12 mm wide and 4 mm deep. Their purpose is unknown but they could have served as line weights.

Copper Fragment

A small strip of copper 31 mm long, 6 mm wide, 1.5 mm thick and 1.3 g in weight was excavated from Structure B beside the central hearth. It has been folded over slightly along one lateral edge. Eleanor Jenson of the Chemistry Department at Lakehead University has determined it to be native copper possibly from the Lake Superior area.

Red-Yellow Ochre

Red and yellow ochre nodules were collected throughout the excavated units. Test Units 1-8 contained 308.6 g, the main concentration in Unit 1. Structure A held 137.1 g mainly from a concentration along the north wall (Figure 11). Structure B held 645.7 g, the largest amount from a concentration along the west wall, but also from the central hearth and pits and a small amount from a concentration in the hypothesized east wall area (Figure 17). The largest pieces of ochre, along the west wall of Structure B, are flat blocks of yellow ochre quarried from an unknown source.

Experiments on excavated ochre by Maria Seymour, coordinator of the Kenora Board of Education's programme for People of Native Ancestry, show that the yellow ochre turns bright red when heated, so it may be that the Spruce Point ochre was quarried as yellow blocks then heated to form red pigment. Mrs. Seymour, who experimented with ochre excavated from the Fisk Site (DlKp-1) near Kenora, discovered that a usable paint can be manufactured from ochre powder and glue derived from sturgeon fish (Seymour: pers. comm). She has successfully painted pictographs on granite rock with the paint, and it is possible that the Spruce Point people were pictograph artists. They may also have painted their hair, faces and hide clothing as did the historic Cree people of northern Manitoba (Drage 1982:13 and 15). The presence of 115 fabric impressed body sherds with exterior red wash in Structure B attests to the use of ochre on pottery as well.

Inter-site Comparisons

Inter-site comparisons of the lithics is a nearly impossible task because there are few purely Selkirk components reported to date and it is impossible to separate Selkirk lithics from those of other assemblages on mixed-component sites. For instance, it is unclear which lithics are associated with Selkirk and Blackduck at the Fisk Site, or with Selkirk-related Duck Bay Decorated Lip and Blackduck at Aschkibokahn in western Manitoba.

Spruce Point, Kame Hills and Caribou Lake have nearly pure Selkirk components and all are characterized by projectile points of Plains Side-Notched, Prairie Side-Notched and Lewis Variety corner-notched types. Spruce Point and Kame Hills also have large proportions of the Eastern Triangular type. These point types are typical also of Blackduck (MacNeish 1958:103-104) and it is probably the case, as Buchner has said (1979:121), that Selkirk lithics are indistinguishable from Blackduck. These point types were collected also at Aschibokahn (Snortland-Coles 1979:53) and it may also be the case that lithics associated with Duck Bay Ware are indistinguishable from Selkirk and Blackduck.

The same may be true for Sandy Lake. Callaghan (1982:20) reports a possible Sandy Lake association for an Eastern Triangular point at Lady Rapids.

CHAPTER IV

DESCRIPTION OF CERAMIC ASSEMBLAGE

Introduction

Excavations yielded 3,298 ceramic sherds comprising 119 rim sherds representing 63 vessels, 110 neck sherds, 80 shoulder sherds, 2,987 body sherds and two basal sherds. Distribution of recognizably associated sherds of separate vessels has been discussed in Chapter II. Rim sherds of pots large enough for analysis of diameters form two categories: one represented by three large pots with maximum diameter of 30 cm to 36 cm and another by two smaller pots with diameters of 18 cm to 22 cm. Both of the smaller vessels have fire-blackened interiors and one of these also has red ochre stains on the interior. Another vessel of rim type y0 in Figure 32 (the master ceramic chart for Structure B) has a convex curving rim and straight profile similar to plate-shaped vessels found in northern Manitoba (Dickson 1980) and possibly at Potato Island on Birch Lake (Koezur and Wright 1967: Plate 1).

Rim Sherds

Ceramic researchers recently have advocated the utility of attribute analysis of rim sherds rather than typological classifications for the discovery of objective clusters within ceramic assemblages. A 1978 symposium of the Association of Manitoba Archaeologists recognized that the typological classes of Selkirk Ware in particular, as defined by MacNeish (1958) and Hlady (1970), do not adequately reflect the geographical and chronological variations in the Selkirk ceramic tradition. Therefore, attribute analysis is the method adopted in this study.

The 119 rim sherds from Spruce Point represent 63 vessels, shown in figure 30 to 32, the master ceramic charts (Reid 1980) for test units 1 - 4 and 7 - 8 in Area A, units 9 - 19 of House Structure A in Area A and Units 20 - 43 of House Structure B in Area B. All vessels represent Late Woodland types except vessel group aA represented by one Laurel Dentate sherd (Stoltman 1973). The other 62 vessels are the subject of the following analysis. (All frequencies are expressed in terms of vessel, not rim sherd, counts.)

The most recent study of Late Woodland ceramics of the general area using attribute analysis is Edward Lugenbeal's (1976) report on the vessels of the Smith Site on the Rainy River. His method consists of a number of chi square statistics for all the possible pairs of attribute states on the Late Woodland rims from the Smith Site. Then by inspection the pairs of attribute states showing statistical significance are clustered into a "typological framework" (Lugenbeal 1976:278-9). However, as the author states, sample size posed a problem for his chi square analysis in that there were too many cells with an expected value of less than 5. To overcome the problem, Lugenbeal combines a number of attribute states including those of exterior surface treatment -- "cord-marked" and "non cord-marked", or fabric impressed (ibid:277). The unfortunate result is that Lugenbeal does not recognize the cultural significance of these omitted states and fails to isolate the Selkirk vessels among the Blackduck (ibid:279). He sacrifices archaeological objectivity for statistical nicety. Lugenbeal's method has an added difficulty in that it is necessary to assemble multiple-attribute clusters "by inspection" (ibid: 278) using numerous isolated pairs.

Albert C. Spaulding's (1971) method also employs chi square statistics but his approach compares all the possible combinations of all attribute states, thereby overcoming the difficulty created by isolated, free-floating pairs (ibid: 51-52). However, the problem of too few numbers in some of the cells remains and a new drawback is added: one would need hundreds of chi square combinations to complete the analysis of a complicated asssemblage of attribute states.

The method adopted here is an attempt to overcome the handicaps of sample size too small for chi square analysis, isolated pairs among multiple attributes and the need to combine them "by inspection". It is an adaptation of Brainerd's (1951) concept of a Coefficient of Similarity and Renfrew and Sterud's (1969) Double-Link Close Proximity analysis. First, each vessel group (/b/, /c/, /d/ ... /kk/) on the master ceramic charts was compared to every other using a maximum of seven attributes: profile, interior decorative technique, interior design, lip decorative technique, lip design, exterior decorative technique and exterior design. Then, a Coefficient of Similarity, expressed in a percentage of shared attribute states, was tabulated for each vessel group. For instance vessel group /b/ has a coefficient of 75 per cent with group /c/, while group /c/ has a coefficient of 60 per cent with group /b/; that is, group /b/ shares three of its four attribute states with group /c/, while group /c/shares three of its five states with /a/. The coefficient 60 is exactly Brainerd's coefficient of similarity expressed as a percentage. Only those coefficients greater than 50 per cent are shown on Table 10, on the assumption that vessel groups must share more than half their attribute states to form archaeologically significant sets.

Next, a flow chart based on Table 10 was devised using Double-Link Close Proximity analysis (Figure 33). Three "macro-clusters" emerge: 1) all the vessel clusters above the dotted line in Figure 33 are related at least at the 70 per cent level except group /s/ (see below for a discussion of this group); 2) the isolated cluster of /ii/, /jj/ and /kk/ are related to the above vessels at only the 60 per cent level and only to vessel group /d/: 3) the isolated clusters of /hh/, /t/, /u/, /gg/, /m/, /n/, and /v/ are also related to the top clusters at only 60 per cent and are not related at all to cluster /ii/, /jj/ and /kk/. These "macro-clusters" can be recognized as Selkirk, Sandy Lake and Blackduck Wares.

The results of the "micro-clusters" within the larger groups are as follows:

Selkirk Ware

Cluster No. 1) Vessel groups /c/, /b/, /w/ - three vessels with straight or slightly splayed lip profile, plain exterior, plain or vertical cws lip and plain interior. This is a plain cluster closely associated with Selkirk (Figure 36:2-3).

Cluster No. 2) Vessel groups /e/, /f/, /o/, /y/ - 20 vessels with straight, splayed or flared profile, fabric impressed exterior, fabric impressed lip and plain interior. These have been called Alexander Fabric Impressed by MacNeish (1958) (Figures 37-40).

Cluster No. 3) Vessel group /x/ - two vessels with straight profile, fabric impressed exterior, plain lip and plain interior. These are between clusters at Spruce Point (Figure 36:4-5).

Cluster No. 4) Vessel groups /g/, /p/, /q/, /aa/, /bb/, /cc/, /dd/, /ee/ - 15 vessels with straight splayed or flared profiles, fabric impressed exterior, horizontal, diagonal or vertical cws lip, and plain interior. These have been called Sturgeon Falls Fabric Impressed by MacNeish (1958) (Figures 40-42).

Cluster No. 5) Vessel groups /h/, /z/ - two vessels straight profiles, with fabric impressed exterior, diagonal or vertical linear stamped lips and plain interiors. These are most strongly related to Cluster 4 (Figure 43).

Cluster No. 6) Vessel groups /i/, /j/, /r/ - three vessels with slightly flared profile, exteriors with vertical or diagonal cws (and linear stamp) on fabric impressions, lips with diagonal cws and plain interiors. These have been called Sturgeon Falls Fabric Impressed (MacNiesh 1958), but should more appropriately be called Sturgeon Falls CWS Exterior to isolate them from Cluster 4 (Figure 44).

Table 12: Coefficients of Similarity for Vessels, Expressed in Precentages

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	DD	EE	FF	GG	HH	II	JJ	KK
B	--	60																				75														
C	75	--													60	60										60				60						
D			--																			75	75											60	60	40?
E				--	75	60	60							75									75	100	60	60	60	60								
F				75	--									100		60								100		60				60						
G				75		--	60								60	80							75	75	80	100	80	80	60	60						
H				75		60	--																75	75	80	60	60	60		60						
I						60		--	85	68?						80	68									60		60	60	60	70		68			
J						60		85	--	68?						80	85	50								60		60	60	60	70		68			
K								62	68?	--	68?				60	60											60	60	60	60						
L										68?	--					60			68	60								60	60	60		68	68			
M												--	57																							
N												57	--			60																				
O				75	100									--	60	60					50			100		60		60	60	60						
P		60			75	60								75	--	80		50						75		80	80	60	60	80						
Q		60			75	80		68	68					75	80	--	68	50						75	60	100	60	60	60	80						
R						60		68	85							80	--	50								60		60	60	60	70		60			
S		60													60	60		--								60		60	60	60						
T											68					60			--	60								60	60	60		68	68			
U																				--																
V							60														--									60						
W	75		75																			--	75													
X			75	75		60	60															75	--	75	60	60	60	60								
Y				100	100	60	60							100	60	60							75	--	60	60	60	60								
Z				75		80	80									60							75	75	--	80	60	60								
AA		60		75	75	100	60							75	80	100		50					75	75	80	--	80	80	60	60						
BB				75		80	60								80	60							75	75	60	80	--	80	60	60						
CC				75		80	60							75	60	60		50					75	75	60	80	80	--	80	80						
DD						60								75	60	60		50								60	60	80	--	80						
EE		60			75	60	60							75	80	80		50								60	60	80	80	--						
FF						60		68	68							60	68									60		60	60	60	--		68			
GG								68			68								68													--	68			
HH						60		68	68		68					60	68		68							60		60	60	60	60	68	--			
II				75																														--	60	
JJ				75																														60	--	
KK																																		40		--

Cluster No. 7) Vessel /s/ - one vessel with a slightly flared profile, with linear stamp over horizontal cws exterior, horizontal cws lip and plain interior. Its only relationship to other Spruce Point vessels is a weak link with Cluster 4 and 6. It may form a type elsewhere (Figure 45: 1).

Cluster No. 8) Vessel /ff/ - one vessel on a flared profile with linear stamps in two rows on fabric impressed exterior, diagonal cws lip and plain interior. It has its closest relationship to Cluster 6 and may be a sub-type. It has affinities to Sturgeon Punctate type (MacNeish 1958) (Figure 45:2).

Blackduck Ware

Cluster No. 9) Vessel group /l/, /t/, /u/, /hh/, /gg/ (and possibly /k/) - five (possibly six) vessels with flared profiles, with diagonal or herrringbone cws and punctated exteriors, lips with diagonal, criss-cross and herringbone cws or plain, and plain interiors. These all fit Blackduck characteristics (Evans 1961) and may represent several types elsewhere (Figure 46).

Cluster No. 10) Vessel group /m/, /n/ - two vessels weakly related with flared profiles, exteriors with either horizontal cws or banked linear stamps, lips with diagonal or criss-cross cws and interiors with a single row of linear stamps. These also fit the definitions of Blackduck (Evans 1961) and may be two types within that ware.

Cluster No. 11) Vessel /v/ - one vessel weakly related to vessel /n/, with a flared profile, exterior linear stamps, lip with linear stamps and a plain interior.

Sandy Lake

Cluster No. 12) Vessel group /ii/-/jj/ - four vessels with straight profile, exterior cord-wrapped paddle impressions, lips plain or with cord-wrapped dowel - the edge of the cord-wrapped paddle - and interior plain or with vertical cord-wrapped dowel. These fit the characteristics of Sandy Lake (Cooper and Johnson 1964) (Figure 47:1-2).

Miscellaneous

Cluster No. 13) Vessel /kk/ - one vessel with splayed lip, corded and linear stamped exterior, corded lip and plain interior, weakly related to cluster 12 (Figure 47:3).

Cluster No. 14) Vessel /d/ - one vessel with straight profile, cord-wrapped paddle exterior, plain lip and plain interior. It is between clusters at Spruce Point, and may in fact be related to another ceramic ware (Figure 48).

The clusters of Selkirk vessels in Figure 33 suggest that the main criterion for the potters was the number of attributes to be included, or put in plain language of the first person: "How fancy do I want my pot?" The clusters range from those with only four attributes (plain or fabric surface treatment), to vessels with added lip decorations, to those with both lip and exterior decorations. It is also noteworthy that the Selkirk vessels with exterior decoration differ from Blackduck by the use of linear stamps rather than punctates. Punctated vessels of the Selkirk tradition, Clearwater Lake Punctate (Hlady 1970, 1971), are absent from Spruce Point.

Rim Metrics

The single a Laurel sherd from the Spruce Point excavations is Laurel Dentate type with lip thickness of 6 mm and neck thickness of 7 mm. It has a punctate of 9 mm below the lp and 4 mm wide raising an incipient interior boss. The paste is laminated with fine grit temper. It was recovered from Unit 1, Level 4 and may have been displaced from its original position by tree-root disturbance. This sherd and other Laurel ceramics from the surface are probably from a Laurel component that has been destroyed by erosion.

The metrics and paste characteristics of the vessel clusters are shown in Table 11. Colour and hardness attributes are not included because they tend to vary on a single vessel.

Table 11: Metrics and Technological Attributes of Spruce Point Excavated Vessels (mm)

Vessel cluster #	Frequency	Lip Thickness R	Lip Thickness X	Lip Thickness S	Neck Thickness R	Neck Thickness X	Neck Thickness S	Paste	Temper
1	3	4-5	4.7	0.6	4-5	4.7	0.6	wf-l	fine grit or quartzite
2	20	3-11	7.2	1.9	2-8	5.5	1.8	wf-l	fine grit or quartzite
3	2	6-7	6.5	-	-	7.0	-	wf-l	fine grit
4	15	5-9	6.9	1.2	3-7	4.8	1.4	wf-l	fine-coarse grit or quartzite
5	2	5-8	6.5	-	6-7	6.5	-	wf-l	fine grit or quartzite
6	3	5-9	7.6	2.3	5-7	6.0	1.0	l	fine grit or quartzite
7	1	-	8.0	-	-	6.0	-	wf	fine grit
8	1	-	8.0	-	-	6.0	-	l	fine quartzite
9	6	6-9	7.8	1.0	4-6	4.6	0.9	wf-l	fine grit
10	2	9-11	10.0	-	5-6	5.5	-	l	coarse grit or quartzite
11	1	-	11.0	-	-	-	-	l	fine grit
12	4	4-6	5.3	1.0	4-5	4.3	0.5	wf-l	fine grit
13	1	-	8.0	-	-	0.5	-	wf	fine quartzite
14	1	-	6.0	-	-	8.0	-	l	fine quartzite

wf = well fired; l = laminated

It is clear in Table 11 that vessel /d/, or Cluster #14 (Figure 48), does not belong with the Selkirk vessels, differing not only in its exterior technique of cord-wrapped paddle impressions rather than fabric impressions but also in its neck thickness metrics, the neck of vessel /d/ being thicker than expected for Selkirk rims. Also vessel /kk/, or Cluster #13, also with a cord-wrapped paddle impressed exterior (Figure 47:3), does not resemble Sandy Lake, but more closely conforms to Blackduck metrics. These two vessels are outside the major wares at Spruce Point.

Vessel /e/ within Cluster #2 (Figure 49) also presents anomalies: it is thinner than the rest in that cluster with a lip thickness of 3.0 mm and neck thickness of 3.5 mm, as opposed to a mean lip thickness of 7.2 mm (s=1.9) and a mean neck thickness of 5.5 mm (S=1.8) for the rest in the cluster, and its fabric impressions are made with a fine braided weave which is visually distinct from the coarse weave of the rest of the cluster.

The clusters of vessels from each house structure are shown in Figures 34 and 35. Both figures reflect the same clusters found in the entire sample at Spruce Point. They are quantified by vessels in Table 12.

Table 12: Number of Vessels of Each Cluster in the House Structures

Cluster #	Structure A	Structure B	Test Units 1-8	TOTAL
Selkirk				
1	--	1(3.3%)	2(13.3%)	3(4.9%)
2	7(41.2%)	9(30.0%)	4(26.7%)	20(32.3%)
3	--	2(06.7%)	--	2(3.2%)
4	5(29.4%)	9(30.0%)	1(06.7%)	15(24.2%)
5	--	1(03.3%)	1(06.7%)	2(3.2%)
6	1(05.9%)	--	2(13.3%)	3(4.9%)
7	1(05.9%)	--	--	1(1.6%)
8	--	1(03.3%)	--	1(1.6%)
Blackduck				
9	2(11.7%)	2(06.7%)	2(13.3%)	6(9.7%)
10	--	--	2(13.3%)	2(3.2%)
11	1(05.9%)	--	--	1(1.6%)
Sandy Lake				
12	--	4(13.3%)	--	4(6.4%)
Miscellaneous				
13	--	1(03.3%)	--	1(1.6%)
14	--	--	1(06.7%)	1(1.6%)
TOTALS	17(100.0%)	30(99.9%)	15(100.0%)	62(100.0%)

The Coefficient of Similarity for the two structures based on the vessels of all wares is 142.3, or 66.2%, and based only on Selkirk vessels is 149.9, or 75%. Those contributing the most differences in the score are the Sandy Lake vessels present only in Structure B and the greater percentage of Selkirk Cluster #2 in Structure A.

Neck Sherds

Of the 110 neck sherds excavated, 99 (90%) of them are fabric impressed, reflecting the predominance of Selkirk ceramics. Neck descriptions and metrics are shown in Table 13 for the entire assemblage and in Table 14 for each structure.

Table 13: Neck Sherd Metrics from All Units (mm)

Description	F	%	R	X	S
Fabric impressed	88	(80.0)	3-8	5.5	1.5
Fabric impressed and linear stamped	10	(9.1)	3-5	4.6	0.7
Cord-wrapped paddle impressed	6	(5.5)	4-5	4.2	0.4
Punctated & smoothed	2	(1.8)	5-7	6.0	--
Cws & brushed*	1	(0.9)	--	6.0	--
Cws and punctuated*	1	(0.9)	--	5.0	--
Incised, linear stamped and fabric	1	(0.9)	--	3.0	
Plain	1	(0.9)	--	6.0	
TOTAL	110	(100.0)			

* Surface finish unknown; Cws = cord-wrapped stick

Table 14: Neck Sherd Metrics for Each House Structure(mm)

Description	f	%	R	X	S
Test Units 1-8					
Cord-wrapped paddle impressed	2	(33.3)	--	4.0	--
Punctated and smoothed	2	(33.3)	5-7	6.0	--
Cws and punctated	1	(16.7)	--	5.0	--
Plain	1	(16.7)	--	6.0	--
Structure A					
Fabric impressed	12	(80.0)	3-8	5.1	1.6
Fabric impressed and linear stamped	2	(13.3)	3-5	4.0	--
Incised, linear stamped and fabric	1	(6.7)	--	3.0	--
Structure B					
Fabric impressed	76	(85.4)	4-8	5.6	1.4
Fabric impressed and linear stamped	8	(9.0)	4-5	4.7	0.5
Cord-wrapped paddle impressed	4	(4.5)	4-5	4.3	0.5
Cws and brushed	1	(1.1)	--	6.0	--
TOTAL	110	(100.0)			

The Coefficient of Similarity for the two house structures based on neck sherd decoration is 177.9 (89%) and the major difference is the greater frequency of fabric impressed shoulders with linear stamped-incised decoration in Structure A than

Structure B. This coincides with the rim sherd data where exterior decoration on fabric rims was more frequent in A than B.

Shoulder Sherds

Of the 80 excavated shoulder sherds, 69 (86.3%) of them are fabric impressed. Shoulder sherd descriptions and metrics for all the units are given in Table 15 and for each house structure in Table 16.

Table 15: Shoulder Sherd Metrics for All Units (mm)

Description	f	%	R	X	S
Fabric impressed	65	(81.3)	3-9	5.8	1.4
Cord-wrapped paddle impressed	6	(7.5)	4-6	5.0	0.6
Fabric impressed & linear stamped	4	(5.0)	3-5	4.0	0.8
Cws	2	(2.5)	3-5	4.0	--
Punctated	1	(1.3)	--	6.0	--
Linear stamped	1	(1.3)	--	8.0	--
Smoothed	1	(1.3)	--	6.0	--
TOTAL	80	(100.2)			

Table 16: Shoulder Sherd Metrics for Each House Structure (mm)

Description	f	%	R	X	S
Test Units 1-8					
Fabric impressed	4	(33.3)	3-5	3.8	1.0
Fabric impressed & linear stamped	3	(25.0)	4-5	4.2	0.6
Cws	2	(16.7)	3-5	4.0	--
Punctated	1	(8.3)	--	6.0	--
Smoothed	1	(8.3)	--	6.0	--
Cord-wrapped paddle impressed	1	(8.3)	--	5.1	--
Structure A					
Fabric impressed	20	(91.0)	3-8	5.4	1.3
Fabric impressed & linear stamped	1	(4.5)	--	3.0	--
Linear stamped	1	(4.5)	--	8.0	--
Structure B					
Fabric impressed	41	(89.1)	3-9	6.1	1.4
Cord-wrapped paddle impressed	5	(10.9)	4-6		
TOTAL	80				

The Coefficient of Similarity for the two structures, based on shoulder sherd decoration is 178.2 (89.1%), the same as for neck sherds. The major factors contributing to the difference in this case are the presence of cord-wrapped paddle impressed sherds in Structure B -- the Sandy Lake presence -- plus the frequency of decorated sherds in Structure A as opposed to Structure B, similar to neck sherds.

Body Sherds

Of the 2,484 analysable body sherds, 2,176 (87.0%) are fabric impressed. Metrics for all units are in Table 17 and for each house structure in Table 18.

Table 17: Body Sherd Metrics for All Units (mm)

Description	f	%	R	X	S
Fabric impressed	2061	(83.0)	2-8	4.3	1.1
Cord-wrapped paddle impressed	287	(11.6)	2-7	3.9	1.0
Fabric impressed with red ochre wash	115	(4.6)	3-7	4.2	1.0
Cord-wrapped paddle vessel /d/	21	(0.8)	6-9	8.1	1.0
TOTAL	2484	(100.0)			

There were also 484 sherdlets too small for analysis and 19 fragments of ceramic wastage from pottery production, 18 in Structure B and one in Structure A.

Table 18: Body Sherd Metrics for Each House Structure (mm)

Description	f	%	R	X	S
Test Units 1-8					
Fabric impressed	94	(50.2)	2-8	4.3	2.0
Cord-wrapped paddle impressed	72	(38.5)	2-6	4.2	1.0
Cord-wrapped paddle vessel d	21	(11.2)	6-9	8.1	1.0
Structure A					
Fabric impressed	686	(96.2)	3-8	4.1	1.0
Cord-wrapped paddle impressed	27	(3.8)	3-7	4.4	1.3
Structure B					
Fabric impressed	1281	(80.9)	2-8	4.4	1.1
Cord-wrapped paddle impressed	188	(11.9)	2-6	3.9	0.8
Fabric impressed with red ochre wash	115	(7.2)	3-7	4.2	1.0
TOTAL	2484				

The Coefficient of Similarity based on body sherds is 183.8 (91.9%), almost the same as the necks and shoulders.

Basal Sherds

Two fabric impressed sherds forming rounded bases were recovered, one from each structure.

CHAPTER V

DATING AND DISTRIBUTION OF SELKIRK COMPONENTS

Introduction

While radiocarbon analysis of the Spruce Point sample was unsuccessful in determining an exact date, seriational comparisons of the ceramics with other Selkirk assemblages succeeded in producing a relative date for the site. The method and results, described below, place Spruce Point in the late sixteenth or seventeenth century just prior to the protohistoric period on Lake of the Woods -- Radisson arrived at the west shore of Lake Superior in 1661 (Adams 1961) and De Noyon reached the Rainy River in 1688 (Nute 1960).

More than 25 radiocarbon dates are published for Selkirk components and they indicate that Spruce Point is very late in the sequence. Ceramics seriations for dated components hint at a developmental trend as well as regional variations in styles, reflective of the several complexes within the Selkirk ceramic horizon. While more radiocarbon dates are needed for each complex, the suggestions below for Selkirk dating and distribution stand as hypotheses in the dictionary sense of "starting-points for further investigation" (COD). They are intended as a framework of the Selkirk Compsite on which to place Spruce Point according to present scholarship.

Origins and Development

Selkirk components have been discovered from northeastern Saskatchewan (Meyer 1978a; 1978b), eastward to the north shore of Lake Superior as far east as

Michipicoten (Dawson 1976), and from northern Minnesota (Lugenbeal 1976) northward to the Hudson Bay Lowlands (Pollock and Noble 1975; Pilon 1981).

As discussed in Chapter I, Syms (1977), Dickson (1980) and Meyer (1981) have postulated several regional complexes for Selkirk and Selkirk-related assemblages. In the Saskatchewan River area of northeastern Saskatchewan, Meyer (1981) has defined the Pehonan Complex comprising ceramics with both Clearwater Lake and plains characteristics. Further north, along the Churchill River, he has recognized purely Clearwater Lake assemblages (1978b). In northern Manitoba, Syms has outlined the Clearwater Lake Complex based on Hlady's (1970, 1971) discoveries of Clearwater Lake Punctate ceramics, and Dickson has defined the Kame Hills Complex based on his finds from Southern Indian Lake which also include Clearwater Lake Punctate ceramics but differ from the Clearwater Lake Complex in the absence of bone tools and in the presence of earlier radiocarbon dates. In southeastern Manitoba, Syms has suggested the Winnipeg River Complex based on MacNeish's (1958) ceramic types comprising Alexander Fabric Impressed, Sturgeon Falls Fabric Impressed and Sturgeon Punctate, clearly different from, yet related to, Clearwater Lake ceramics in the shared traits of shape, size and "Winnipeg Fabric-Impressed" surface treatment. The Spruce Point ceramics (see Chapter IV) are most similar to the Winnipeg River Complex. Seriational analysis, below, tests relative strength of association.

The earliest dates so far recorded for Selkirk components (see table 19) have been in Northern Manitoba where Kame Hills components with Clearwater Lake ceramics have been dated AD 760±70 at the Neck Site (Wright 1971:10) and AD 940±95 at the Kame Hills Site (Dickson 1976:3). Several factors point to a Laurel - Selkirk transition in Northern Manitoba. Dickson has reported a Selkirk stratum at the Kame Hills Site dated slightly later than the underlying Laurel stratum (1980:83) and containing vessels with both Selkirk and Laurel attributes -- fabric impressed surface finish on conical - shaped vessels (ibid:plates 19, 20), rims with Selkirk fabric impressed surface finish plus bossed-and-punctated decoration characteristic of late Laurel (ibid:82) and others with both cord-wrapped stick and push-pull decorative techniques (ibid:81). Hanna (1975:Plate 13) also reports conical-shaped Selkirk vessels from Northern Manitoba, and Wiersum and Tisdale (1977) report another conical vessel with cord-wrapped stick and punctated decoration in association with Selkirk vessels (ibid:37) and dated to AD 1030+50 (ibid:18).

The radiocarbon estimates published to date (Table 19) indicate dates ranging from the ninth to the eighteenth century for the Kame Hills Complex, and the fourteenth to the eighteenth for the Clearwater Lake Complex, both in northern Manitoba. Dickson (1980) has pointed out the priority of the Kame Hills Complex in this area. In northern Saskatchewan, Meyer (1978a:29) dates the Clearwater Lake Complex from the fifteenth to the eighteenth century and the Pehonan Complex dates reflect a similar sequence.

In southeastern Manitoba, Minnesota, and northern Ontario, the dates range from the twelfth to the eighteenth century. The problems concerning interpretation of dates in these areas are threefold. First, it is obvious fromTable 19 that there are few radiocarbon assays from these area compared to northern Manitoba. Second, as Table 19 reveals, many of the Selkirk components are on multicomponent sites, some with collapsed stratigraphy.

Table 19: Selkirk Dates

Site	Chronological Date	Reference	Complex
N.E. Saskatchewan			
Bushfield East	AD 1615 ± 60	Meyer 1981	Pehonan
Francois-Finlay	AD 1768 - 74	Meyer 1981	Pehonan, assoc. with fur trade post
Trade Lake	AD 1685 ± 65	Meyer 1978[b]	Clearwater Lake
Stump Bottom	Ad 1750 +	Meyer 1978[b]	Clearwater Lake
N. Manitoba			
The Pas	AD 1390 ± 45	Long and Tamplin 1977	Clearwater Lake
	AD 1425 ± 150	Syms 1977	Clearwater Lake
	AD 1480 ± 60	Long and Tamplin 1977	Clearwater Lake
	AD 1670 ± 100	Long and Tamplin 1977	Clearwater Lake
Carrot River	AD 1460 ± 110	Long and Tamplin 1977	Clearwater Lake
	AD 1670 ± 100	Dickson 1980	Clearwater Lake
Neck	AD 760 ± 70	Wright 1971	Kame Hills
	AD 1190 ± 80	Wright 1971	Kame Hills
	AD 1220 ± 150	Wirght 1971	Kame Hills
	AD 1550 ± 110	Wright 1971	Kame Hills
Kame Hills	AD 940 ± 95	Dickson 1980	Kame Hills
	AD 1300 ±100	Dickson 1980	Kame Hills
	AD 1330 ± 100	Dickson 1980	Kame Hills
	AD 1570 ± 100	Dickson 1980	Kame Hills
	AD 1610 ±90	Dickson 1980	Kame Hills

Table 19: Selkirk Dates (continued)

Site	Chronological Date	Reference	Complex
SIL ?257	AD 1490 ± 100	Dickson 1976	Kame Hills
SIL 184	AD 1650 ± 170	Kelly 1975	Kame Hills
E. Manitoba			
Wanipigow	AD 1640 ± 125	Saylor 1976	Winnipeg River
Alexander's Point	AD 1700 +	McNeish 1958	Winnipeg River
N.W. Ontario - Hudson Bay Lowland			
Cowell	AD 1410 ± 95	Pollock & Noble 1975	?
N. Minnesota - Boundary Waters			
Smith	AD 1165 ± 67	Lugenbeal 1976	?, with Blackduck Corrected mean of five dates from one stratum.
N.W. Ontario - Boundary Waters			
Hungry Hall	1202 ±60	Wright 1976b	?, with Blackduck
Meek	1350 ± 55	DIC - 1719	?, with Blackduck
	$1410 \, {}^{+130}_{-150}$	DIC-763	?, with Blackduck
Rushing River Park	c. AD 1650	Reid & MacLeod 1980	?, based on historic goods
Long Sault	AD 1750 ± 100	Arthurs 1978	?, with Sandy Lake
N.E. Ontario			
Pic River	AD 1700-1750	Wright 1967[a]	?, based on historic goods

Third, some of the Selkirk components are small (Cowell, Rushing River Park, Pic River), one (Smith) is not recognized by the researcher as Selkirk and one (Meek) has not yet been analysed, therefore it is unclear as to which complex, if any, these components belong. Nevertheless, there is a trend from early components in northern Manitoba to later ones west, south and east, with Spruce Point in the later expansion (Figure 50).

Inter-Site Ceramic Comparisons

The Spruce Point ceramics were compared to those of eight other Selkirk components (Figure 51) whose ceramic assemblages are large enough and reported completely enough to allow for comparisons. Each ceramic assemblage was reanalysed using attribute analysis in the same manner as described in Chapter IV, and then compared to Spruce Point using Coefficients of Similarity (Table 20). The attribute groups generated from the reanalysis are shown in Appendix A, and frequencies and percentages from each site are in Appendix A, Table 21.

The components are Potato Island on Birch Lake north of Lac Seul (Koezur and Wright 1976), Kame Hills on Southern Indian Lake (Dickson 1980), Forestry Point on Red Lake (material excavated by Polly Koezur in the collection of the National Museum of Man), Wenasaga Rapids on Lac Seul (Hamilton 1981), Smith on the Rainy River (Lugenbeal 1976), Caribou Lake in southeastern Manitoba (Buchner 1979), Fisk north of Kenora, Ontario (Rajnovich, Reid and Shay 1982), and Long Sault on the Rainy River (Arthurs 1982). The sites separate into three groups, one comprising Wenasaga, Kame Hills, Potato Island and Forestry Point all characterized by Clearwater Lake Punctate ceramics, another composed of Smith, Caribou Lake, Fisk and Spruce Point characterized by vessels defined by MacNeish as Alexander and Sturgeon Falls Fabric Impressed. Long Sault, with its Sandy Lake - like Selkirk sherds (Arthurs 1982:179), forms a separate category. Double-link Close-proximity analysis (Renfrew and Sterud 1969) forms the flow chart of Figure 51.

The seriation may reflect, in part, a chronological order: the Smith Site component has been radiocarbon dated to the twelfth century (Lugenbeal 1976:123), the Fisk site component estimated to the sixteenth century (Rajnovich, Reid and Shay 1982:105) and Long Sault radiocarbon dated to the seventeenth century (Arthurs 1982:168). The presence at Spruce Point of Sandy Lake Ware, dated in Ontario to the sixteenth and seventeenth centuries (Arthurs 1982:181), and the position of Spruce Point near Fisk on the flow chart, suggest Spruce Point dates to the late sixteenth or seventeenth century. A vessel similar to vessel /e/ of Cluster #2 (Figure 49) was recovered from Wanipigow in eastern Manitoba where it was radiocarbon dated to AD 1640 ±125 (Saylor 1976:12).

As noted earlier, the Coefficient of Similarity for the two structures at Spruce Point based on the Selkirk rims is 150, a much higher coefficient for the two structures than for the combination of Spruce Point and any other site. This result suggests the two structures are contemporaneous.

Three hypotheses arise after the above analysis: 1) Selkirk evolved out of Laurel in Northern Manitoba, then expanded west, south and east (Figure 50); 2) Clearwater Lake Punctate ceramics are the earliest Selkirk ceramics, the other types (as defined by MacNeish) evolving out of Clearwater Lake Punctate; 3) The early Selkirk period in southeastern Manitoba and the Lake of the Woods area is characterized by simple undecorated ceramics (Alexander Fabric Impressed) such as at Caribou Lake, and followed later by decorated types influenced by Blackduck such as at Fisk and Spruce Point.

Table 20: Coefficients of similarity of Nine Selkirk Components

	Potato Island	Kame Hills	Forestry Point	Wenasaga	Caribou Lake	Smith	Fisk	Spruce Point	Long Sault	Estimated Date
Potato Island	---									
Kame Hills	183	---								9th - 18th C.
Forestry Point	124	141	---							
Wenasaga	110	128	140	---						
Caribou Lake	29	32	51	35	---					
Smith	26	30	104	70	111					12th
Fisk	0	3	52	58	75	145	---			16th C.
Spruce Point	0	3	22	55	85	112	130	---		16th - 17th C.?
Long Sault	14	14	11	34	0	50	58	30	---	17th C.

CHAPTER VI

SPRUCE POINT SETTLEMENT PATTERN

Introduction

As stated earlier, Spruce Point is a rare site in that it has preserved remains of two structures and possibly more; further excavations may reveal a third structure and/or external activity areas. The structural features are important, not only for the information provided on house type, size, population density and orientation to geographical features, all of which are of immense value for the reconstruction of the physical appearance and social patterns of a late prehistoric encampment, but also for the indications of adaptive strategies, especially seasonality. Ethnographic evidence, discussed below, suggests that orientation and type of structure depend on the season. This factor, in conjunction with faunal analysis, produces a multiple approach to the determination of seasonality.

Community Patterns

There are no other reported Selkirk structures to date although Archaic and Laurel structures have been discovered. Wright (1970:32) and Pollock (1976:55-67) report circular rock outlines 3.5 and 5.5 metres in diameter representing the remains of round Archaic structures in the Shield. Wright (1967b:68) also reports a series of post moulds at Heron Bay on Lake Superior and he infers that they represent the remnant of a round Laurel structure about 3.0 metres in diameter. Oval Laurel or Laurel-related lodges have been reported from the Fisk Site north of Kenora (Rajnovich, Reid and Shay 1982), the Bundoran Site on Lake of the Woods (Rajnovich

1979:26-29) and from the Summer Island Site in northern Lake Michigan (Brose 1970b:21). The structures are all oriented along northwest - southeast axes and are from 5.0 to 9.0 metres long and 4.0 to 5.0 metres wide.

The two Selkirk structures at Spruce Point resemble the Laurel ones with northwest - southeast or north-south axes and measuring 6.0 to 7.0 metres long and 4.0 metres wide. The outlines suggest a continuation of house style from the Laurel period into the Selkirk and perhaps later into the historic period - a lodge of similar outline was photographed in the last century on nearby Shoal Lake (Figure 52, Lake of the Woods Museum photo #97250.8).

Similar lodges were still in use in 1953 in northern Quebec when Edward S. Rogers (1973:7) studied the Mistassini bands. The Quebec Cree also oriented their lodges along northwest - southeast axes with the doors directed toward the rising sun (Rogers 1973:11; Tanner 1979:101), possibly because it was auspicious for a hunter to meet the sunlight in the morning when going outside or because the rear of the structure was viewed as the Seat of Honour and the person there had the best view of the sunrise (Tanner 1979:101-102).

The Spruce Point Site is the first reported Late Woodland site in the Shield from which we may draw inferences about site layout and local population density. Initial tests of the site found three occupation areas (Figure 2), and it is shown through excavations that two are house structures and the related external work space surrounding each. The third area between the two houses may be another structure or communal work space shared by occupants of the two houses.

Brose (1970b:38), using ethnographic data on the historic Ojibwa has estimated mean floor space per occupant of a lodge as 2.6 or 3.3 square metres and has suggested the Summer Island structures housed six or seven people in the smallest house (19.3 square metres) and ten or 11 people in the larger ones (25.8 and 24.9 square metres). If his figures are accurate, the Spruce Point structures (about 24.0 to 28.0 square metres) would have housed seven to 11 people. Therefore, the entire site would have housed 14 to 22 people, if the two structures were contemporaneous, and possibly as many as 33 people if all three occupation areas were house structures and were used at the same time. The minimum number is slightly higher than Rogers' figure of 13 for a typical winter hunting group among the modern Mistassini Cree (1973:3) while the maximum number reflects a much larger group, possibly a summer encampment of several related groups.

Rogers' work with the Mistassini (1967:7) identified five aboriginal house structures in use by the Cree: the conical lodge, the earth-covered conical lodge, the dome-shaped lodge, and two A-frame lodges (inImicUwahp and sapUhtAwan). The conical lodge was used as temporary accommodation when groups were travelling (ibid:9); the others were more "permanent" houses used at winter-based and summer-based camps. The Spruce Point houses, with their sizeable artifact assemblage and definite outlines, appear to have been "permanent" structures and fit the characteristics of either Rogers' dome-shaped lodge or his A-frame lodges in both outline and floor size.

The inImicuwahp and larger, related sapUhtAwan (Rogers 1967:7-13) had elliptical floor plans 5.0 metres wide by about 6.0 to 12.0 metres long and were used by two to three families. They were constructed of A-frames of saplings at each end supporting a central ridge pole which, in turn, supported side poles. The structure was covered with hides or bark. The ends were rounded and the sides straight. Fireplaces were located in a line down the centre of the lodge. These structures were used during the summer among the Mistassini in the 1950's (Rogers: personal communication) and they were known to be also used in the summer on Lake of the Woods in the nineteenth century (see Figure 52, Lake of the Woods Museum Photo #970·30·1).

The dome-shaped lodges of Mistassini (Rogers 1967:14) varied in size; one observed lodge was roughly circular with a diameter of about 4.0 metres, made of two sets of bent poles shoved into the ground as a basic foundation with added poles around the periphery bent under the foundation poles. Rogers' informants were contradictory as to the seasonality of these structures, one claiming they were not used in winter because the poles froze and could not be bent, and the other claiming that they were used (ibid:9). A dome-shaped lodge was photographed in use during the summer in the last century in the Lake of the Woods area (Figure 53, Lake of the Woods Museum Phote #972•50•8).

The floor size of the houses at Spruce Point suggests they were multiple (or extended?) family dwellings like the Mistassini A-frame houses but the generally oval outlines suggest they were dome-shaped structures. The question of house type is a toss-up. Indeed, Figures 52 and 53 reveal that different structure types were used simultaneously on Lake of the Woods sites in the last century, and it could be that Structures A and B at Spruce Point represent two different types.

Tanner (1979:75-87) has outlined the organization of interior space within Mistassini house structures as a formalized plan based on the family structure with males separated from females in an arc oriented around a central hearth, and with personal goods, tools and foodstuffs divided accordingly. The artifact scatter patterns at Spruce Point (Figures 9-11 and 16-18) do not reflect specialized areas expected in a sexually divided group. Rather, the concentrations of tools, ceramics and bone appear to be based on a pattern of refuse disposal in the hearths and pits and along the walls as a result of cleaning up the space. Could this pattern be the result of a notion similar to the Mistassini's (Tanner 1979:74-75) that an abandoned camp must be viewed to some extent as a sacred place and must be cleaned up upon departure to avoid offense to the Spirits?

Seasonality

Rogers (1967:9) reports that the Mistassini built their structures near streams or lakes within 10 to 30 metres of the shoreline except in winter when they placed them further inland about 100 to 200 metres from shore, and Hanks (1979) and Gordon (1982) report similar summer-winter community patterns among the early modern inhabitants of Eastern James Bay and North Caribou Lake. The location of the Spruce Point houses close to the shoreline, even taking into account the severe slumpage of the bank, indicates a summer locale. The inference that the houses were "permanent" dome-shaped or A-frame structures is in keeping with summer use.

Another factor possibly indicating a summer occupation is the generally west-facing orientation of the point of land on which the site rests, open to both prevailing west and northwest winds, a condition not conducive to cold-weather occupation. Rogers (1967:9) has noted that the Mistassini of northern Quebec usually chose an eastern-facing shoreline protected from the prevailing west winds for winter encampments.

Faunal remains from Spruce Point indicate a spring-to-fall occupation. Bones from Structure A (see Burns and Balmer in Appendix B) include beaver, moose, caribou and sturgeon and those from Structure B (see Lambert and Roberts in Appendix B) include beaver, moose, caribou, muskrat, fisher, sturgeon, sucker, loon and turtle. Loon is a migratory bird that occupies the Lake of the Woods area during open water conditions from spring break-up to fall freeze-up (Bruce Ranta, Kenora District Wildlife Biologist, Ontario Ministry of Natural Resources: personal communication). Turtle can be caught from mid-spring to mid-fall after which it buries itself in mud or the bottoms of ponds or streams (Ranta: personal communication).

The possible presence of juvenile beaver also suggests a spring-to-fall time period (Ranta: personal communication). The other animals present at Spruce Point could have been taken all year round. The entire faunal sample is not out of keeping with a summer occupation of Spruce Point.

Caribou are no longer found in the Lake of the Woods area, having been replaced by deer in the early part of this century after forest clearance by loggers (Williamson 1979:1). Sturgeon are rare today but were an historically important yield before a decline in population due to over exploitation early in this century (Ontario Ministry of Natural Resources 1981:58).

Rogers (1973:76) has cautioned that for a hunting society, analysis of faunal remains from an archaeological site can be misleading. A hunting society's use of bone caches adjacent to a campsite and the religious selection of certain skeletal remains for placement on special cache racks or on poles or trees would necessarily remove them from the faunal sample from a house structure.

The above situation, plus the small sample size from Spruce Point preclude an analysis of major and minor food sources for the Selkirk occupation, although the remains do indicate a varied diet including large and medium mammals, birds, fish and turtle, all of which could have been collected locally. Indeed, the Spruce Point area still has a high capacity for moose, fish and birds compared to other locations on Lake of the Woods (Ministry of Natural Resources 1981) and this high potential may have been one of the main factors in the summer site selection.

With regard to Spruce Point within the context of a general, seasonal exploitation pattern, Rogers and Black's (1976) study of the Weagamow Ojibwa is useful. They (1976:23-36) have postulated general principles fundamental to 19th century subsistence strategy in the boreal forest of northwestern Ontario. The general goal of the Ojibwa was to optimize the resource yield with the least expenditure of energy and this entailed a settlement pattern comprising of "home base", an area or particular site occupied each year for periods of time exceeding the time spent at any other site. This location contained "permanent" dwellings, immediate access to a variety of resources and access to a hinterland containing additional resources. "Satellite camps" were established seasonally in the hinterland zone, smaller and less permanent than the "home base", established principally to exploit a particular resource such as fish, caribou or berries. "Home base" camps were always placed on waterways near the outlets of lakes or rivers or on points extending into the lake, while "satellite camps" usually were on water systems but not always. The total exploitation range was used by one or more related families comprising five to 50 people with the population density changing as conditions fluctuated. In addition, there were "gathering centres" used mainly during the summer where several "home base" groups assembled, and where the size of each "home base" group could be balanced and the exploitation areas adjusted.

Variations of the above "home base" model occurred across the study area, including season of "home base" occupation, number of inhabitants, number of "satellite camps" and distances between "home bases" of various groups.

The Spruce Point Site resembles a summer "home base" in that it was occupied by about 30 people or less in "permanent" dwellings with an adjacent zone of varied resources. If the concept applies, future archaeological investigations should unearth other "home bases" of the same period and possibly an associated "gathering centre".

Conclusions

The discovery of two structures at Spruce Point has allowed for a preliminary reconstruction of Selkirk lifeways of the late prehistoric period. The shape and size of the structures suggest types similar to Laurel houses and to those still in use in the last century in the Borial Forest, a continuous tradition of nearly 2,000 years. Floor space, using Brose's estimates, indicate a population of seven to 11 people in each house, an extended or multiple family unit like those documented for recent Algonkian groups. (Their orientation toward the south-southeast may even indicate some social patterning if the analogy to the early modern Cree Seat of Honour at the rear of the structure facing the sun is relevant.)

The house types, their geographical location near the shoreline and on a point of land open to the prevailing winds, along with the faunal sample, all indicate a summer occupation. Bone remains include large and medium mammals, birds, fish and turtle, describing a varied, unspecialized diet.

All animal remains could have been collected locally -- indeed, the area is described as having a high capacity for these species compared to other areas of Lake of the Woods -- and Spruce Point itself has an unusually large variety of plant species and a local source for lithics. All of these factors suggest the people chose Spruce Point, not for a specialized function, but as an optimal area for 'the good life'.

Ceramic seriational analysis places Spruce Point in the sixteenth or seventeenth century just prior to the protohistoric period, and near the end of the Selkirk sequence which may have originated in northern Manitoba and spread west, east and south from there over a period of 900 years.

The single-component nature of Spruce Point allows for the discernment of Selkirk traits characteristic of the Lake of the Woods area without the interference of collapsed stratigraphy. These include the community patterns discussed above, lithics represented mainly by variants of Eastern Triangular, Plains Side-notched and Prairie Side-notched types, and by sherds of the Winnipeg River ceramic horizon. It is unclear whether the Lake of the Woods area forms a complex within the Selkirk Composite separate from the Winnipeg River Complex. The evidence to date suggests that it does not. The old saw stating "more work must be done" is appropriate here because Spruce Point is the only large, single-component, single-occupation Selkirk site reported to date from Lake of the Woods, and one occupation does not a complex make. In addition, there are no reported Selkirk components in the Winnipeg River area of Manitoba with structural details with which to compare Spruce Point. Finally, MacNeish's pioneering work defining Winnipeg River Fabric Impressed Ware must be reanalysed in light of recently introduced analytical techniques, descriptive nomenclature and taxonomy.

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APPENDIX A: SELKIRK CERAMIC ATTRIBUTE GROUPS FROM NINE COMPONENTS

Sites		Attributes	Type
Spruce Point	# 1	-plain exterior -plain or cws lip -plain interior	----------
Kame Hills, Caribou Lake, Forestry Point, Fisk, Spruce Point, Smith, Wenasaga	# 2	-fabric exterior -fabric lip -plain interior	Alexander Fabric Impressed
Fisk, Spruce Point, Long Sault, Wenasaga	# 3	-fabric exterior -plain lip -plain interior	Alexander Fabric Impressed
Fisk, Spruce Point, Smith, Wenasaga	# 4	-fabric exterior -cws lip -plain interior	Sturgeon Falls Fabric Impressed
Fisk, Spruce Point, Long Sault	# 5	-fabric exterior -linear stamp lip -plain interior	----------
Fisk, Spruce Point, Long Sault, Smith, Wenasaga	# 6	-oblique or vertical cws (and linear stamp/punctates) on fabric exterior -cws lip -plain interior	Sturgeon Falls Fabric Impressed
Spruce Point, Smith	# 7	-linear stamp/punctates over horizontal cws exterior -cws lip -plain interior	----------
Spruce Point	# 8	-two rows of linear stamps on fabric exterior -cws lip -plain interior	Sturgeon Punctate
Fisk	#9	-single row of punctates on upper exterior rim near lip - fabric lip - plain interior	Sturegon Punctate

APPENDIX A: SELKIRK CERAMIC ATTRIBUTE GROUPS FROM NINE COMPONENTS

Sites	Attributes	Type
Fisk, Smith	#10 -multiple row of punctates/linear stamps on exterior rim from lip downwards - linear stamped lip - plain interior	Sturgeon Punctuate
Long Sault	# 11 -multiple row of punctates linear stamps on exterior rim, from lip downwards -cws lip -plain interior	Sturgeon Punctate
Kame Hills, Caribou Lake Forestry Point, Potato Island Smith, Wenasaga	# 12 -single row of punctates on a fabric exterior -plain, fabric or linear stamp lip -plain interior	Clearwater Lake Punctate
Kame Hills, Forestry Point, Potato Island Long Sault Wenasaga	# 13 -single row of punctates on a fabric exterior -cws lip -plain interior	Clearwater Lake Punctate
Kame Hills, Potato Island Long Sault	# 14 -single row of punctates on a plain exterior -cws lip or plain lip -plain interior	----------------
Long Sault	# 15 -fabric exterior -fabric or plain lip with interior notches -plain interior	influence from Sandy Lake?
Long Sault	# 16 -plain exterior -plain lip with interior notches -plain interior	influence from Sandy Lake?

Table 21: Selkirk Attribute Group Frequencies (and Percentages) at Nine Components

Group	Potato Island	Kame Hills	Forestry Point	Wenasaga	Caribou Lake	Smith	Fisk	Spruce Point	Long Sault	TOTAL
#1										
#2								3(6.4)		3
#3		2(1.6)	2(11.1)	1(3.3)	12(85.7)		6(37.5)	20(42.6)		
#4				3(10.0)		16(42.1)*	2(12.5)	2(4.3)	7(10.0)	73*
#5				5(16.7)		2(5.3)	2(12.5)	15(31.9)		24
#6							1(6.3)	2(4.3)	7(10.0)	10
#7				1(3.3)		8(21.1)	3(18.8)	3(6.4)	9(12.9)	24
#8						1(2.60)		1(2.1)		2
#9								1(2.1)		1
#10							1(6.3)			1
#11						6(15.8)	1(6.3)			7
#12									14(20.0)	14
#13	9(64.3)	75(60.5)	6(33.3)	8(26.7)	2(14.3)	5(13.2)				105
14	4(28.6)	44(35.5)	10(55.6)	12(40.0)					4(5.7)	74
15	1(7.1)	3(2.4)							1(1.4)	5
16									24(34.3)	24
									4(5.7)	4
TOTAL	14(100.0)	124(100.0)	18(100.0)	30(100.0)	14(100.0)	38(100.0)	16(100.0)	47(100.0)	70(100.0)	371

includes Groups #2 and #3

APPENDIX B: FAUNAL REMAINS

Four researchers undertook analysis of bone from the site: James A. Burns submitted a report in 1974 on the fauna from the Fox test unit excavated in 1973 situated inside Structure A. Ann Balmer's report for the Reid units including parts of Structure A is also presented. Peter Lambert and Linda Roberts analysed the material from Structure B in 1981-1982.

STRUCTURE A (FOX UNIT)

JAMES A. BURNS

TABLE 22: Identifications of Animal Remains from Structure A

Class Species	No. of Bones	%
MAMMALIA		
Beaver	4	4.8
cf. moose	2	2.4
Cervidae sp. (Deer/Caribou)	1	1.2
Mammal sp. (m)	35	42.2
Mammal sp. (1)	17	20.5
AVIES		
Unidentifiable	2	2.4
PISCEs		
Lake Sturgeon	13	15.7
INDETERMINATE		
Unidentifiable	9	10.8
TOTAL:	83	100

Level II

Beaver	caudal vertebra; c
Beaver	midshaft portion R ulna; c
Beaver	olecranon portion R ulna; fused; c
Beaver	proximal notch portion R ulna; c
Cervidae sp.	portion of molar tooth crown; no ID; c
Mammal sp. (m)	23 fragments; c
Mammal sp. (m)	12 fragments; nb
Mammal sp. (1)	12 fragments; nb
Avian sp.	probable radial shaft portion; no ID; nb
Avian sp.	portion vertebral centrum; no ID; nb
Lake Sturgeon	12 dermal bone portions; c
Lake Sturgeon	portion 1st pectoral fin spine; c
Class indeterminate	9 fragments; may be sturgeon; c
cf. Moose	coronoid and condylar portion of R mandible; not elk, probably not domestic cow; eroded; nb
Mammal sp. (1)	5 portions; 2 pces fit and appeared charred on one side only; the other 3 portions appear unburnt; c nb
cf. Moose	posterior midshaft portion l tibia; surface appears weathered; nb

The small size of the sample precludes extensive discussion at the present time. All species are well within the present range. No seasonal data are available on such small samples.

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AREA A INCLUDING STRUCTURE A

ANN BALMER

Table 23: Identifications of Animal Remains From Units 1 to 19.

	Provenience Unit	Provenience level	Cat. No.	Element	Portion	Side	Location Vert.	Location Hor.	Epiph.	Heat Ch.	Heat Cal.
Avies	5	II	1	long bone	protion	?	sh.	--	--	--	--
Beaver	1	III	1	humerus	fragment	L.	dist.	--	NVEL		cal.
	7	III	1	molar	complete	--	--	--	--	--	--
	12	III	1	molar	portion	--	--	--	--	--	--
	13	III	1	ulna	fragment	R.	prox.	--	--	--	cal.
	13	III	2	tibia	fragment	R.	dist.	--	--	--	cal.
	13	III	3	metatarsal epiphysis	complete	R.	prox.	--	--	--	cal.
	13	III	4	phalanx epiphysis	complete	--	dist.	--	--	--	cal.
	13	III	5	patella	complete	R.	--	--	--	--	cal.
	13	IV	1	ulna	fragment	L.	prox.	--	--	--	cal
Otter	12	III	1	talus	portion	L.	--	--	--	ch.	--
Black Bear	1	I	1	1st molar-upper	complete	L.	--	--	--	--	--
	13	III	1	1st tarsal	complete	R.	--	--	--	--	cal.
	13	III	2	distal phalanx	portion	--	dist.	--	--	--	cal.
	13	III	3	2nd metatarsal	complete	R.	--	--	NVEL	--	cal.
	13	III	4	sesamoid	complete	--	--	--	--	--	cal.
Muskrat	13	IV	1	tibia	fragment	R.	sh.	--	--	--	--
Woodland Caribou	18	IV	1	3rd molar	portion	L.	--	--	--	--	--
Moose	4	II	2	mid phalanx	fragment	--	dist.	--	--	--	--
	4	II	2	mid phalanx	fragment	--	prox.	--	NVEL	--	--

STRUCTURE B

PETER LAMBERT AND LINDA J. ROBERTS

Table 24: Indentifications of Animal Remains from Structure B

Class Species	No. of bones	%	Minimum LC of Individuals
MAMMALIA			
Unidentifiable	609	83.0	
Sciuridae	1	0.1	
Beaver	30	4.1	4
Muskrat	6	0.8	1
Fisher	1	0.1	1
Moose	2	0.3	1
Artiodactyla	11	1.5	
Cervidae	7	1.0	
PISCES			
unidentifiable	29	4.0	
Sucker	2	0.3	1
Sturgeon	1	0.1	1
AVIES			
unidentifiable	12	1.6	
Common loon	1	0.1	1
REPTILIA			
Turtle	22	3.0	
TOTAL	734	100.0	10

The term "artiodactylae" refers to either bovids (bison, cow) or cervids (moose).

The term "cervidae" means either deer or caribou, but probably represents caribou at Spruce Point as deer did not appear in Northwestern Ontario until the early years of the present century after forest clearance by loggers (Williamson 1979:1)

Unit	Level	Taxonomic Identification	Skeletal Element	Description
20	I	Sucker fish (Catostomus sp.)	L. operculum	Complete
		L. Fish	Not carp, sturgeon, char, burbot, bass, walleye goldeye, pike, whitefish, perch or sucker.	
	II	M. Cervidae	f.	Articular surface of metapodial.
	III	Beaver Castor canadensis	L. Ulna	Distal m-s f.
		Beaver	R. Femur	M-s at 3rd trochanter. Cut marks at posterior surface.
	IV	L. Artiodactyla	Metapodial	M-s f. at mid-line
	II	M.-L. Mammal	2 f.	
		M. Avian	Cervical Vert.	Unidentifiable. Broken.
4		L. Mammal	f.	cranial, unidentifiable.
21	I	Mammal	epiphysis	VEL. Juvenile. pitted as if chewed by carnivore.
		M. L. Mammal	f.	
	VI	Beaver	R. Ilium	f. at sacrum. poor cond.
uncatalogued				
		Mammal	f.	juvenile.
		S.-M. Mammal	f.	extremity shaft.
24	I	Common loon (Gavia Immer)	R. Radius	Distal end 1/0
	II	M. Cervidae	L. Manidible	At coronoid process. Recon. from 2. Odocoileus or Rangifer
		Beaver	Matatarsal	Prox. 7/8. VEL. Trowel trauma.

Unit	Level	Taxonomic Identification	Skeletal Element	Description
		Beaver	Third Phalanx	Complete.
		Beaver	Middle Phalanx	Distal 3/4.
		Beaver	Middle Phalanx	Distal 3/4. Freshly broken
		M. Mammal	F.	
	III	Beaver	R. Ulna	at semi-lunar notch. recon from 3.
		Beaver	R. Ulna	Calcined. at semi-lunar notch.
		COMMENT: ulna elements from 2 beaver.		
		M. Mammal	Ex, Sh. f	
		M.-L. Mammal	f.	Possible vert., art. facet.
25	III	Beaver	R. Ulna	at Semi-lunar notch Split lengthwise.
	IV	Beaver	L. Ulna	At semi-lunar notch.
26	III	Beaver	R. Femur	Proximal m-s 1/2. pitted as if chewed.all processes obliterated
	IV	Beaver	L. Femur	M-s f. poor cond.
28	I	Beaver	R. Talus	Incomplete.
		Beaver	Second Phalanx	Prox. 3/4. fused.
	II	M. Cervidae	L. Mandible	At posterior border of ascending rami. Broken at mandibular foramen.
		M.-L. Cervidae	Phalanx	f. of distal end.
		Beaver	Caudal Vert.	Incomplete. Unfused each end.
		Beaver	Metatarsal	Distal epip. Unfused.

Unit	Level	Taxonomic Identification	Skeletal Element	Description
		Beaver	Metatarsal	Prox. f.
		M. Mammal	Rib	M-s f.
	IV	Beaver	Prox. Phalanx	Distal 3/4. Calcined.
		M. Mammal	Ex. Sh. Frag.	Juvenile, unfused. Diaphyseal end. likely castor but too young for id.
	II	Class Uncertain	Ex. Sh.	Juvenile.
			Frag.	Calcined. Likely Avian.
29	I	Sucker fish (Castostomus sp.)	R. Operculum	Complete. Appears newly deposited. Excellent condition.
		Mammal	Frag.	Very juvenile cortex. Vertebra or skull f.
	IV	Castor c.	Metatarsal	Distal end 1/2. Fused epip. calcined.
		Castor c.	R. Ulna	Distal m-s 1/5.
30	I	Castor c.	R. Mandible	Area of P. Alveolus pf Incisor. frag.
		Mammal	R. Ilium	Juvenile cortex. incomplete. trowel trauma sever. poor condition
	II	Muskrat (Ondatra zibethicus	R. Femur	Prox. 1/2. epip. fusing at head.
		Castor c.	R. Ulna	Distal m-s frag. 1/5
		L. Artiodactyla	Prox. Phalanx	F. of ant. articular surface and dorsal surf.
			Does not fit with Phalanx below in L. 3	
	III	Fisher (Martes pennanti)	R. Mandible	M-s from p_3 to m_1 area. teeth present.

Unit	Level	Taxonomic Identification	Skeletal Element	Description
		L. Artiodactyla	Prox. Phalanx	Distal 3/4, split lengthwise. Recon. 3 poor condition.
	IV	Moose (Alces alces)	Second Phalanx	Distal 1/3. Terrible condition, trowel trauma.
		M-L Mammal	Frag.	
31	II	L. Mammal	frag	epiphysis unfused. Recon. 3.
33	II	Sturgeon (Acipenser fulvescens)	plate frag.	
	IV	Castor c.	R. Ulna	M-s frag, at semi-lunar notch 1/4 length. Trowel trauma.
34	II	L. Mammal	Carpal/tarsal	incomplete f. poor condition.
	III	L. Artiodactyla	R. tarsal centrale and fourth	inc. f. poor condition
		M. Cervidae	L. Pertrous tympanic inc. fresh breaks.	
35	III	Castor c.	L. Tibia	f. at crest, 1/4 length, medial border. very poor condition. possible cut marks and canine punctures
36	II	Moose	Accessory Metatarsal	Distal End, Unfused
	III	L. artiodactyla	Proximal Phalanx	Distal 1/2. Poor cond.
		L. Cervid	Metatarsal	M-s frag.
37	IV	Castor c.	Thoracic Vert.	Dorsal spinous process. calcined.

Unit	Level	Taxonomic Indentification	Skeletal Element	Description
		M-L Mammal	Ex. Sh frag.	Likely castor, terrible condition.
38	II	L. Cervidae	Metacarpal	Anterior m-s. "Worm" hole across exterior surface.
		Apparently, a flake off one end. Does not fit with the metacarpal below.		
		L. Artiodactyla	Prox. Phalanx	Distal volar frag.
		Artiodactyla	PM/M tooth f.	Enamel chip
		Sciuridae family	R. Mandible teeth present	I through M_3. Broken at ascending ramus. Likely deciduous dentition.
		Class Uncertain	f.	? avian.
	III	Castor c.	Tooth Root f.	pre-molar or molar.
		Artiodactyla	2 tooth f.	PM or M unerupted enamel chip.
		L. Artiodactyla	Left Metacarpal	Likely Moose. Anterior portion, split lengthwise.
		L. Mammal	f.	talus or second phalanx
	IV	Artiodactyla	Tooth frag.	PM of M frag. enamel chip.

APPENDIX C: PLANTS IDENTIFIED AT SPRUCE POINT, 1981

VAL MACINS

District Biologist
Ministry of Natural Resources

Burr Oak
Trembling Aspen
Black Spruce
Virginia Creeper
Beaked Hazel
Evening Primrose
Wild Pea
Softstem Bullrush
Plantago lanceolata
White Birch
Jack Pine
Black Ash
Wild Rose
Boneset
Goldenrod
Reed Grass
Wild Grape

PLANTS FOUND IN THE AREA

Linden
Basswood
White Pine
Red Pine
White Spruce
Balsam Fir
White Cedar
Tamarrack
Ground Juniper
Common Juniper
Hazel
Highbush Cranberry
Dogwood
Canada Yew
Wild Rice
Clintonia borealis
Maianthemum canadense
Gooseberry
Skunk or red current
Spiraea
Poison Ivy
Buckthorn
Pyrola
Wild Sarsparilla
Red Elderberry
Viburnam
Gallium
Honeysuckle
Pinces Pine
Bearberry
Blueberry
Wintergreen
Snowberry
Aster
Pearly-everlasting
Common Yarrow

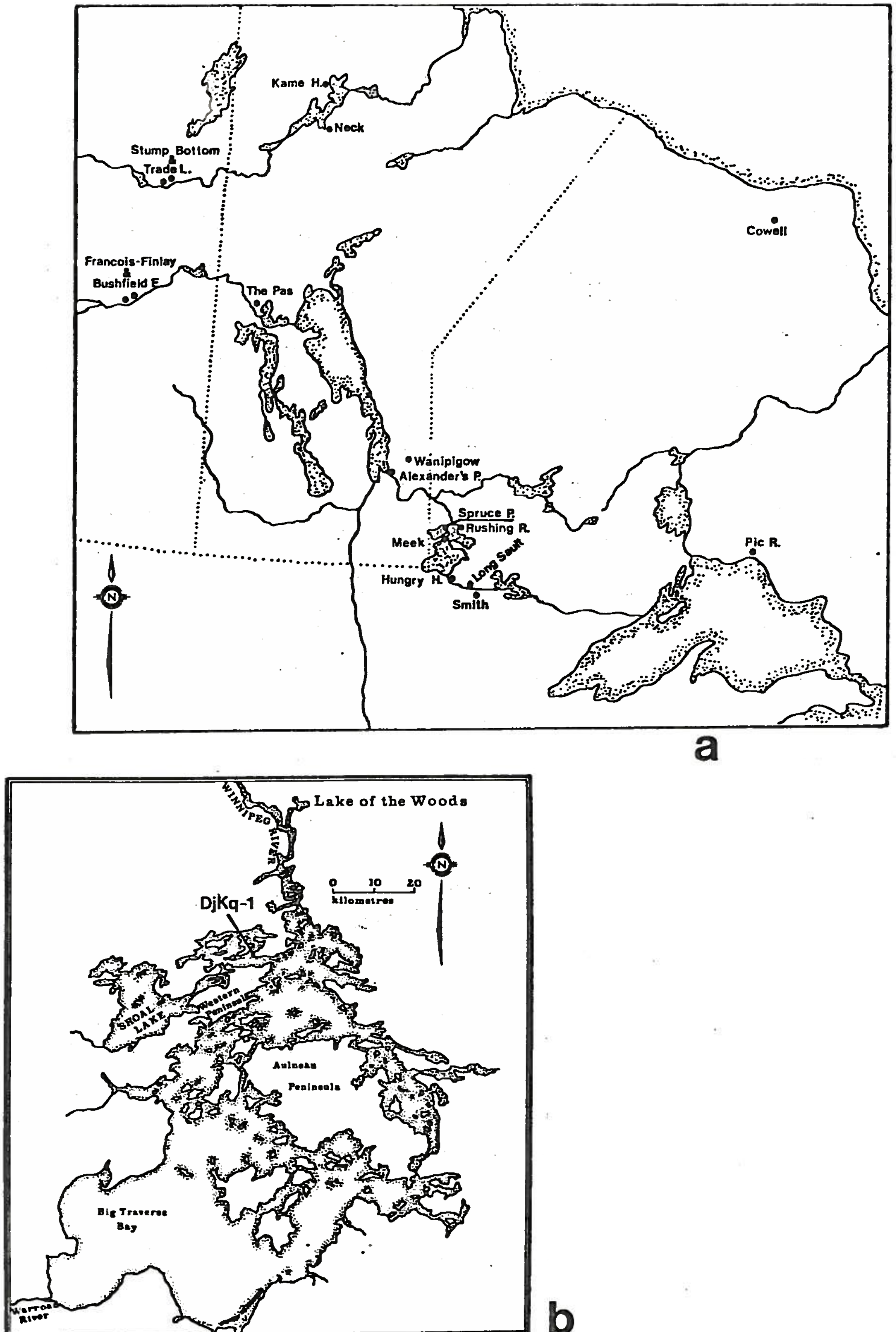

Figure 1: Location of Spruce Point (DjKq-1) in northwestern Ontario (a) and on Lake of the Woods (b)

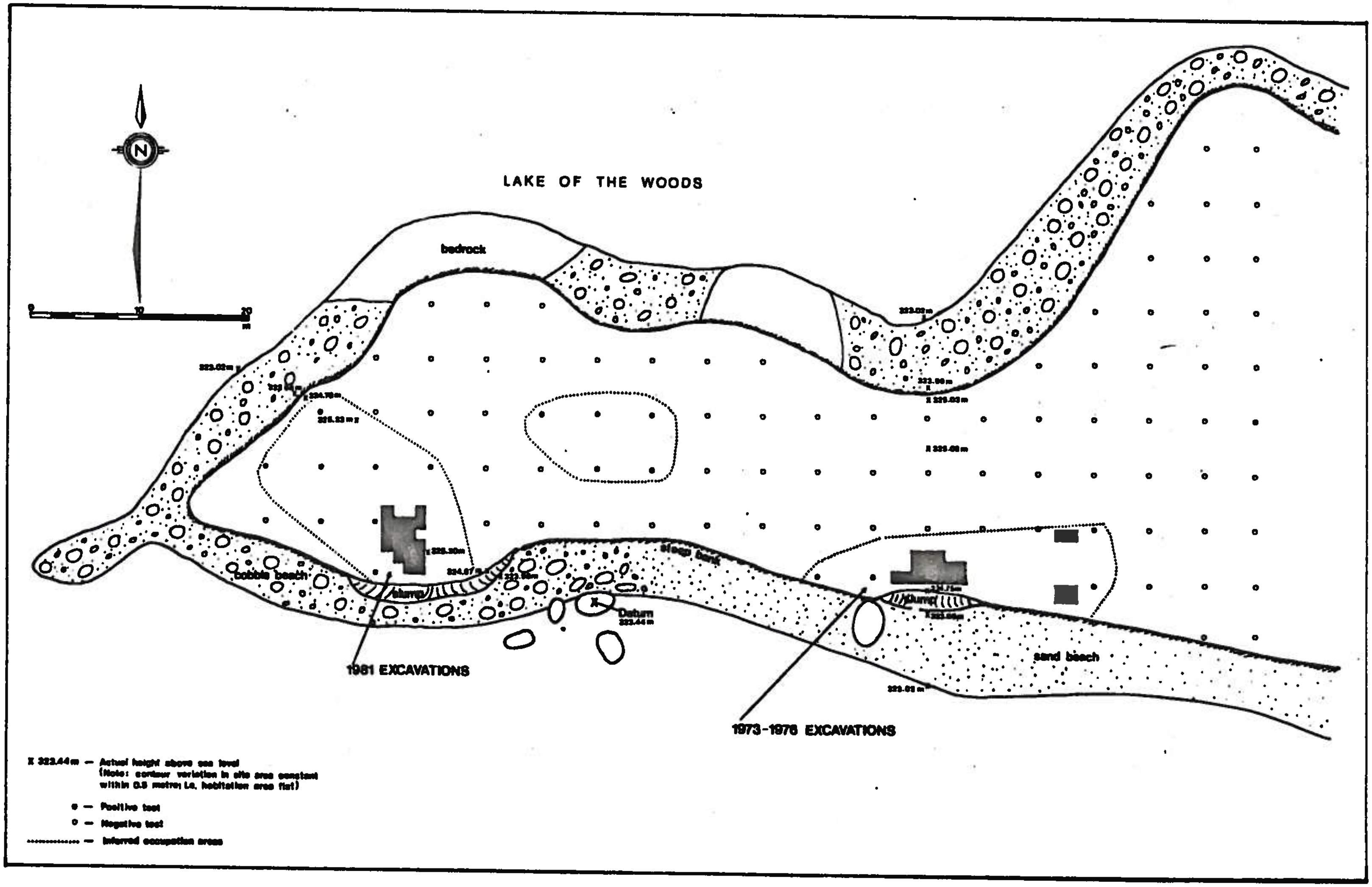

Figure 2: Spruce Point excavation areas

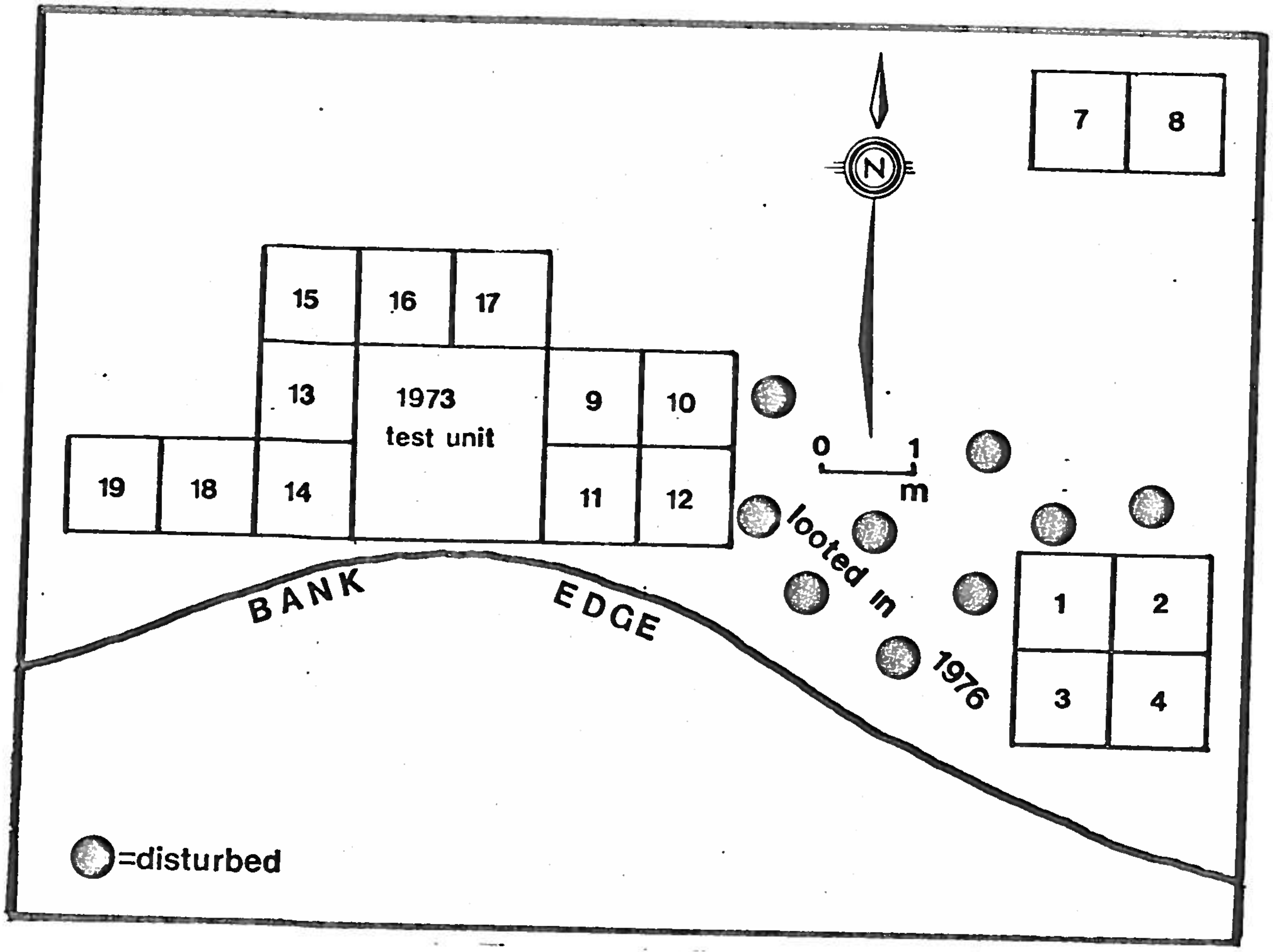

Figure 3: Area A, location of 1973-to-1976 excavations

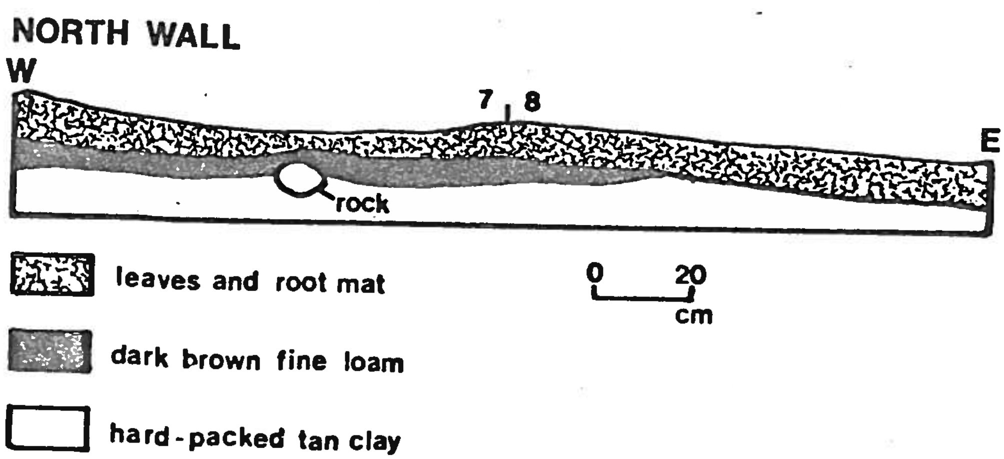

Figure 4: Area A, Test Units, wall profile

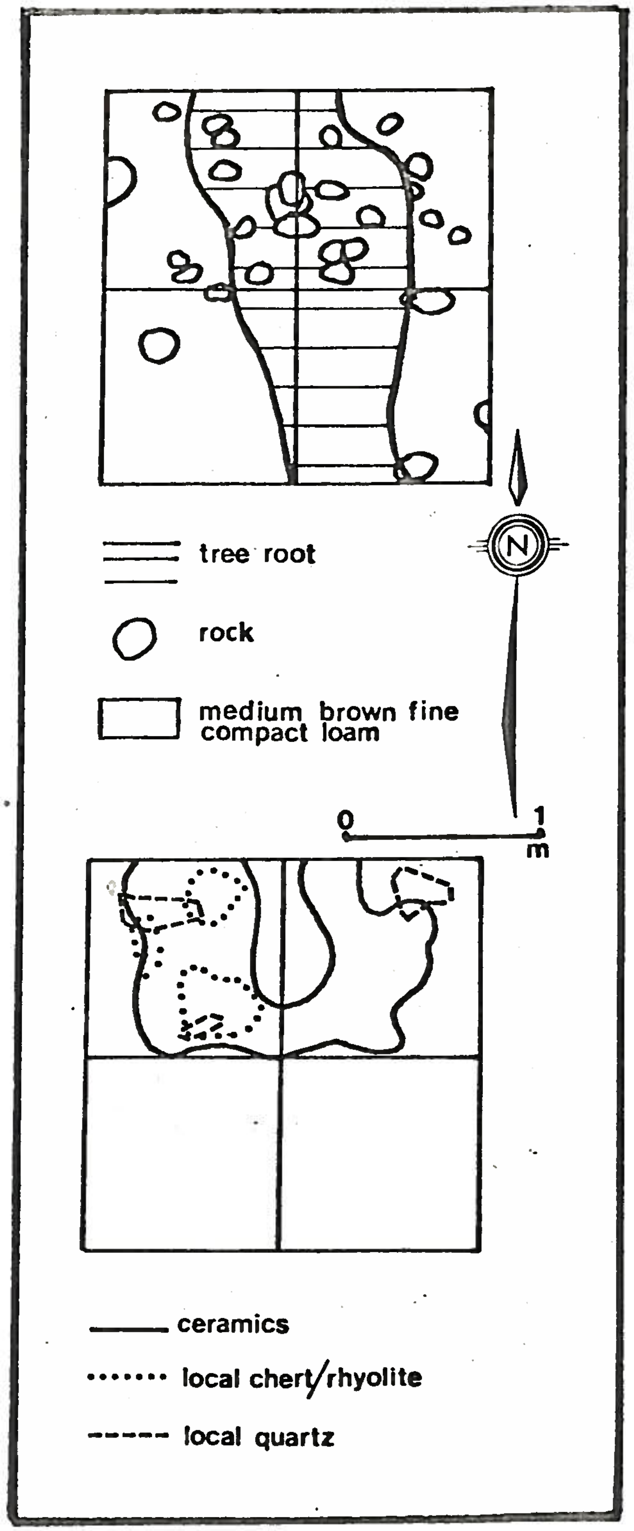

Figure 5: Area A, Test Units 1-4, features and artifact concentrations

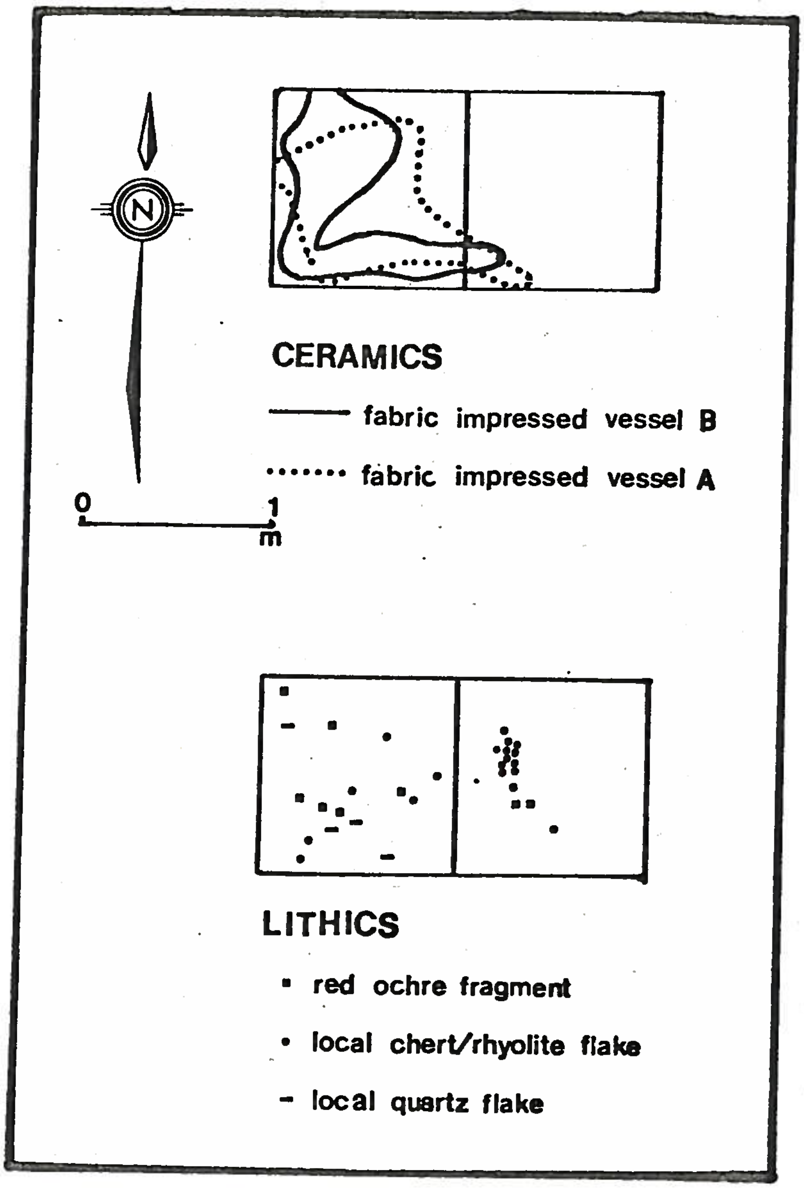

Figure 6: Area A, Test Units 7 and 8, artifact distributions

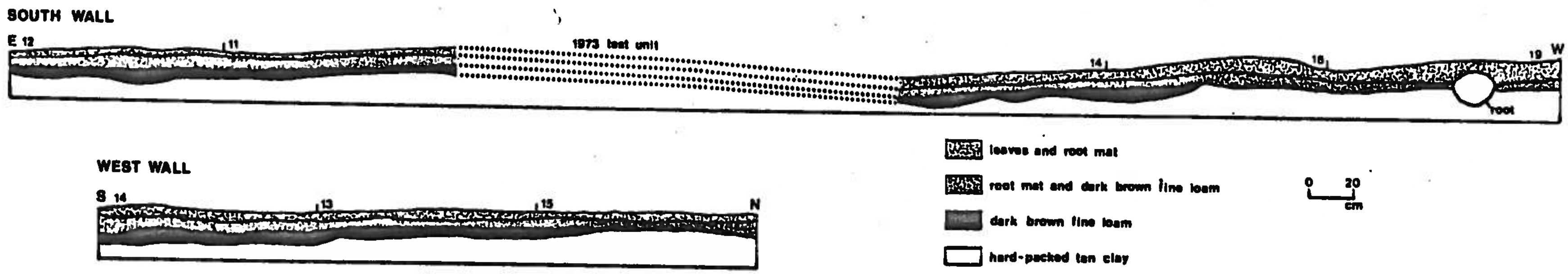

Figure 7: Structure A, wall profile

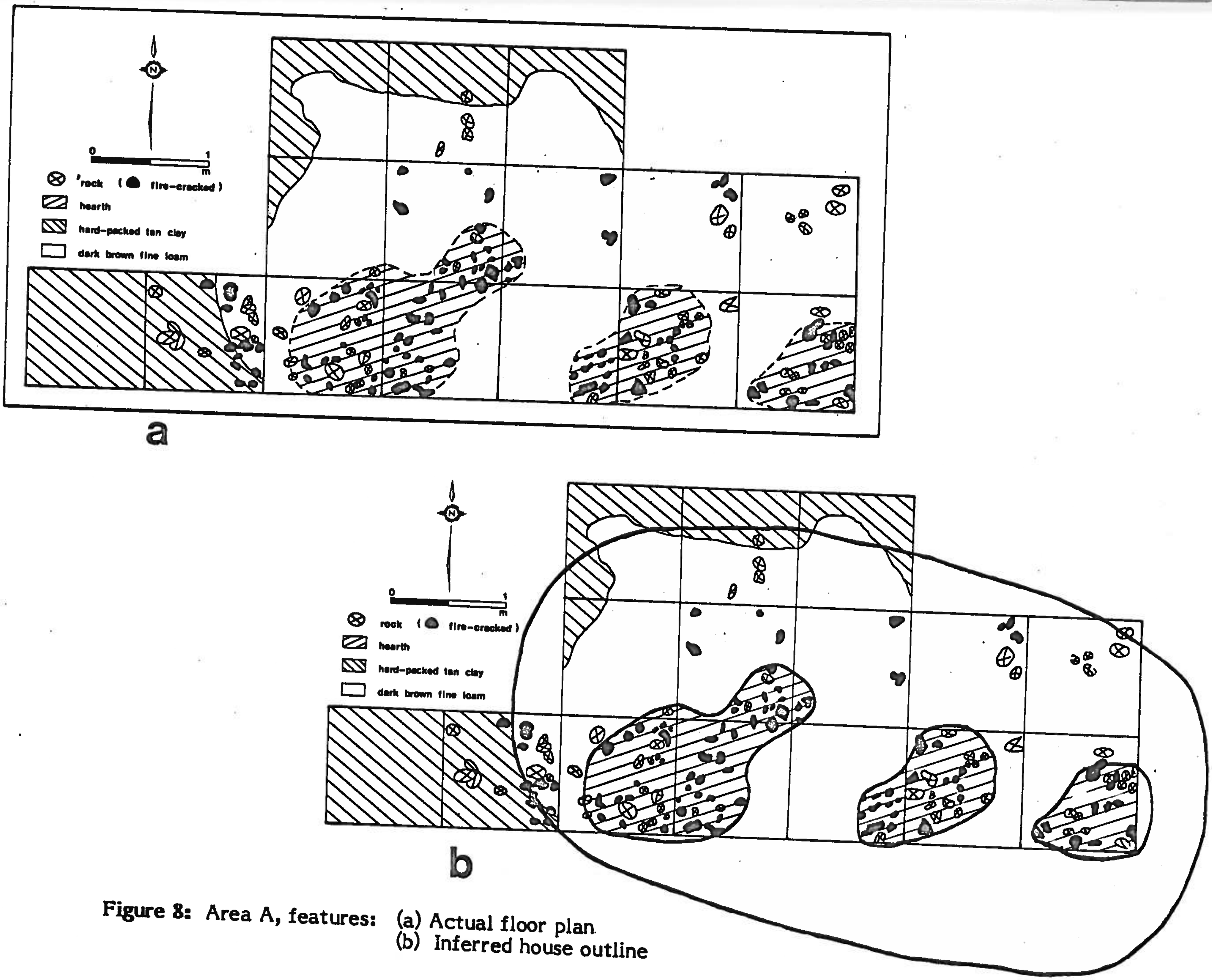

Figure 8: Area A, features: (a) Actual floor plan
(b) Inferred house outline

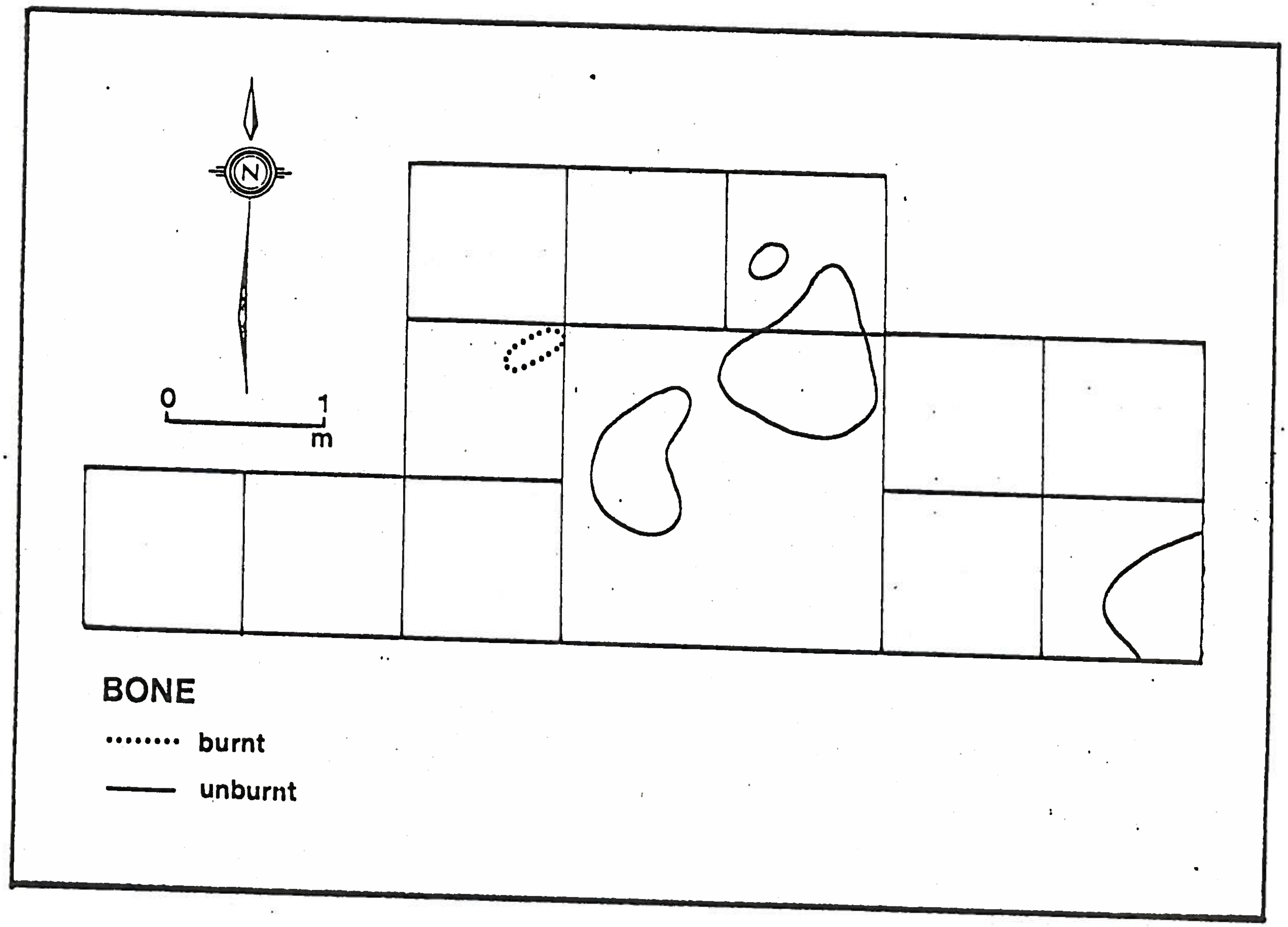

Figure 9: Area A, bone concentrations

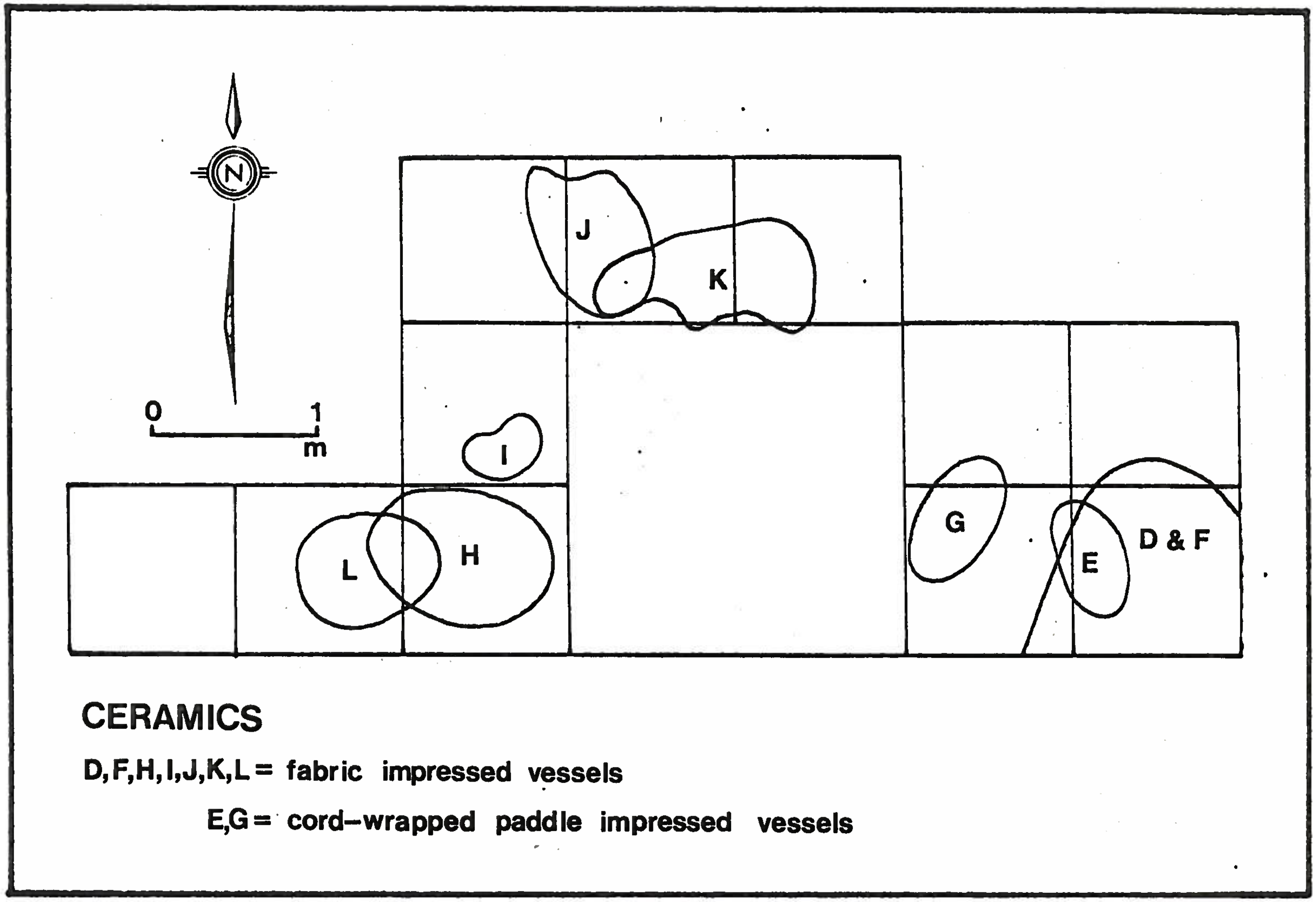

Figure 10: Area A, ceramic concentrations

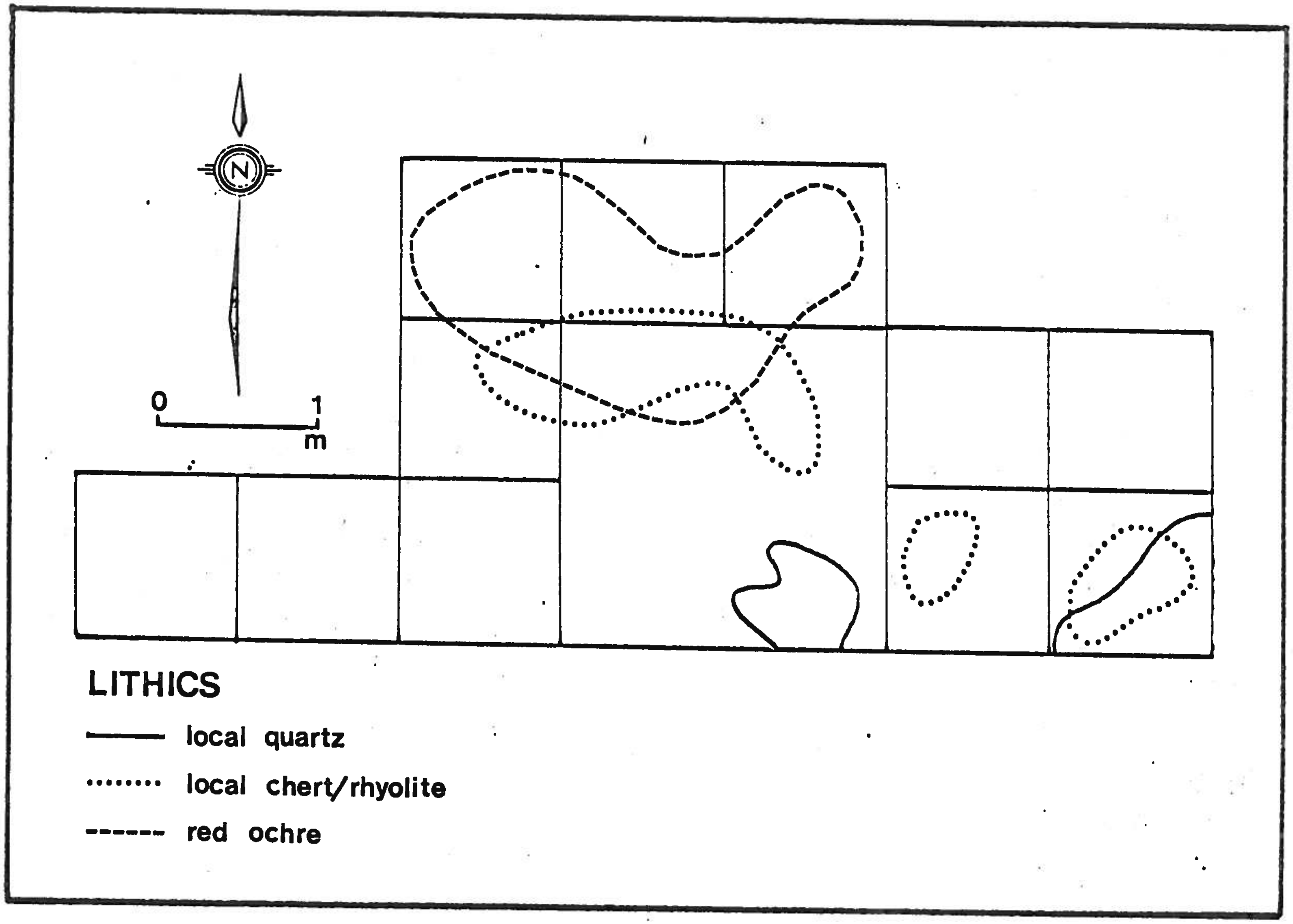

Figure 11: Area A, lithic concentrations

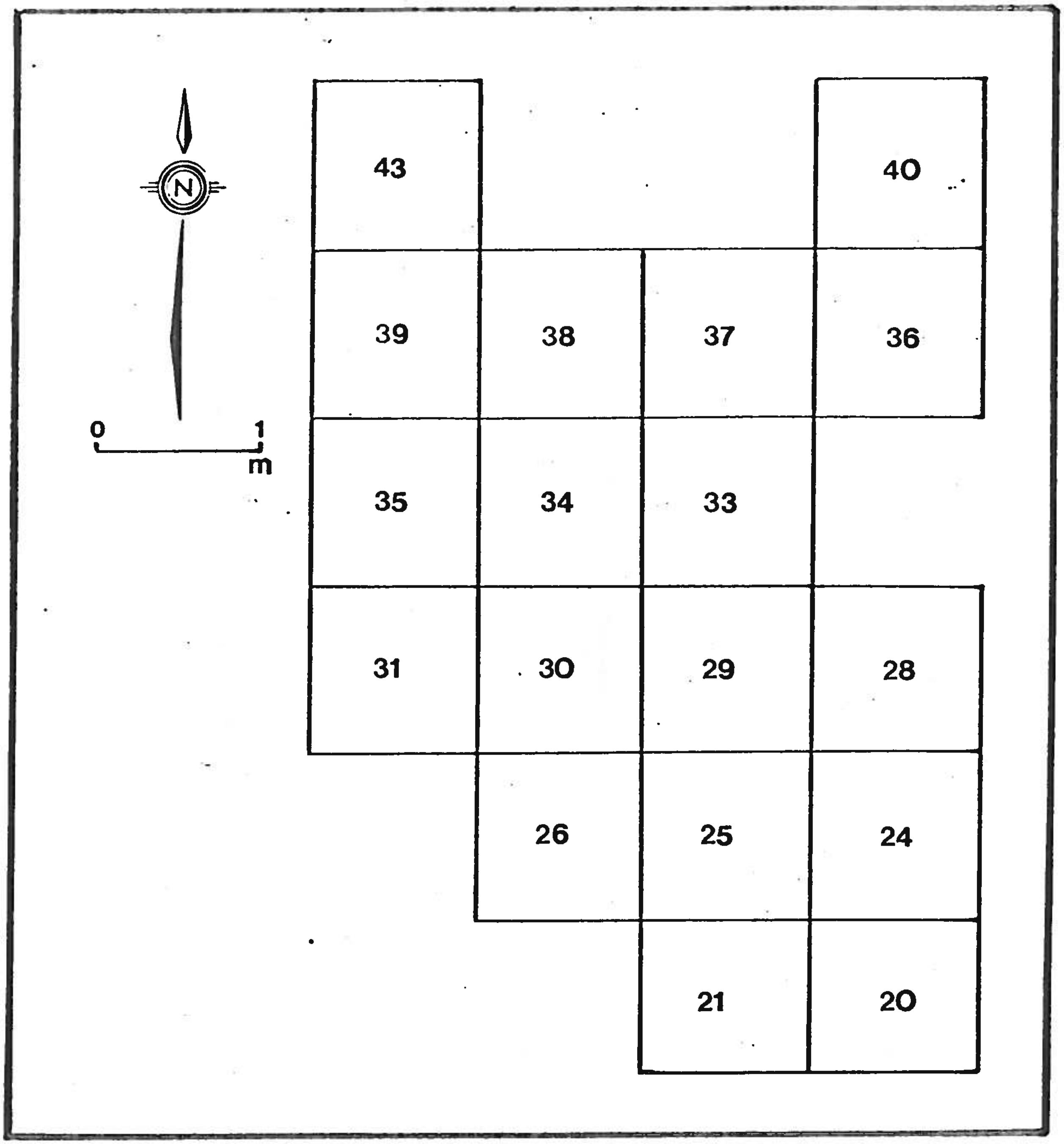

Figure 12: Area B, excavation units

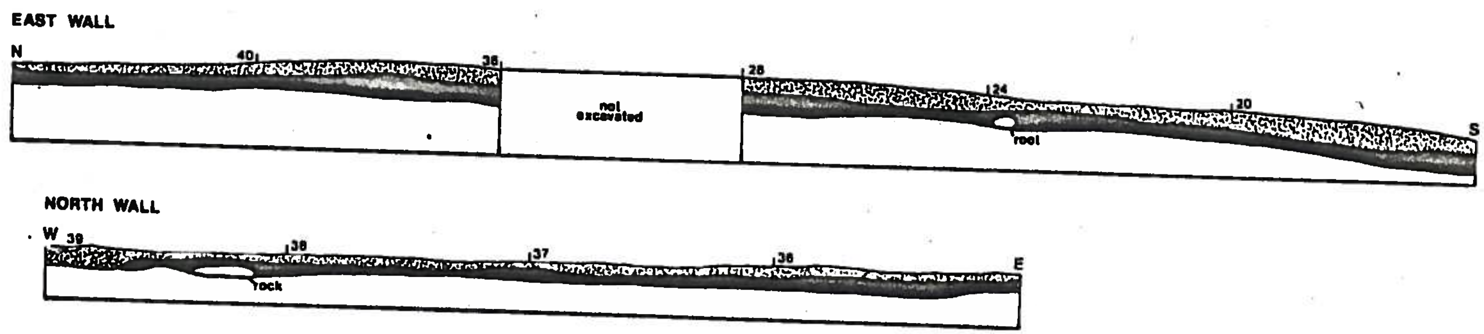

Figure 13: Area B, profile

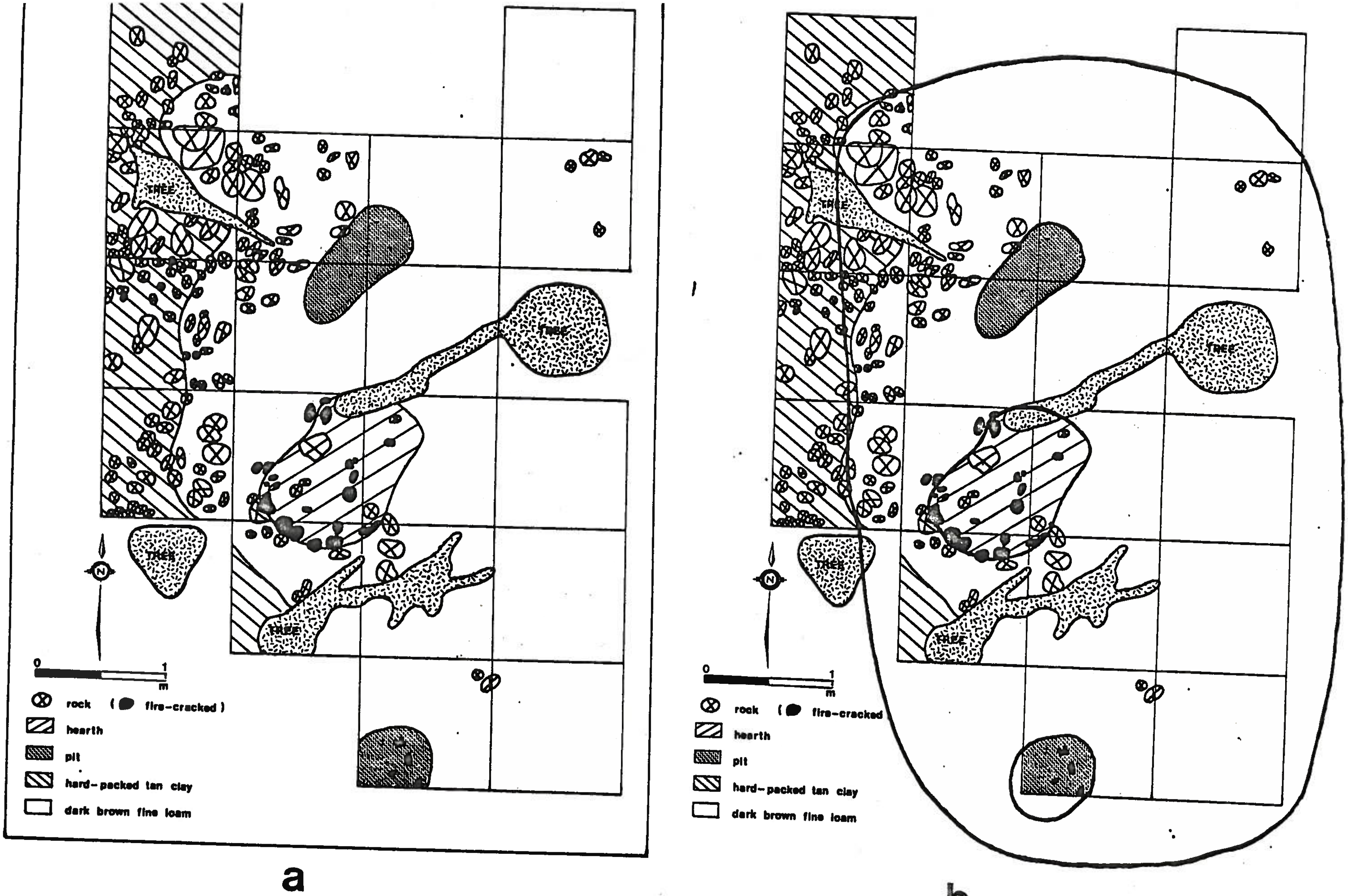

Figure 14: Area B, features: (a) actual floor plan, (b) inferred house outline

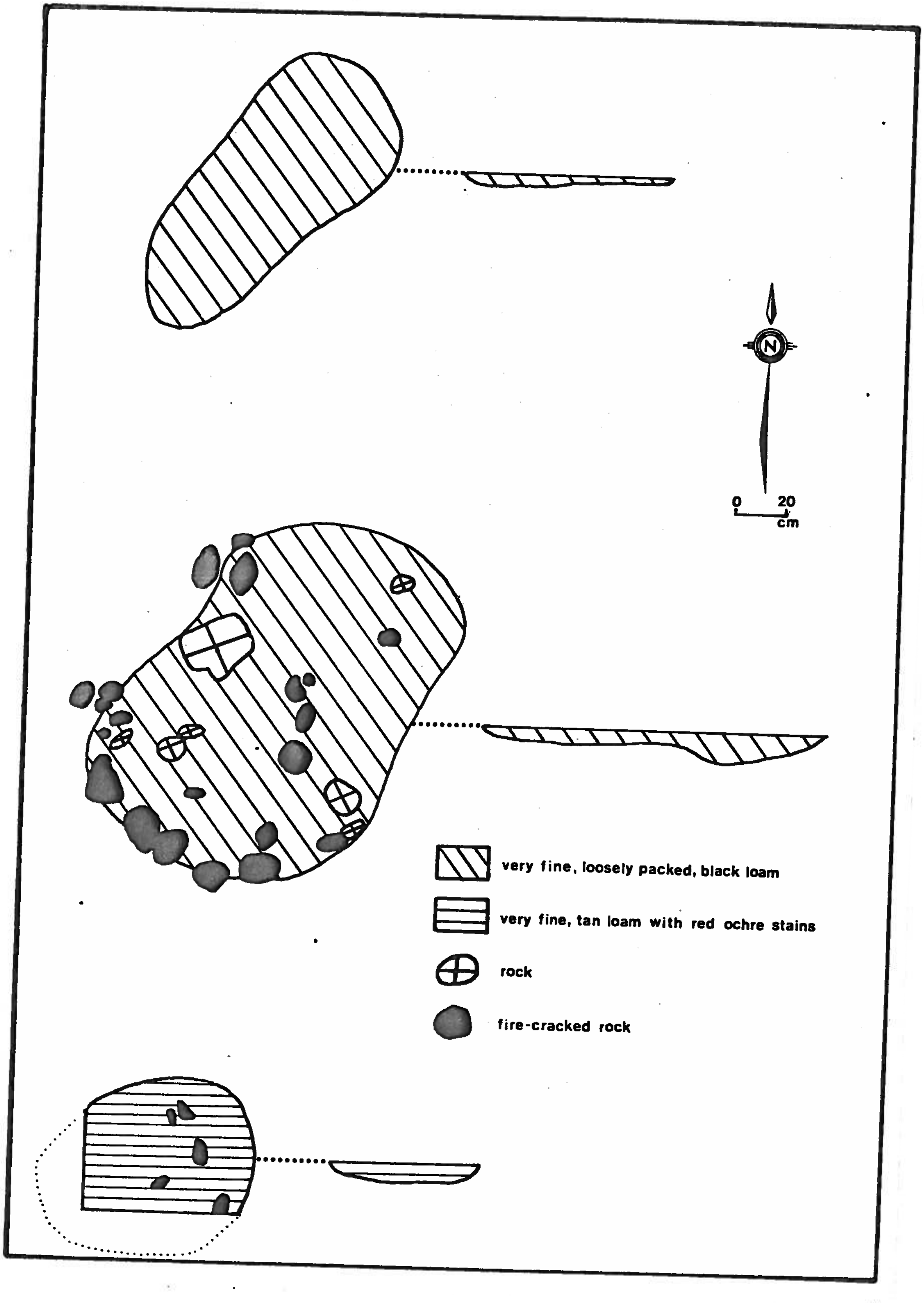

Figure 15: Area B, features (plans and profiles)

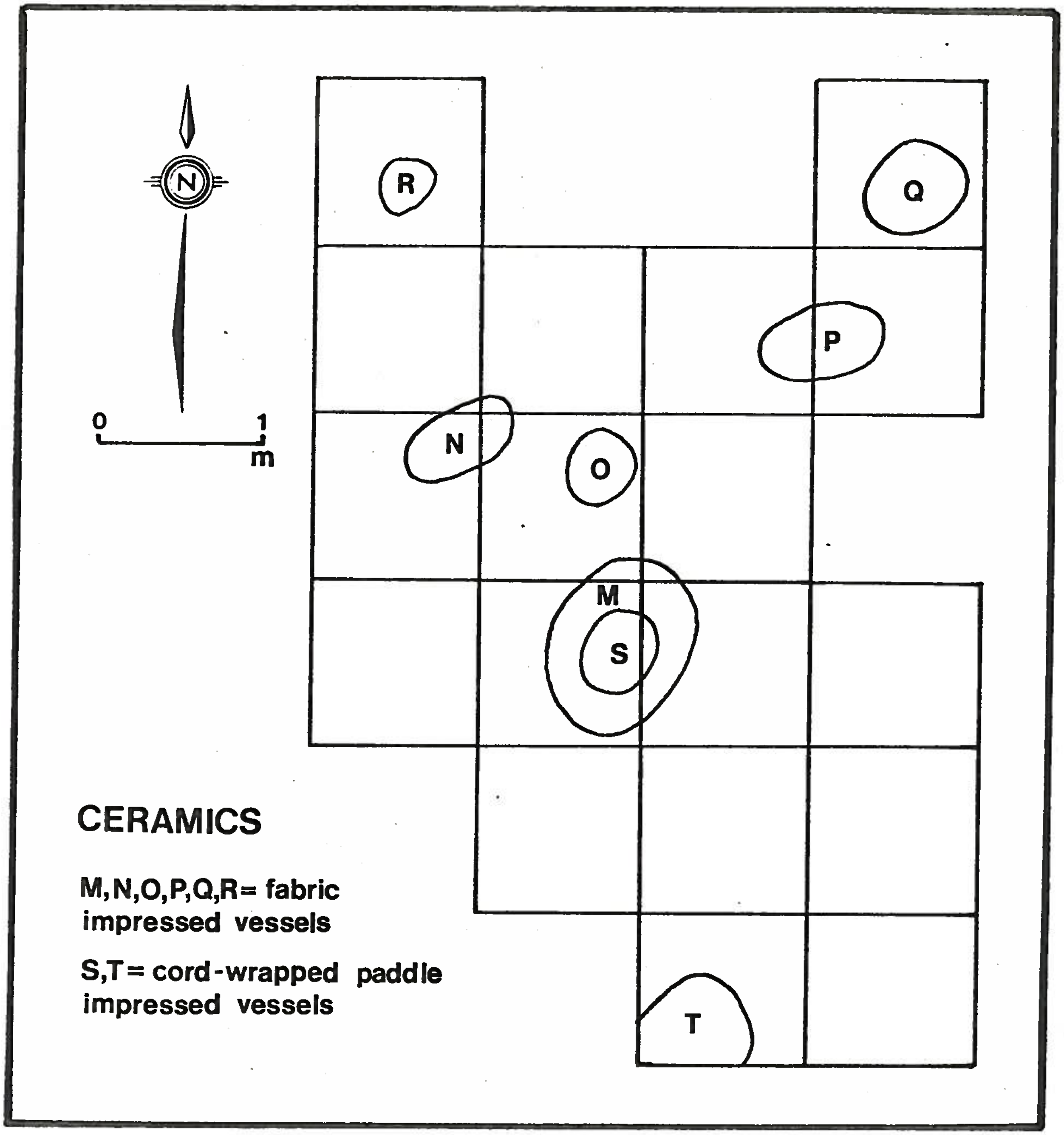

Figure 16: Area B, ceramic concentrations

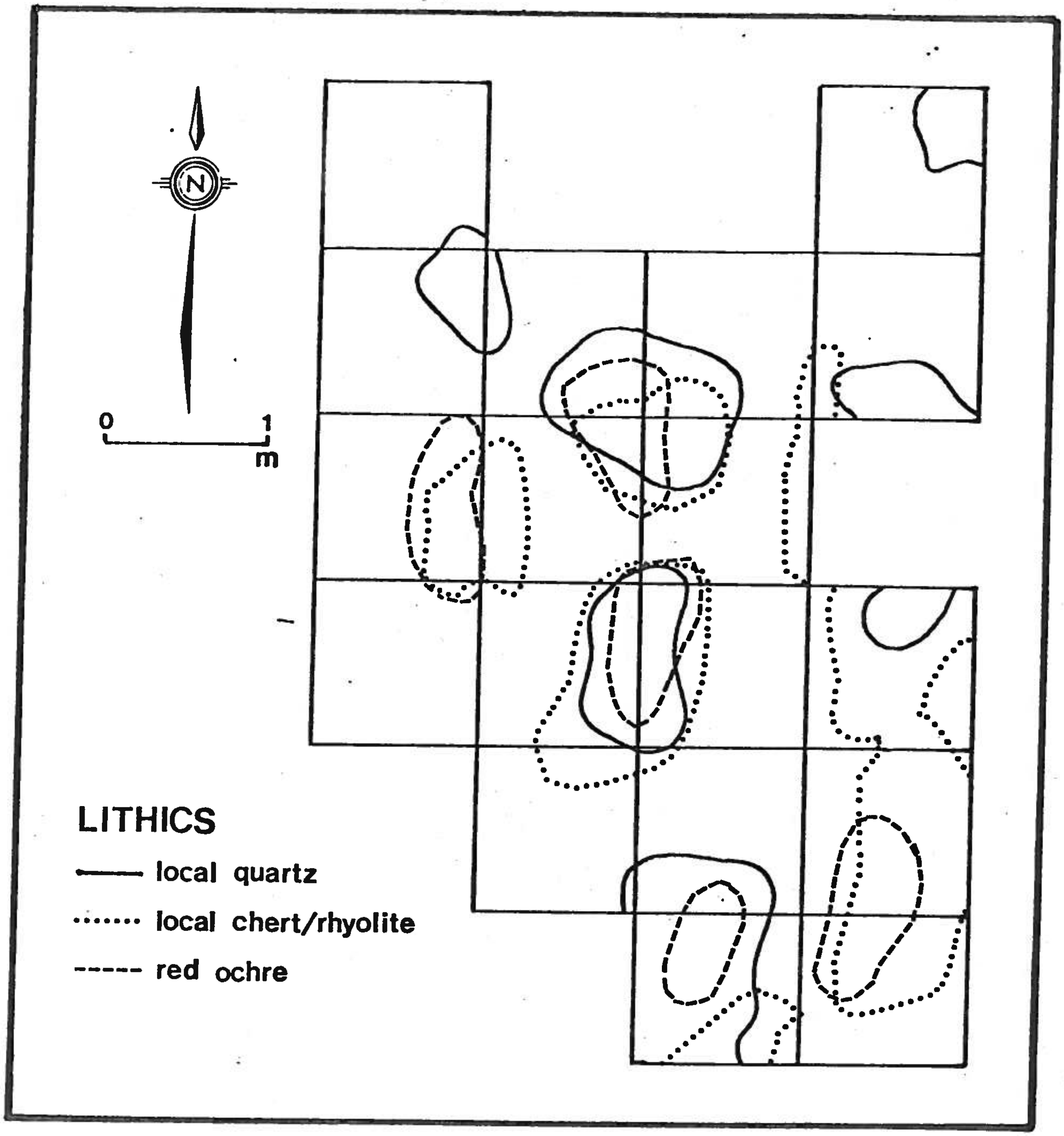

Figure 17: Area B, lithic concentrations

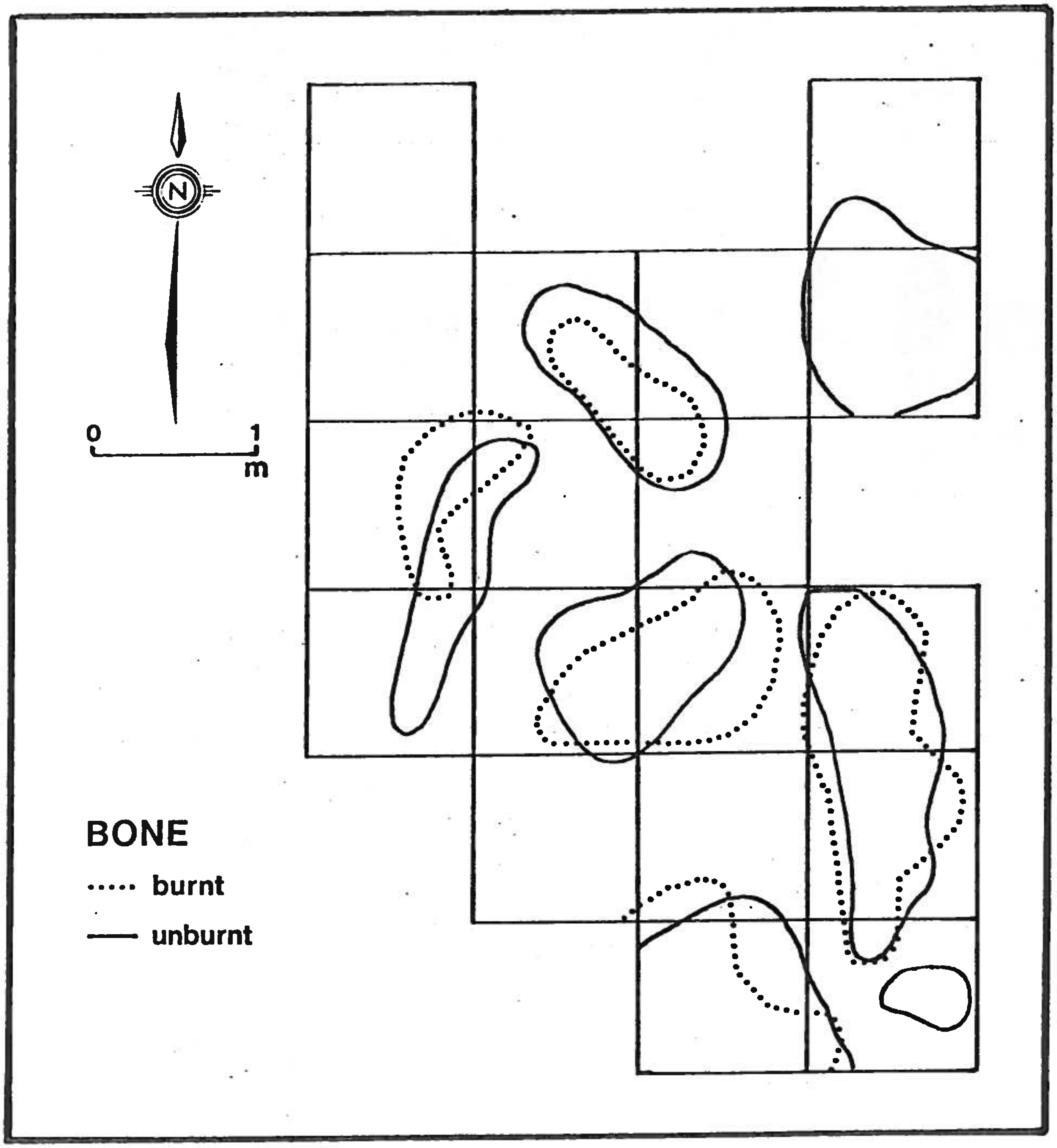

Figure 18: Area B, bone concentrations

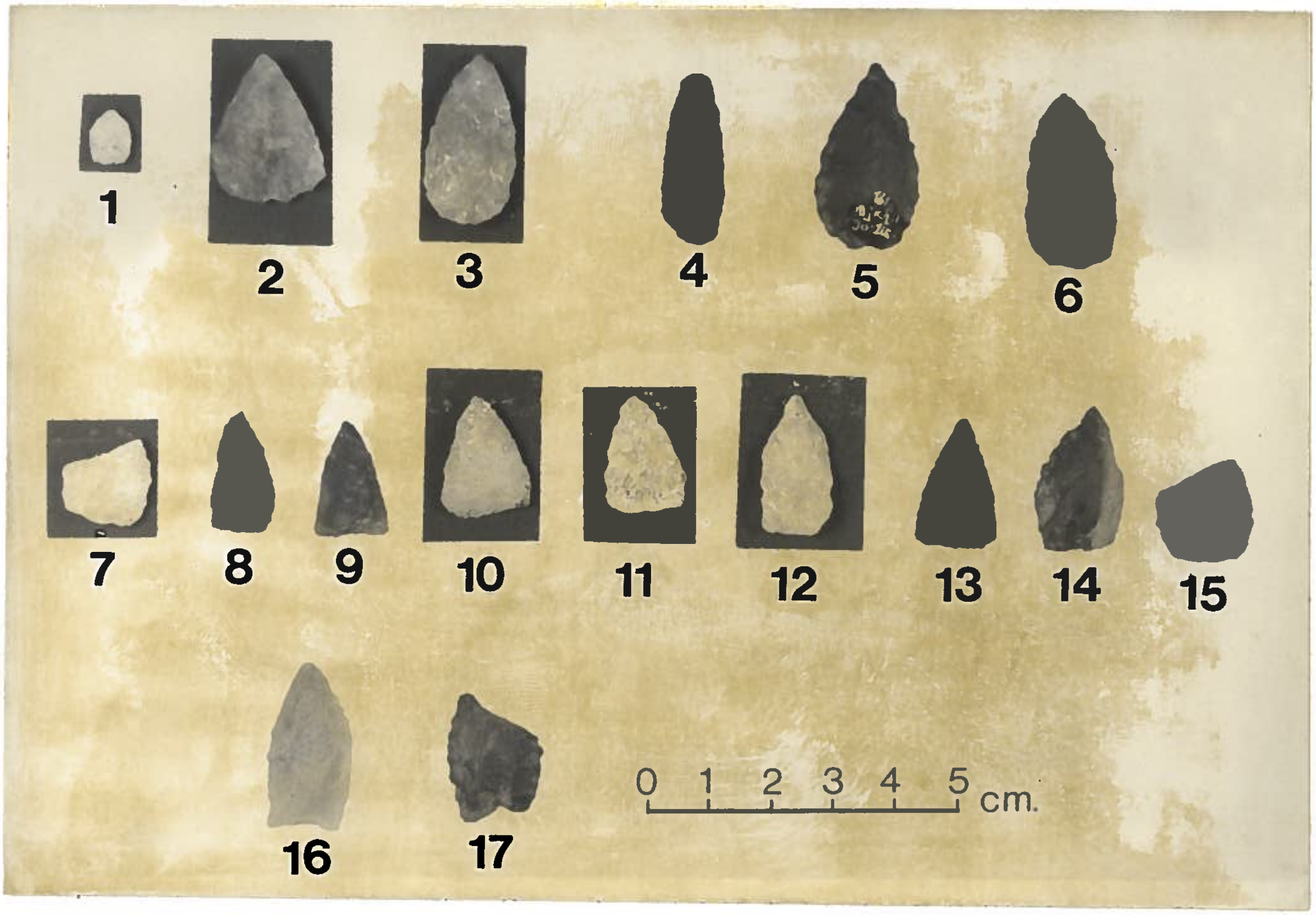

Figure 19: Unnotched points

Unnotched (a): 1. Local quartz, Structure A
2. West Patricia chert, Text Units 1-8
3. Local quartz, Test Units 1-8
4. Local chert, Test Units 1-8
5. Local chert, Structure B
6. Local chert, Structure B

Unnotched (b): 7. Local quartz, Structure A
8. Local chert, Structure A
9. Local rhyolite, Structure A
10. Local quartz, Strucutre A
11. Local quartz, Structure A
12. Local quartz, Test Units 1-8
13. Local chert, Structure B
14. Local chert, Structure B
15. Local chert, Structure B

Unnotched (c) 16. Hudson Bay Lowland chert, Structure B
17. Local chert, Structure B

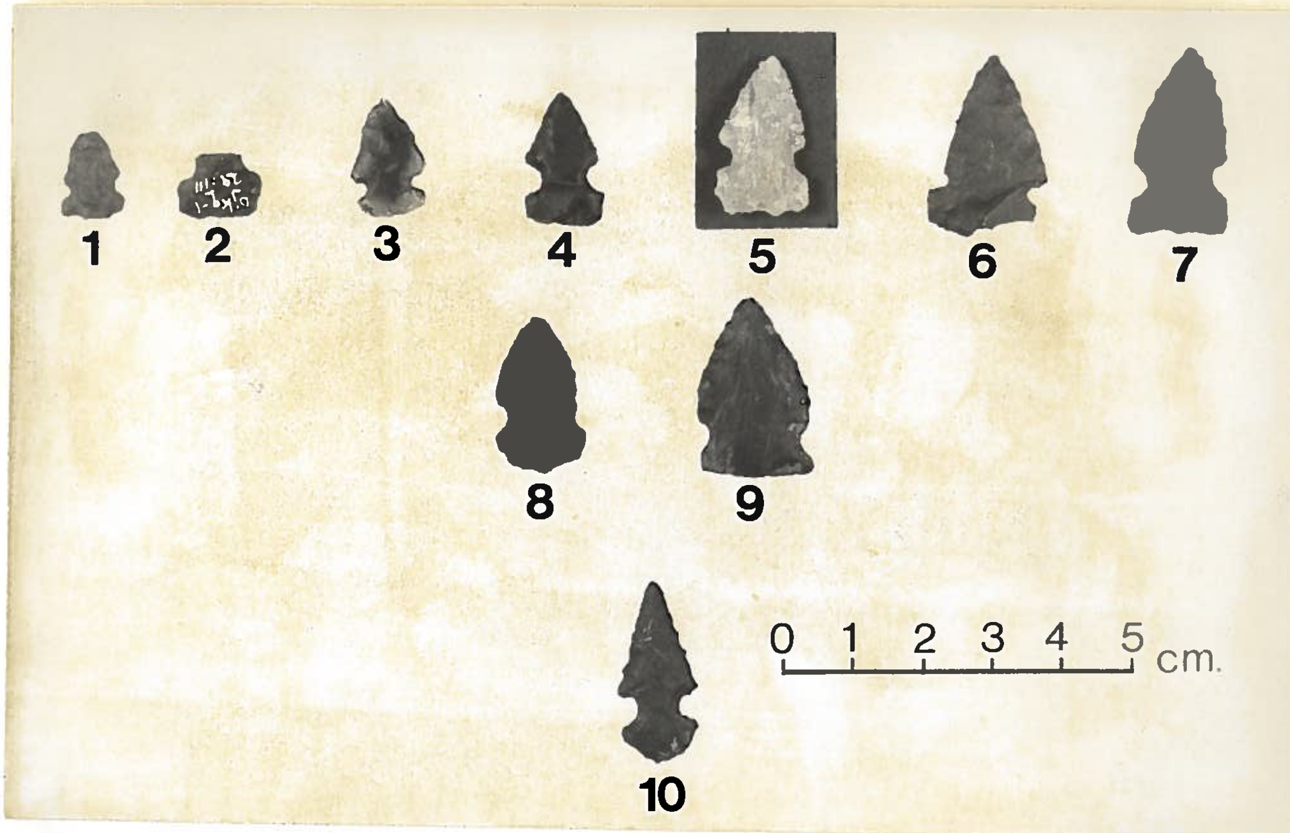

Figure 20: Side-notched points

Side-notched (d):	1.	Local chert, Structure A
	2.	Local chert, Structure B
	3.	Hudson Bay Lowland chert, Structure B
	4.	Local chert, Structure B
	5.	West Patricia chert, Structure B
	6.	Local chert, Structure B
	7.	Local chert, Structure B
Side-notched (e):	8.	Local chert, Structure A
	9.	Local chert, Structure B
Side-notched (f):	10.	Local chert, Structure B

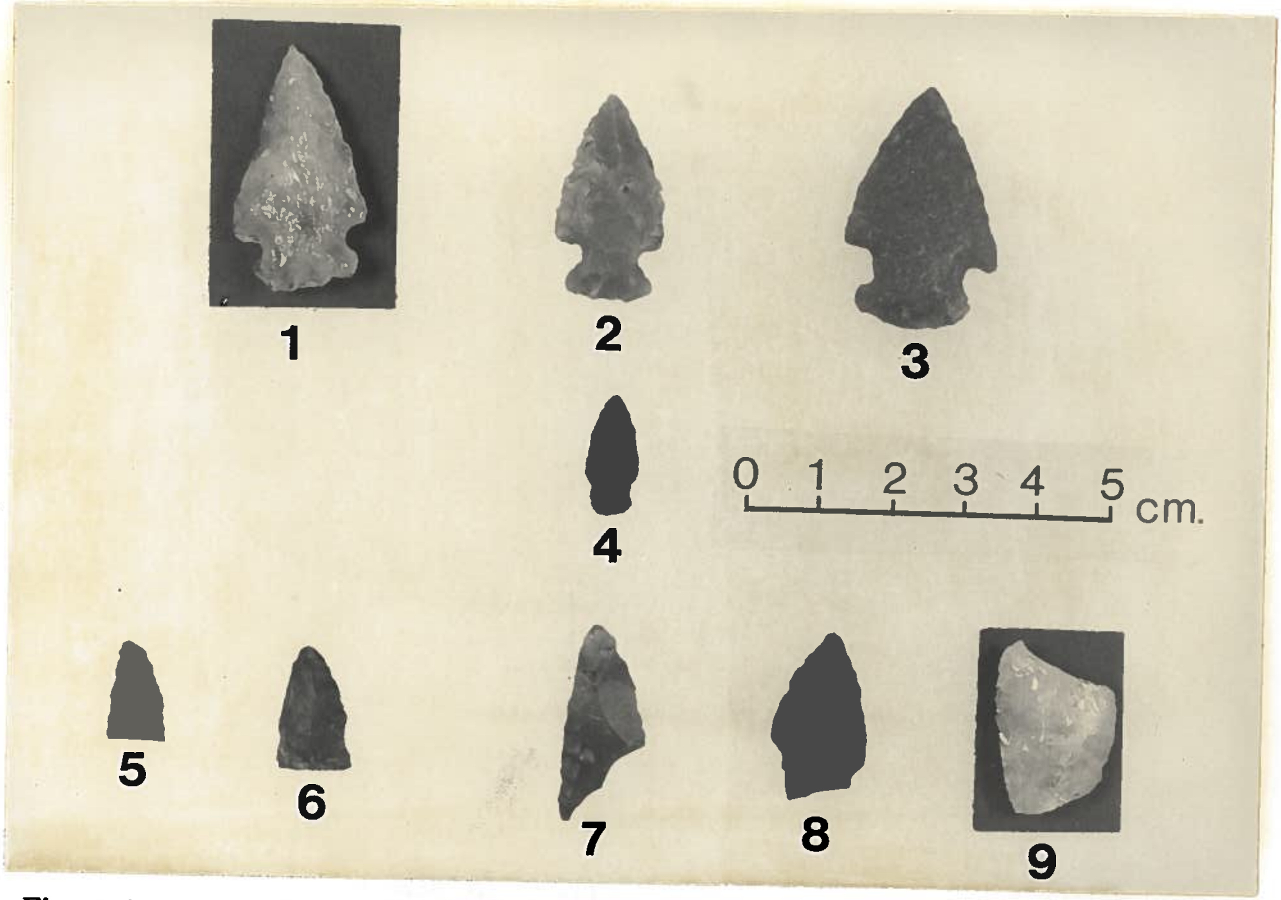

Figure 21: Corner-notched and broken points

Corner-nothced (g): 1. Local quartz, Structure A
2. Hudson Bay Lowland chert, Structure B
3. Local rhyolite, Structure B

Corner-notched (h): 4. Local chert, Structure A

Broken: 5. Local chert, Structure A
6. Local chert, Structure B
7. Local chert, Structure B
8. Local chert, Structure B
9. Local chert, Structure B

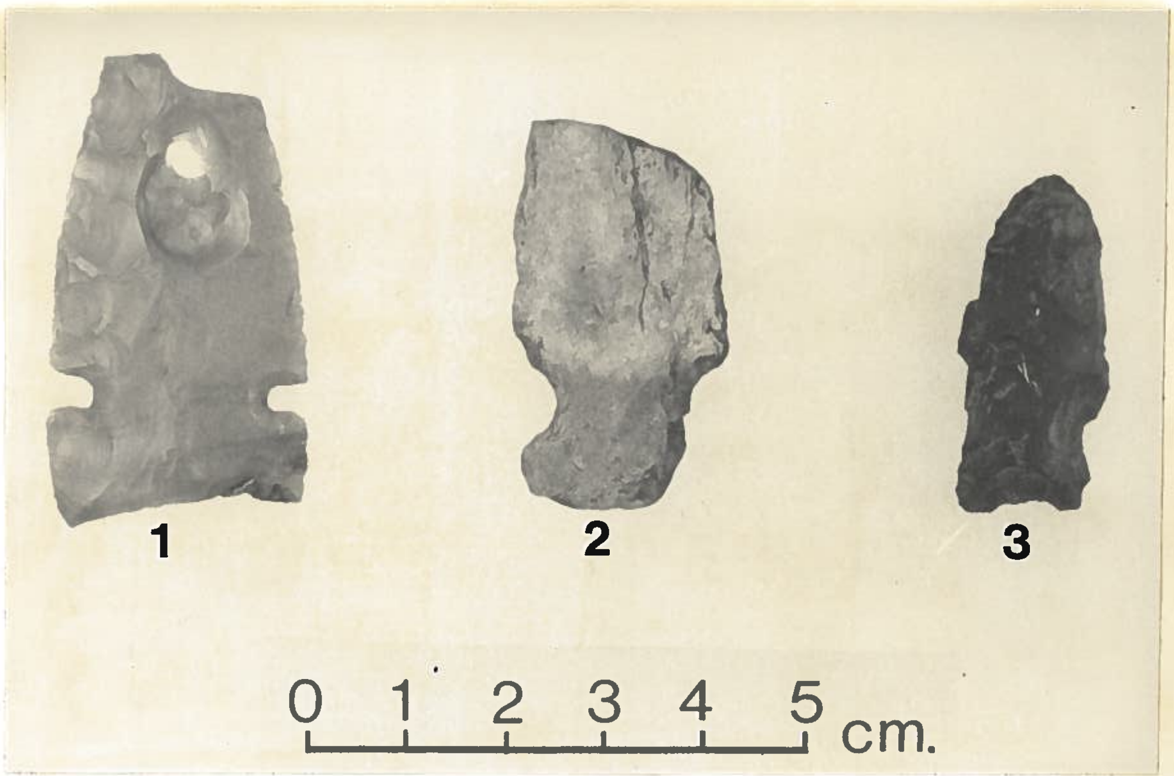

Figure 22: Large notched tools

1. Hudson Bay Lowland chert, Test Pit
2. Local chert, Structure B
3. Local chert, Structure B

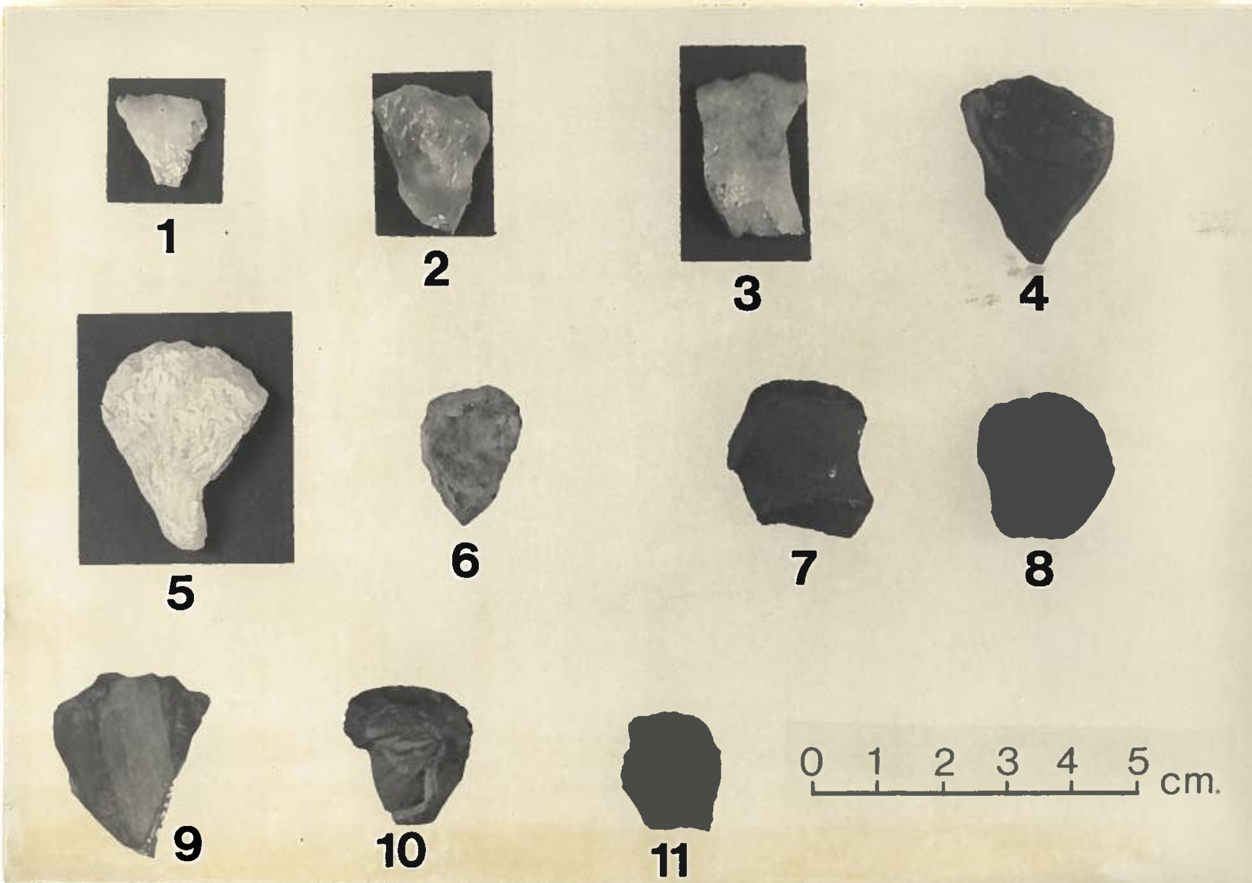

Figure 23: End scrapers

1. Local quartz, Test Units 1-8
2. Local quartz, Test Units 1-8
3. Local quartz, Test Units 1-8
4. Local chert, Test Units 1-8
5. Local quartz, Structure A
6. Hudson Bay Lowland chert, Structure A
7. Local chert, Structure A
8. Local chert, Structure A
9. Local chert, Structure B
10. Local chert, Structure B
11. Local chert, Structure B

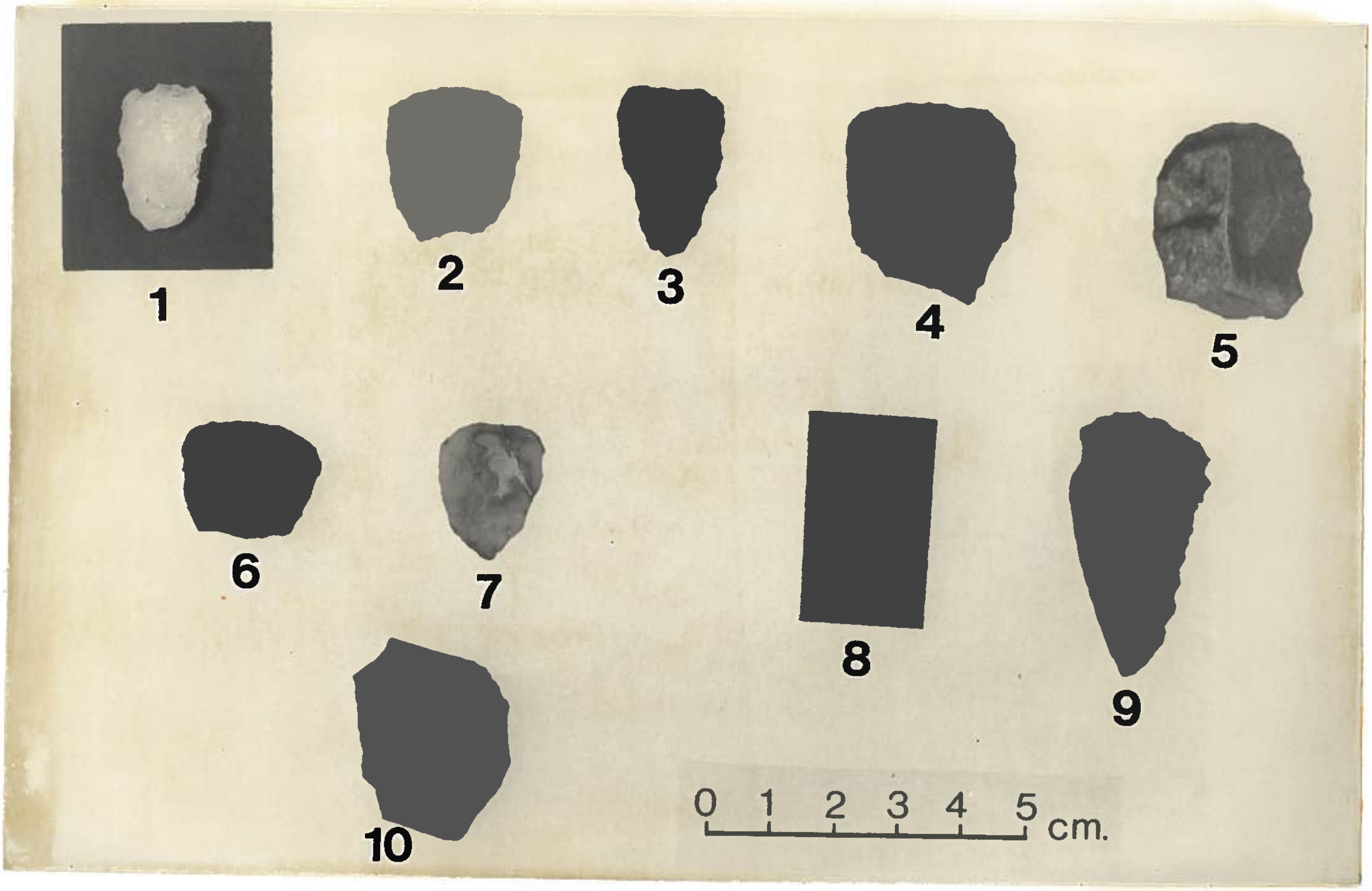

Figure 24: End-Side and side scrapers

End-side:	1.	Local quartz, Test Units 1-8
	2.	Hudson Bay Lowland chert, Test Units 1-8
	3.	Local chert, Structure A
	4.	Local chert, Structure A
	5.	Local chert, Structure A
	6.	Local chert, Structure B
	7.	Hudson Bay Lowland chert, Structure B
	8.	Local rhyolite, Structure B
	9.	Local chert, Structure B
Side:	10.	Local chert, Structure B

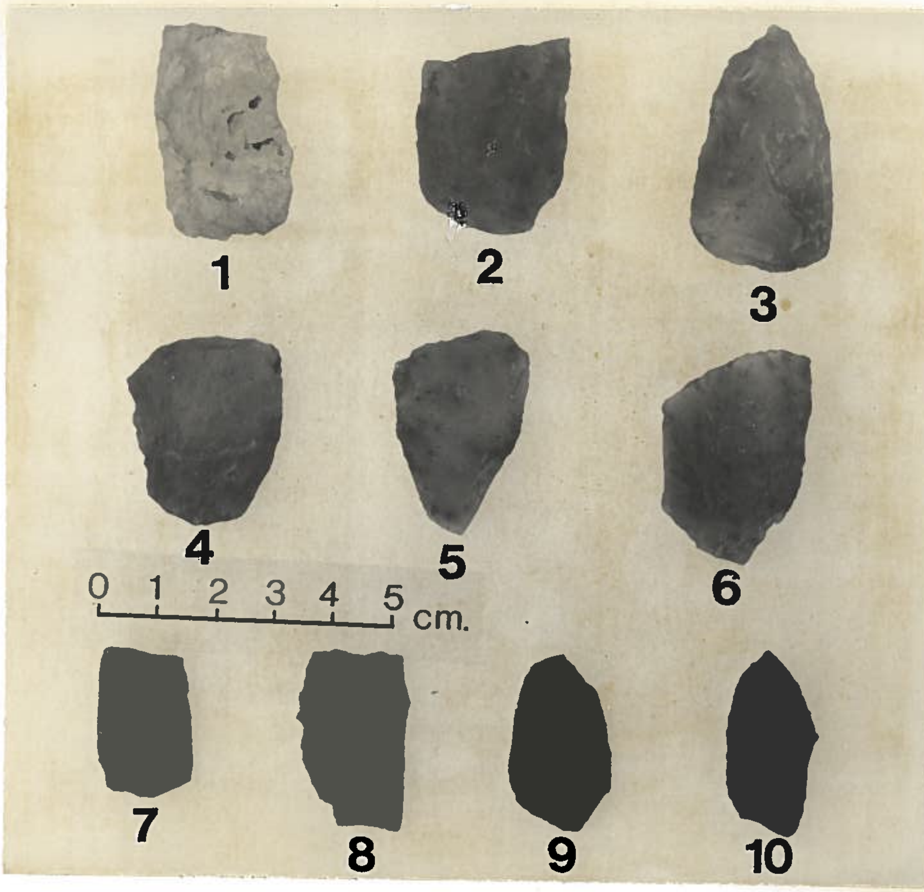

Figure 25: Large bifaces and preforms

Knives: 1. Hudson Bay lowland chert, Structure A
2. Local rhyolite, Structure A
3. Local rhyolite, Structure B

Knife-scrapers: 4. Local rhyolite, Structure B
5. Local rhyolite, Structure B
6. Local rhyolite, Structure B

Point preforms: 7. Local rhyolite, Structure A
8. Local chert, Structure B
9. Local chert, Structure B
10. Local chert, Structure B

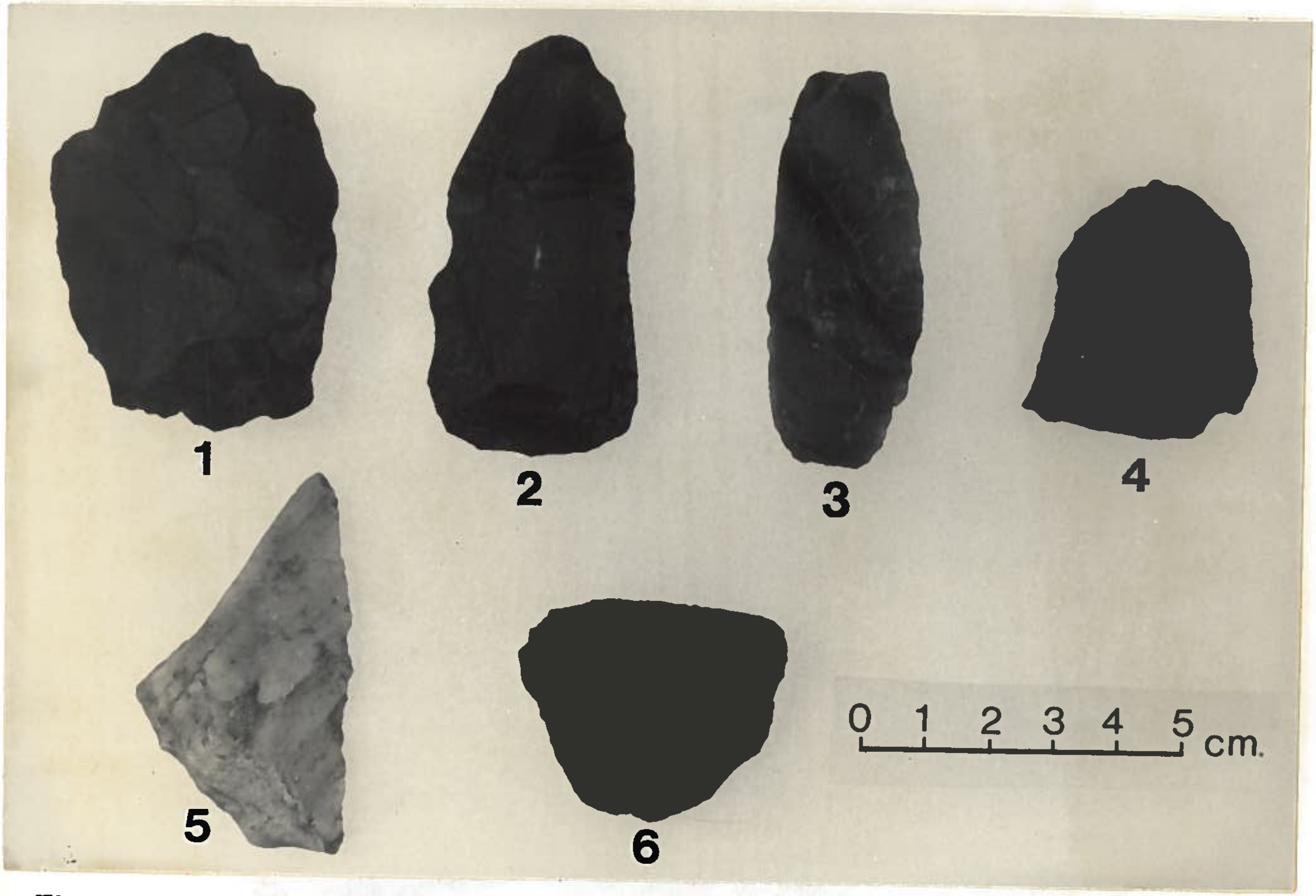

Figure 26: Knife preforms

1. Local chert, Structure A
2. Local chert, Structure A
3. Local chert, Structure B
4. Local chert, Structure B
5. Local rhyolite, Structure B
6. Local chert, Structure B

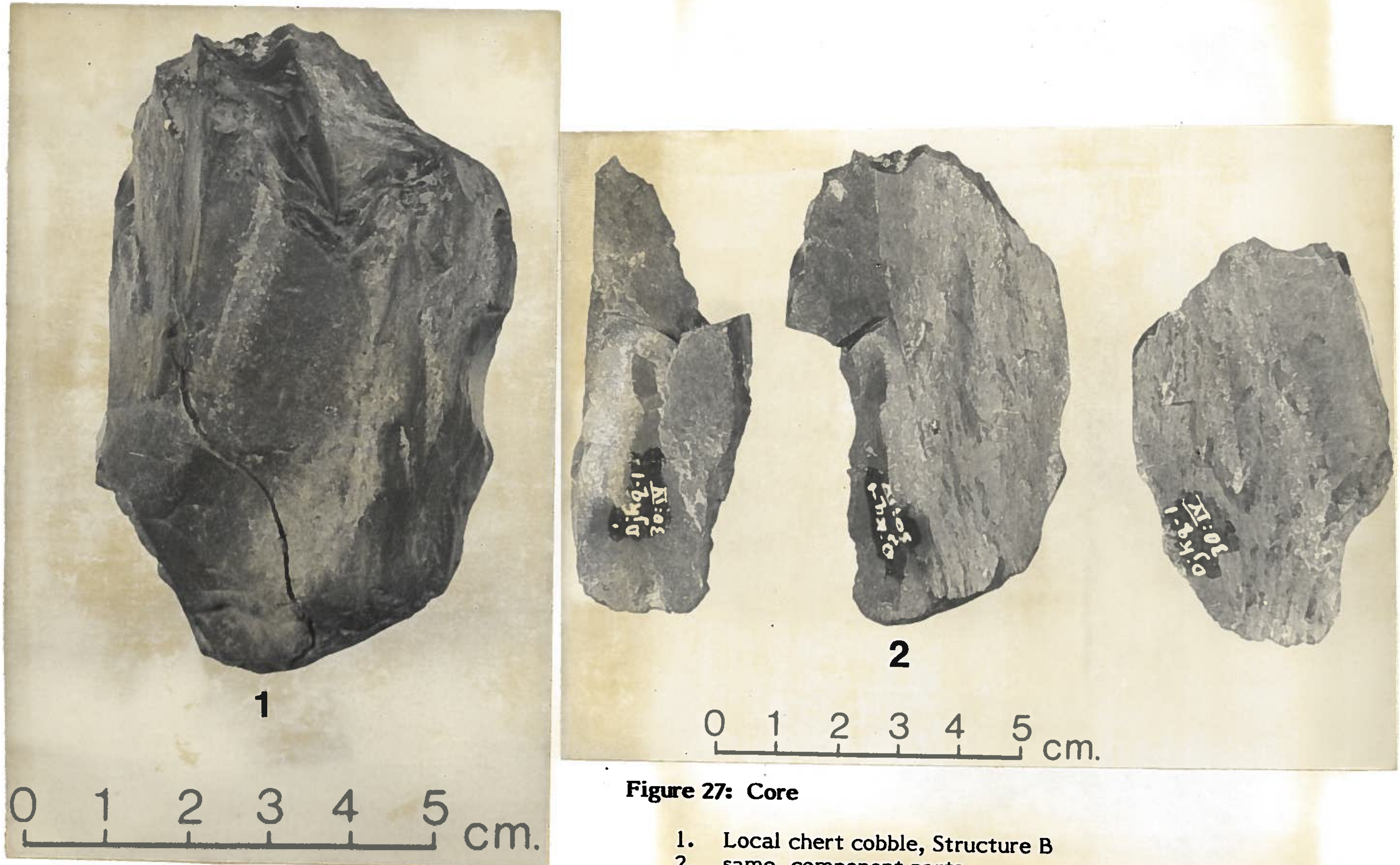

Figure 27: Core

1. Local chert cobble, Structure B
2. same, component parts

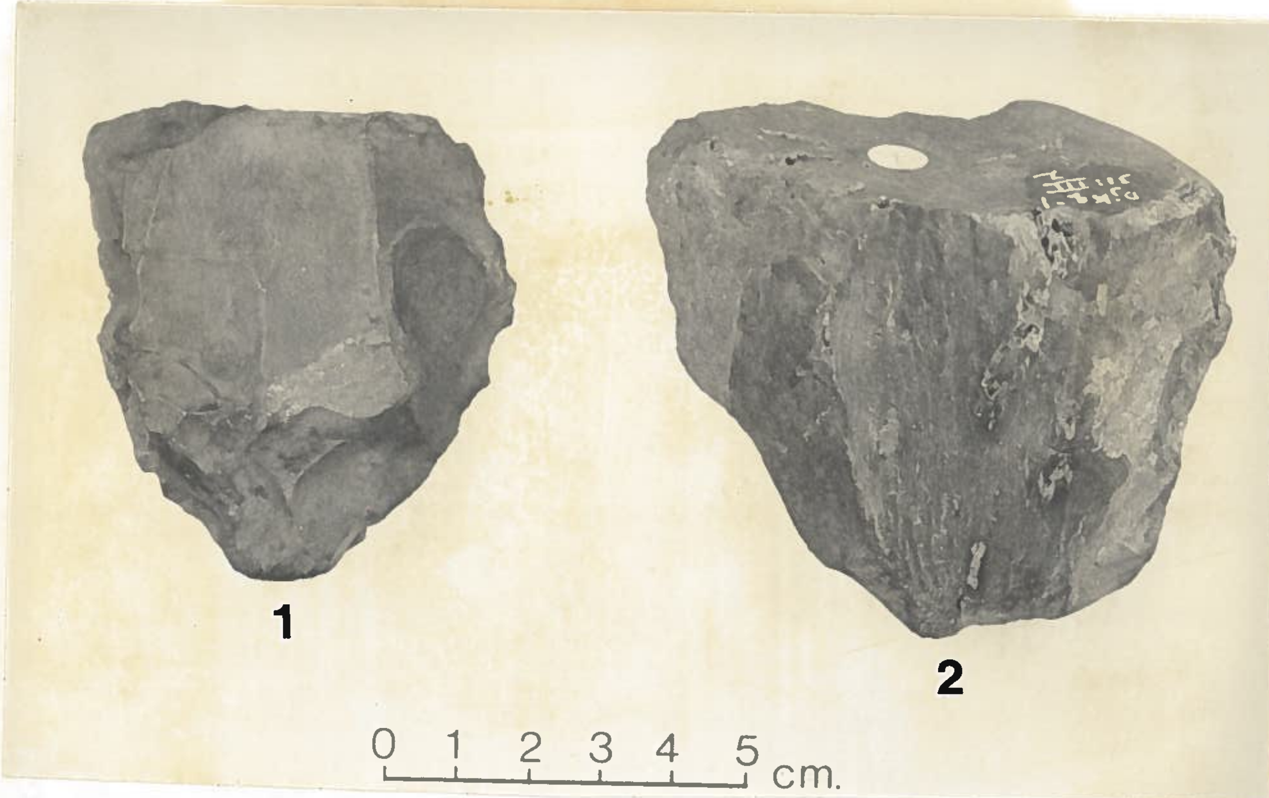

Figure 28: Cores

1. Random polyhedral, local chert, Structure B
2. Bidirectional polyhedral, local chert,Structure B

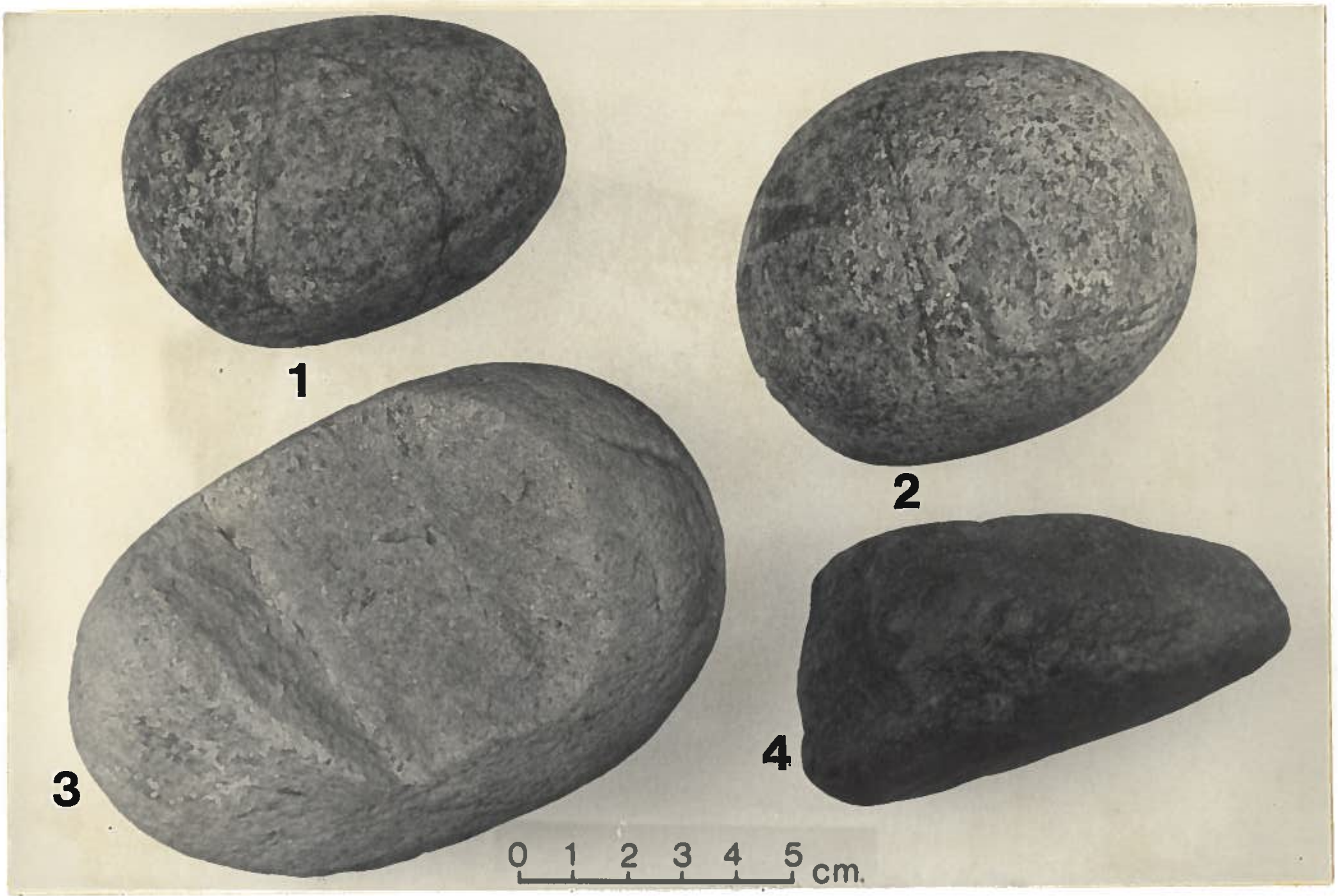

Figure 29: Hammerstone

1. Granite, Structure A
2. Granite, Structure A
3. Granite, Structure B
4. Diabase, Structure B

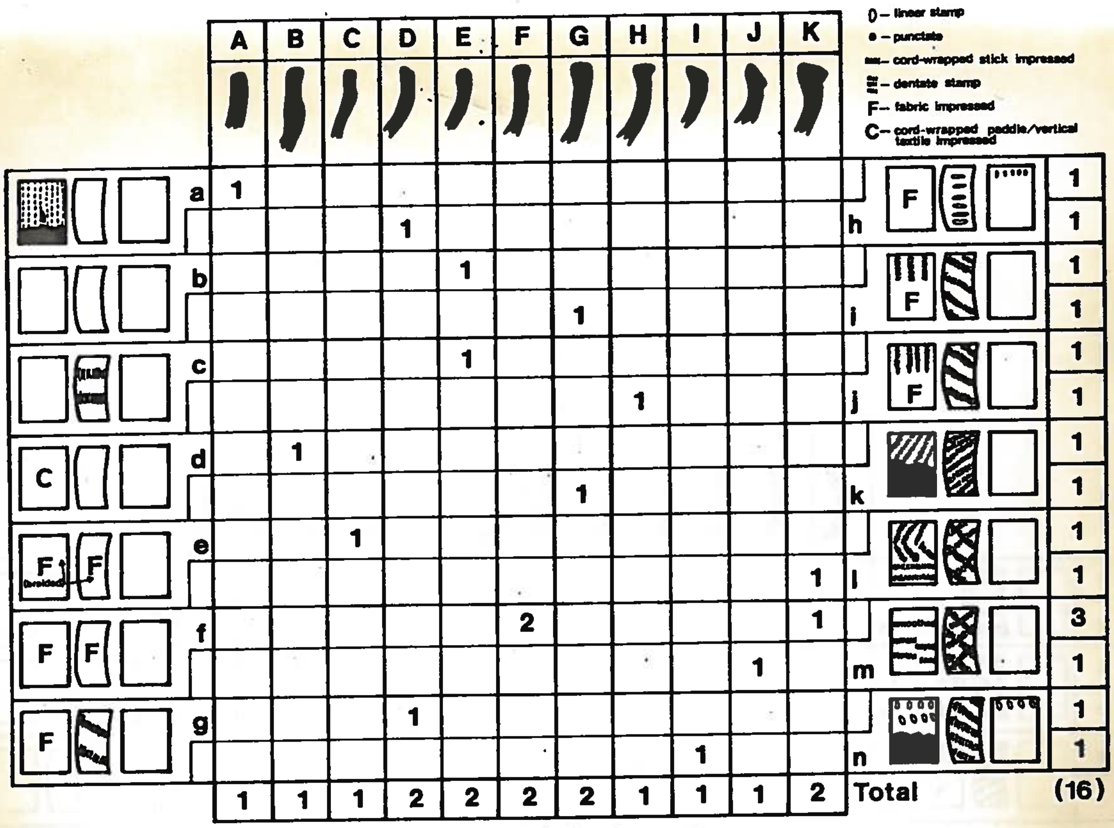

Figure 30: Ceramic chart for Test Units 1-8, Area A

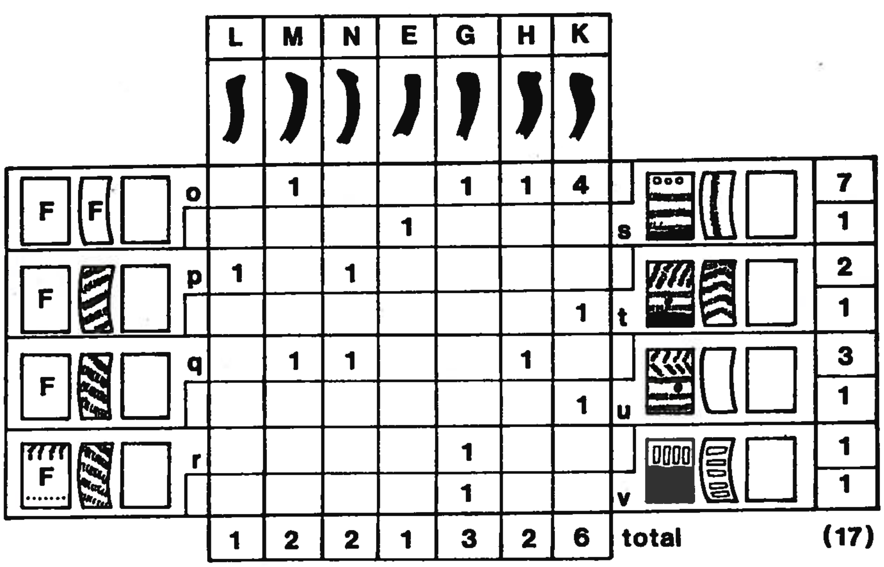

Figure 31: Ceramic chart for Structure A

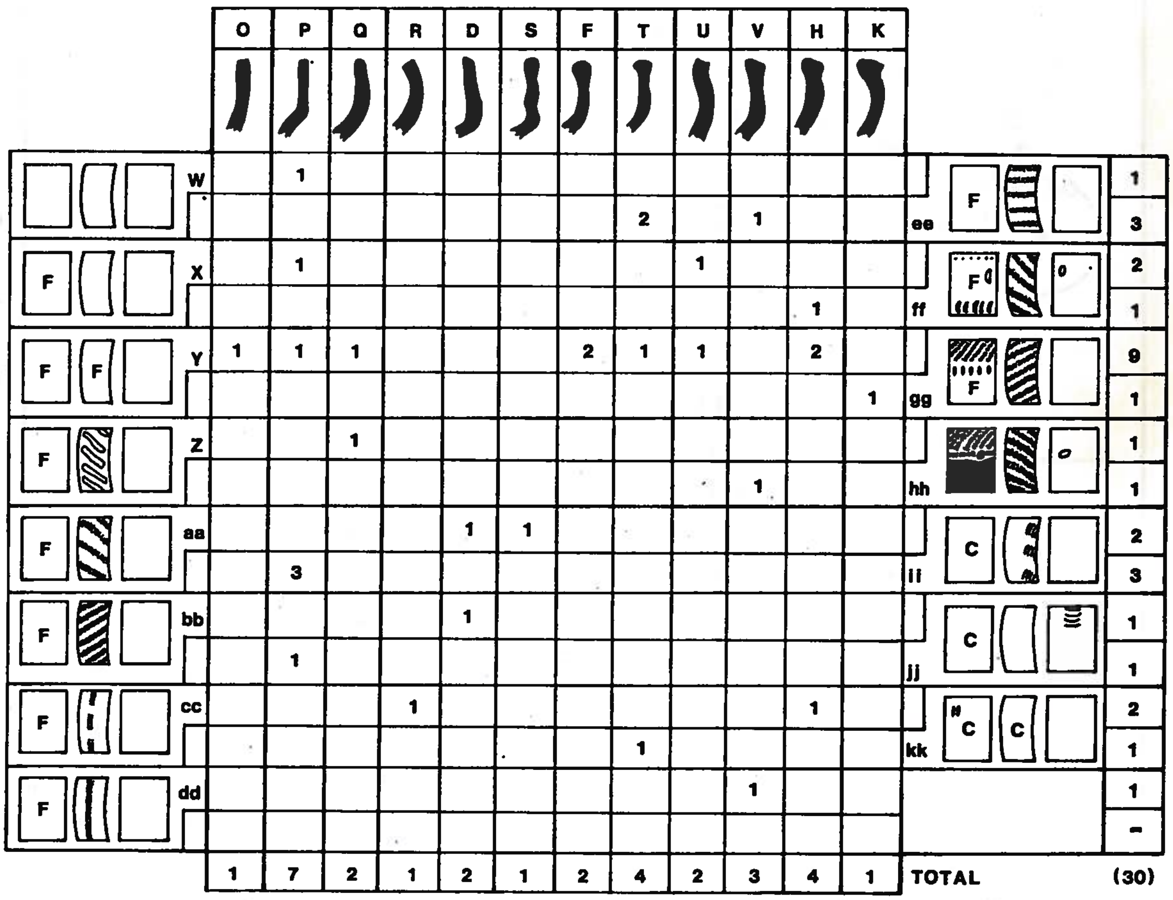

Figure 32: Ceramic chart for Structure B

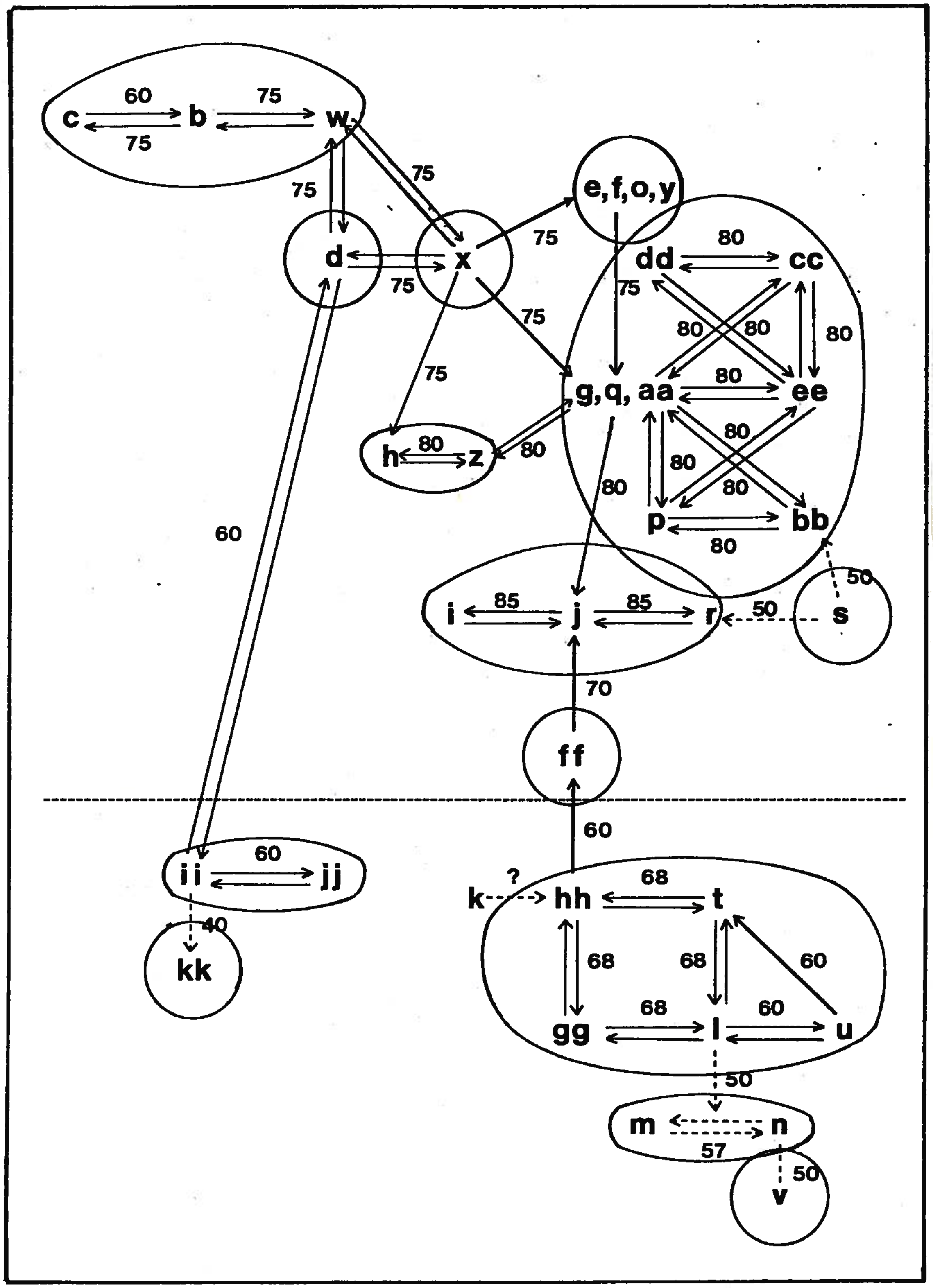

Figure 33: Double-link Close-proximity flow chart for Spruce Point vessels

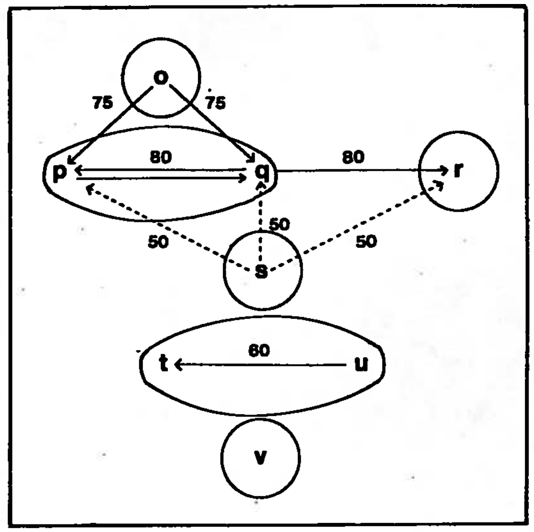

Figure 34: Double-link Close proximity flow chart for Structure A vessels

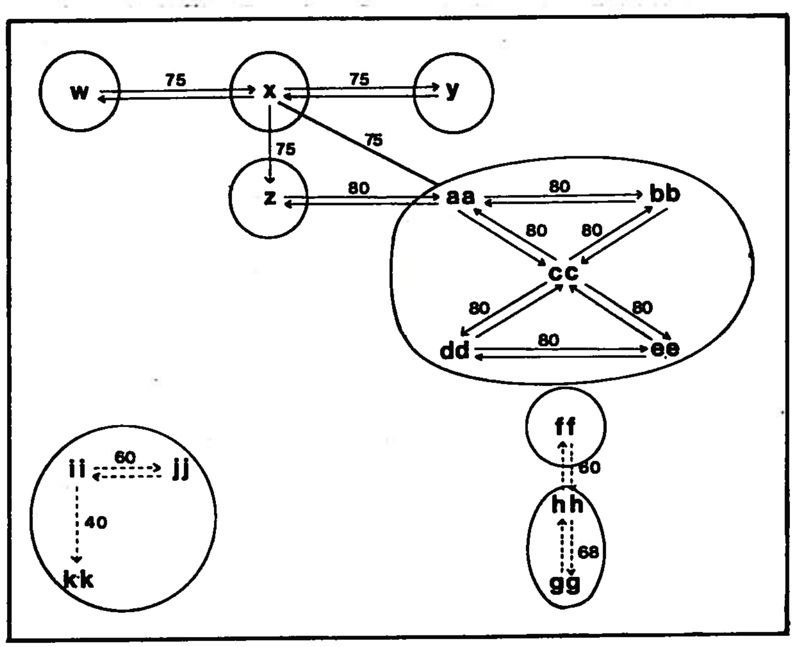

Figure 35: Double-link Close-proximity flow chart for Structure B vessels

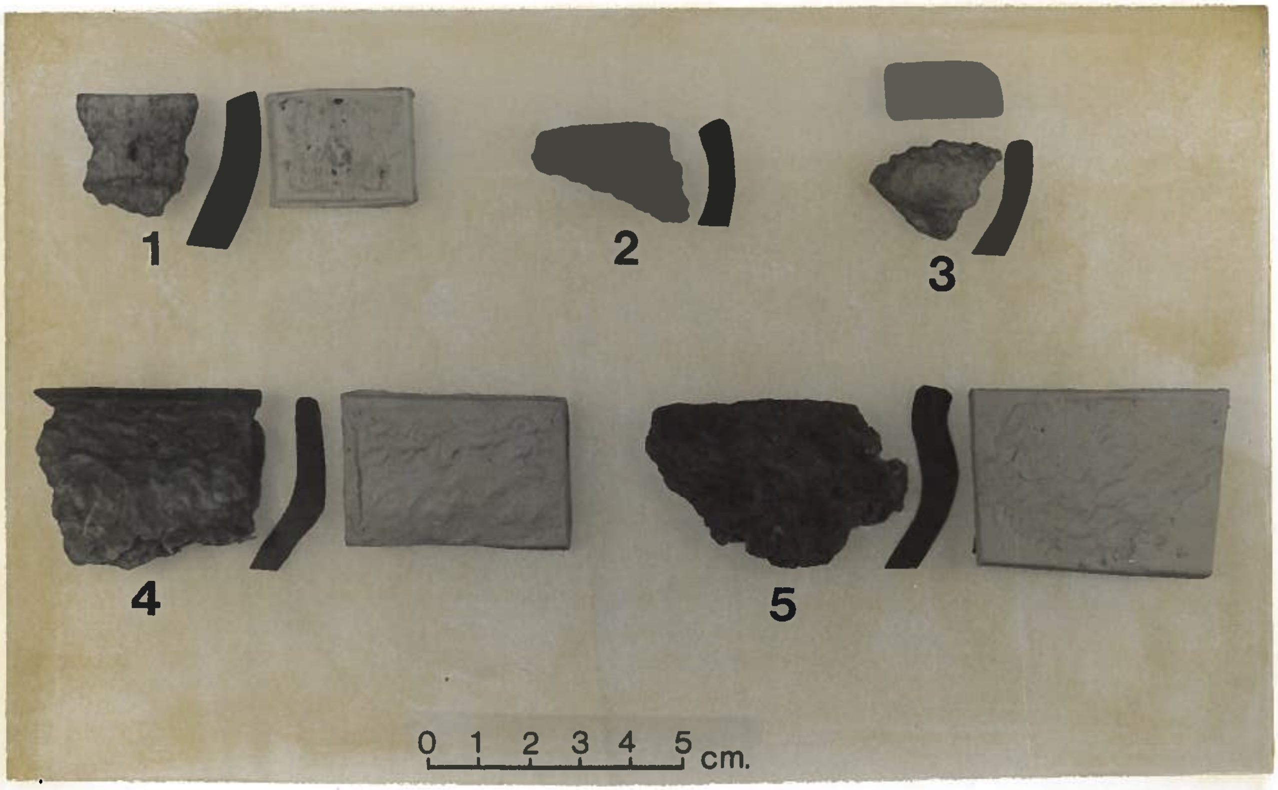

Figure 36: 1. Laurel Dentate, Test Units 1-8
2. and 3. Vessel Cluster #1, Test Units 1-8
4. and 5. Vessel Cluster #3, Structure B

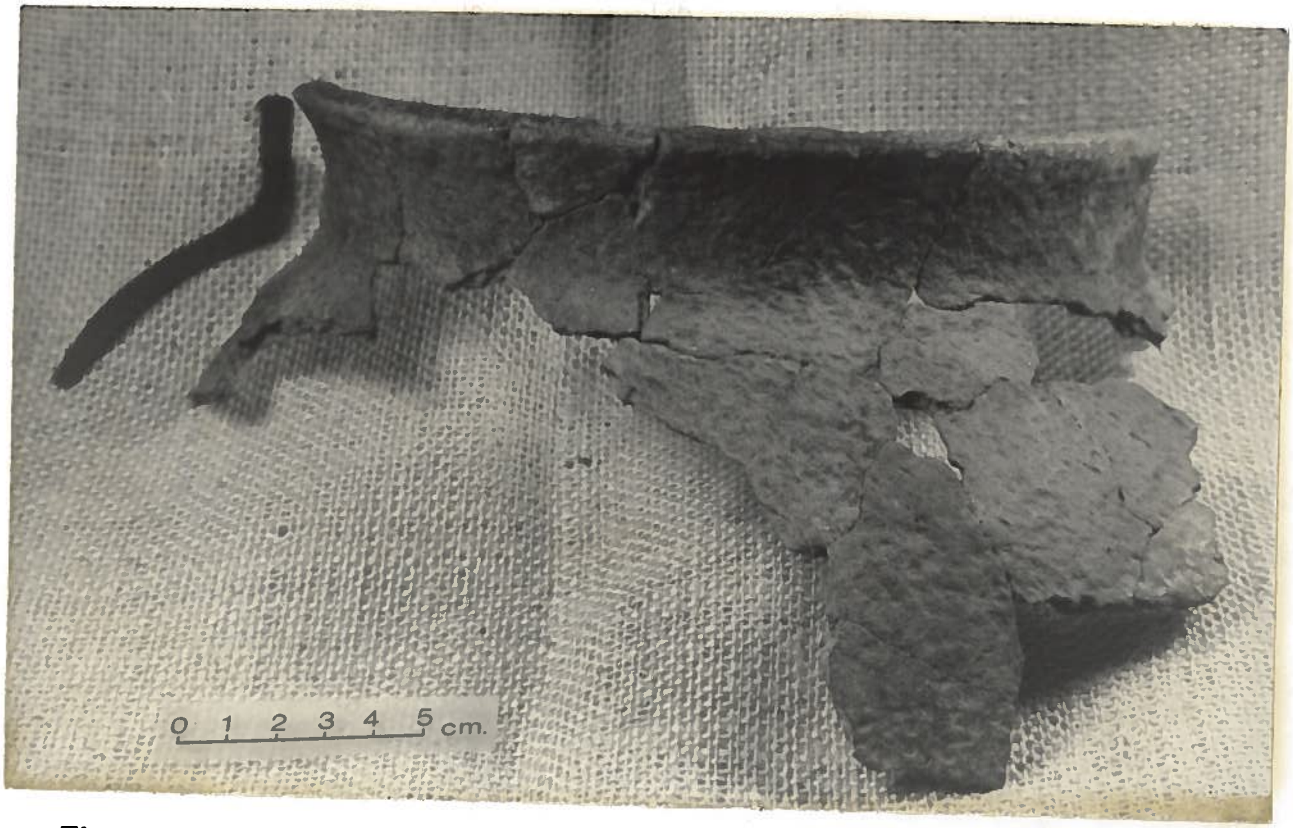

Figure 37: Vessel Cluster #2 , Structure B

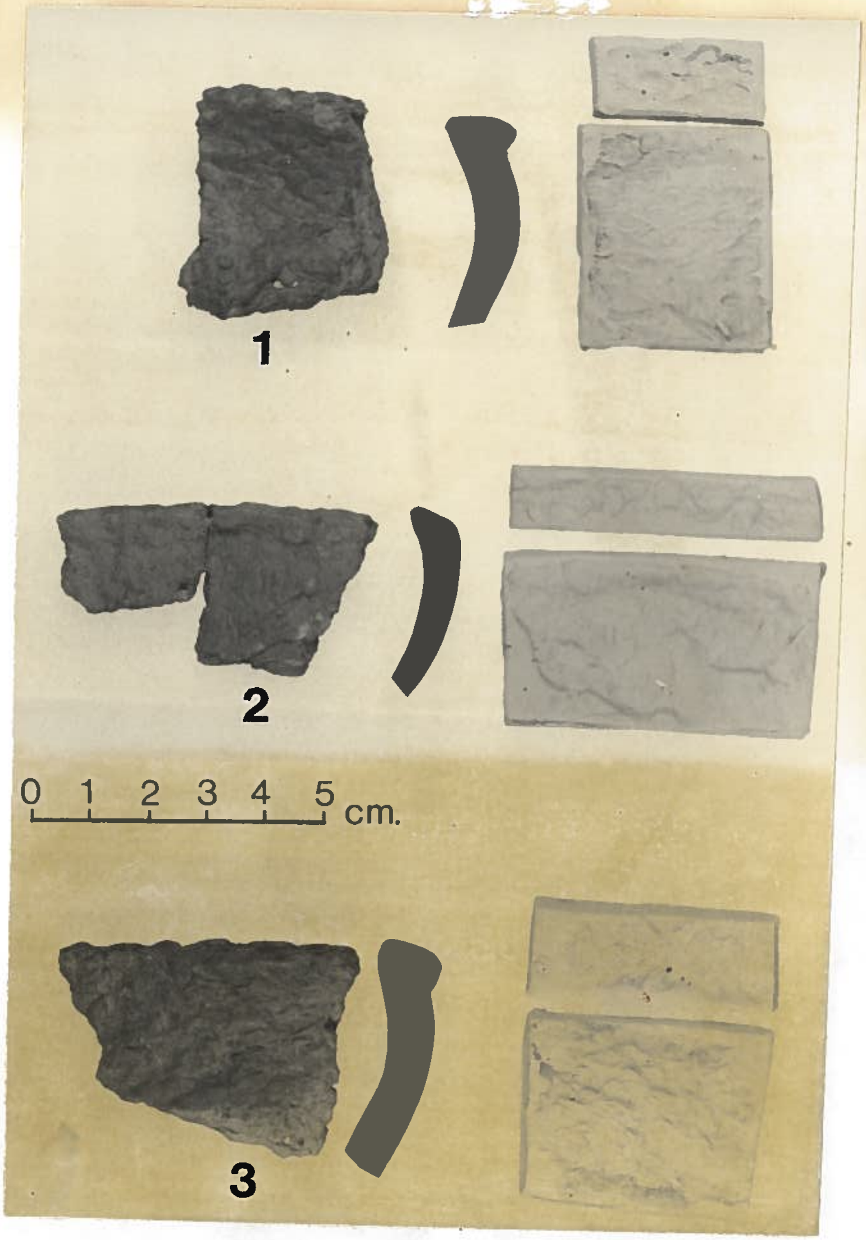

Figure 38: Vessel Cluster #2, Structure A

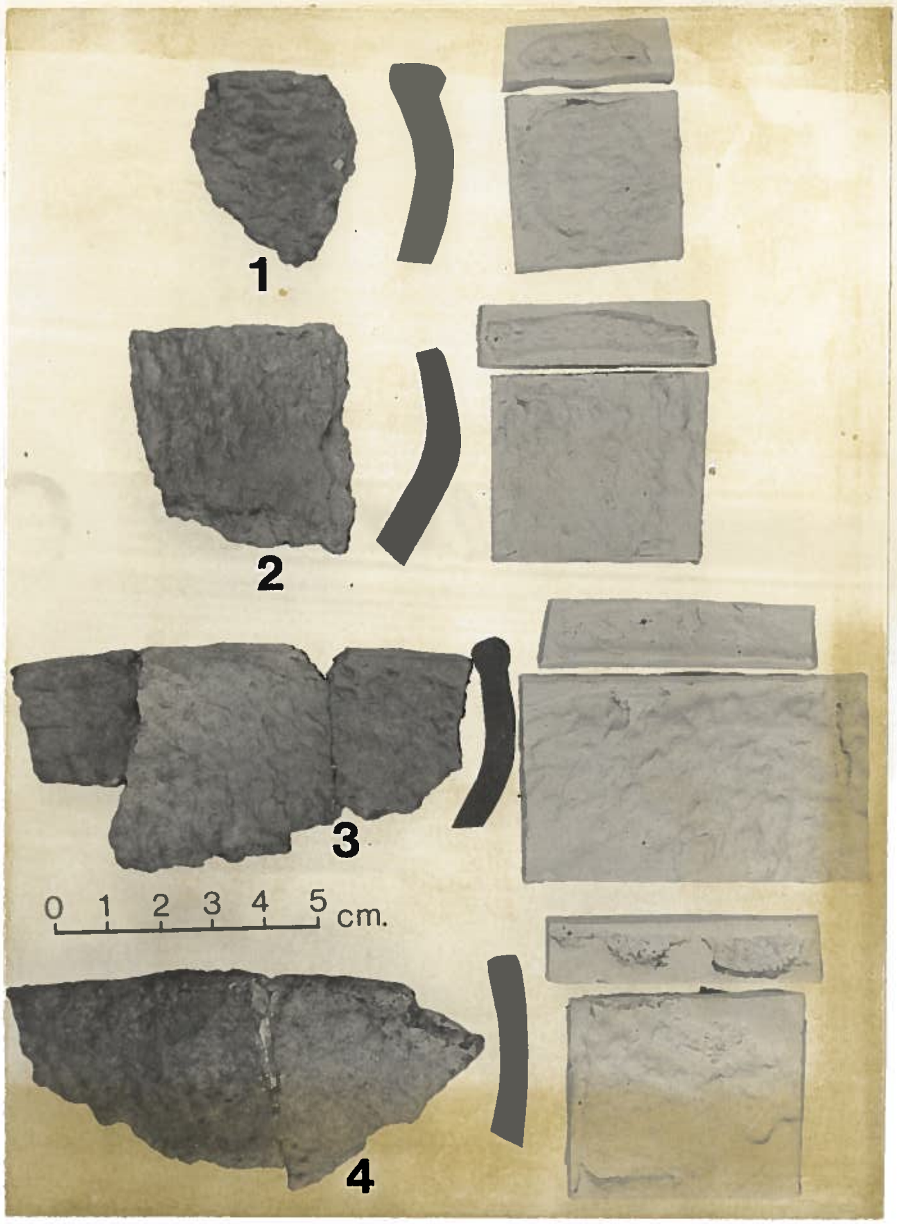

Figure 39: Vessel Cluster #2, Structure B

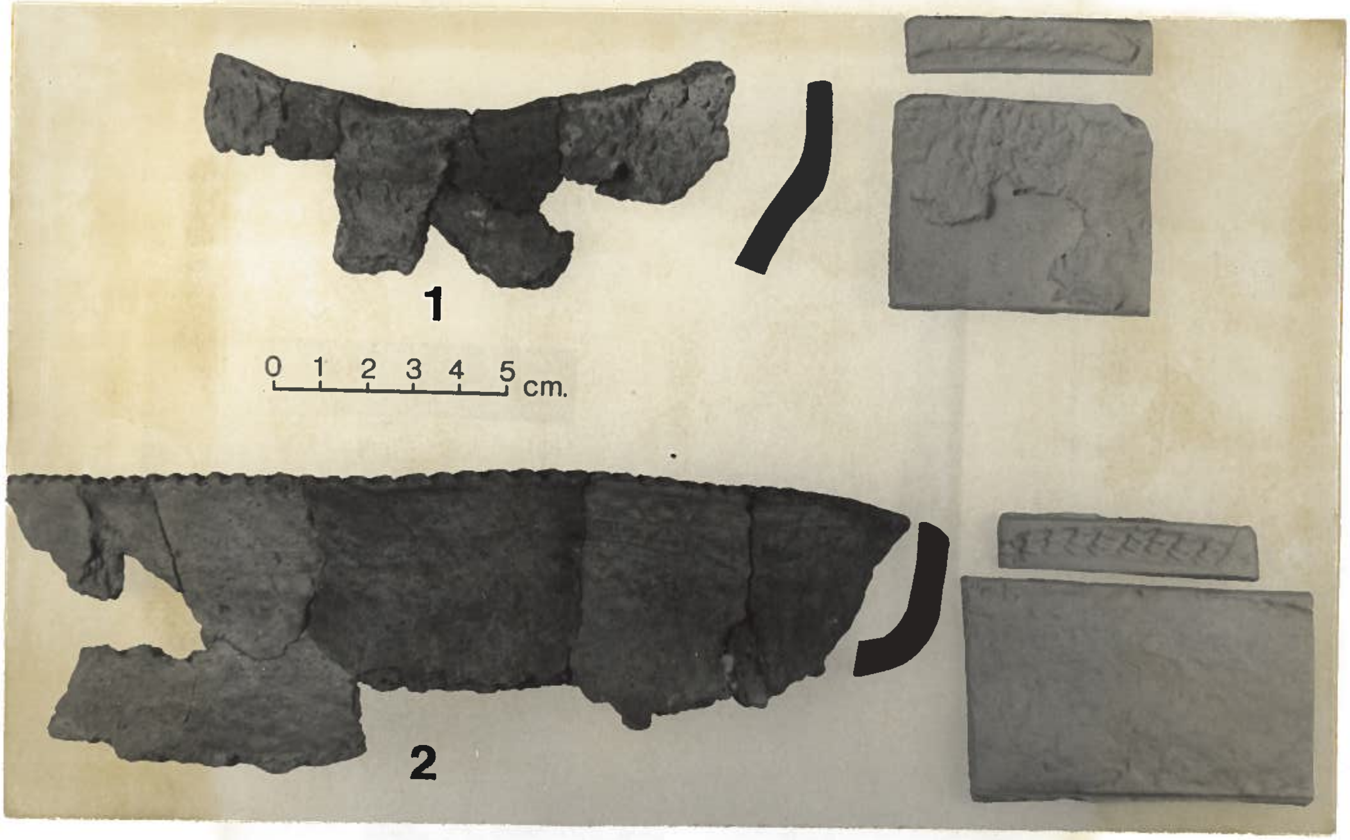

Figure 40:

1. Vessel Cluster #2, Structure B
2. Vessel Cluster #4, Structure B

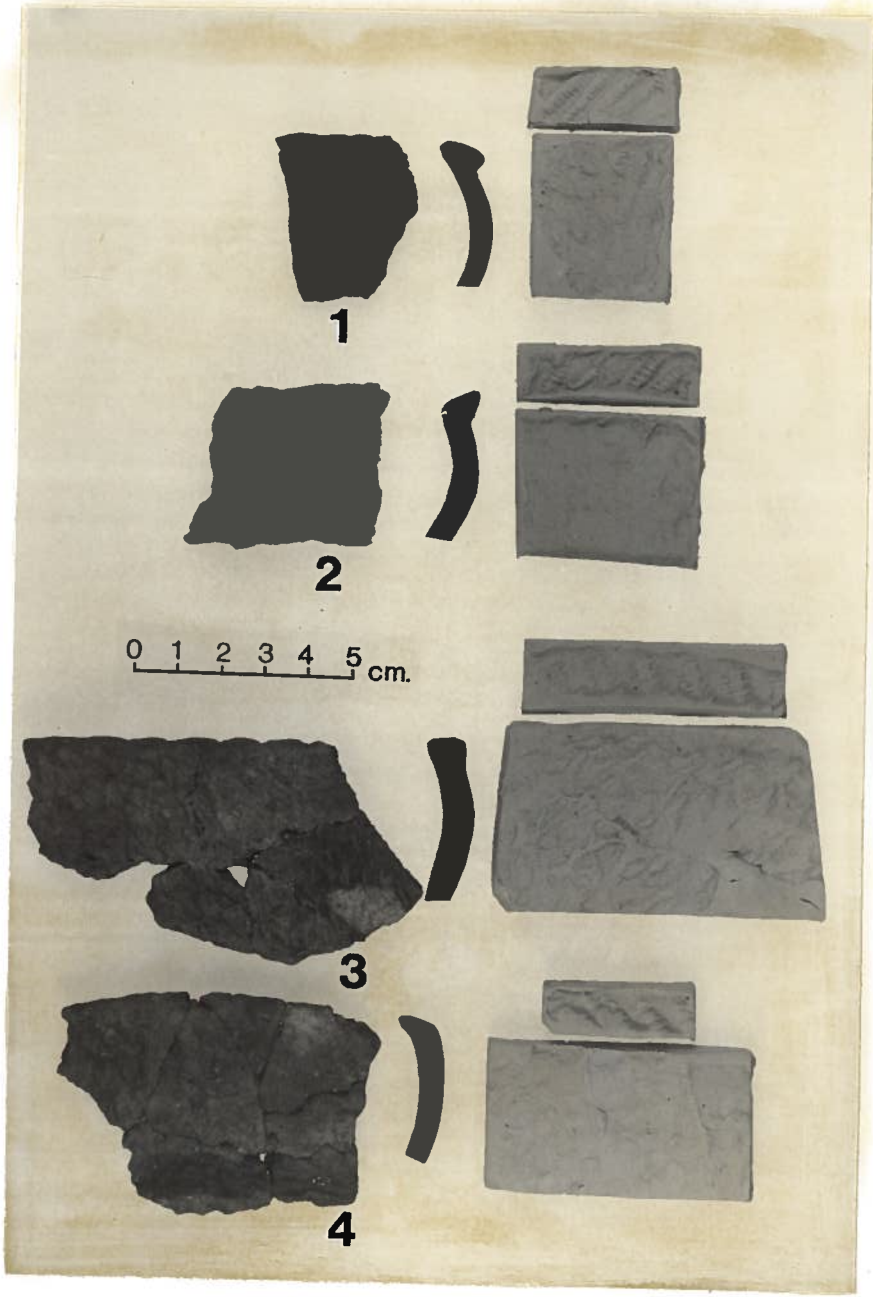

Figure 41: Vessel Cluster #4, Structure A

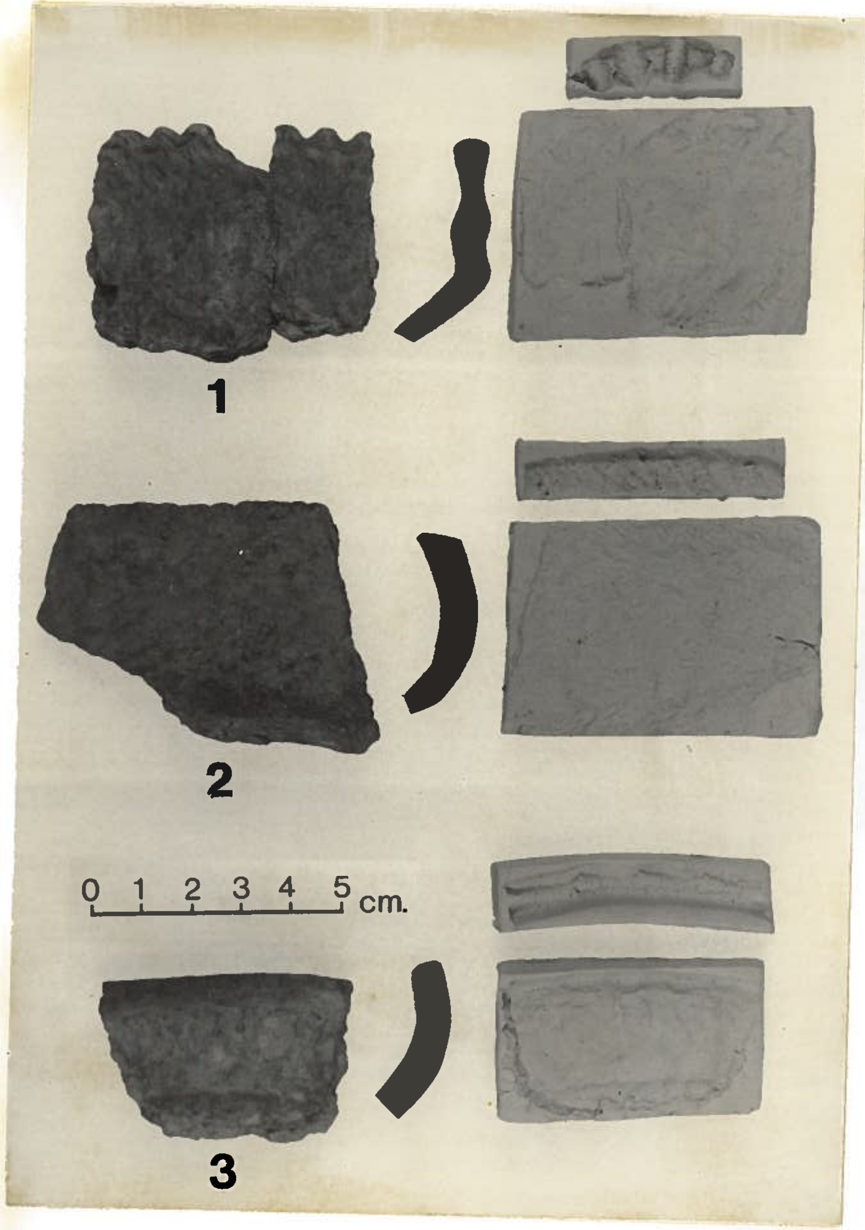

Figure 42: Vessel Cluster #4, Structure B

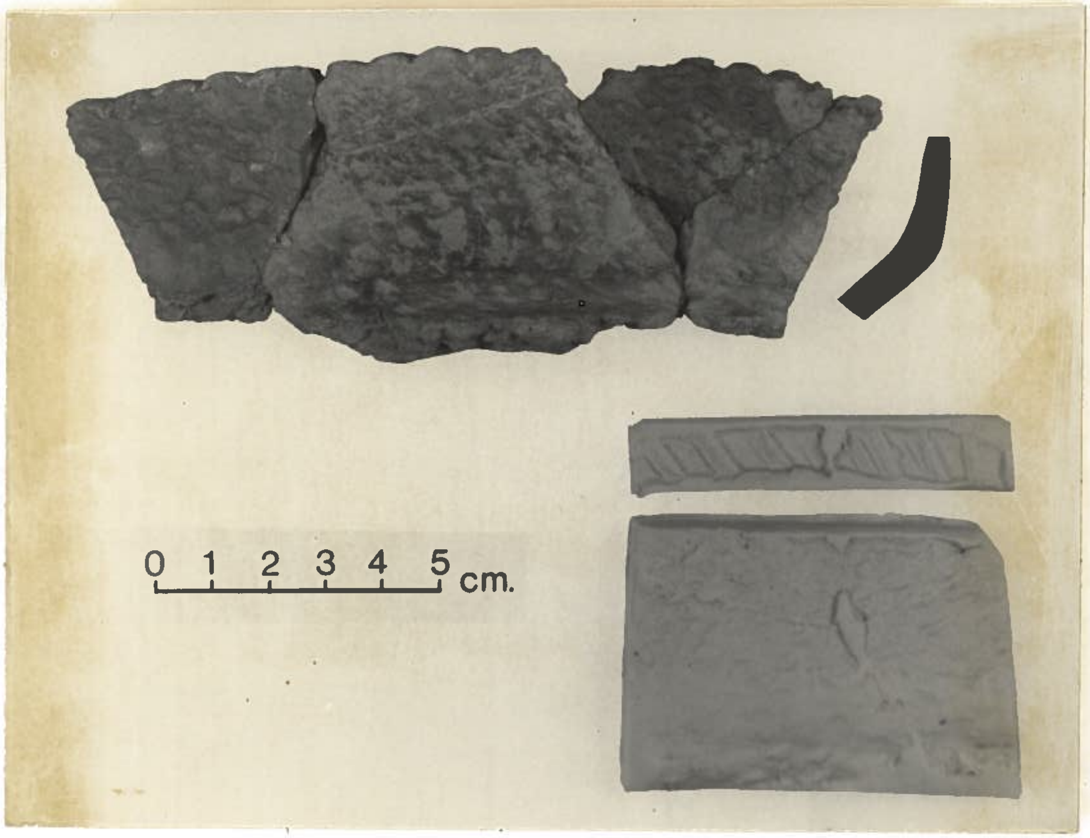

Figure 43: Vessel Cluster #5, Structure B

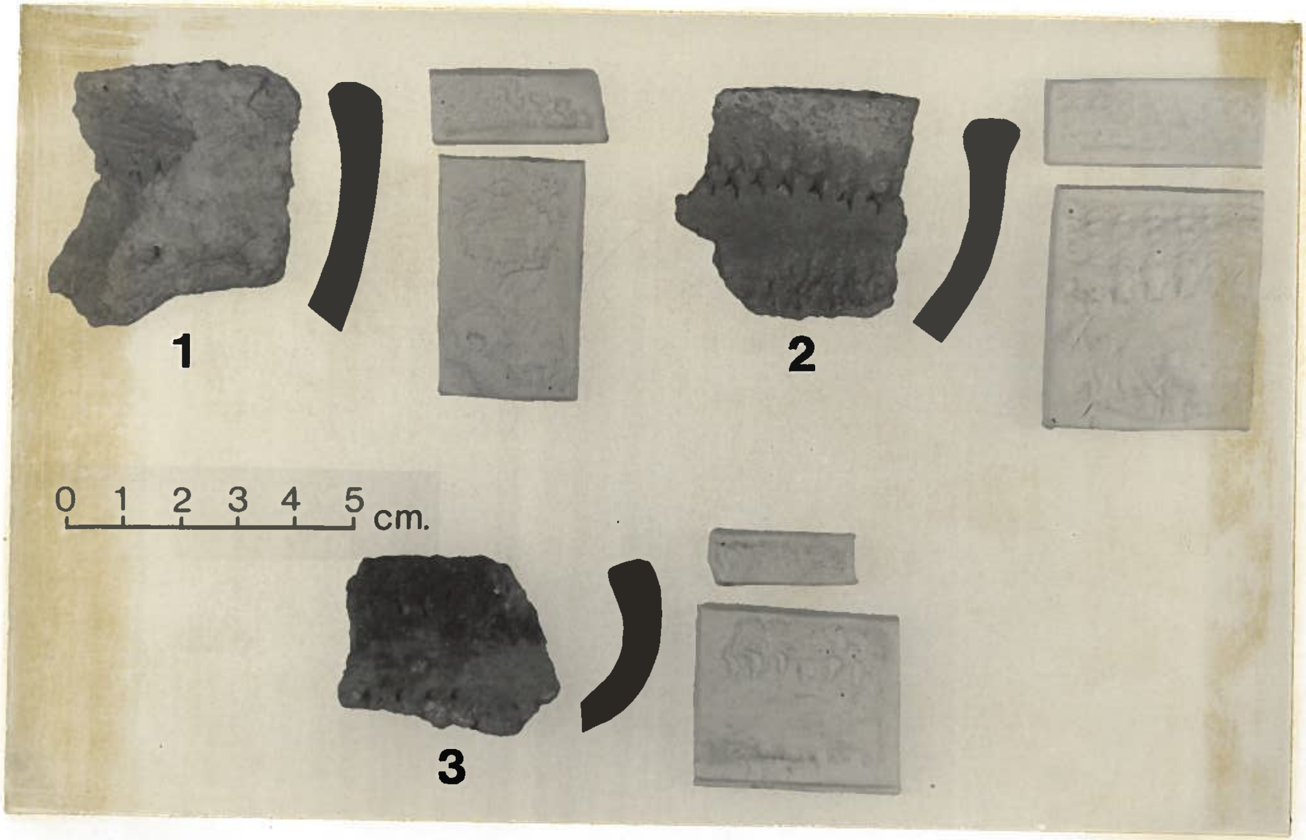

Figure 44: 1. and 2. Vessel Cluster #6, Test Units 1-8
3. Vessel Cluster #6, Structure A

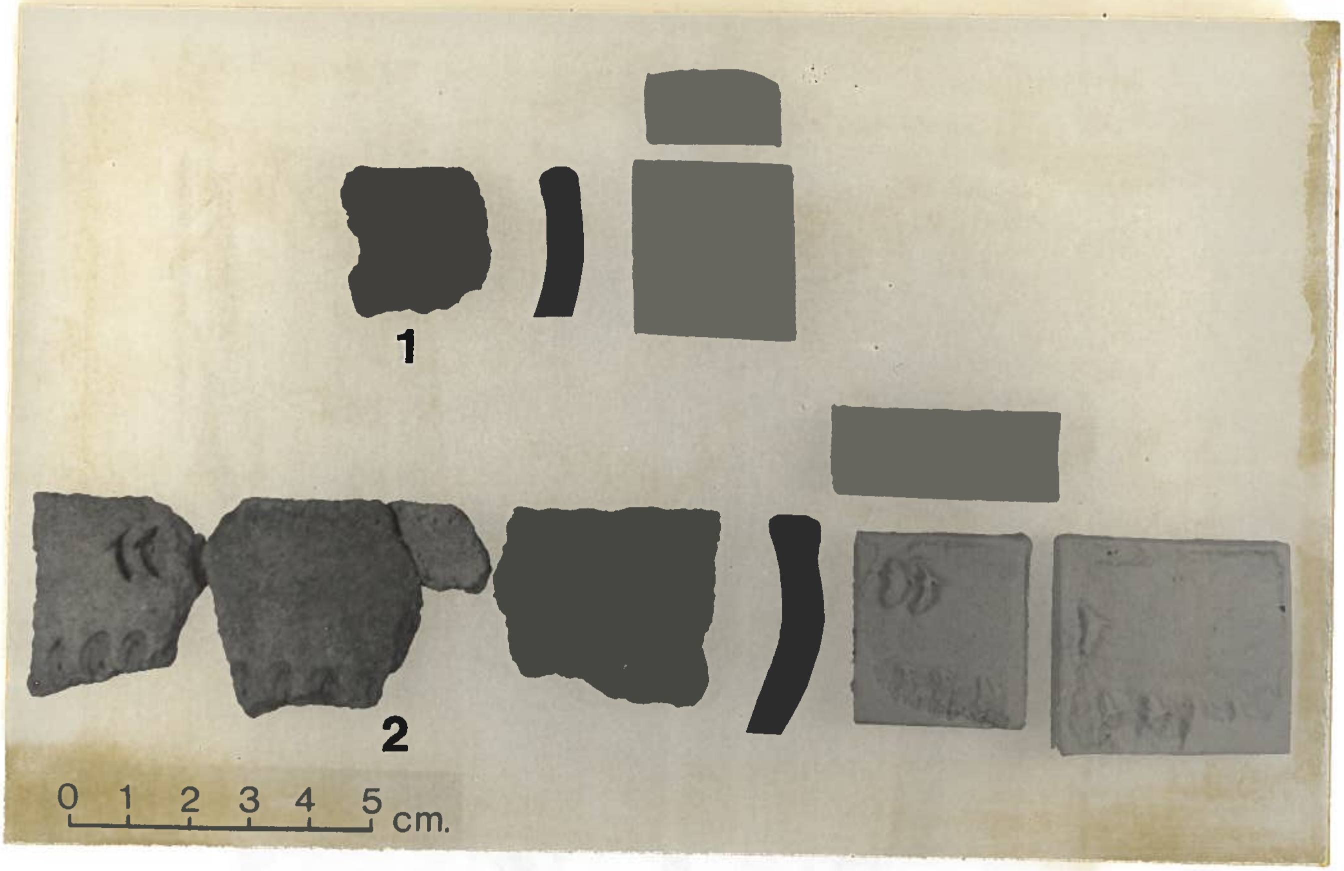

Figure 45:

1. Vessel Cluster #7, Structure A
2. Vessel Cluster #8, Structure B

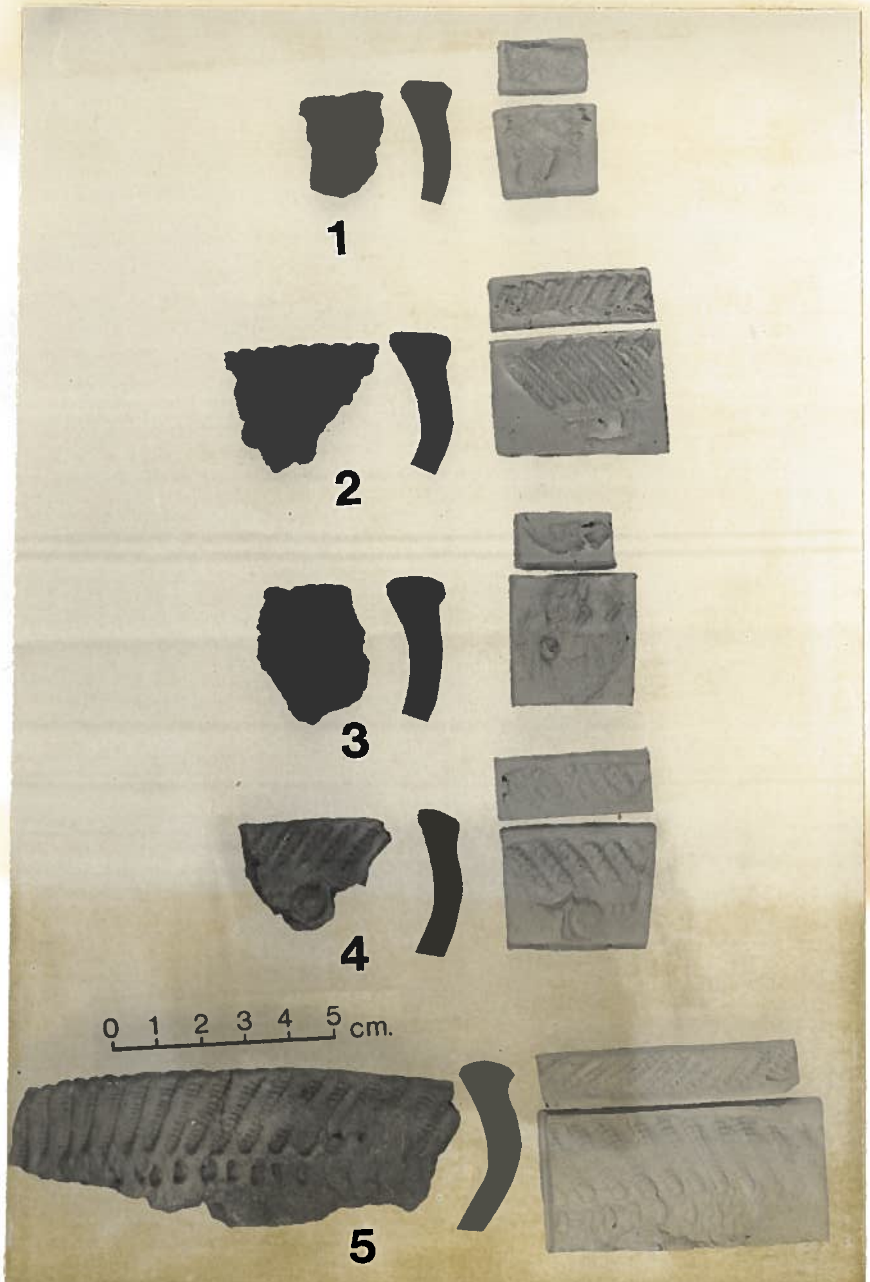

Figure 46:

1. Vessel Cluster #9, Test Units 1-8
2. and 3. Vessel Cluster #9, Structure A
4. and 5. Vessel Cluster #9, Structure B

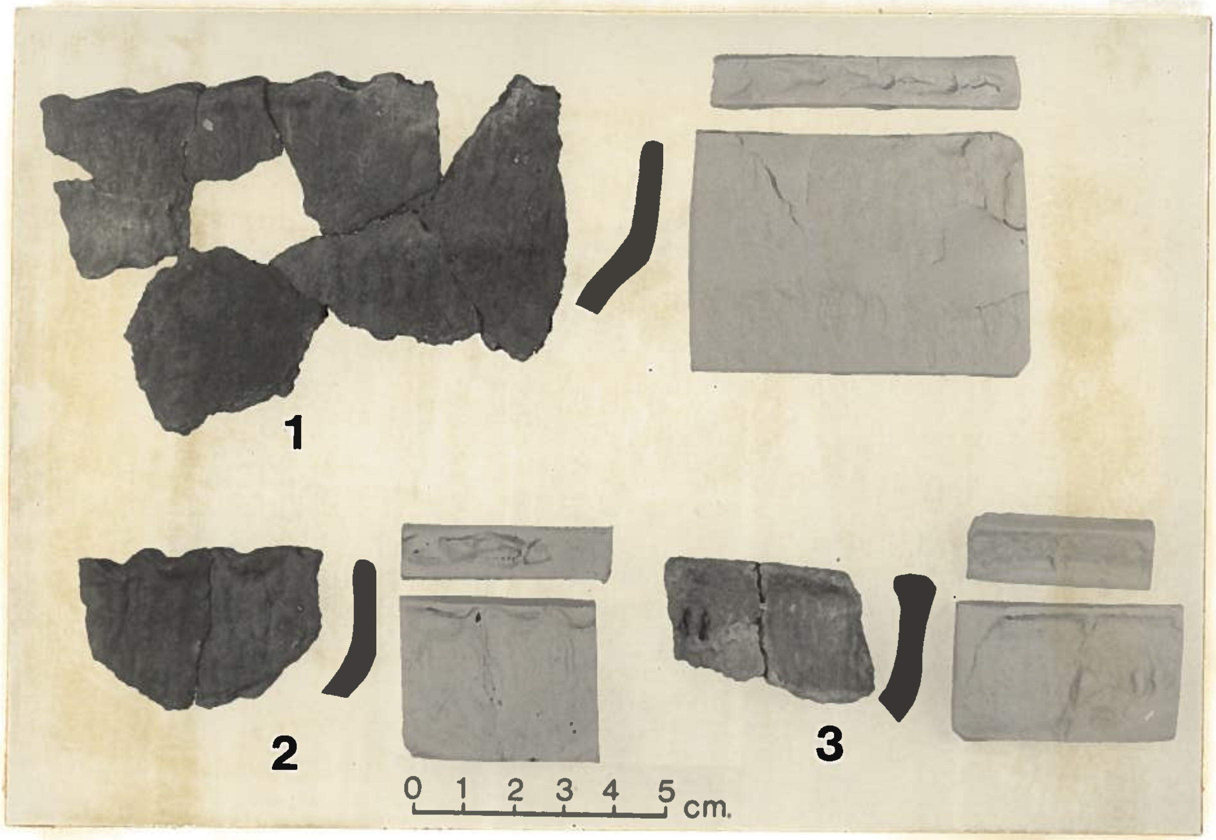

Figure 47: 1. and 2. Vessel Cluster #12, Structure B
3. Vessel Cluster #13, Structure B

Figure 48: Vessel Cluster #14 rims and body section from Test Units 1-8

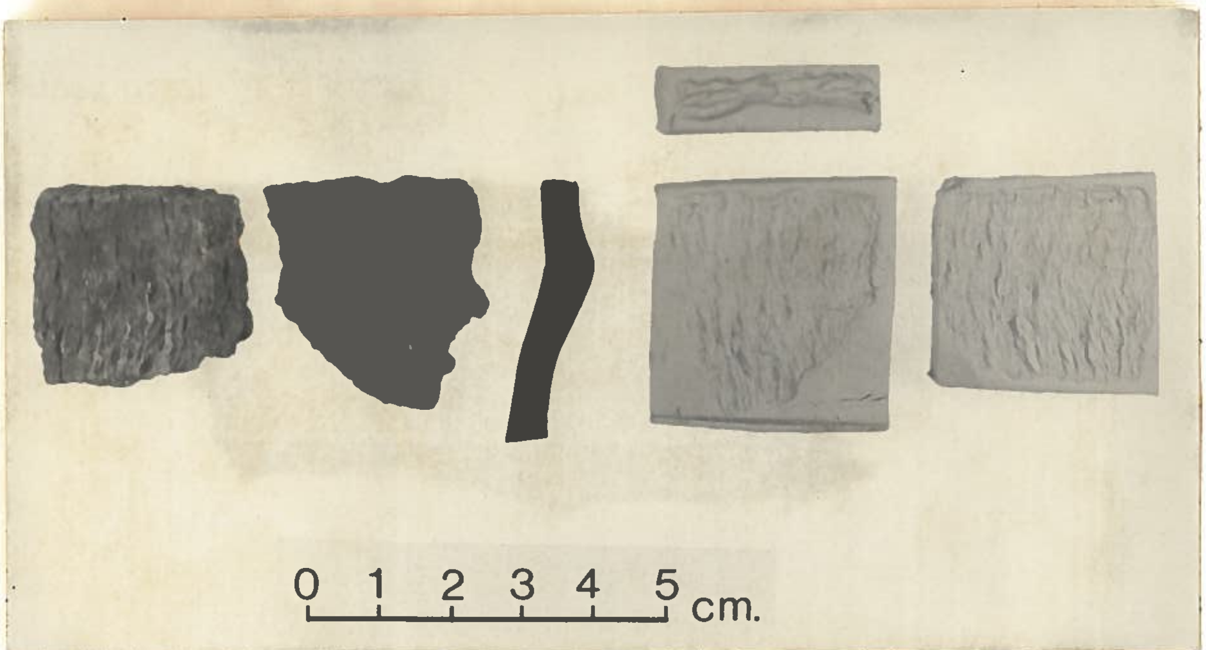

Figure 49: Vessel /e/ of Cluster #2, Test Units 1-8

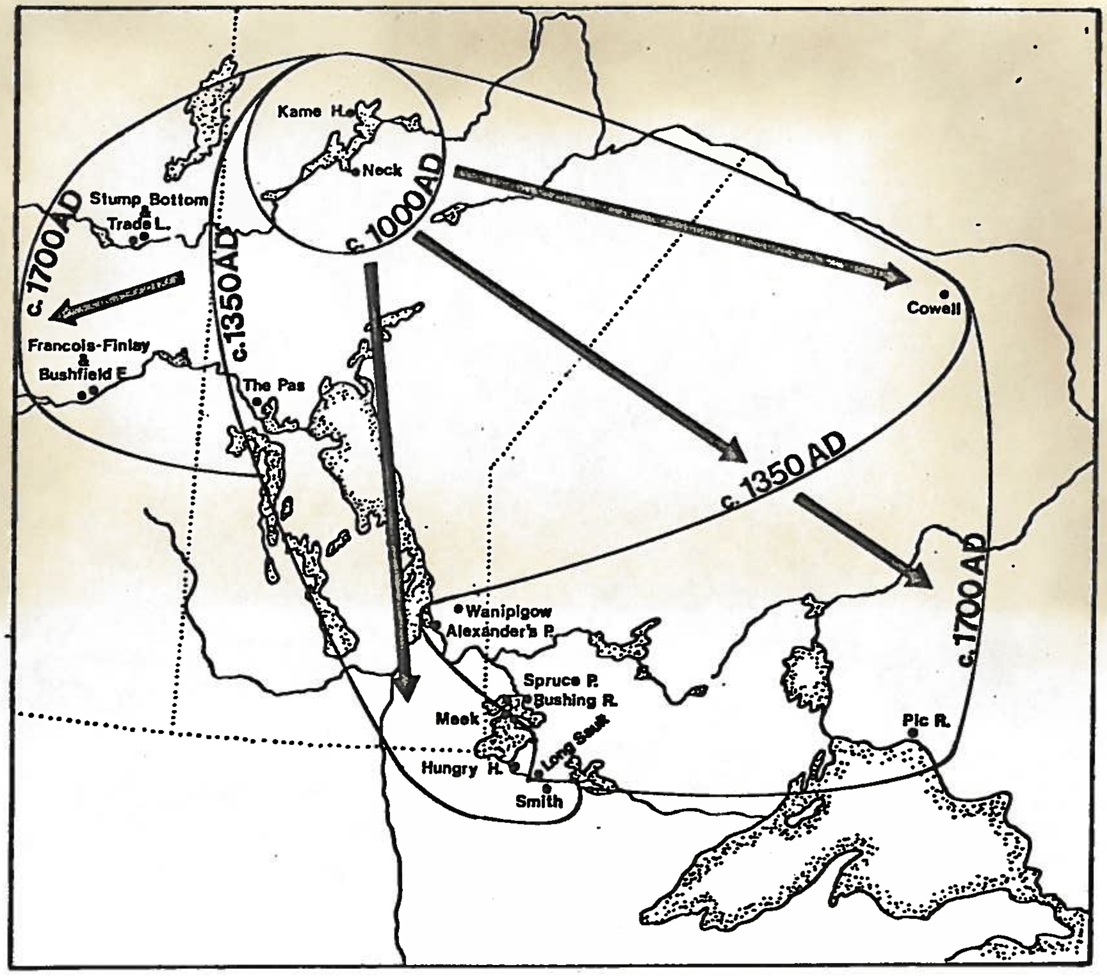

Figure 50: The chronological expansion of Selkirk

POTATO ISLAND ⟷ (183) KAME HILLS ← (141) FORESTRY POINT ← (140) WENASAGA RAPIDS

CARIBOU LAKE → (111) SMITH ⟷ (145) FISK ← (130) SPRUCE POINT ← (58) - - - LONG SAULT

Figure 51: Double-link Close-proximity analysis of nineSelkirk components

Figure 52: InImicUwahp (centre) on Lake of the Woods in the nineteenth century (photo courtesy of Lake of the Woods Museum)

Figure 53: Dome-shaped lodge on Shoal Lake in the nineteenth century (photo courtesy of Lake of the Woods Museum)