AN ARCHAEOLOGICAL EXAMINATION OF THE BAUMANN SITE: A PRECONTACT LALONDE SETTLEMENT IN SIMCOE COUNTY, ONTARIO

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by

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A Thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Arts

Department of Anthropology
Memorial University of Newfoundland
March 1982

St. John's Newfoundland

ABSTRACT

An interest in the Lalonde period of the Ontario Iroquois tradition became the motivation behind this preliminary excavation of the Baumann site, Medonte Township, Simcoe County, Ontario. Excavation was followed by detailed analyses of the various cultural categories that comprise this site's assemblage.

Although Lalonde has been recognized as part of the Late Ontario Iroquois Stage (Wright, 1966), only one other Lalonde site has been examined beyond the point of producing a rimsherd analysis; the Copeland site (Channen and Clarke, 1965), also in Simcoe County, Ontario. Frank Ridley, in presenting data from the Lalonde site (1952a), as well as Fallis (1952b), and Frank Bay (1954), describes the artifacts recovered. Settlement, floral, and faunal data are, however, not available, as is the case with quantitative information. The emphasis in all three reports is definitely on ceramics. This can be said of Latta's (1968) examination of Ontario prehistory as well, wherein two further Lalonde sites, Deschambault and Farlain Lake, are introduced. Also included in this analysis are those sites surveyed by Ridley (1966, 1967, 1969, 1971, 1973) which number over 40.

It was felt that because a Lalonde group of sites is implicitly understood to represent a part of Ontario

prehistory, more than simply one site of this period needed to be studied in detail, and thus the Baumann excavation took place.

Excavation was not only done to buttress the existing chronological framework, but also to begin to attain an understanding of Lalonde culture. Thus, research goals included obtaining settlement data, floral, faunal, lithic, bone artifact, ceramic, and subsistence data. This information was then combined with any available comparative data to arrive at a cultural description of Lalonde.

The six week excavation of this site resulted in the following: One midden was thoroughly tested, while the locations of three others were confirmed; a single longhouse was partially uncovered, measuring 66 m. x 8 m. having a rich feature assemblage and a northeast-southwest orientation; possible evidence of a second longhouse was uncovered in a test trench south of House 1; and, an attribute analysis of rimsherds revealed seven attributes which may be characteristic of the Lalonde ceramic assemblage; lastly, a C14 date (N.M.C. 1222) of A.D. 1490 ± 60 was obtained from a sample of charred wood.

Excavation of the Baumann site was conducted during the summer months of 1980 under License No. 80-F-0387 of the Ministry of Culture and Recreation, Provincial Government of Ontario, and funded by the Ontario Heritage Foundation.

ACKNOWLEDGEMENTS

The following persons assisted in various ways, known to them, and for which I am very grateful: E.B. Banning; S. Cameron; D. Christian; S. Cole; P. Coutts; R. Fecteau; W. Finlayson; W. Fitzgerald; W. Fox; M. Kapches; B. Kim; B. Krukowski; J.A. McAndrews; J.M. McGlade; K. Mair; F. Mark; I. Marshall; R.W. Park; P.G. Ramsden; J. Reid; H. Savage; M.M. Shaaban; W.B. Turnbull; R. O'Brien; J.V. Wright.

My field crew deserve the highest recognition: K. Connor; D. Gordon; M. MacDonald; J. Switzer; B. Todd.

Special thanks is extended to Dr. D. Knight for his interest, support, and cheerful assistance. In particular, I would like to thank H. Baumann who did much to make the summer of 1980 a successful one, and without whose help none of this would have been possible.

I am grateful to the Department of Anthropology, Memorial University of Newfoundland, for acceptance into their program. In particular, I would like to thank Dr. M.A.P. Renouf for reading and commenting to great extent on this thesis. I am indebted to Dr. J.A. Tuck for acting as thesis supervisor during these challenging three years.

This research is sincerely dedicated to Bernhard and Georgia Stopp; for their love and encouragement throughout all that has transpired.

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CHAPTER 1

INTRODUCTORY CHAPTER

1.1 Introduction

This excavation was conducted during the summer months of 1980 under License No. 80-F-0387 of the Ministry of Culture and Recreation, Provincial Government of Ontario, and funded by the Ontario Heritage Foundation.

1.2 Origin of the term "Lalonde"

The label "Lalonde" was introduced by Frank Ridley (1952a) to identify a specific assemblage type occuring in the cultural region of "Huronia", also known as Simcoe County, Ontario. The term originates from a typesite, the Lalonde site (Ridley, 1952a), which produced an assemblage quite distinct from those of earlier Middleport and later Huron sites, yet highly typical of several sites Ridley had tested (Ridley, 1952a), and was to examine in the future (Ridley, 1952b, 1954, 1966, 1967, 1969, 1971, 1973).

Surveys conducted by Ridley between 1952 and 1973 successfully located over 40 Lalonde sites spread throughout Huronia. This number is reflective of a thorough occupation in this region, particularly if Wright's (1966:66) time span of roughly 150 years is accepted for Lalonde. These sites are located throughout the northern section of Simcoe County, except for Matchedash Township where soil conditions are not conducive to agriculture. The Lalonde group, being agriculturalists, needed good soil and weather conditions to grow corn, and northern Simcoe County was ideal in these respects. It should be kept in mind, however, that several of these Lalonde sites must be the result of village movement due to resource depletion of former areas. That is, each site is not indicative of a different village group, nor are they necessarily contemporaneous.

1.3 Major features of the Lalonde assemblage

The features Ridley noted which distinguished a Lalonde assemblage from earlier and later sites were related to the material culture of this group; settlement and subsistence patterns had, as yet, not been examined. These features remain characteristic of Lalonde to date.

A. A ceramic vessel bearing an unusually high collar, distinctively decorated with an opposed incised line motif, often with punctates arranged triangularly interspersed throughout the incised lines, became the hallmark of the Lalonde assemblage. Ridley (1952a) designated this new ceramic type as High Collar Lalonde (Plate 21).

B. Associated with this ceramic type is a particular castellation type. Termed "Nubbin" in this research, this castellation rises slightly from the rim to a height of 7 to 10 mm., and is flat-topped (Plate 20).

C. In combination with the high collar vessel are two pipe types which are also distinctly Lalonde. The stems of both are tapered towards a circular mouthpiece. The bowls differ, however, in that one has a flared bowl (Trumpet Bowl Pipe), and the other is barrel-shaped (Barrel Pipe) (Plate 12). The Barrel pipe often bears a ring of punctates, or a series of incised lines around the bowl, just below the lip.

D. Further diagnostics of the Lalonde assemblage are the style and frequency of bone beads. These have a higher rate of occurrence on Lalonde sites than on earlier Middleport, and certainly later Huron sites where the beads are primarily European trade items. Lalonde beads are cylindrical shafts fashioned from avian longbones (Plate 6).

E. Plano-convex and concave-convex leaf-shaped scrapers of chert, which are flaked on one side only and averaging 4 cm. in length, were also found to be quite distinctive of the Lalonde assemblage (Plate 4).

1.4 Position of Lalonde within the chronology

The nature of this assemblage placed Lalonde between Middleport and Huron in time, a position which is supported by the location of Lalonde artifacts within the stratification at both the Fallis (Ridley, 1952b) and Frank Bay (Ridley, 1954) sites. At both sites, Lalonde rims, pipe bowls, and scrapers were retrieved from above Middleport artifacts but below Huron.

That Lalonde developed out of Middleport was demonstrated by Ridley (1952a) who pointed out various similarities between the Webb site, a Middleport site in Simcoe County, and nine Lalonde sites in the same region. Ridley also uses data from the Middleport site (Wintemberg, 1948) in southern Ontario to further support this development.

Wright (1966:66) has dated the end of the Middleport period to the mid-fourteenth century, and the beginning of the Huron period to the later sixteenth century. This blocks the Lalonde period off between roughly A.D. 1400-1550.

Ceramic similarities between the Middleport and Lalonde periods consist of: simple oblique incising on the rim which changes its angle below a pointed castellation; rim decoration consisting of closely spaced horizontal incising, interrupted by either vertical or oblique incising; an uninterrupted horizontal incised line under other incised linear motifs, all on the collar; vessels with slightly flared collars decorated by annular incising or hachured incising with an occasional row of punctates immediately below the collar; neck decorated pottery where oblique incising appears on the collar and the same in reverse rows down the neck, forming hachured triangles.

Three additional similarities shared by the two assemblages are side-notched chert projectile points, bone awls made of bird and mammal bones, and bird bone beads.

It is an accepted fact that Lalonde contributed to the period of culture change which resulted in the later Huron. The exact process of this development, however, became a matter of great debate, discussed in the following "Review of Literature." There are very basic similarities between Lalonde and historic Huron assemblages, most visible in ceramic types such as Huron Incised and Sidey Notched. The pipes, lithics, bone tools, and decorative bone of the Lalonde assemblage have either altered their form or do not occur as frequently in historic Huron material culture, the Huron having been influenced by the material culture(s) of groups with whom the Lalonde probably had little, or no contact. Wright (1966:66) has given these groups the name "Southern division." The origins of the ceramic complex of the Huron, in particular, is not entirely found in the Lalonde assemblage, and these Southern division groups were certainly the impetus behind the new Huron ceramics. This material culture change is analysed by Wright (1966) in The Ontario Iroquois Tradition, and is summarized below.

1.5 Most recent examination of Lalonde

The most recent examination of the position of Lalonde culture within Ontario prehistory, accompanied by a material culture description of this group, was made fifteen years ago (J.V. Wright, 1966:66-83). This research is quoted as the most recent since all later studies of Lalonde are based on the framework it establishes. Wright used the data from one excavated site, the Copeland site (E.R. Channen and N.D. Clarke, 1965), and a tested site, the already mentioned Lalonde site (Ridley, 1952a). Evaluations made on the basis of the evidence from these two sites have remained the definitive statements on Lalonde to date.

Using as diagnostic of Lalonde those artifacts put forth by Ridley, Wright fits Lalonde into the chronology at a point in time when Lalonde served as a stepping stone towards the development of Huron culture (Wright, 1966:66):

> The Huron-Petun branch possesses a southern and a northern division. Both these divisions represent geographic variations within a common complex. The southern division developed out of Middleport sites along the north shore of Lake Ontario and very slowly began to shift northward up river systems such as the Humber and the Trent. Simultaneously a parallel development was taking place in the northern portion of Southwestern Ontario (Bruce and Grey counties), and in Huronia proper (Simcoe County). A portion of this development has been called the Lalonde culture (Ridley, 1952a, 1952b), but in this study it is designated the Northern division of the Huron-Petun branch. As will be demonstrated, the only effective means of separating the Northern and Southern divisions is by the high frequency of one pottery type in the former. Almost certainly the close cultural similarities between the two divisions stem from their common Middleport antecedents as well as continued contacts with each other. For a considerable period both divisions evolved independently but parallel to one another. By approximately A.D. 1550, however, the northward shift of the Southern division resulted in a gradual blending of the two divisions. To this common complex, created by the fusion of the already closely related Northern and Southern divisions, the closely related Huron and Petun of the historic period can be assigned.

Summarily, Lalonde is acknowledged for the role it played in the development of Huron culture. Since this development was also dependent on the northern movement of a southern group, the term division is appropriate since it illustrates the joint responsibility the two groups had in fusing to become a single entity, namely the Huron. The high incidence of High Collar Lalonde rimsherds on Northern division sites is "the only effective means" of distinguishing them from Southern division sites, which also bear this rim type. Wright attributes the basic similarities of the Northern and Southern divisons to their both having developed out of the same culture base, Middleport, although in different geographical regions. For reasons unspecified the Southern division is postulated as having migrated northwards, into Simcoe County, where this group fused with the Northern division to become the Huron and Petun of contact times.

1.6 Summary of research goals

It is the primary goal of this research to add to our understanding of the material culture of the Lalonde group of sites, and of the lifeways of this group as reflected through settlement and subsistence patterns.

Although Lalonde is herein recognized as part of the Late Ontario-Iroquois Stage, only one other Lalonde site, as mentioned, has been examined beyond the point of producing an analysis of rimsherds: the Copeland site. Ridley, in presenting data from the Lalonde site, as well as Fallis and Frank Bay, describes the artifacts recovered. Settlement, floral, and faunal data are, however, not available.

The emphasis in all three reports is definitely on ceramics. This can also be said of M. Latta's (1968) examination of Ontario prehistory, wherein two further Lalonde sites, Deschambault and Farlain Lake, are introduced. Admittedly, the cultural assemblages beyond simply ceramics are described, but in varying degrees of detail. The researcher's goal of examining culture change in Huronia required that full stress be placed on the analysis of rimsherds. Also included in Latta's analysis are the ceramics from the sites surveyed by Ridley (1966, 1967, 1969, 1971, 1973). These reports represent the comparative data available to a study of Lalonde, primarily emphasizing the ceramic content of each site's assemblage.

It was felt, therefore, that because a Lalonde group of sites represents an important part of Ontario prehistory, more than simply one site of this period required analysis beyond ceramics, and thus the Baumann excavation took place.

Consequently, data were gathered on ceramics, lithics, bone, faunal and floral remains, copper, settlement, and subsistence patterns. With this new information it became possible to add to our understanding of this group of sites, as well as partially reconstruct the Lalonde way of life.

Further goals, met with varying degrees of success, included: collecting soil samples of features within the longhouse to determine if any pedalogical differences were consistent with the cultural feature designations; submitting a charcoal sample for a C14 date for a Lalonde site; determining the level of the actual living floor within the soil profile; assessing the importance of the plowzone in general, and on this site in particular; and, lastly, defining the feature complex uncovered within the longhouse without the use of pedalogical information.

The latter four goals are dealt with in the text. The soil samples submitted to the Ontario Institute of Pedology, University of Guelph (numbering 24), are not, to date, analysed.

The following literature review is presented in order to examine in detail our current understanding of the Lalonde series of sites.

1.7 Review of literature

The existence of pre-contact sites in Huronia has been known since Andrew F. Hunter conducted his extensive archaeological surveys in this area (Hunter, 1899, 1900, 1902, 1903, 1907). About fifty years later, Frank Ridley, also having recognized the presence of such sites, and their mutual similarities, proposed and named the complex in a paper entitled, "The Huron and Lalonde Occupations of Ontario" (Ridley, 1952a).

After having resurveyed several of Hunter's sites, and finding several new ones, Ridley realized that there were two distinct types of sites in Huronia; those bearing

European material and Huron cultural debris, and those lacking the former, with a ceramic assemblage quite different from that of the contact Huron. The latter assemblage Ridley attributed to the Lalonde occupation, and defined as diagnostic of it the High Collar Lalonde vessel, "... medium long, to long necked with rounded base ..." decorated with "... the long horizontal trailed line technique ..." (Ridley, 1952a:210).

This is in contrast to pots from Huron sites of a later period which are, "... short necked and globular ... decorated with short line incising" (ibid.).

Further characterizing this set of sites is:

> The Lalonde trumpet pipe ... The bowl appears as if made by spreading the mouth of a plain barrel pipe funnelwise, and thereby thinning the lip. Stems leave the bowl at nearly a right angle and are tapered to a small tip. No decoration appears on this pipe (Ridley, 1952a:209).

These are usually in association with:

> Awls made from bones of birds and mammals ... (and the) Barrel pipe ... The bowls are cylindrical, barrel shaped, and the odd specimen angles inward at the lip. They have one to eight lines incised annularly at the upper end of the bowl. Below this may be four to numerous punctates in a single encirclement. The incising varies from fine to broad. The finely tapered stems are attached to the bowl at or close to a right angle (ibid.).

That Lalonde sites represent a legitimate rung in Ontario prehistory was further emphasized by Ridley's excavation of the Fallis site, in a paper entitled, "The Fallis Site, Ontario" (Ridley, 1952b). The data for this culturally stratified site were presented, and showed

Lalonde artifacts to occur below later Huron artifacts. Ridley herein proposes his theory of Iroquois origins: that these northern Lalonde people expanded beyond the bounds of Huronia, towards the southeast, and laid the foundation for the historic Eastern Iroquois. This hypothesis was supported by the presence of the trumpet pipe and "basic high collar vessel" among the eastern assemblages (Ridley, 1952b: 14).

Scarcely one half year later J.N. Emerson and R.E. Popham in, "Comments on 'The Huron and Lalonde Occupations of Ontario'" proposed exactly the reverse of Ridley. These authors felt that "... considerable antiquity would have to be assigned to Lalonde if it were to be the prototype for such a profound metamorphosis," i.e., ancestral to the later Iroquois (Emerson and Popham, 1952:162). Instead, it was put forth that movement had taken place from the south, along the Humber river, towards the north. Their argument, however, suffered the same shortcomings as Ridley's, in that "considerable antiquity would have to be assigned" to these northward moving groups if they were to exist as Lalonde, with numerous sites in Huronia, before the change to contact Huron assemblages took place. The arguments used to show "northward movement to a peak of development in the Lalonde area" could just as easily have been turned about face in support of Ridley's theory, particularly since it was known that earlier Middleport sites existed in Huronia, conceivably supporting the "considerable antiquity" of Lalonde sites.

These articles laid the groundwork for an argument on Iroquois origins which, although eventually resolved, resulted in an admixture of academic endeavours and personal conflicts that only served to de-emphasize the importance of Lalonde sites within Ontario prehistoric development.

In 1954, Ridley published "The Frank Bay Site, Lake Nipissing, Ontario," describing a culturally stratified site in northern Ontario. The cultural sequence ranged from "Mattawan", through Point Peninsula, Glen Meyer, Barrie-Uren, Webb (Middleport), to Lalonde, and contact Huron on the uppermost level. Not only did these data serve to widen the geographical range of the ceramics represented, but they placed Lalonde chronologically between Middleport and later Huron. Although a relationship between Lalonde and Middleport was suspected: "Ridley is quite aware that certain Lalonde features were shared by sites like Uren, Lawson, and Middleport (Wintemberg, 1928, 1939, 1948) in southwestern Ontario but the relationship is considered tentative and indirect" (Emerson and Popham, 1952:162), the supposition was considerably strengthened by the stratigraphic positioning at Frank Bay.

In a succinct article written in 1958, "Did the Huron Really Migrate North from the Toronto Area?" Ridley concludes that, "The answer to all this is that the

MacNeish-Emerson theory of Huron origins is wrong and only achieved by an unwarranted selection of data" (Ridley, 1958:144). That the clarification of an aspect of Ontario prehistory was indeed suffering at the expense of this controversy was clearly outlined by Ridley (1963:ii) when he revealed that MacNeish had not included any Lalonde ceramics in Iroquois Pottery Types (1952), although he had had an opportunity to examine several collections at the 1950 Iroquois Conference.

In retaliation, Emerson in 1961 presented "Problems of Huron Origins" to the Northeastern Anthropological Conference, Buffalo, N.Y. He again set out in support of the MacNeish-Emerson theory:

> This theory, which has been labelled "the MacNeish-Emerson theory", (by Ridley, 1958), states ... that Ontario Iroquois culture began in central southwestern Ontario on the north shore of Lake Erie. From this nucleus a group split off, migrated eastward to the Toronto area, and settled in the Black Creek and Humber Valleys. They built villages and, following the Iroquois pattern of abandonment and relocation, gradually moved northward in prehistoric times until they ultimately formed at least part of the historic Huron population of Simcoe County, Huronia proper (Emerson, 1961:181).

By using the Brainerd-Robinson Coefficient of Similarity, ten sites were aligned to prove that northward movement of this kind, from the Toronto area to Huronia, had taken place. No Lalonde assemblages from Huronia were included in this test, however, and no reasons are given for this omission.

The conclusions to this paper (Emerson, 1961:191), in order to convey the flavour of the argument, read:

> Previously the "MacNeish-Emerson" theory of Huron Origins was criticized as being "wrong" and based upon "unwarranted selection of data." ... I trust this paper, presenting a segment of the documentation of the Emerson part of (the) theory, will not be dismissed in a similar undocumented, rhetorical manner.

In 1962, B.G. Trigger published "The Historic Location of the Huron" in which soil and trade conditions in Huronia are shown to be convincing reasons for a population growth to have occurred in that area (Trigger, 1962:140):

> Nevertheless, despite its desirability, it is quite obvious that the major settlement of Huronia took place, at the earliest, not long before contact with the whites in 1615, since a high percentage of sites have yielded trade goods .... While some of the remaining sites may date from a time considerably prior to the historic period, it appears that the population of the area was exceedingly sparse then.

It should be reiterated that Trigger not only accepts that population movement took place into Huronia (Emerson's proposition), but that a prehistoric population existed there before this movement took place (Ridley's premise). Trigger hereby clearly interprets the archaeological evidence available to him, independent of "the controversy."

Ridley is at his best in defending the north-to-south migration theory in an article entitled "The Ontario Iroquoian Controversy" (Ridley, 1963). He proceeds to show that varied manipulation of data had occurred in support of the south-to-north theory:

> (a) Though Emerson has ... twice printed denial

> of the presence of the Lalonde High Collar pottery on the Black Creek and Downsview sites, the thesis illustrates several examples from those sites and states for Black Creek: "The Lalonde-like high collar forms maintain an almost identical (with Downsview) popularity of 10 percent" (Emerson, 1954:133). Therefore the Black Creek and Downsview sites are indeed of the Lalonde culture as they have those parallels stated by Emerson in 1952, plus other elements illustrated and listed in this thesis, such as tapered pipe stems, rectanguloid pipes and notched arrow points . . .
>
> (b) In addition to all the elements of Lalonde culture, the thesis shows that the Black Creek and Downsview sites contained a very minor quantity of Effigy work, a collared ringed pipe and scraper forms suggestive of forms of the Neutral nation. These later motifs are not present on the major Lalonde sites of Huronia used in the original Lalonde identification. This suggests that the Black Creek and Downsview sites may be late in the Lalonde period. Therefore if there had been a discernible movement of people it would be in a direction reverse to the MacNeish-Emerson theory, in a southerly direction toward the land of the Neutral . . . (Ridley, 1966:vi-vii)

With the argument presented in point "(b)" Ridley is essentially overlooking the same factor as Emerson and Popham had; prehistoric development took place in the south as well as the north. Consequently, so-called Neutral elements on the Black Creek and Downsview assemblages could conceivably have been brought from the south. If, as Ridley claims, influence moved from north to south, then where would Lalonde people acquire these motifs? Ridley's theory, moreover, does not permit an explanation of the cultural transition from Lalonde to later Huron in Huronia.

To retrace, it appears that Trigger most effectively brought together both Ridley's data, and that supportive of the MacNeish-Emerson theory. Both theories were weakened by their failure to acknowlege prehistoric development in the south, and in Huronia. The data used in support of the MacNeish-Emerson theory, moreover, were inconsistently reported.

In 1965 E.R. Channen and N.D. Clarke, with the help of J.V. Wright, published "The Copeland Site: A Precontact Huron Site in Simcoe County, Ontario." This site report represented six years excavation of a prehistoric village, the assemblage of which is Lalonde. It was the first (and last) time that essential cultural data were provided for this time period in the form of faunal and floral analyses, settlement patterns, and a description of the artifacts.

The Copeland data were invaluable to Wright's (1966) synthesis, The Ontario Iroquois Tradition, particularly in the section discussing the "Late Ontario Iroquois Stage" (Wright, 1966:66). In referring to Lalonde sites in Huronia, Wright replaces the latter concept with a term briefly used by Ridley (1963:Appendix), that is "Northern division." The discussion follows the same principle articulated in 1962 by Trigger; that a prehistoric population was present in Huronia when northward movement took place from the shores of Lake Ontario. The gist of this argument has been reviewed above, under Section 1.5.

A final view on the legitimacy of a Lalonde culture was published in 1968 (Noble 1968a:212).

> Ridley deserves credit for perceiving this aspect of Huron origins but his assertion that Lalonde is a culture separate from Huron has not been validated in any anthropological or archaeological sense.
> The term Lalonde remains valid, however, as the name for a northern prehistoric site, for a particularly wide flaring trumpet pipe and for a distinctive high-collared pottery type.

This explanation again fails to accredit the numerous sites surveyed by Ridley between 1952 and 1973 in Huronia which are Lalonde. These sites cannot, on the basis of distinct assemblage differences, be classed as Huron as ~~we~~ know it from an archaeological perspective. There are, furthermore, protohistoric sites in Huronia and Wright's fusion sites, all of which are unlike the sites of the earlier Lalonde and the ethnographic Huron, representing a development between the two time periods. The appellation "Lalonde" should unquestionably be extended byeond that of a pottery type, a site, and a pipe. Emerson (1954:252), despite his position vis-a-vis Huron origins, also maintained this basic premise: "It would appear legitimate to recognize a Lalonde focus which Ridley clearly indicates to be quite distinct from a historic Huron complex."

Thus, the nature of the controversy appears to have had an effect upon the degree to which a Lalonde group of sites in Huronia was acknowleged as part of Ontario prehistory. Wright (1966), while recognizing the chronological importance of Lalonde, did not have a data base necessary for introducing an extensive occupation in Huronia. The numerous sites surveyed by Ridley when combined with cultural information on Lalonde (from Copeland and Baumann), show Lalonde to be quite a distinctive, and extensive occupation in Simcoe County.

1.8 Conclusions

Hopefully future excavation can be done on the Baumann site. Trenching may reveal the number of houses in the village, and further study of midden contents and house interiors may tell us more about Lalonde society. It is hoped that future excavation will not have as its only goal the collection of artifacts, as has frequently been the case in the past. Since one cannot expect that resources will be available for an entire excavation of the site, those areas which can be opened should be studied in detail. Perhaps the 1980 data can articulate areas of future concern through both their assets, and deficiencies.

The chapters which follow present and analyze the data from the excavation. Chapters are entitled as follows:

Chapter 2 -- Regional and Local Environments describes the topography of the environs of the Baumann site and the site itself. A summary of previous studies of Baumann is also given.

Chapter 3 -- Methodology describes the grid system and excavation techniques applied to House 1 and Midden 1. Methods used to analyze the various data are also outlined.

Chapter 4 -- Excavations presents a detailed description of House 1 and an analysis of feature types within this house. An interpretation of the level of the original living floor is presented, along with an examination of the possible reasoning behind the northeast-southwest house orientation. Also included is a description of Midden 1 and an elaboration of the method used to test it.

Chapter 5 -- Artifacts describes the lithics uncovered at Baumann, as well as bone artifacts, copper, and ceramics.

Chapter 6 -- Floral and Faunal Remains studies the seed types, and animal species represented. An impression of subsistence patterns can be obtained from these data.

Chapter 7 -- Site Comparisons summarizes the comparisons which are made throughout Chapters 5 and 6 between Baumann data and those of other sites.

Chapter 8 -- Conclusions begins with a brief discussion of attribute analysis, and observations made by the author as a result of having used this method for rimsherd analysis. The chapter concludes with a re-emphasis of the goals of this research paper.

CHAPTER 2

REGIONAL AND LOCAL ENVIRONMENTS

2.1 Regional Topography

A thorough treatment of soils, climate, drainage, and vegetation in historic Huronia is presented by Heidenreich (1971:54-71) in Huronia: A History and Geography of the Huron Indians, 1600-1650. Although the text deals with these categories in terms of the contact Huron period, no physio-climatic changes took place between it and the Lalonde period, thus allowing the same conclusions for both time periods. These categories, as they may apply to the Lalonde period, are summarized below.

Briefly, the soils of Simcoe County are of two main series: Tioga and Vasey. Both are well drained, sandy soils which require long periods to renutriate and revegetate after soil depletion and clearing have occurred. Heidenreich (1971:69) stresses ". . . that it would probably take thirty to sixty years before a thoroughly depleted Vasey or Tioga soil can be used again without the benefit of a fertilizer." This is an important factor in explaining shifting horticulture among Lalonde and later Iroquoians in Huronia, and subsequent village transplantation.

The landscape of Medonte township is moderately to steeply rolling, a result of glacial Lake Algonquin recessional shorelines. The latter are of great cultural significance in that Indian villages are often located along their upper edges, as is the case with the Baumann site. The bluff functioned as a protective feature, as well as an excellent location for middens. The bases of these beach ridges were often streambeds, or swamps, providing clams, fish, aquatic birds, and clay for pottery manufacture.

The soils in Simcoe County are for the most part developed on the Trenton limestone formation. It is entirely made up of calcitic limestone, wherein silicified fossils and chert commonly occur (Hoffman *et al.*, 1962:10). That cherts occur naturally in this formation is an important consideration while excavating. At Baumann, local unworked nodules were constantly being found, and would have been kept were it not known that they occurred locally.

The Baumann site is well within the physiographic area of the "Medonte-Orillia Till Uplands", chiefly characterized by the above topography. The immediate region of the site is mainly covered by the sandy loam Vasey type soil. Tioga also occurs, but in patches in the eastern half of the area (Heidenreich, 1971:72).

In Huronia the climate is such that a frost-free period of 135-142 days within a growing season of about 195 days can be expected between mid-April and the end of October (Heidenreich, 1971:56). These figures are similar to those presented by Hoffman (1962:17), who indicates that an average frost-free period of 126-154 days occurs from mid-May to the third week in September, within a growing season of 180-200 days. The longest frost-free period and growing season occurs in the environs of Collingwood just to the west of Huronia, also the historic location of the tobacco growing Petun Indians.

With regards to drainage, it was postulated by the regional geologist that the water table had not changed significantly over the last 400 years (W. Fitzgerald, 1980: personal communication). This, however, was suspect since the area of the Baumann site is relatively dry during the summer now, the nearest major water supply being Bass Lake, 10 km. east. Several dry streambeds and swamps attest to there having been a higher water table, as does the presence of the Baumann site itself. Heidenreich (1971:66) certainly shows this to be the case, and in relating this situation to archaeological sites states, "Today many of these archaeological sites are beside dry or intermittent creek-beds which must have held a steady water supply in Huron times."

Vegetation is of particular interest to the archaeologist, and because climatic conditions have not altered drastically since Indian times neither have vegetation types. McAndrews (1981) argues that a white pine cover existed after Indian land clearance. This forest was subsequently lumbered off by the first wave of pioneers and replaced by the original deciduous forest on a smaller scale. Today, consequently, the naturally occurring floral types are much the same as 400 years ago.

Heidenreich (1971:60) presents an extensive list of plants mentioned in the ethnographic sources, and notes that, "Of the plants mentioned and identified, there is not one that does not grow in Huronia today." This is also the case with regards to the tree species which then, as now, consisted primarily of maple, basswood, beech, elm, hemlock, and pine (ibid.).

Many of the faunal species existing in this environment were exploited by the Indians. From faunal remains, fish seem to have been the most popular food item. The abundance of fish bone, however, is not necessarily reflective of greater popularity of this food item over other fauna. Rather, fish may have required a greater catch quota to maintain a specific consumption level than bear, for instance, or deer, and thus an over-representation of fish results. Dog, numerous rodents such as mice, woodchuck, squirrel, and chipmunk, as well as turtles and avian species comprise the remainder of the diet.

Late fall, winter, and spring would be the seasons in which the majority of hunting and fishing took place. Summer and early fall would be spent harvesting corn, beans, squash, nuts and berries; foods making up the remainder of the diet. Faunal procurement was, of course, carried out in varying degrees of intensity throughout the year.

2.2 Site description and previous excavations

The Baumann site is located on Concession XIII, Lot 9, Medonte Township, Simcoe County, Ontario (Figures 1, 2). It is not unusually located for an Iroquoian site in Simcoe County, being bordered on the north and east by beach ridges. The east bluff is quite steep, and today

Figure 1. Map showing location of site in relation to Georgian Bay, Lake Simcoe, Lake Erie, and Lake Ontario.

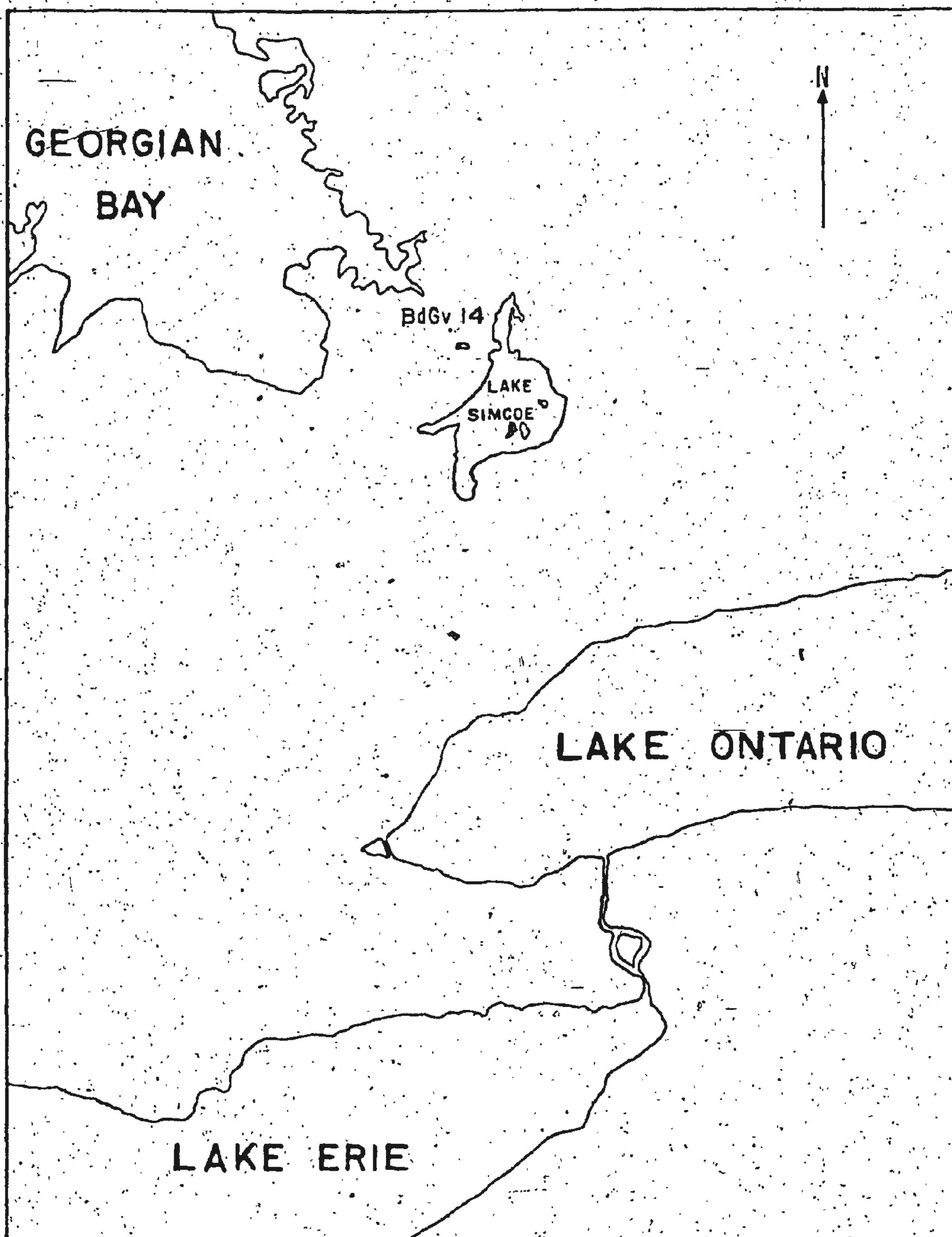
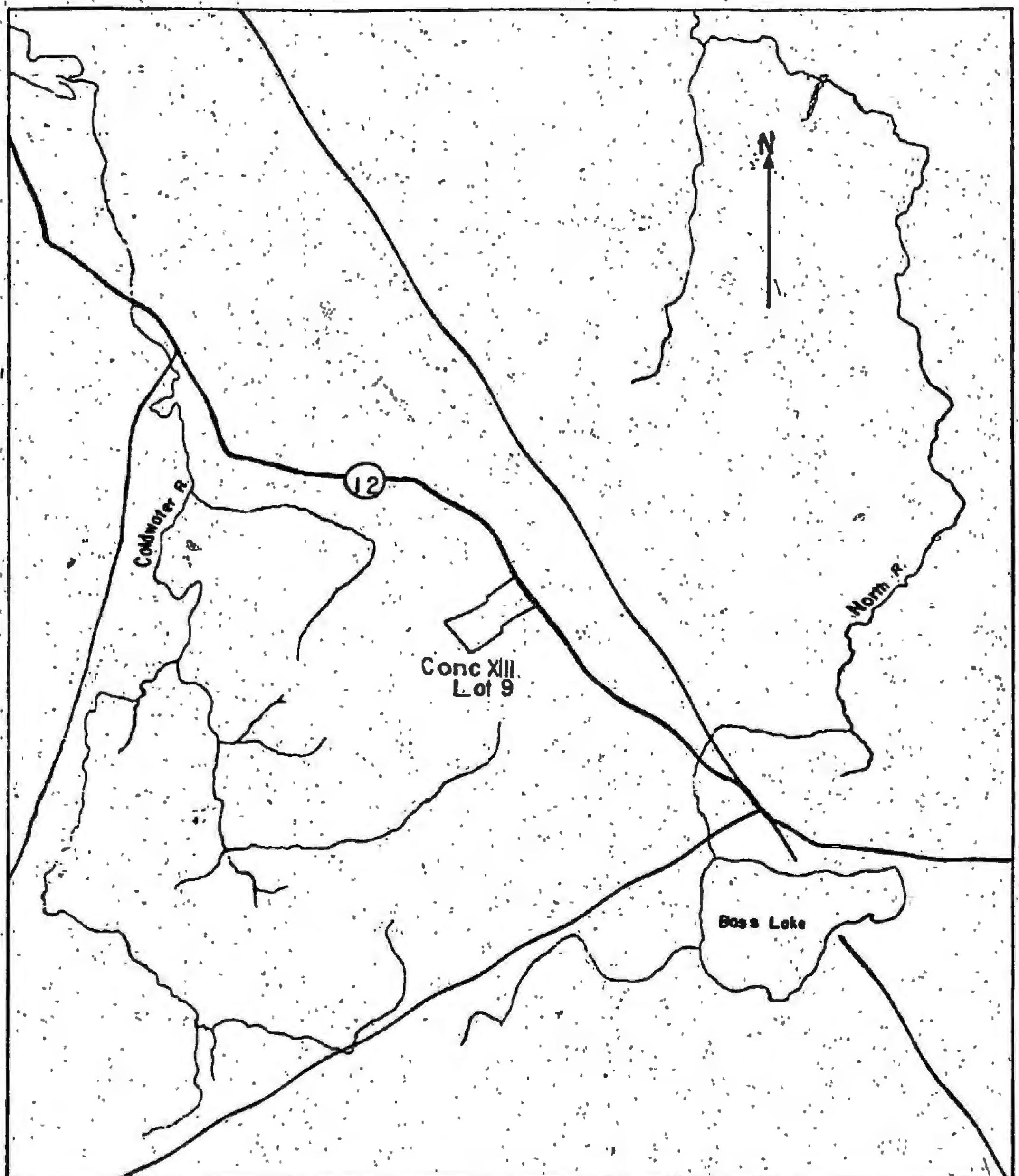

GEORGIAN BAY
BdGv 14
LAKE SIMCOE
N
LAKE ONTARIO
LAKE ERIE

Figure 2. Map showing location of site in Simcoe County.


N
12
Coldwater R.
Conc XIII
Lot 9
Norm R.
Bass Lake

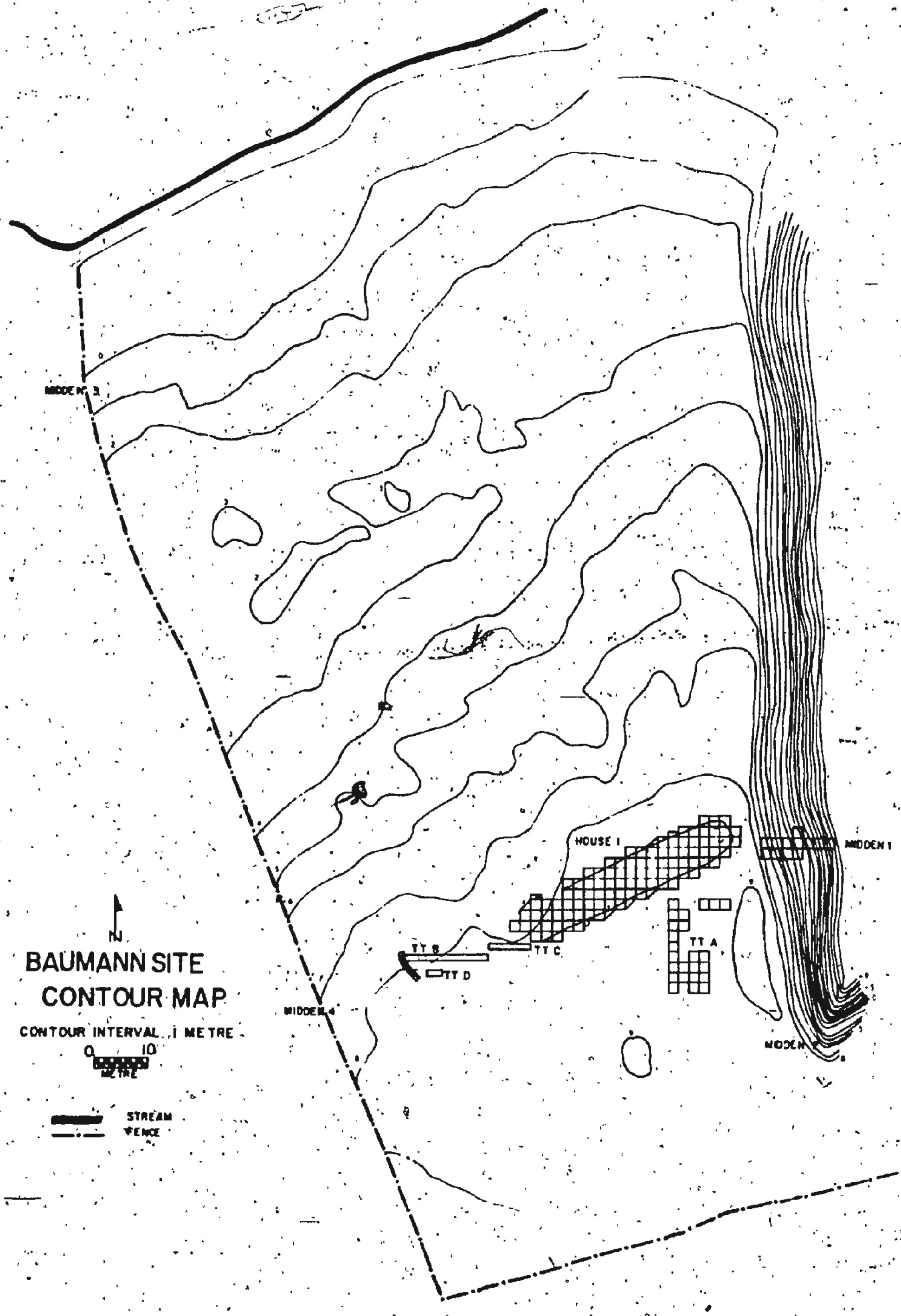
the soil at its base is intermittently swampy. The north bluff is short, sloping down to a streambed which now only fills with water in the spring and after a rain. This stream runs into a pond just west of the westerly fence. The south and west are not naturally bounded, and open onto relatively flat fields (Figure 3).

Baumann is situated on a Tioga series soil: "The Tioga profile has a very dark, grayish brown A_1 horizon about 1 inch thick which rests on a light gray to white A_2 horizon. The A_2 horizon is thin and has a strongly acid reaction. It is underlain by a yellowish brown B horizon which becomes lighter in colour with depth . . ." (Hoffman <u>et al.</u>, 1962:45).

The grassy field in which 1980 excavation took place is surrounded by maple, birch, and beech trees growing along the fence lines and the bluffs. The north end of the field is heavily overgrown in sumac, patches of which also occur along the east bluff. The field has not been plowed for at least ten years, and excavation rarely revealed plowmarks in the subsoil. This may indicate that little plowing was ever done in this pasture. During the last decade, the property owner, Mr. H. Baumann, has occasionally used this field as a pasture for horses, and is presently grazing sheep there.

The fields adjacent to the Baumann property are owned by two different landholders who plant corn and winter wheat. Surface surveying of these fields tentatively establishes 6-8 acres as the size of the site.

Figure 3. Contour map of site, showing location of excavated units and middens.



BAUMANN SITE
CONTOUR MAP
CONTOUR INTERVAL, 1 METRE
0 10
METRE

Neighbouring the Baumann site is a large (10 acre) contact Huron village, presently named the Ball site, dating to approximately A.D. 1600 (D. Knight, 1981:personal communication). It is plausible that descendents of the Baumann site had completed a resettlement cycle by returning to this area, in keeping with the periodic displacement of villages to allow rejuvenation of the surrounding ecosystem (Tooker, 1967:42).

The Baumann site was first reported upon in 1966 by C. Heidenreich and R. Schultz, while undertaking an archaeological survey of the area for the University of Toronto (Heidenreich & Schultz, 1966). The report on this site, along with assorted artifacts are in storage at the University of Toronto Archaeology Laboratory. The surveyors noted at the time that Middens 3 and 4, along the west fence line, were heavily disturbed by plowing of the adjacent fields. They remain so, and Midden 4 was difficult to locate as a result of disturbance. Middens 1 and 2, however, were undisturbed and situated on the slope of the east bluff (Figure 3).

In their report, Heidenreich and Schultz note the presence of a possible ossuary in the northeast part of the field. No testing was done for this ossuary in 1980. Further communication from Dr. Heidenreich, moreover, explained that the feature completely lacked artifacts, stratigraphy, and skeletons, and was probably placed there by a local farmer. Archaeologists at Cahiagué (being excavated by the University of Toronto), however, felt at the time that the earth pile should be labelled as a possible ossuary (C. Heidenreich, 1981:personal communication).

Frank Ridley was next to survey the site (Ridley, 1967), which he named the Perdue site, after the landowner at that time. The map presented in Ridley's report, as well as much of the data, are taken from the Heidenreich and Schultz report which was forwarded to Ridley when Heidenreich learned of his interest in Lalonde sites (C. Heidenreich, 1981:personal communication).

The site was again briefly surveyed in the early 1970's by D. Knight, also using the Heidenreich report (D. Knight, 1980:personal communication). A sample of pottery was taken from Midden 1 which is presently stored at Wilfrid Laurier University Archaeology Laboratory, as are the entire 1980 collection and data.

The following chapter describes the excavation and analytical techniques used, and explains why these methods were chosen.

CHAPTER 3

METHODOLOGY

3.1 Field methods

A north-south (NS) baseline was established from a datum point 0:100 (zero north:one hundred west), in the southeast corner of the field. Datum is 5.3 metres north of the south fenceline, and 50 metres east of the west fence. Further lines were laid out from this baseline into Midden 1 and into what became House 1.

An east-west (EW) baseline was extended from 0:100 to 0:140, along the south end of the field. The datum, NS, and EW baselines were left in place at the end of the season in anticipation of a second field season.

The NS baseline stakes begin 16 metres north of datum, occurring at 2 metre intervals and ending at 72:100, at which point the line begins to head over the ridge edge. The EW baseline is represented by stakes at 0:116, 0:130, and 0:140.

The first squares were set into Midden 1, and directly west of the edge of the midden in the field. A profitable assumption was made here, in that where there is a midden there must also be nearby occupation. The first field square excavated yielded several ash pits, black refuse pits, and postmoulds; a house interior.

Plowzone was removed by "shovel-shining", except in Test Trench A (TTA) (Figure 3), where a front-end loader was hired to remove this soil layer. Once the yellow sandy loam was reached, trowelling began. The loader opened two further trenches in the north-central, and northwest parts of the field which proved sterile. No grid was placed onto them.

3.2 Excavation in House 1

Of 249 features uncovered, all were entirely, or half screened through 1/8 inch mesh screens, and profiles and size measurements taken. All the partially screened features were ash-filled, which, from past experience were known to yield very little, if any, bone, and no artifacts. The decision to half screen these features was made near the end of the summer, the official field season being long over, in order to complete the examination of the already opened squares.

Square maps and pertinent information regarding soil colour, square depth, artifacts found, etc., were kept for each 2 metre square excavation unit. The recording of square depths led to some discussion on the actual level of the original living floor within the soil profile (see Chapter 4).

All house-wall post depths were taken. Depths of interior posts were randomly taken. All house-wall and interior postmould diameters were recorded, taking the NS and EW diameters. Trenches B, C, and D were placed to determine the length of House 1 (Figure 3) when it became apparant that the structure could not be completely excavated in one season.

3.3 Excavation in Midden 1

Trowels were used to excavate midden squares which were 2 x 2 metres in size. Dense underbrush and tree growth also made root clippers and axes staple equipment. The upper midden squares were highly eroded and yielded little of cultural value. As the slope steepened, this situation changed drastically, and squares were consequently divided into quadrants for greater control. Two diagonally placed quadrants per square were screened with 1/8 inch mesh in order to obtain a maximum sample of cultural data per square, keeping in mind time and money available. Quadrants were labelled NE (north-east), SE (south-east), NW (north-west), and SW (south-west). Squares formed a down-slope trench through the midden, and a horizontal test trench was also begun (Figure 3).

Middens 2, 3, and 4 (M2, M3, M4) (Figure 3) were located following Heidenreich's (1966) survey, and briefly tested to confirm their existence. No excavation was carried out in these middens because: Middens 3 and 4 are heavily disturbed, and an artifact sample could be more easily obtained in Midden 1 (M1) or M2. They are, moreover, primarily outside the Baumann property line; M2 appeared to be a major midden. If excavation was to be done there, it should be done noting erosional processes and stratigraphy, by screening) and establishing the maximum recovery area through trenching, as in M1. The time for this was not available during the 1980 field season.

The methodological procedure for midden excavation differed from that used in excavating House 1, an obvious statement perhaps in view of differences in anatomy and contents of a midden. There exists a real need, however, to refine techniques of midden excavation when uncontrollable pressures do not allow their complete examination. A difference in methodology from that which approaches a midden as a "happy-hunting ground" for rimsherds is stressed.

In the case of M1, a connection to House 1 was assumed on the basis of proximity, and importance was placed on understanding the midden as it related to the house structure stretched out on the ridge above. This required not only placing emphasis on the acquisition of rimsherds, but also of floral and faunal data, as well as bone tools and lithics. This approach is necessary and illuminating if a "culture-area type" (Steward, 1976:88) is to be developed for this time period in Huronia.

Several sampling designs were considered, particularly those presented by Bellhouse and Finlayson (1979). Their method of transect sampling (<u>ibid</u>.:112) most closely represents the approach used in excavating M1. It must be stressed, however, that statistical sampling advocated by these authors was not conducted at Baumann. The reasons for this are fourfold: Primarily, the sampling designs, and subsequent sampling fractions presented in the Draper site study tested "large", "intermediate", and "small" sized middens. The exact size ranges associated with those nominal categories are never specified. Are these designations, furthermore, only characteristic of the Draper site, or can they also be applied to, ". . . other large, partially undistrubed Huron villages near the Draper site . . ." (ibid.:121), or perhaps even for villages from the same time period but not necessarily in the same geographic or cultural zone? In other words, the basis for the Bellhouse and Finlayson sampling design appears to be applicable only to the Draper site, and it was not felt to be ideally suited to the Baumann midden.

Secondly, in order to determine the sampling fraction for a particular size midden dating from Lalonde times, which is different in composition from a Draper site midden, a similar midden would have to be entirely excavated first at Baumann, and the result then applied to a second midden. This, needless to say, was not feasible in the case of the Baumann excavation.

The final point of contention is that it was never specified in the Bellhouse and Finlayson report whether the middens under study were on a plane surface or on slopes, factors which should affect sampling fractions chosen because of differences in composition, i.e., a plane midden may require a different sampling fraction than a slope midden to arrive at a representative sample, due to their differing areal distributions.

It would have been ideal to have been able to develop, and test a sampling design, and implement it, had the resources of time and money been available. Nevertheless, it was thought important to investigate the midden, and the method used is described in the following paragraphs.

At Baumann, M1 was tested by excavating a single verticle trench from the top of the bluff to its base (Figure 6). All cultural material was kept, only land-snail (Gastropoda) shells were eventually discarded, as their numbers and intact nature gave them away as non-cultural, recent intrusions. This is a non-statistical sample, from which no conclusions based on statistics can be made. Various, and valuable, qualitative conclusions may be reached, however.

The vertical trench provided a continuous profile of midden stratigraphy, except for a 1 metre section. It furthermore allowed a determination of the slope level at which midden concentration had taken place. The trench also ensured that an accumulation of cultural material was collected which is intuitively believed to represent the culture which created the midden. This method was adopted, as opposed to placing test squares in the midden, and as a result data were obtained which allowed a midden profile to be made. This profile is helpful in indicating where soil and cultural material accumulation took place and how the two affected one another in becoming the midden as it is today. With these data it was possible to place a horizontal transect (Figure 6) through the area of concentration in order to obtain the greatest amount of cultural data. This trench, running N-S, was not extended to the very limits of the midden, another 2-3 metres towards north and south.

McGlade (1981:15) in determining coefficients of similarity between excavation units in M1, using the icthyofaunal sample, points out how even these excavation methods cannot satisfy all analytical needs:

> The radical difference between excavation units does point to the danger of extrapolating from a single midden to the fishing activities and diet of an entire settlement. Indeed, the lack of spatial contiguity, even between quadrants of the same square (e.g. 68:88 NE, which bears a greater similarity to a downslope square 66:86, than to 68:88 NW, SE, SW) should compell archaeologists to thoroughly examine sampling procedures of middens for faunal remains.

While the lack of spatial contiguity could stem from a natural settling or downslope drift in the midden, or the sampling procedure, or the analytical unit employed, sampling techniques should still be examined.

3.4 Methods of analysis

Analysis of features, lithic and bone tools, copper, pipes, ceramics, floral remains, and faunal remains was carried out in order to obtain the greatest amount of cultural data possible for a Lalonde site, in order to develop a reliable comparative data base.

Features were measured in the field, recording N-S and E-W diameter. Soil colour and consistency were recorded, noting presence of any ash, and its colour. The feature was then sectioned, one half screened through 1/8 inch mesh, collecting all bone, seeds, artifacts and some charcoal. Depth of the feature could then be measured, a profile drawn, and the task was completed by screening the second half. These data were then organized by developing a Feature Code (Appendix E) and subsequently keypunching the data onto IBM cards. It was of interest to identify the features at Baumann since in the field there appeared to be two distinctive types. The Statistical Package for the Social Sciences (Nie et al., 1975) standard printout was helpful in making these identifications by grouping the data in an organized manner (Appendix B). The fact that feature data can be obtained in printout form will be useful to future studies of Lalonde settlement patterns, and settlement patterns in general.

Lithic artifacts were first grouped according to stone type, i.e., chert, schist, soapstone. These categories were then further divided into artifact types such as retouched flakes, beads, adzes, etc. All lithic artifacts were measured for either length, width, or thickness, or a combination thereof, presented in the text in terms of "ranges" and "means" where more than two artifacts of a type exist. Use-wear visible without the aid of a magnification instrument is described.

Bone artifacts were identified according to the species type of bone, followed by further grouping into artifact types. Measurements were taken, which, in the text, are presented as ranges and means. Cut ~~marks~~ on various bone artifacts are also described.

The two copper artifacts uncovered were submitted for X-ray Flourescence studies to determine whether the copper was native, or of European trade origin. These artifacts are described, and the sizes given. Appendix A presents the results of the X-ray Flourescent analysis.

Ceramic pipes are divided into types following Ridley's (1952a) terminology, and described in detail. No attribute analysis was done because of the small sample. A summary of Weber's (1970) conclusions regarding Lalonde ceramic pipes ~~is~~ presented in order to emphasize the uniqueness of these pipes, and their significance within the pre-contact assemblage.

While the small quantity of pipes did not warrant an attribute analysis, the rimsherd sample did. This was done not only because of the larger sample, but also in order to arrive at significant indicators of Lalonde ceramics. This could only be done by extracting a maximum of information from the rimsherd sample. These data will be doubly useful for future comparative studies of rimsherds. The ceramic code used for this analysis is presented in Appendix C, and is based on the code used by Pearce (1978) for the Draper site.

The attributes were organized using the Statistical Package for the Social Sciences (Nie et al., 1975) adapted for the MUN computer, the results of which are in Appendix D. Seven attributes were chosen as significant chronological indicators of the Lalonde assemblage. These attributes, with their frequencies, should prove to be characteristic of other Lalonde site assemblages, and were chosen on the basis of frequency similarities with available comparative data.

Floral remains were first organized according to species and quantified. All complete seeds were measured for length and width, and the average sizes obtained. The significance of the various seed types as part of the diet is also discussed.

Three separate faunal studies were done. The faunal collection had to be divided up in this manner as it was the only means of analyzing this large sample without cost, and within a given period of time. Although these reports proved too lengthy to appendix, the following paragraphs will describe the techniques employed by each analyst. Copies of these reports can be obtained from the author of this research upon request.

J.M. McGlade conducted a purely icthyofaunal analysis. The following quote from the report summarizes the methods employed (McGlade, 1981:1):

> Comparative work, for species identification, was done at the University of Guelph and was based on the collection from the Museum of Zoology, University

> of Michigan, Ann Arbor, and a personal collection of the author. Whenever possible species were identified. Bones that could not be assigned to a species or genus were identified by their anatomical names. Fragments that could not be identified in this way were designated as unidentified remains. Minimum numbers of individuals (M.N.I.) were derived from size comparisons of bones, and as suggested are minimum estimates. When the various bones assigned to one species were of comparable size, they were attributed to a single individual, until the rules of asymmetry were met viz. one part from the left side of the fish, and one part from the right. Species associations within and between excavation units were based on minimum numbers of individuals, rather than presence or absence of species. Coefficients of similarity between excavation units were thus calculated with Robinson's (1951) algorithm. . . . Clustering of excavation units were formed for associations with a value for Robinson's coefficient of >100.

R.W. Park analyzed half of the faunal sample, including a remainder of fish bones, as a student under Prof. H. Savage of the Faunal Archaeo-Osteology Laboratory, Department of Anthropology, University of Toronto. These faunal findings are also broken down according to class, genus, calculating the Minimum Number of Individuals (MNI), and described. A section on intrasite comparison is also done, comprising a breakdown of faunal findings according to culture units such as refuse feature, hearth, miscellaneous feature, and Midden 1. Seasonality and subsistence are discussed, followed by a final section on intersite comparisons. Here the Baumann sample is interestingly compared to three other faunal analyses: one from a site roughly contemporaneous with Baumann, situated at Methodist Point near Georgian Bay; and the remaining two dating later in time, during the early contact period, named the Ball and Cahiagué sites. An appendix to this paper examines the length of the most popular fish species in this sample (Perca flavescens) by using a formula which is based on the premise that opercular length is in direct relation to total fish length. The final appendix tests yet another technique of fish bone analysis, described in the following quote (Park, 1981:81):

> Application of another technique used by Bardach allows information as to the season in which the fish were caught. As a fish grows, bone of greater density is laid down during February and March due to arrested growth. Projecting light through the bone (Bardach used opercula but experimentation revealed that most plate-like bones will work . . .) allows these annual marks to be studied (Bardach, 1955:107-108).

M.M. Shaaban, also studying under Prof. H. Savage at the Faunal Archaeo-Osteology Laboratory, University of Toronto, reported upon the second half of the faunal sample, also containing some fish bone. This report takes the same format as that of Park, breaking down identified species into class and genus, and calculating MNI. Shaaban goes on to determine age of the animal where specimens permit, using the technique of epiphyseal union or non-union, and dental development. Evidence for butchering and cooking, as noted through modification of bone specimens, is also described and tabulated. Seasonality is discussed, as is habitat preference of the various species. The latter section assesses the species according to the habitats they prefer, giving an idea of the types of ecosystems which occurred near the site. Shaaban attempts an estimation of the average length and weight of two fish species (Perca flavescens and Amia calva). Two methods are tested: the first requiring the measurement of opercular length, as Park does; the second is based upon the assumption that there exists a linear proportional relationship between bone size and fish size. In the case of the Amia calva specimens, age is also determined. These two species were used because of their large sample size. A final section entitled "Subsistence Inferences" evaluates the probable percentage of meat represented by mammal, avian, fish, and turtle species identified. It is duly cautioned that these estimates are directly affected by factors such as excavation techniques, extent of excavation, butchering practices, disposal customs, and preservation.

The following chapter describes the physical characteristics of House 1 and Midden 1. An analysis of features, and an interpretation of the midden is also included.

CHAPTER 4

EXCAVATIONS

4.1 Introduction

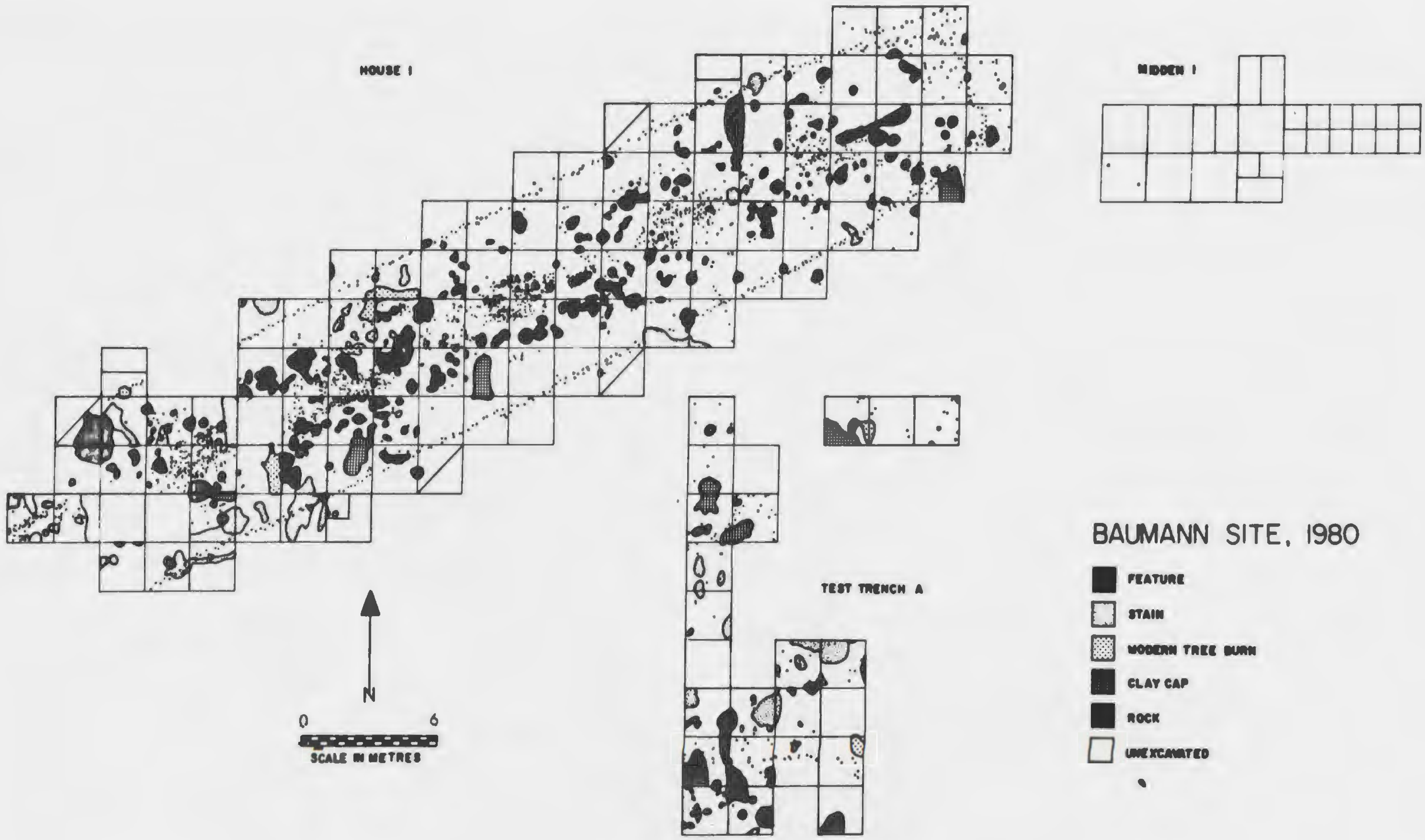
The following chapter presents a description of the longhouse as uncovered and its feature assemblage. An interpretation of the types of features within the longhouse is presented, as well as suggestions regarding the below-sod level of the original living floor. This is followed by an examination of the reasoning behind the NE-SW house position, and a description of the midden tested.

4.2 House 1

This structure is 66 metres long, and 8 metres wide. The southwest end was located by placing Trenches B, C, and D (Figure 3), a measure taken near the end of the field season when it became clear that the entire house could not be excavated. The northeast end of the house appears to taper to squared corners and the end wall is indented. There are various outside posts associated with this end, and their function may have been as reinforcement or support. Evidence of crosswalls or benchlines is lacking (Figure 4).

As shown in Figure 4, the interior of the house is crowded with evidence of activity. Postmoulds occur in clusters spaced throughout its length, along the central

Figure 4. Diagram of House 1, Test Trench A, and Midden 1, with associated postmoulds and features.


HOUSE I
MIDDEN I
TEST TRENCH A
N
0
6
SCALE IN METRES
BAUMANN SITE, 1980
FEATURE
STAIN
MODERN TREE BURN
CLAY CAP
ROCK
UNEXCAVATED

axis. Five of these clusters are completely uncovered, and a sixth partially. A possible seventh cluster may exist in the unexcavated SW end of the house, assuming that the pattern of clusters continues.

These postmould clusters occur in association with numerous features which also run throughout the central axis of the house. Clear corridors between this central strip and the house walls are never continuous.

A pattern among ash-filled features and refuse-filled features was recognized in that the former were always in association with one to three refuse pits. These groupings are in further association with the post-mould clusters. It must be remembered that these features and postmould associations could not all have been functioning at the same time since this would virtually end any ease of movement within the longhouse.

The postmould clusters in association with features attest to activity areas within the longhouse. Intersecting postmoulds point to a succession of activities having taken place at a particular spot (Plate 30). The "old" postmoulds were usually filled with gray, orange, or black ash. One example of five such overlapping postmoulds illustrates areal reuse within the longhouse: moving in a clockwise direction, the faintest postmould was overlapped by a darker, more orange mould, which in turn was overlapped by one yet darker orange. The second-last post-mould was a dark brown/orange colour, and it, as well as the first postmould were overlapped by the last which was not ash-filled, but brown/black decayed organic material with a soft, loamy texture, probably the decayed post.

These micro-activity areas are identifiable, as well as the larger groupings of features and postmoulds. The former undoubtedly represent activities of food preparation, and hanging and drying of foods and skins. The temporary nature of the features and postmoulds is, again, evidenced by their numbers.

The average size of the poles used in the activity clusters is smaller (N-S diameter 6.4 cm.; E-W diameter 6.3 cm.) than those used to construct the house wall (N-S diameter 8.1 cm.; E-W diameter 8.1 cm.). The average density of house wall posts is 4.6 per metre.

While Noble (1968a:97-98) notes the presence of both "circular grey-ash pits" and "oval, black refuse pits" on the protohistoric Sopher site, also in Medonte Township, Simcoe County, he does not mention an association of such features, as occurs on the Baumann site. It is interesting to note, however, that similar types of features appeared at Sopher, in the longhouses, as at Baumann, and both are pre-contact sites.

In size, House 1 does not compare well with the structures uncovered at the Copeland site, the only comparative Lalonde site with settlement data (Channen and Clarke, 1965:5). The longest house at Copeland measures an awkward 27 x 55 metres. None of Copeland's four houses has interior feature arrangement similar to Baumann's House 1, and House 1 lacks the evidence of sleeping platforms which were found at Copeland.

Noble (1975:43) notes that:

> The immediate post-Middleport period (ca. A.D. 1425-1500) marks the heyday of the Ontario Iroquois longhouse in terms of sheer length. Often the houses extend up to 150-300 feet [46-92 metres] (eg. Moyer, Draper, Campbell). . . .

Based on length, House 1 appears quite characteristic of this time period.

The NE-SW house orientation cannot be well explained, particularly since prevailing winds are from the west and northwest in this area. The majority of longhouses at the later Ball site, situated in the neighbouring field, are placed NW-SE, or NNW-SSE (39 out of 43) (Knight, 1981:Map 5) to lessen the house surface area struck by these winds, for thermal efficiency (Norcliffe and Heidenreich, 1974:22). It is conceivable that topography in this particular section of the field influenced house orientation at Baumann. Had the positioning been NW-SE, the NW end would have headed downslope (see contours in Figure 3).

A map of the Forget site, Simcoe County (ca. A.D. 1530) shows four of its twelve houses in NE-SW position, while the others are in the usual NW-SE position (Heidenreich, 1971:Figure 8, after a map by Dr. W. Jury). Heidenreich does not comment whether topography could have affected this orientation. Of the four houses at the

Copeland site, House 1, the 27 x 17 metre structure, is positioned E-W, while the others are N-S.

The delineation of postmould clusters and the grouping of features on a spatial level attest to organization of activities. Whether lineages/clans can be deduced from this aspect of interior arrangement can only be a matter of speculation. That lineages may well be represented is evidenced in a quote from Noble (1968a: 60) regarding Lalement's observations of the Huron:

> As for the Huron, Father Hierosme Lalement recorded in 1639 that the Bear and Cord clans, who called each other "brother and sister", were the two oldest clans in Huronia and could speak with certainty of the settlements of their ancestors, and of the different sites of their villages for more than two hundred years back.

It should be noted that the Baumann site is not in the traditional lands of either the Bear or Cord, rather in what became the area of the Rock tribe shortly before European contact.

The original living floor level in this house must have been approximately 3-8 cm. above the subsoil level on which archaeological excavation took place. This became evident whenever feature or postmould profiles appeared in baulks (Plate 1), showing their extension into the semi-disturbed, i.e., plowed, topsoil. The postmoulds and features which happened to be profiled in baulks indicate that the living floor existed at a level approximate to their top surfaces, and not at the same surface on which excavation took place. Although a statement of the obvious may be seen here, it is important that this be stressed, since the excavation floor cannot be interpreted as the living floor.

Table 1 presents the data on six features which appeared in baulks and extended higher than the excavation floor, into the topsoil. Figure 7 illustrates this concept. It must be remembered that the present topsoil is a post-habitation soil which may have rearranged or removed the upper limits of these features and postmoulds. Thus, the living floor may be even higher from the excavation surface than even these data suggest.

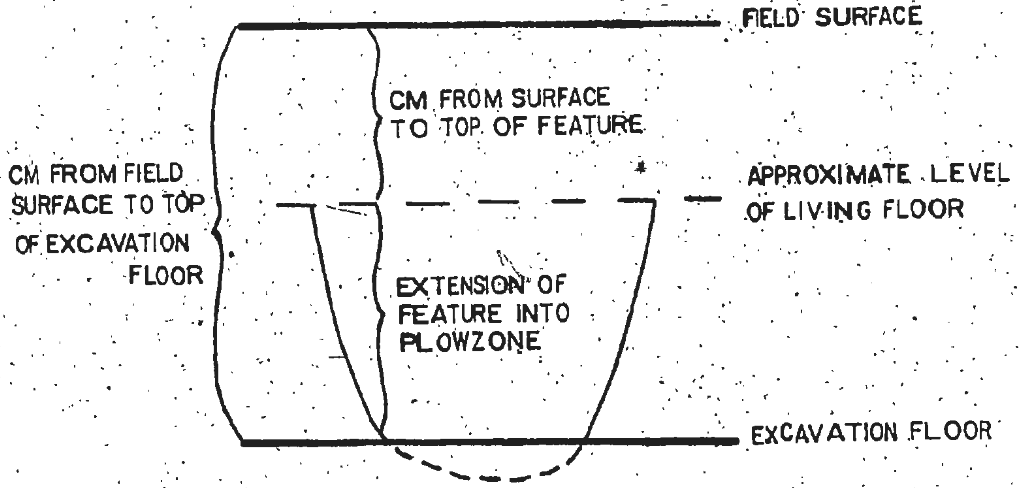


Figure 7. Profile of feature in baulk.

TABLE 1: Feature extensions into topsoil

Feature #	Cm. from field surface to top of feature	Cm. from field surface to top of sandy loam/ excavation floor	Extension of feature from excavation floor into topsoil
6	31	35	4
33	20	27	7
37	19	22	3
43	20	23	3
114	17	23	6
174	21	29	8

4.3 An aside

Not only is the archaeologist in Huronia working with an excavation level that is disturbed, but usually with discarded crockery and tools. How does this affect interpretations based on artifacts found within longhouses? Are artifacts from the "sub-floor pit complex" (Noble, 1968a:98) at all indicative of the norm in the material culture of these people? The same can be asked of artifacts found at the surface of the excavation floor. It must be realized that excavation is presently taking place under the assumption that living floor and sub-living floor (excavation floor) are the same thing (Trubowitz, 1978:41).

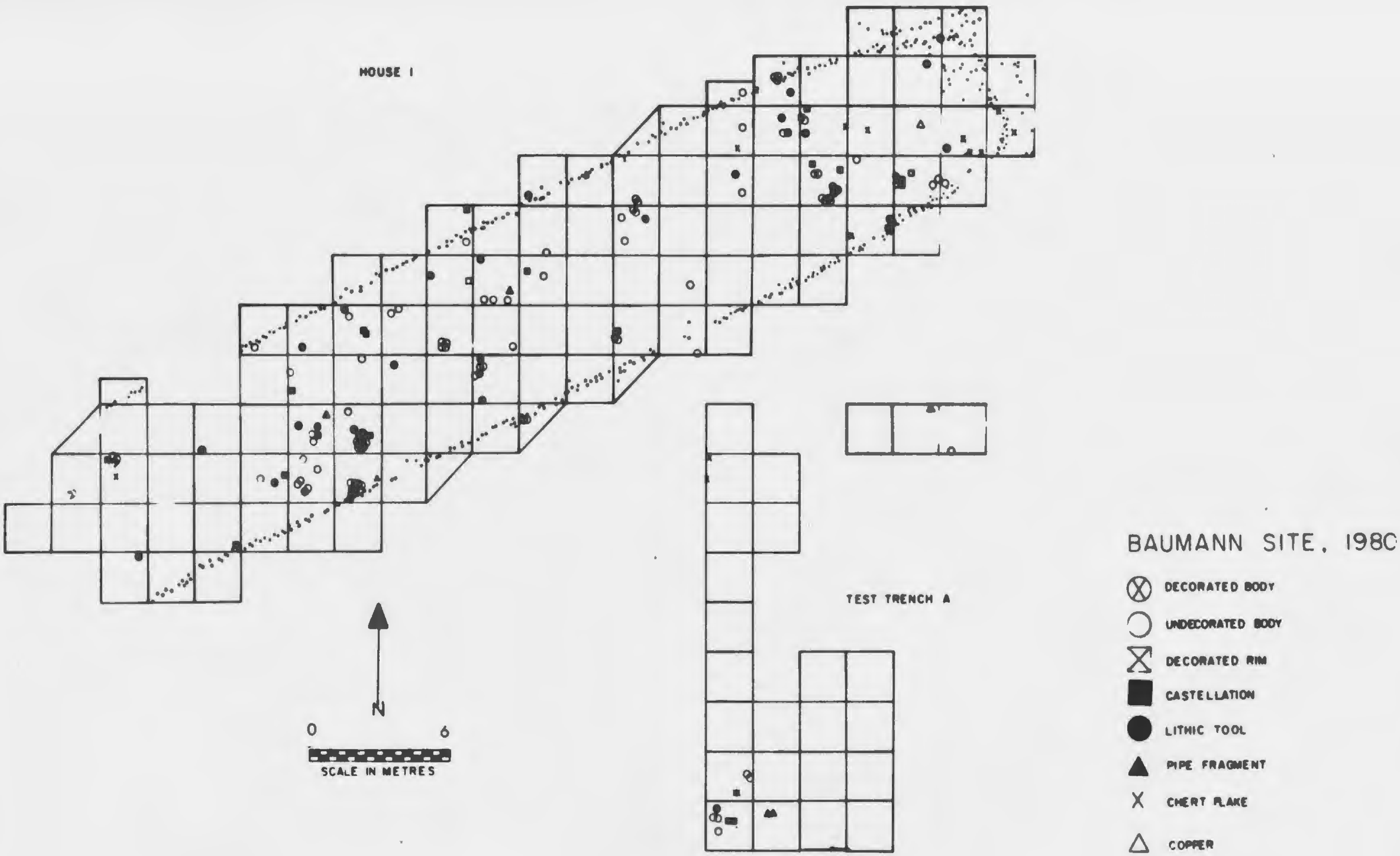
Keeping this in mind, it became of interest to ascertain whether activity areas could be determined not only by features, but by artifact distributions as well. Cartesian coordinates were established for all tools, pottery, and chert and quartz flakes found on the yellow sandy loam excavation level, but not in pits. Figure 5 shows this distribution.

"If trash is discarded at its location of use, it forms primary refuse, and if away from its location of use, secondary refuse . . ." (Schiffer, 1976:30). Since the artifacts do not occur in the context of the original living floor, however, it was impossible to qualify the type of trash they represent. One would also be hard pressed to determine the "location of use," although their sub-floor positions may be the result of direct downward settling from the original location of use. The point is, a cluster of these artifacts would not necessarily represent a systemically viable activity due to our difficulties in relating them to the original discard configuration. How then can one approach sub-floor artifact distribution?

Referring to Figure 5, clusters of artifacts, particularly undecorated body sherds, are in approximate association with the central axis of the house, just as are the features and postmoulds. General clustering is evident at the NE end of the house, and the SW section, with less intense grouping between. Clustering of artifacts in the SW end of TTA may be further confirmation of a second longhouse in that area. Tight clustering of undecorated body sherds occur throughout the longhouse. This could well be a function of the frequent use, thus breakage, of a friable cultural item.

The original intention was to establish the non-

Figure 5. Map showing location of artifacts in the subsoil of House 1 and Test Trench A.


HOUSE I
TEST TRENCH A
N
0
6
SCALE IN METRES
BAUMANN SITE, 1980
DECORATED BODY
UNDECORATED BODY
DECORATED RIM
CASTELLATION
LITHIC TOOL
PIPE FRAGMENT
CHERT FLAKE
COPPER

randomness of the House 1 artifacts by nearest neighbour analysis. It became obvious, however, that statistically determined clusters would not define task-specific areas within the longhouse, since these sub-floor artifacts probably vary temporally, and may not be directly related to the original living floor.

The activity areas, whether defined by feature clusters, artifact clusters, or both, hardly even permit a glimpse of what particular tasks were performed. In reference to other Iroquoian sites, Kapches (1979:28) comments that, at the most, "Activity areas may only be understood ... [as] concentrated areas of communal activity representing several activities."

Empty spaces need to be filled in if viable interpretation of longhouses in Huronia is to occur. Questions such as, "How is the excavation level related to the living floor?", and "Are the patterns of artifacts of cultural importance?", should be addressed more frequently in order to develop baseline data from which to work in this area.

The dead-end this situation creates, along with the presently assumed insignificance of the surface and plowzone regions of a site, leads one to ask if at this time longhouse interpretation on the basis of artifacts is worthwhile.

Cultural items found in the plowzone at Baumann were not given cartesian coordinates because of possible displacement due to plowing. It became evident, however, that the few artifacts found in the plowzone occurred in squares directly associated with the interior of House 1, rarely in squares along the house wall, and never outside the house.

It appears that despite past plowing of the field, there has been minimal horizontal displacement of artifacts. The position that plowing renders plowzone data inconsequential appears faulty, and dependent on a number of factors such as plow blade type, as well as direction and intensity of plowing (Trubowitz, 1978; Roper, 1976; Binford, 1970). In the case of the Baumann site, very few artifacts came from the plowzone, and none from the surface of the field. The lack of artifacts in these areas, not the effect plowing is purported to have, is the motivating criterion in using mechanical equipment at this site in the future.

Redman and Watson (1970:289), in studying surface distribution in a plowed field were able to confirm two hypotheses:

> (1) The surface distribution of artifacts on an archaeological site is significantly related to their distribution in the subsurface matrix of that site
>
> (2) The proportions and kinds of artifacts distributed on the surface are directly related to their distribution in the subsurface matrix in any circumscribed area.

The very fact that surface surveys are carried out on certain sites before excavation in itself shows that a direct relationship is assumed between surface finds and what lies beneath. Often the surface finds, and consequently plowzone artifacts, occur as a direct result of plowing, particularly in Huronia, where many sites occur in cultivated fields. It is suggested that before mechanical removal of surface soils takes place, a reason for this action be established and clearly stated.

4.4 Features

Table 2 presents the average feature dimensions. Averages are not given for "Unknown" features since it is not known what type of feature(s) this average would represent.

TABLE 2. Average feature dimensions (cm.)

	N-S diameter	Range	E-W diameter	Range	Depth	Range
Ash pits (89)	35.4	5-150	35.7	6-150	10.3	3-37
Midden-like (95)	29.7	15-70	31.2	15-83	23.4	8-79
Unknown (65)	-	10-150	-	6-180	-	3-130

Appendix B lists and describes the 249 features of House 1 and TTA in detail. Twelve of these features (19, 20, 41, 56, 65, 116, 124, 152, 156-158, 169) are missing data, and this was the unfortunate result of poor data collection. It is worth noting that one group is comprised of those features containing ash and charcoal bits, while the second group has ash, charcoal, black organic soil, and cultural items. The "sterile" features, moreover, are consistently basin-shaped. Those features which yield the pottery sherds, bone, and seeds, along with ash and charcoal, are usually oval in shape, too deep to be hearths, and are midden-like in composition. The latter occur in association with the pure ash features, averaging 1-3 per ash feature. The ash features are, furthermore, often associated with rocks, which are not necessarily fire-cracked.

Whereas the midden-like features are clearly for refuse (Plate 30; the dark, circular features along the base of the photograph), the basin-shaped/ash-filled features are not so easily interpreted. They appear to be identical to Noble's (1968a:98) "circular grey-ash pits" from the Sopher site, which " ... contain little or no refuse but an abundance of compacted ash." The "oval, black refuse pits," on the other hand, " ... were filled with dark black humic soil and usually contained refuse," as at Baumann.

Continuing Noble's (ibid.) description:

> Characteristically, the grey-ash pits are bowl-shaped in cross-section ....
> The black refuse pits are characteristically oval and round-bottomed in cross-section. They occur around the central hearths ....

In House 1 at Baumann there are four occurrences of reddened soil spaced throughout the length of the house, roughly in the central corridor. None of these is uniformly shaped, i.e., definitely round or oval, and they occur between the clusters of postmoulds and pits. In fact, the easternmost reddened area occurs between the house wall and the activity area. They did not yield ash or charcoal bits. Their profiles are very irregular, and one was considerably leached and interrupted by numerous postmoulds, allowing no base to be defined (Plate 2).

Fenwick (1968:28), in discussing the utility of soil studies in archaeology, warns:

> Small patches of grey ash coloured material thus exposed on the floor of a section may all too easily be thought to be remnants of a hearth area, while consolidations of rich rusty coloration may be taken as indicative of intense heat. In both cases they would be the results of the leaching action of rain water causing the loss of hydrated ferric oxides from the A_e horizon, i.e. bleaching, and their accumulation in the B_s i.e. red coloration.

Keeping this in mind, these oxidized areas may represent former hearths whose contents had been relegated to the midden, leaving only the oxidized sand. It is also quite possible that some of the ash-filled features represent hearths.

In interpreting the numerous pits, it seems unlikely that these pits were all dug for the express purpose of being filled with food remains and ash. Rather, their original function may have been as food storage pits around hearths, perhaps in baskets or ceramic vessels. Once this function had expired, the cavity would be in-filled with surrounding refuse.

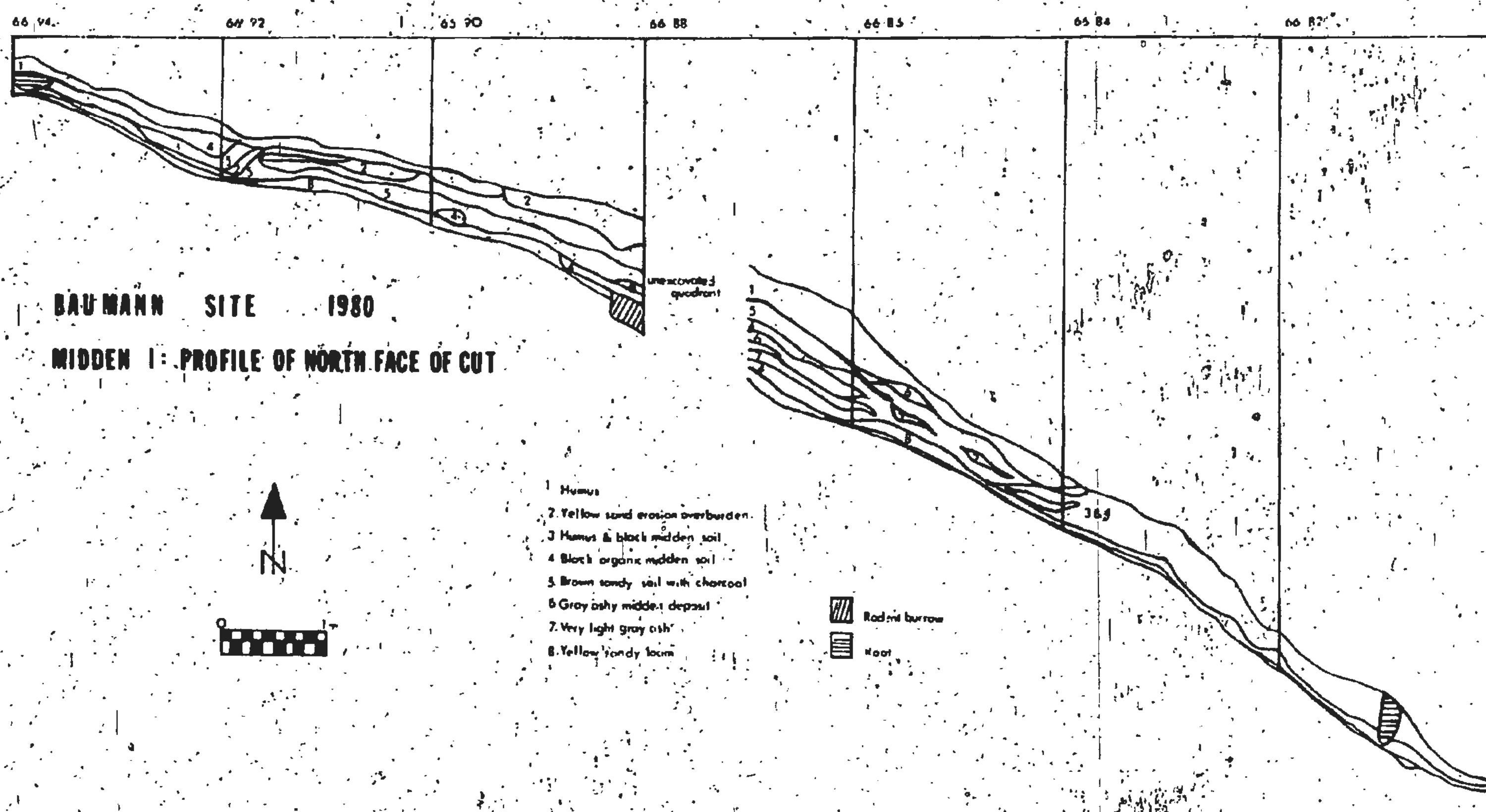
4.5 Midden 1

Squares 66:94, 64:94, 66:92, 64:92, 66:90, and 64:90 (Figure 6), all on the upper slope of the midden were capped with outwash of gray and yellow sandy loam, along with humus which had eroded from the most westerly edge of the bluff. This created an intermittent profile of stratigraphy in which downslope erosion of non-midden soils was capped by midden eroding over these; in turn followed by non-midden soils from further back on the slope. The actual midden layer in these squares was consequently contaminated by outwash, creating gray-brown, sandy midden soil, as opposed to the black, greasy midden found in squares further downslope.

Cultural material was not abundant in these upper squares, nor was the midden stratum very defined here; the soil layers were actually very sandy, and not real midden. This may be due to erosion, or perhaps the midden began further downslope.

It was eventually determined that square 66:90 marked the point at which real, uncontaminated midden began. It has been suggested (J. Switzer, 1980:personal communication) that this square also marks where the original slope of the beach ridge may have begun. The suddenly steeper slope would indicate this, as would the change in soil composition. Squares 66:90, and those downslope are all characterized by dense, greasy midden soils of significant depth (over 1 m. thick at points). There is little indication of erosion ever having taken place in these squares;

Figure 6. Profile of Midden 1.


66 94
64 92
65 90
66 88
66 85
65 84
66 82
unexcavated quadrant
BAUMANN SITE 1980
MIDDEN I: PROFILE OF NORTH FACE OF CUT
N
1 Humus
2. Yellow sand erosion overburden
3 Humus & black midden soil
4 Black organic midden soil
5 Brown sandy soil with charcoal
6 Gray ashy midden deposit
7. Very light gray ash
8. Yellow sandy loam
Rodent burrow
Root

perhaps this is due to their density, or the overburden from the sandy upslope squares.

From Figure 6 it can be seen that all soil layers east (downslope) of 66:90, including 66:90, were composed of culturally rich layers, except for overburden layers #1 and #2, which originated from the upper slope. All cultural material was collected from the midden. Table 3 lists the squares which contained much of the midden. The "Quadrant" column indicates which sections of these squares were screened through 1/8 inch screens.

TABLE 3: Midden squares and quadrants screened

Square	Quadrants
66:90	East half
68:88	NE & SW
64:88	NW
66:86	NW & SE
66:84	NW & SE
66:82	NW & SE

Table 4 tabulates the cultural items recovered in the midden and provides a percentage of the total number of finds.

TABLE 4: Cultural items found in Midden 1

Cultural items	#	%
Decorated rims	61	.44
Undecorated rims	253	1.82
Decorated bodies	811	5.86
Undecorated bodies	3,044	22.01
Undecorated rims	25	.16
Quartz and chert debitage	470	3.39
Artifacts*	117	.84
Seed remains**	915	6.61
Faunal remains	8,133	58.83
TOTAL	13,827	99.96

*Includes ceramic pipes, lithic and bone artifacts, and copper.
**Includes whole and fragmented specimens.

The following chapter describes and analyzes the various artifact categories uncovered at the Baumann site. This includes lithics, bone artifacts, copper, and ceramics.

CHAPTER 5

ARTIFACTS

5.1 Introduction

This section presents detailed descriptions of the lithics recovered from the Baumann site, as well as the bone artifacts, copper, and ceramics. The sections describing the copper, and ceramic data are each further elaborated upon in appendices, which should be consulted where greater detail is required.

5.2 Lithics (Plates 3, 4, 5)

Cherts in the form of retouch and reduction flakes, debitage, as well as quartz flakes were recovered. Chert types represented are Balsam Lake, Onondaga, local Huronia varieties, as well as a possible Scotts Quarry flake (W. Fox, 1980:pers. comm.). Ground schists make up the remainder of the lithics assemblage.

The lithics recovered thus far do not indicate an extensive, or highly developed stone working industry. Very weakly represented in this collection, but characteristic of other Lalonde assemblages (Copeland, Fallis, Lalonde) are chert projectile points. Table 5 summarizes the lithic tool categories.

TABLE 5: Baumann lithic categories

Category	Frequency	%
Ground schist fragments	9	26.0
Utilized chert flakes	17	50.0
Utilized quart flakes	2	6.0
Quartz biface.	1	3.0
Quartz punch	1	3.0
Incompleted chert projectile point?	1	3.0
Slate fragment	1	3.0
Ground granite sphere	1	3.0
Soapstone bead	1	3.0
TOTAL	34	100.0

Ground schist fragments (Plate 3)--Eight of these are of chlorite, and one of hornblende schist, and each is ground into shape. Six fragments are possible bit ends of adzes, two of which are complete, ground down to a very fine edge. The remaining three fragments are midsections. (Although these artifacts are fragmented it was felt that some idea of their sizes should be given.) The bit ends range in length from 8.5-5.0 cm., with a mean of 7.1 cm. Midsections are 11.4 and 6.6 cm. in length. Widths or thicknesses were not taken because of considerable variance from one end of the artifact to the other.

Utilized chert flakes (Plate 4)--These artifacts represent the majority of the lithic assemblage. Ten are unifacially worked on a single edge. Of these ten, two have undergone thermal alteration as evidenced by patination, or a cloudiness, on their surfaces. Two further flakes have been worked along both edges and across one end, unifacially. The remaining four flakes have been worked unifacially along an edge. Two more flakes have been included in this category since they exhibit a small amount of unifacial retouch on a single edge.

In all cases, the edge work is very minute, rarely exceeding 2 mm. from the edge. Eight of the 10 flakes have a close range in length of 3.5-4.2 cm. with a mean of 4.0 cm. The range in width is 1.1-2.4 cm. with a mean of 1.3 cm. Two others, at 3.0 and 3.1 cm. in length, have widths of 1.8 cm. and 1.4 cm. respectively. Particularly in the case of the former eight, uniform size may indicate a specific function for which they were manufactured.

The remaining seven flakes have a range in length of 2.1-2.8 cm., and a mean of 2.4 cm. Range in width is 1.3-2.0 cm., with a mean of 1.6 cm.

Quartz (Plate 5)--The two quartz flakes are unifacially worked along one edge, and are reminiscent of their chert counterparts. Their lengths are 2.8 cm. and 3.5 cm., with widths of 1.7 cm. and 1.6 cm. respectively.

One unusual quartz artifact appears to be a biface, with a blunted proximal end. The distal end is flattened and the midsection has fine edges, with a convex-convex cross-section. Length is 6.8 cm., width is 4.0 cm., and thickness is 2.1 cm.

The final item is 3.5 cm. in length and appears to be a drill, or punch.

Soapstone (Plate 4)--a single flattened bead was recovered from the midden. It is round, 11 mm. wide and

9 mm. long. The perforation through its middle is the result of grinding.

Unfinished chert projectile point--This item has a ventral surface with a percussion bulb. This face bears no retouch. The dorsal surface retains the striking platform, which was to be the stem end. Although not completed, the point was intended to have a stem with corner notching, which is partially completed. The dorsal surface bears retouch along the entire edge. Length is 3.0 cm., width is 2.3 cm., and thickness is 3 mm.

Slate fragment--This specimen is 2.7 cm. long, and 3 mm. thick. It bears fine striations over one surface, which led to the conclusion that it at one time had been a whetstone.

Granite sphere--This piece is naturally smooth, with pecking on one surface. The other surface has deteriorated due to weathering. It may have had a brief career as a hammerstone.

5.3 Summary of lithics

The utilized flakes are of various kinds of chert, local Huronia varieties appearing unpopular for lithic manufacture. Nine are of Onondaga chert; five of Balsam Lake chert; and four of the Huronia variety.

That Onondaga chert should be the most popular is in agreement with W. Fox's (1979:8) comments regarding this material:

> Onondaga chert was perhaps the most popular raw material among Native groups in South Central and

> especially Southwestern Ontario. It occurs in the Middle Devonian Onondaga Formation limestone members as long discontinuous beds, up to 125 mm. in thickness. This medium and light grey siliceous chert was quarried near Port Maitland and elsewhere at outcrops along the north shore of Lake Erie, east to Fort Erie. . . . To the northwest it outcrops and was quarried as far as the Villa Nova vicinity.

The origin of the Balsam Lake cherts at Baumann is slightly more elusive, being either quarried or traded in from the Balsam Lake area (Fox, 1979:5). Interestingly, Lalonde influences are evident in collar motifs and pipe styles of prehistoric sites in this area (Ramsden, 1981: pers. comm.), and this connection of chert further supports communication between Huronia and easterly regions.

The slate, quartz and granite are all local. Soapstone was probably obtained from an easterly region as well, where a deposit exists in Victoria County (W. Fox, 1980: pers. comm.).

Six of the chert flakes exhibit either potlid fractures or surface patination due to thermal alteration. The application of high heat may well have been part of the lithic manufacturing process.

Working from the knowledge that this society not only hunted but was agricultural, we look for evidence of this in the assemblage. The ground schist fragments may represent adzes, and two are possible axes. These items could conceivably be associated with working the soil and clearing trees. The hunting activity is poorly represented by one incomplete projectile point. The utilized flakes and the punch may have served to work hides.

5.4 Bone artifacts (Plates 6, 7, 8, 9, 10)

Table 6 presents a summary of the various bone artifacts found at Baumann, and their frequencies.

TABLE 6: Baumann bone artifact categories

Category	Frequency	%
Tubular beads, complete and fragmented	30	60.0
Flattened beads	1	2.0
Awls	7	14.0
Projectiles	4	8.0
Whistle	1	2.0
Worked deer phalanges	7	14.0
TOTAL	50	100.0

Beads (Plate 6)--Sixteen complete, and 10 fragmented bone beads were recovered. Of the complete beads six are of bird bone and all but two are polished. Three exhibit cut marks from their manufacture. Yet another three are ground thin at the ends. If the circumference were taken around the midshaft, the measurement would be greater than that taken at an end. All are tubular.

The remaining 10 complete beads are of mammal bone and vary in shape. Of the nine tubular beads, the longest (9.0 cm.) is concave along one surface and may have been the central pendant in a necklace (Plate 10). The tenth is a ring, or flattened bead. Of these 10, only three are polished. Six of these exhibit manufacturing cuts. Of these six, one highly polished bead may have the cut as decoration.

The cut marks are thought to have been applied during manufacture of the bead, rather than during butchering of the carcass, since the cuts always occur perpendicular to the long axis of the bead, at one or both ends of it. One bead does have a series of irregular cut marks in the centre, but these also appear due to an attempt at shaping, since this bead is unfinished. In this case, further cutting would have removed the remainder of the flaring and channeling characteristic of the ends of longbones. Five of these beads also bear ground ends. It is possible that this was part of the finishing process in bead production, for by grinding the ends any jagged edges resulting from manufacture could be smoothed away.

Faunal analysis recovered four further bone bead fragments. All are extremely fragmentary. Park (1980:22) provides the following description.

> Four bead fragments were also found, made of bird bone. Two of them have one end ground smooth. . . . One bead fragment retains both ends, of which one has been cut, retaining a sharp edge, while the other end has been smoothly ground flat. . . . The last one has one end ground smooth as well as transverse cut marks extending five millimetres along the bone from this end. . . .

All beads were found in Midden 1. Table 7 gives the ranges of bead lengths and diameters, and their means.

TABLE 7: Size ranges for beads (cm.)

	Length	Diameter
Range	.7-99.0	.5-1.8
Mean	3.03	.9

Awls (Plate 7)--All six awls are of mammal bone. Of the three complete specimens, two are from modified bone shafts, while the third is of a shaft splinter. The three incomplete awls are also of modified splinters.

Five of the awls have striations running from the tip of the shaft. These striations are longer on one side of each awl than on the other. A particular motor skill, consistently undergone, seems to be represented by these marks.

A seventh fragment may be an awl, and is dealt with here on merit of the striations it bears which are like those of the above awls. It does, however, also bear six oblique notches nearing the tip, which is missing.

Awls were found in Midden 1, the plowzone of House 1, and one was found in a refuse pit in House 1. Table 8 presents the size ranges for both complete and incomplete specimens.

TABLE 8: Size ranges for awls (cm.)

	Length	#
Range for complete awls	9.2 - 10.5	3
Mean	10.0	
Range for incomplete awls	2.8 - 7.0	3

Projectile points (Plate 8)--One appears to be of bird bone while the remaining two are of mammal bone. All are hollowed out, longitudinal sections of shafts cut transversely and shaped to a point at one end.

These specimens do not exhibit use-wear as evidenced on the awls. While two were found in the midden, the third was from a refuse pit in House 1. Table 9 summarizes their sizes.

TABLE 9: Size ranges for bone projectile points (cm.)

	Length	#
Range for complete points	6.7 - 8.4	2
Mean	7.6	
Incomplete point	6.8	1

Whistle (Plate 9)--This incomplete artifact is fashioned from a bird bone shaft. A single hole is cut into one side of the shaft. It cannot be safely said whether a second or third perforation was also present at one time. It was found in Midden 1, and has a length of 11 cm., and a diameter of 6 mm.

Modified proximal deer phalanges (Plate 10)--Two of these artifacts are complete while the remaining five are very fragmented and were originally mistaken as unworked faunal fragments. The first intact phalange is 5.1 cm. long, the second is 6.0 cm. in length. The first has a hole drilled through one end and fits into the toggle-type of worked phalange as illustrated by Wright (1966:Plates 17, 18), and is the specimen illustrated in Plate 10. This type is mainly characterized by faceted sides. The other has a hole drilled lengthwise, with a large perforation at the proximal end, and a smaller one at the distal end.

This piece resembles the cup-and-pin game type, based on the fact that the proximal articular face is removed, and a hole drilled into the distal end.

The following description of the remainder of the phalanges, which are highly fragmentary, yet show signs of alteration, was taken from Park (1980:20-21):

> Two of the fragments are the distal ends of proximal phalanges. Both show some heat exposure and have had their ventral surfaces abraded roughly flat; along the long axis of the phalanges. However, one has the distal end perforated . . . while the distal end of the other is unmodified. . . .
>
> The proximal end of another phalanx has a large (8 mm.) perforation and its ventral surface has been ground smooth. . . . The other two fragments are also from the proximal end of a proximal phalanx and may come from the same bone, possibly the end of one of the distal ends described above. Both have been charred and drilled, and one has been abraded flat on the ventral surface. . . .

Emerson and Popham (1952:163) state that:

> It is felt that the absence of worked deer phalanges [on Lalonde sites] may well prove to be a crucial argument in support of a late prehistoric dating for the Lalonde culture.

Implicit in this quote is the fact that worked phalanges are very characteristic of Middleport sites but not later Lalonde. Ridley (1952a:208) also records an absence of this artifact on Lalonde component sites. In both cases, it is unclear as to which variety of worked phalange reference is being made; the toggle, or the cup-and-pin variety. The assumption is that the cup-and-pin variety is being discussed by these authors. With regards to the toggle variety, its presence rather than absence appears to be indicative of later dating for Lalonde sites since it replaces the cup-and-pin variety, and is found on later Huron sites (Wright, 1966:77).

5.5 Summary of bone artifacts

Tubular bone beads may be very characteristic of the Lalonde assemblage and certainly in the case of the Baumann bone collection have the greatest frequency. Ridley (1952a:205) notes:

> As indicated ... I find very few of these on contact Huron sites. This is probably due to the quantity of European beads traded to those people. The Lalonde sites have many of these.

Tubular beads similar to Baumann were also found at the Fallis site (Ridley, 1952b:10) and numbered 10. Unfortunately, few bone artifacts from the Copeland site (Channen and Clarke, 1965:16) are illustrated and none is described in the text. From the plates, however, the beads appear similar to those from Baumann, and are tabulated with a percentage frequency of 28.0%, out of a total of 912 worked bone artifacts.

Ridley (1952a:209) comments that awls made from bones of birds and mammals are peculiar to, in this case, the Lalonde site. Following his argument, this would then mean they are also characteristic of Lalonde sites in general. The Fallis site (Ridley, 1952b:10) yielded eight of these; however, no description or illustration is available. Copeland (Channen and Clarke, 1965:16) awls had a frequency of 33.0% (again, out of a total of 912 worked bone artifacts), and, as at Baumann, represent the most numerous worked bone along with beads.

A greater variety of bone artifacts was recovered at Copeland than at Baumann, including 37 cup-and-pin game deer phalanges. The latter would either make Emerson and Popham's above quoted statement suspect, or possibly place this site earlier in the Lalonde period than Baumann.

Further evidence of hunting (along with the lithic evidence) is presented by the awls, which could have been used for perforating bark or skins. They could also have been used to decorate unfired ceramics. The projectile points would have been used to obtain aquatic foods, as well as for hunting land mammals. The remaining bone artifacts are illustrative of leisure and personal adornment.

5.6 <u>Copper</u> (Plate 11)

Appendix A discusses in detail the spectrographic qualities of the two copper specimens recovered. This study was carried out by E.B. Banning at the University of Toronto Archaeometry laboratory.

One specimen was uncovered in Feature 75, a refuse pit, in the most southwesterly square of TTA, also the area of a postulated second house. This artifact was originally a flattened sheet of copper which was then rolled into cylindrical shape. It is 3.2 cm. in length, with a diameter of 4 mm.

The second copper artifact is shaped into an isosceles triangle, and was found in the plowzone in the southwest, central section of House 1. Its length down the central axis is 3.4 cm., basal width 7 mm., with a 1 mm. thickness. It may have functioned as a projectile point.

While the copper cylinder is native copper, it turns out that the triangular piece is of trade copper, i.e., it contains tin and lead. Since this piece was found in the plowzone it cannot be definitely assigned to the site, although the possibility of there being trade copper on a Lalonde site is not out of the question. Perhaps it was mislaid by an A.D. 1600 resident of the nearby Ball site.

Trade networks are automatically suggested by the native copper as there are no such deposits in southern Ontario. No doubt such connections were with the northern Lake Superior copper sources. The exact origin of the native copper was, however, not determined.

Native copper was also recovered at the Copeland site (Channen and Clarke, 1965:16), but there are no records of it having been found at either the Lalonde (Ridley, 1952a) or Fallis (Ridley, 1952b) sites. Although present at Copeland and Baumann, the commodity appears to be a scarce one. The Copeland specimens consist of two beads and two fragments of copper (Channen and Clarke, 1965:16). The Baumann piece could also have served as a bead. Beads of copper were also recovered at the Lalonde Farlain Lake site, and "scraps" of copper at Tay #18 site (Latta, 1976:82).

An interest in keeping the copper within the assemblage for as long as possible is expressed in its being shaped into beads; fashioning the metal into utilitarian items would mean greater perishability of this scarce and perhaps valued commodity. Its value may have been of a socio-technic nature whereby significance has its basis in the "nature and structure of the social system" which the artifact represents (Binford, 1962:219).

5.7 Pipes (Plates 12, 13)

All the pipes from Baumann are ceramic, and all conform closely with those types set out by Ridley (1952a:-209) as characteristic of the Lalonde period. To use Ridley's terminology, these are the Lalonde Trumpet and the Barrel pipe types. Unfortunately, none of these pipes is intact, the least damaged specimen being a Lalonde Trumpet pipe, which is broken in mid-stem; the intact stem section and bowl meet at a ninety-degree angle.

In describing the Lalonde Trumpet type, Ridley (*ibid.*) says:

> This pipe is of fine tempered, light colored ware that is usually slipped to a beautiful orange or buff polish. The bowl appears as if made by spreading the mouth of a plain barrel pipe funnelwise, and thereby thinning the lip. Stems leave the bowl at nearly a right angle and are tapered into a small tip.

Two further examples of the Lalonde Trumpet pipe are present, and both are fragmented bowls. A fourth bowl fragment is highly unusual in that the entire bowl seems to have been incised with fine lines which form irregular chevrons. Not only does the motif distinguish this piece from the others, but its tan colour and more delicate walls distinguish it from the darker brown, thicker Trumpet pipes (Plate 13). A small gray-white bowl fragment is also decorated in this incised pseudo-chevron fashion. This latter style may not be all that unusual, since Ridley (ibid.) does mention a third type which occurs at the Webb site (a late Middleport component site), the Incised Trumpet pipe:

> On the Webb site are found Trumpet pipes of the same ware specification as the Lalonde trumpet pipe, with the addition of incised rings above punctates, and the same with an encircling row of hachured triangles. These types are exactly illustrated from Middleport.

Although the pipes illustrated in the report of the Middleport site (Wintemberg, 1948:75-77) appear to be a thicker ware than the Baumann pieces, the motif seems to have carried over from this period.

Five fragments of Barrel pipe bowls were recovered. Only one conforms exactly to Ridley's (ibid.) description of a typical specimen:

> The bowls are cylindrical, barrel-shaped, and the odd specimen angles inward at the lip. They have one to eight lines incised annularly at the upper end of the bowl. Below this may be four to numerous punctates in a single encirclement.

The "typical" Baumann piece angles inward at the lip and bears two annularly incised lines below the lip. Of the five others: (1) angles inward at the lip with punctates in a single row immediately below the lip and encircling it. Two encircling incised lines occur at the base of the bowl, which is broken off; (2) is an undecorated cylindrical bowl, which is completely intact; (3) is a fragmented undecorated cylindrical piece. The lip, however, is flattened and slightly outflaring; (4) is identical to "(3)"; (5) is fragmentary and seems to be an amateur attempt at an undecorated Barrel pipe.

There are 15 pipe stem fragments. One is unusual in that it is rectangular with notches where the sides slope off of the flattened top and bottom surfaces (Plate 12). Ridley (1952b:11) mentions, and illustrates, a complete rectangular pipe from the Fallis site, Lalonde level, which is undecorated.

Two of the pipe stem fragments are mouthpieces, and taper to circular openings. Two other mouthpiece fragments, from TTB, are quite large and cumbersome; one wonders if they could have been comfortable.

Weber (1970), on comparing the utility of the pipe types to attributes, uses Ridley's nomenclature of the Lalonde Trumpet. The Barrel pipe, however, is classified as "Elongated Ring." In both cases she points out Emerson's (1954) failure to deal thoroughly with these styles (Weber, 1970:103):

> The Lalonde Trumpet is to be differentiated from Emerson's Plain (or Iroquois, or Plain Iroquois) Trumpet by the rather extreme outflare and subsequent thinning of the pipe lip. While Ridley does not specifically indicate whether this is a rimmed or rimless form, the form illustrated is rimmed and at least one other worker in the field would concur as when White said that "Emerson does not describe the rimmed trumpet form in his analysis of pipe types in Ontario. The rimmed trumpet form does occur in Ontario in the Lalonde of the Huron country" (White, 1961:99). The Lalonde Trumpet will be considered an undecorated rimmed form...

Regarding the Barrel pipe type, Weber (1970:100) is again quoted in her attempts to distinguish between the numerous overlapping pipe types:

> ... an equation must also be made between the Elongated Ring and Ridley's Barrel Pipe (Ridley, 1952:209) which in turn must be distinguished from Emerson's Decorated Barrel type in the way the former two types are cylindrical like a gun barrel while the latter, its form with its "characteristic expanding, bulbous shape" (Emerson, 1954:48) is bellied like a tun-barrel. That the term barrel should have this ambiguity raises further doubts as to the comparability of the results of different typologists.

It is necessary to point out that just as High Collar Lalonde pottery was missing from MacNeish's 1952 omnibus, so were Lalonde pipe types indistinguishable in Emerson's 1954 analysis.

Weber, in her analysis of pipe types, assigns temporal and spatial significance to the 80 types gleaned from the literature and personal inspection of collections. In the case of Lalonde types, the Lalonde Trumpet was given temporal, but no spatial significance (ibid.:133), and the Elongated Ring possible temporal, and possible spatial significance (ibid.:132). Weber's designations then served to establish the horizonal, traditional, or modal tendency of a specific pipe type (Weber, 1970:138).

The Lalonde Trumpet has horizonal importance since it occurs over a wide geographic area (no spatial significance), but during a specific time period (temporal significance). The Elongated Barrel, however, is verging on modal distribution, meaning that it appears to occur in a specific area (spatial, or possible spatial significance), during a specific time period (temporal, or possible temporal significance). Traditional tendency, although not represented here, would mean that a type occurs in a specific area, over a long period of time, i.e., spatial significance, but not temporal.

Weber (1970:211) comments that the term "horizonal" can be applied to the High Collar Lalonde pottery type, as well as the Lalonde Trumpet pipe, in that it has "... distributions which are interpreted as resulting from widespread information sharing within an isolatable span of time...." The horizonal tendency of the Lalonde Trumpet pipe type, however, in combination with the High Collar Lalonde pottery type, is support for Lalonde having been a fairly stable occupation.

In the section dealing with an attribute analysis of the pipes, Weber's method proved sensitive to slight changes in the movements of Iroquoian peoples (Weber, 1970: 225-244). Unfortunately, this did not extend to the smaller region of Huronia and the Humber River valley sites such as Black Creek and Kinghorn (Southern division sites), leaving the hypothesis of the interaction of the Southern and Northern divisions as yet to be tested.

The pipes from Baumann seem to be typical of a Lalonde assemblage, with counterparts found at the Lalonde (Ridley, 1952a:209), Fallis (Ridley, 1952b:10), and Copeland (Channen and Clarke, 1965:Plate II, III) sites.

Their small number did not warrant an attribute analysis, but with future excavations at this site, attribute coding should be implemented.

Tables 10 and 11 present the pipe type frequencies recovered at Baumann, and a description of the pipes which could not be identified as to type, respectively.

TABLE 10: Baumann pipe type frequencies

Description	Barrel	Lalonde Trumpet	Incised Trumpet	Amateur
Intact bowl	1	1	-	-
Bowl fragment including rim and bowl	4	1	1	1
Rim fragment with little bowl	-	3	-	-
Bowl fragment with no rim	1	-	1	-
TOTAL	6	5	2	1

TABLE 11: Pipe type indistinguishable

Description	Frequency
Stem fragments with no stem end	12
Stem end	2
Rectangular pipe stem fragment	1
TOTAL	15

5.8 Ceramics (Plates 14 to 28)

As noted in the section "Methodology", an attribute analysis was done on 368 rims from the Baumann site, which includes the 36 rimsherds collected by Heidenreich and Schultz (1966) during their 1966 survey. Juvenile rims were not analysed but were coded and number 61 (Plates 14, 28). This is also the case with collarless rimsherds which number 16. Other ceramics uncovered at Baumann number as follows: decorated bodysherds--910; undecorated bodysherds--3,707; clay detritus--3; an unusual ceramic disc, incised around the edge on one side, 15 cm. in diameter, 1.5 cm. in width (Plate 15).

While coding rimsherds a difficulty arose in defining "neck" and "shoulder." When taking measurements where does the neck end and the shoulder begin? For the sake of consistency, arbitrary "beginnings" and "ends" were assigned to these locations. The neck began when the curve from collar to neck became concave and ended where the convex slope of the shoulder began. The shoulder ended once the convex curve ended and a consistent slope began. An opportunity to measure shoulder length rarely occurred.

A second difficulty arose in defining "secondary decoration." How "secondary" punctates or notches are in the overall design often becomes a highly subjective decision. This was the case when punctates, for instance, occurred both within the incised decoration and elsewhere. Which positioning then became secondary? On High Collar

Lalonde type rims, furthermore, punctation is an integral element of the collar motif, not at all secondary (subjectively speaking), and thus was not classed as such (i.e., Appendix C, Decorative Motif 30). Lastly, if punctates or horizontal lines had obviously been applied to a rim before the "primary" decoration, would they still be "secondary"? The handicap essentially lies in the criteria which make an element either "primary" or "secondary", and these are not consistent.

To explain how this was dealt with: In the case of punctates, gashes, or grooving occurring both within the decoration on the collar, and in another position (for instance, just below the lip or collar), the latter position would become secondary decoration and the former would become part of the primary motif code (i.e., Appendix C, Decorative Motifs 7, 11). Also, when it was obvious that punctates, for instance, had been applied before the main decorative theme, they would be included in the primary motif (i.e., Appendix C, Decorative Motif 65).

Ceramic assemblages from Lalonde sites lend themselves well to attribute analysis. This is primarily because of the large category of rimsherds which do not fit into any of the types presented by MacNeish (1952). The limitations of the latter text became particularly evident while coding the Baumann rims (for instance, it does not include any high collar types from Ontario), and it was reassuring to learn, after having attempted to type all the rims, that others have experienced similar problems (see Pratt, 1960).

Wright expressed reservations regarding types in 1967 (Wright, 1967:99-100) on the grounds that, "subjectiveness and arbitrariness of type classification" results in incomparable results, due to the different biases of the different researchers. Ramsden (1978:16-18) also makes this point, stressing that the insensitivity of types over attributes in the determination of chronological and spatial significance is another problem. It is felt that typology can still be used as viable interpretive evidence; however, the methods of classification need to change in order to encompass the many attributes now considered of analytical importance in a type.

The use of attributes as an analytical method is a recent development in Ontario archaeology and there is still some question as to the sort of conclusions one can reach with so much data, and how one synthesizes these data. Also under scrutiny is the question of sample size; what size of sample (rimsherds) is needed before chronological sequencing can occur? This question has once again come to the fore in Ontario as attributes replace types as the analytical medium. The following paragraphs will discuss the most recent argument presented to Ontario Iroquoianists regarding the size of sample needed to achieve representivity. Pearce's (1978) nullification of "small" ceramic samples will, consequently, be discussed, since this report analyzes just such a sample and also because small samples have been the norm in Iroquoian archaeology.

To quote Pearce (1978:49) from A Preliminary Report on the Draper Site Rim Sherds, and present the gist of his argument:

> Furthermore ... a relatively large sample (by Ontario archaeological standards) of 881 rim sherds from a site does not constitute a representative sample. ... For this reason, all published results which are based only on samples, and not on the total or almost total excavation of a village site, must be considered as samples which do not necessarily reflect that actual population. ... These differences would seriously affect the overall interpretation of the site in terms of chronological placement within the Ontario Iroquois Tradition sequence, and in terms of placement within a regional series of sites.

First to mind comes the question of how this position is consistent with the principles behind the statistical sampling tests which were done by other members of the Draper project (Bellhouse and Finlayson, 1979), and discussed in the section "Methodology." A second consideration is that we are working within a functioning chronology established on the evidence of exactly these small rimsherd collections (Wright, 1966), which, to remain short of chaos, we must accept. If Pearce were correct then the entire chronology would need to be reconstructed. Surely past results cannot be obliterated.

"Small" samples may hinder chronological placement; the use of typology, however, has also been a hindrance due to the insensitivity of the method. Attribute analysis, because it brings into play a greater amount of data than typology, would, for even a "small" collection, be important and sensitive in developing the chronologies of which Pearce speaks. In other words, a total rimsherd count may not be as vital or productive as a more sensitive analytical method applied to a sample which, to present a second argument, has been statistically derived.

It is, moreover, quite possible that representivity need not be acquired through statistical sampling (Peacock, 1979:180):

> ... when very small samples are involved, sampling based upon judgemental selection of population elements or sampling units is as likely to result in a representative sample as some form of probabilistic sample,... A major difference between these two types of sampling lies in the confidence one can attach to the derived estimates, and the kinds of inference possible from the sample to sampled population. Probabilistic sampling is expressly designed to allow the measurement of confidence in sample estimates at specified levels of probability, whilst extrapolation to the sampled population is made via statistical inference. Non-probability methods of sampling cannot invoke this powerful body of theory; inference to the sampled population being estimated is limited to non-statistical intuitive reasoning, and measurements of the precision of estimates cannot be made. The assessment of precision in this case is a matter of judgement.

Thus, the problem is not the lack of totally excavated sites, but rather the absence of explicit sampling techniques, statistical and/or judgemental and the manner of analysis. Total excavation is unnecessary for representivity if a proper sampling technique is implemented in the field.

Conclusions drawn from samples having questionable representivity are, moreover, not necessarily rendered use-less by that fact--that a functioning chronology does exist, based on such samples, attests to this.

A complete count is an idealistic goal, particularly when viewed in an ethical light, whereby a portion of a site should be left for future concerns. If the financial opportunity were readily available to excavate on the scale of the Draper site, then Pearce's admonition could perhaps be well taken. The chances of this are, however, limited, and experimentation with sampling, as well as attribute analysis might be more beneficial and certainly more gratifying than the sloughing off of past results because the opportunity to excavate entirely was not available.

The argument still holds that sites which have been tested may not have yielded a representative rimsherd count. It is felt, however, that had these sites been sampled the gross chronology established by Wright (1966) would be no different. For the development of regional chronologies, mentioned by Pearce, it may be important not only to consider sampling techniques but also to implement more sensitive analytical techniques such as attribute analysis.

It is felt that the excavation of the midden and House 1 produced a rimsherd count which could be useful in terms of developing a regional chronology, particularly through the implementation of attribute analysis. It is of course hoped that a larger-scale project can be developed which would allow the designing and implementation of a sampling method.

Pearce (1978:73) states that "... greater communication and discussion, as well as standardization of the methods of processing and analyzing data ..." are needed. This initiated the Baumann attribute analysis. With further attempts towards standardization, it will be possible to define regional sequences, and it is precisely these regional, more complex, chronologies which are now needed.

5.9 Rimsherd attribute analysis

The total number of rims analyzed is 368. Not all of these are complete; 121 are incomplete rimsherds but were included because several attributes could still be recorded. The only criteria for incomplete rims were that the lip had to be intact as well as a portion of the collar. The concern that a certain number of complete rims needs to be collected to represent a site properly is a concept stemming from the use of types and their utilization in seriation. Since attributes are being analyzed, the qualifications for a sufficient rimsherd count need to be reassessed because a great deal of rimsherd data can be collected using attributes without the complete rim being present.

Appendix D presents the results of the attribute analysis in tabular form. The following summary deals with those attributes thought to be temporally relevant in terms of Lalonde sites. When developing regional chronologies in Huronia, these attributes may prove the most sensitive for the Lalonde period. Ten attributes were demonstrated by Ramsden (1977:183) to ". . . display widespread chronological trends." Four of these were relevant to the Baumann sample and three others are here suggested as also significant. The attribute definitions used in this analysis are identified with those outlined by Ramsden (1977) and Pearce (1978) and do not require repetition. The attributes chosen as significant are as follows:

1. Simple collar motif increases through time, to the extent that Latta (1976:24) was able to demonstrate its increase from less than 50% of the total collar motif on most Middleport sites to more than 80% on most historic sites. Baumann, being central in this chronology yielded a frequency of 52.2% for simple decoration as the primary ground pattern (Plate 16). Latta (1976:77) notes as well that, ". . . oblique and vertical parallel linear motifs were the most common ground pattern . . ." for this period, which concurs with the Baumann results.

Simple collar motif is understood to be the primary form of decoration/primary ground pattern. Rimsherds from Baumann which have a simple motif (i.e. oblique or vertical parallel lines) as the only form of decoration occur at a frequency of 21.8%. A glance at Table 21 in Appendix D and the ceramic code (Appendix C) shows, furthermore, that the remaining motifs are quite varied in design, yet never well represented. This important incident was also noted by Latta (1976:55) who observed that Lalonde assemblages

"... showed an unusually large number of uniquely decorated sherds as well as by far the greatest variation in the use of collar motifs. . . ." These motifs are unique in that they are not observed in Middleport or Contact collections.

Latta (1976:78) presents a very cogent interpretation of this phenomenon:

> This indicates a considerable amount of individual independence in ceramic decoration, and whether these unique motifs are lineage markers, representing the social patterns of the potter, or whether they simply indicate the social desirability of artistic variability, they suggest that ceramic decoration was a meaningful culture trait which merited careful attention and which probably indicates a reasonably high social valuation of the craft itself.

2. The Opposed collar motif finds its greatest popularity during Lalonde (Plate 26, bottom left). A movement from a horizontal linear motif during Middleport, through opposed, to vertical and oblique parallel patterns during Contact times, seems to be the pattern (*ibid.*:77). The opposed motif represents 25% of the sample during Lalonde times, which is considerable in comparison to other periods (*ibid.*:285). This motif has a frequency of 20.1% at Baumann and appears to be a trait which can be considered characteristic of the Lalonde ceramic assemblage.

3. During Middleport times, the Horizontal collar motif finds its best representation, moving from 50% to 30% during Lalonde times (*ibid.*). It continues to decrease, becoming quite rare on Contact sites. At Baumann this is not at all the case, with an already very low frequency of

5.4% (Plate 17). Ramsden (1977:184) notes that "... the distribution of this motif suggests bimodality in both historic and prehistoric samples...." Perhaps this trait is characteristic of the group of sites related to Baumann on a regional level. On the whole, this motif does not suggest strong peculiarities to Lalonde, but that its frequency distribution, as reflective of its decreasing popularity, is the significant element.

4. Thirty-seven percent of the rimsherds at Baumann lacked Neck decoration (Plate 18). A further 35.9% lacked complete necks. The remaining 27.2% represent the extent of this motif at Baumann. It appears to be a trait decreasing in significance from Middleport to Contact times. The presence of Black Necked and Pound Necked ceramic types on Lalonde sites, including Baumann, provides for the slight upsurge of this trait at this time, which only makes rare appearances on later sites.

Latta (1976:79) noticed that "infra-collar decoration" (decoration occurring below the collar) reached a peak during Lalonde times, at a frequency of 33.3%. Whether this percentage includes full, complex neck motifs is not clearly stated, but the assumption is that it does. Again, this seems to be a trait which is distinctly Lalonde in representation.

Ramsden (1977) also proposes the temporal sensitivity of the remaining traits: Interior decoration; Sub-collar decoration; Convex rim interior; Concave rim interior; Concave collar exterior; and Straight collar. No comparative data are available for these attributes, and the associated data from Baumann can be found in Tables 1 through 41, Appendix D.

Three remaining traits have been singled out as possible temporal indicators of Lalonde assemblages. Where available, comparative data will again be taken from Latta's (1976) study of culture change in Huronia. This study provides the only comparative rimsherd data analyzed on an attribute basis.

5. During Middleport times, "The major modifying element is a Horizontal overscore at the bottom or centre of the collar" (Latta, 1976:59, emphasis added). This rather singular attribute was noted in several instances on the Baumann rims (Plate 19) and it was encouraging to establish its basis in the culture from which it is argued that Lalonde developed. Although no frequencies are provided, Latta (1976:78) also noticed the horizontal overscore on Lalonde ceramics, mentioning that it can be continuous, or sometimes broken into dashes at the bottom or centre of the primary collar motif.

This trait appears on 16.3% of the Baumann rimsherds. It was applied on twelve different backgrounds and was not considered as secondary decoration. This was for the sake of consistency, since the horizontal dashes were usually in association with either horizontal incising at the base of the collar, or with a row of punctates just below the collar, both of which were instead classed as secondary.

Latta (1976:78) includes this decorative trait in a category she has termed "modifying elements", which would include, among others, a line of punctates used to outline a blank triangle (frequently found on the type, High Collar Lalonde), linear outlines along the top and bottom of the collar, and, oblique overscores. For this category she (ibid.) states that:

> Modifying elements are added to ground patterns in considerably higher frequency than in any other stages in the Huronia sequence... modified motifs make up a larger proportion of the entire assemblage than in any other period.

Future analyses of this trait, and of the category "modifying elements", will no doubt establish a frequency significant of the Lalonde ceramic assemblage.

6. Since the ceramic type "High Collar Lalonde" has been the major distinguishing characteristic of the Lalonde assemblage to date, Collar height becomes a temporally significant attribute. Using Ramsden's (1977: 149) division of 30 mm. to distinguish between high and low collars, the frequency of the former at Baumann stands at 10.9% (40 rims). Eight of these rims are incomplete, but the distinctive opposed triangle motif with punctates easily distinguishes these sherds from the others (Plates 20-24, 28).

The Baumann percentage is lower than Latta's (1976: 84) 31.8%. The Copeland site alone, which is included in Latta's study, has a frequency of 25.0% High Collar Lalonde type (Channen and Clarke, 1965:18). Perhaps the criteria for evaluating a rim as a high collar type differ among researchers.

All of the rims having the attribute "high collared" were of the type High Collar Lalonde, and this type has the highest representation of any type in the collection; followed closely by Huron Incised (9.5%). This corresponds with the observation that, "As a group, this is the most common type on Prehistoric Lalonde sites..." (Latta, 1976:76).

7. Castellation comparisons between Baumann and Copeland show that a fequency hierarchy is present. Copeland has a high number of pointed (50.0%) and nubbin (24.0%) castellations, totalling 410 (Channen and Clarke, 1965:18). Baumann yielded 48 castellations, with similar alignment being observed as at Copeland; 73.6% pointed, and 18.4% nubbin (Plates 20, 23, 25). This sequence is also observed by Latta (1976:90), with pointed and incipient pointed forms ranking highest at 62.6%, followed by the nubbin form at 23.8%.

By elaborating upon the above seven attributes, an attempt has been made to show that the Lalonde ceramic assemblage is unique. In time, further significant attributes will undoubtedly appear.

The 25.0% high collar sample at Copeland is followed by Huron Incised and Black Necked types at that site, each with a 21.0% representation. Latta's (ibid.) overall result (combining sherd samples from Deschambault, Farlain Lake, Copeland, and Ridley's surveys) also presents this frequency sequence; high collars at 31.8%, Huron Incised at 21.1%, and Black Necked at 16.3%. At Baumann the same alignment is observed, with high collars (10.9%) being followed by Huron Incised (9.5%), then Black Necked (5.4%). The percentages at Baumann are much lower than those of the comparative samples; however, the consistent sequencing appears significant. Perhaps the overall lower percentages of the Baumann collection are sensitive temporal markers for this site.

Although an honest attempt was made to type all the rimsherds following MacNeish (1952), 204 sherds (55.4%) could not be identified. This is in part due to the varied range of unique decorative motifs so characteristic of the Lalonde ceramic assemblage, as well as the fallibility of the guide used, and the author's own inexperience at typing.

From the ceramics alone it is apparent that Lalonde sites represent a unique entity among prehistoric populations in Ontario. Not only are there numerous singular decorative motifs in existence, but the craft of manufacturing and decorating ceramics appears highly evolved. This is particularly evident on High Collar Lalonde and Black Necked types, where intricate combinations of trailing, incising, and punctating are executed with neither haste nor waver. This care in manufacture and decorative elaboration is never as prolific in earlier or later periods.

CHAPTER 6

FLORAL AND FAUNAL REMAINS

6.1 Floral data

Charred seeds and wood were recovered from Midden 1 and from the features in House 1. The wood species represented are: maple (*Acer saccharum*); beech (*Fagus grandifolia*); elm (*Ulmus sp.* and *Ulmus americana*); and ironwood (*Ostrya virginiana*) (R. Fecteau, 1980:pers. comm.). All charred wood specimens were extracted from features in House 1.

Although a White Pine cover seems to have existed during the 1700's in Huronia (McAndrews, 1981), these tree species represent the major macro-vegetation types during prehistoric times, as well as today.

Corn (a distinction between *Zea mays amylacea* and *Zea mays indurata* could not be made), beans (*Phaseolus vulgaris*), wild plum (*Prunus nigra*), squash (*Cucurbita polymorpha*), wild cherry (*Prunus serotina*), and hawthorne (*Crataegus sp.*) are food types represented by their seed remains at Baumann (J. McAndrews & R. Fecteau, 1980:pers. comm.). Numerous unrepresented vegetation types were undoubtedly also consumed (cf. Heidenreich, 1971:60). All seeds have undergone carbonization, and were recovered mainly from the midden (Table 12).

TABLE 12: Seed types and location

	Midden 1		Features	
Type	Whole	Fragment	Whole	Fragment
Corn	574	211	3	-
Beans*	6	5	-	-
Squash	4	-	-	-
Wild Plum	60	48	3	6
Wild Cherry	3	2	-	-
Hawthorne	2	-	-	-
TOTAL	649	266	6	6

*Includes 2 complete beans, whereas others are bean cotyledons.

Table 13 presents the average sizes of the complete seeds. Cotyledons were measured since complete bean seeds are a rarity due to separation of the seeds during charring. In the table, therefore, average length and width were arrived at by combining the cotyledons and 2 complete bean seeds.

TABLE 13: Seed size averages (mm.)

Type	Length	Width
Corn	9.01	6.57
Bean	5.8	3.5
Wild Cherry	8.0	7.8
Wild Plum	12.0	10.4
Hawthorne	6.5	5.0
Squash	8.5	6.6

The wild plum is well represented and Heidenreich (1971:60) notes that, "Both Sagard (1939:238) and Champlain (3:50) mentioned the wild plum (Prunus nigra). Sagard thought this fruit almost inedible until it had been touched by frost." The wild plum is available from August until September, and it is quite probable that it was harvested for late fall consumption. It also seems to have been used for dyeing, but not specifically in Huronia (Yarnell, 1964:62).

The scarcity of squash seeds may be a function of the cucurbit's lesser role in the diet. Yarnell (1964:109) provides a second explanation for the usual lack of this seed on archaeological sites: "Experiments recently carried out by the writer . . . strongly indicate that of the cultigen remains that concern us here, corn, beans, and sunflower seeds are considerably more likely to survive burning and washing than are squash or gourd remains."

Five very fragmented sections of corn cupules were recovered from the midden, along with the many kernels. Using the criteria outlined by Cutler and Blake (1973), the type of corn represented at Baumann is primarily the 8-rowed variety. Many kernels were smaller than others and may have been 10-rowed varieties, or, equally likely, from the tips of cobs.

Floral remains have been recorded for only one Lalonde site, Copeland, which yielded corn, beans, squash, and cherry pits (Channen & Clarke, 1965:13), as the common denominators with Baumann. Although quantities are not given, the impression is that corn kernels were quite abundant, particularly from the middens. The faunal remains from both Copeland and Baumann, to be discussed in the following section, suggest that corn alone did not constitute the major dietary staple, but shared this position with various aquatic and mammalian species.

6.2 Faunal data

As outlined in the section "Methods of Analysis", the faunal sample was analyzed by J.M. McGlade, R.W. Park, and M.M. Shaaban. Again, it is suggested that these reports be obtained from the author of this thesis if further data are needed. Since similar procedures of analysis and presentation were used in all three reports, it would not be difficult to synthesize these data in the case of a major comparative faunal study.

Table 14 represents a summary of the faunal classes, while Table 15 breaks these classes down into species, indicating the total number of elements (bones) identified, and the minimum number of individuals (MNI).

TABLE 14: Faunal classes

Class	Total # of Elements	%
Mammal	818	8.6
Avian	53	.6
Osteichthyes	8,289	87.4
Reptile	75	.8
Amphibian	36	2.4
Mollusc	208	2.2
TOTAL	9,479	100.0

TABLE 15: Faunal species

Species	Total # of Elements	%	MNI	%
Rabbit or Hare	1	.01	1	.25
Red Squirrel	16	.20	6	1.52
Grey Squirrel	11	.01	1	.25
Woodchuck	27	.34	5	1.27

TABLE 15: Faunal species (Continued)

Species	Total # of Elements	%	MNI	%
Eastern Chipmunk	6	.07	4	1.02
Sciuridae sp.	4	.05	2	.51
Beaver	16	.20	4	1.02
Deer Mouse	17	.21	9	2.28
Muskrat	11	.14	4	1.02
Meadow Vole	1	.01	1	.25
Cricetidae sp.	7	.09	2	.51
Canis sp.	139	1.74	6	1.52
Black Bear	8	.10	5	1.27
Skunk	3	.04	2	.51
Mink	1	.01	1	.25
Wapiti	2	.02	2	.51
White-tailed Deer	17	.21	4	1.02
Cervidae sp.	1	.01	1	.25
Mammal sp.	306	3.82	-	-
Great Blue Heron	1	.01	1	.25
Canada Goose	5	.06	2	.51
Bufflehead	1	.01	1	.25
Sandhill Crane	2	.02	2	.51
Hawk sp.	1	.01	1	.25
Ruffed Grouse	1	.01	1	.25
Passenger Pigeon	9	.11	5	1.27
Redheaded Woodpecker	1	.01	1	.25
Common Crow	1	.01	1	.25
Passeriformes sp.	1	.01	1	.25
Avian sp.	14	.17	-	-
Lake Sturgeon	1	.01	1	.25
Bowfin	17	.21	7	1.78
Brook trout	14	.17	5	1.27
Lake trout	8	.10	3	.76
Salvelinus sp.	4	.04	4	1.01
Lake Whitefish	1	.01	1	.25
White sucker	103	1.29	17	4.31
Castostomus sp.	127	1.59	10	2.54
Redhorse (silver)	4	.04	3	.76
Longnose gar	2	.02	1	.25
Black bullhead	22	.27	10	2.54
Brown bullhead	13	.16	7	1.78
Channel catfish	156	1.95	27	6.85

TABLE 15: Faunal species (Continued)

Species	Total # of Elements	%	MNI	%
Ictalurus sp.	30	.37	6	1.52
Turbot	3	.04	3	.76
White bass	2	.02	2	.51
Northern rock bass	10	.12	6	1.52
Smallmouth bass	51	.64	24	6.09
Largemouth bass	20	.25	7	1.78
Green sunfish	5	.06	3	.76
Bluefill sunfish	3	.04	3	.76
Lepomis sp.	7	.09	7	1.78
Yellow perch	864	10.79	109	27.66
Walleye or Sauger	13	.16	8	2.03
Percidae sp.	33	.41	-	-
Stizostedion sp.	31	.39	5	1.27
Freshwater drum	3	.04	2	.51
Hiodontidae sp.	1	.01	1	.25
Sciaenidae sp.	2	.02	1	.25
Osteichthyes sp.	5,559	69.45	-	
Painted Turtle	48	.60	3	.76
Cheloma sp.	6	.07	1	.25
Musk Turtle	4	.05	2	.51
Map Turtle	2	.02	1	.25
Snapping Turtle	2	.02	1	.25
Testudinidae sp.	1	.01	1	.25
Blanding's Turtle	2	.02	1	.25
Common Box Turtle	1	.01	1	.25
Frog or Toad	22	.27	5	1.27
Amphibian sp.	14	.17	-	
Mollusc	179	2.24	-	
TOTAL	8,004	99.85	394	95.09

Needless to say, most faunal specimens came from the midden, particularly from those quadrants screened through 1/8 inch wire mesh. The majority of specimens came from the northwest quadrant of square 66:86, which, along with the southwest quadrant, represents the east boundary of the area of heaviest cultural deposition in Midden 1 (Figure 6).

Fish bones represent a significant faunal resource, with Yellow Perch, Sucker, and Catfish best represented. Both large and small fish species were present; the presence of small fish, individually of little nutritional value, presupposes that large numbers were caught randomly, thus the probability of nets and weirs. The larger fish species may also have been caught using harpoons or spears. Park (1981:78) calculated Yellow Perch weights, and was able to determine that for his sample, weights ranged from too small to calculate (less than 60 gm.) to 552 gm.

The mammalian sample is mostly made up of small to medium sized animals such as Woodchuck, Gray Squirrel, Muskrat, Mink, Eastern Chipmunk, etc. Canis sp. bone elements were the best represented in the mammalian sample, while meat derived from birds and turtles seems to have been a minor food item. It is highly likely that the larger species, such as Deer and Bear, are underrepresented in the collection due to the fact that the animals were killed, skinned, and butchered away from the settlement.

Shaaban (1981:53) shows that the species represented in the faunal collection fall into two habitat types; the aquatic, and the deciduous forest. The former is by far the best represented, by not only fish species, but birds, reptiles, and some mammals. Conversely, by understanding the habitats of certain fish, characteristics of the aquatic environment can be established. The Smallmouth Bass, for instance, prefers rocky and sandy areas of lakes and rivers, while the Largemouth Bass is found in small shallow lakes, and shallow bays of lakes with an abundance of aquatic plants. Three major types of aquatic environment are evidenced by the fish sample, all of which were accessible to the Lalonde people: shallow and slow or non-flowing water with an abundance of aquatic vegetation; fast flowing water with aquatic weeds; and clear, deep, quiet water. Table 16 describes the aquatic habitats of certain fish species, modified from Shaaban (*ibid.*).

TABLE 16: Aquatic habitats

Fish species	Habitat preference
Yellow Perch	-open, clear water of lakes with moderate vegetation, and bottoms of muck to sand and gravel, also ponds and quiet rivers
Sucker	-bottom-dwellers of lakes, ponds and slow streams
Catfish	-most types inhabit shallow, small lakes, ponds or streams of quiet and slowly moving water with much aquatic vegetation
Smallmouth Bass	-rocky, sandy areas of lakes and rivers
Largemouth Bass	-small, shallow lakes and shallow bays of larger lakes with many aquatic plants
White Bass	-clear, deep, quiet medium or large lakes
Sauger or Walleye	-large, shallow turbid lakes or rivers
Bowfin	-swampy vegetated bays of warm lakes and rivers
Sturgeon	-shoal waters of larger rivers and lakes

The fact that the Yellow Perch does not dwell in too specialized an environment may explain its abundance in the faunal collection.

It is difficult to determine exactly which species were most important to the diet. This is in part due to the difficulty in comparing the nutritional value of large mammals and small fish when it is not known which portions of the body were consumed. This is a consideration which must be kept in mind. Shaaban (1981:66), however, calculated that for his sample Deer, Bear, Canis sp., and Beaver represent the majority of the meat weight at 76.9%, with 19.4% meat weight calculated for fish, despite the latter's high percent of total elements.

Calculating meat weight is an analytical method which has its drawbacks, the least of which is assuming the consumption of the entire carcass. Using the weight of the bone material to calculate meat weight has been suggested as another alternative, and would be more realistic in determining the importance of various species in the diet, if the bone to meat weight is constant. The problem with this method, however, is the need to establish that there exists a constant between bone weight and meat weight (Renouf, 1981:161).

Considering season of occupation, a winter-only occupation is the only unlikely possibility. The probability of year-round settlement is high because several fish species, deer, Canis sp., and Grouse would all be available throughout the winter months. These, combined with corn, beans, wild plums, squash, and nuts stored in the late fall, would also provide sustenance.

McGlade (1981:3) notes the absence of charred fish bone in her sample, "except for a small piece of cleithrum." Quoting Trigger (1976:76) she proposes the explanation of cultural practices for this phenomenon:

> In particular, hunting and fishing were structured with many rituals. When Huron men engaged in these activities, they were careful not to permit . . . the bones to be burned.

McGlade (ibid.) further notes that although Trigger refers to a time period later in time than Lalonde, these cultural practices may already have been instituted during Lalonde times.

Similarly, Park (1981:23) in studying the contents of features, notes that hearths yielded a low percentage of both charred or calcined fish remains. Furthermore, 50% of the mammal bones showed evidence of charring, while only 2.4% of fish remains were altered in this manner.

In comparing the Baumann faunal sample with that of the Copeland site (Channen and Clarke, 1965:14), it becomes apparent that the high percentage of fish and *Canis* sp. remains is common to both. (Park (1981:23), in fact, describes evidence of butchering on a *Canis* sp. left second metatarsal, which shows several fine cut marks on its dorsal and lateral surfaces). Baumann, however, has a greater variety of species, and a larger sample of bone elements than Copeland (Copeland has 200 bone elements representing 17 species. More species may be present at Copeland because the categories "Fish" and "Birds" were not broken down). The numerous species are undoubtedly a more direct result of this larger sample, rather than a function of dietary preferences.

Park (1981:33) compared his sample to those of the Ball site, Cahiague, and Methodist Point. The former two sites are contact Huron settlements (ca. A.D. 1600), while Methodist Point is contemporary to Baumann (ca. A.D. 1400-1500). It was determined that both of the earlier sites have a preponderance of fish bone over the later sites. The most popular mammal foods, however, remained the same at all four sites: Beaver, Canis sp., and White-tailed Deer (although Methodist Point had no deer remains). Park further concludes that fish utilization decreased towards contact times, but mammalian exploitation did not necessarily increase, probably because, as evident in the Baumann sample, a very wide variety of taxa were consumed with possible increases in corn consumption. Once again, the subsistence habits of the Huron find analogy with those of Lalonde times. This is particularly the case when floral data are included.

Several faunal species represented in the Baumann sample have since disappeared from this region, the Passenger Pigeon having of course become extinct. McGlade (1981:4) was able to determine that although the fish Ictalurus melas (Black Bullhead) occurred in the site area (based on its "moderate occurrence" in the sample), it has since suffered a northern range reduction. It is difficult to determine whether this is the result of ecological or cultural factors. Also no longer in this environment are

Grus canadensis (Sandhill Crane), and Cervus canadensis (Wapiti) (Park, 1980:18).

To conclude, certain drawbacks in current methods of faunal analysis will be pointed out. Various methods of analysis, and concomitant weaknesses, are discussed clearly and at length in Renouf (1981:158-173), only two sections of which are summarized here.

In examining the analytical method of calculating total number of fragments, Renouf (1981:162) points out the following biases which could occur, thus affecting representation: survival rate of certain bones over others; ease of identification of certain bones over others, in a fragmented state and otherwise; the fact that certain species are represented by more bones than others, theoretically increasing their chances of representation; and that methods of counting differ, some being more refined than others.

McGlade (1981:4), as an example, stresses that the species represented among the fish bones from the Baumann site are all common dietary items. Missing from this group, or poorly represented, are pike, garpike, muskellunge, and sturgeon, also common dietary species. The absence/poor representation of these species in the faunal sample is, moreover, most likely a function of skeletal composition, for skeletons of each of these species calcify extremely easily.

Analyzing in terms of units has its serious drawbacks as well, as demonstrated by Renouf (1981:166):

> ... for a midden sectioned into square metres and 10 cm. levels, minimum numbers may be calculated for the whole, for each square, or for each level within each square. The smaller the size of the unit, the smaller will be the size of the sample and the higher will be the ratio between the minimum number of individuals and the number of skeletal elements from which it was derived... Whereas 1 element will produce 1 individual (1:1), an additional 30 elements may not neceassarily add to tha count (1:30). To be extreme for the sake of illustrating a point, if those 30 elements were spread over 30 arbitrary excavation units with a single element per unit, then the MNI would be 30 (1:1).

Lastly, the following quote from Renouf (1981:173), referring to a modified total number of fragments count, illustrates a weak link which could affect an entire analysis, despite the analytical methods used:

> A serious drawback ... is the problem of sample size. In a small collection of bones the variation due to chance is so great that it is very much less likely that a representative quantity of bones which are considered to be significant (i.e. articular ends, etc.) will be present than in a large collection of bones. Thus when the "insignificant" elements are removed ... what is left will be considerably less representative in a small sample than in a large sample.

A similar statement as Pearce's (1978:49), regarding small samples, could perhaps be made here. The point, however, is that methods of analysis require assessment, and these methods should be implemented with sample size in mind.

Chapter 7 presents the conclusions to this research, with sections on site comparisons, as well as a summary of ceramic attribute analysis.

CHAPTER 7

CONCLUSIONS

7.1 Final remarks on attribute analysis

An acceptance of attribute analysis in Ontario is gradually opening doors to more detailed interpretations. With the greater data base provided by the isolation of attributes we can begin to examine village movement, lineages or clans at a site, regional chronologies, social structure of a longhouse and its relationship to other longhouses on that site, etc. It cannot be ignored, however, that ceramic types have interpretive value; we acknowledge their worth, but it is the methods of typing which were doomed since intuition became such an integral part of the methodology. Wheat (1958:34), over twenty years ago, advised:

> There can ... be no legitimate doubt that if the intricate ceramic history of the ... New World is to be understood, research analysts must be free to break down their material to as fine a point as necessary in order to localize in time and space infinitesimal variants of pottery which constitute, with other aspects of material culture, the documents of regional prehistory. It is equally clear that some method must be found to integrate the smallest units into meaningful groupings of a larger order.

Whether these "meaningful units" be types, or attribute clusters having, for instance, spatial significance, depends on the hypothesis proposed. Once sufficient comparative site data based on attributes are available, it will become necessary to use computer technology in order to deal with what will be a large data base. Statistical techniques will also need to be implemented in order to deal with the data as objectively as possible.

Clustering will prove to be the most effective means of comparing units. The ceramic code presently in use is, however, not conducive to clustering, which requires that Euclidean distance be measured between attributes. The distance, then, establishes the similarity of two and more cases, i.e. rimsherds and sites. A code will have to be substituted which records presence and absence ('1' and '0') of attributes to allow distance measurements to be made (cf. Hodson, 1970).

The maximum sample that can be used varies with the clustering program, and this restriction could prove quite limiting (again, depending on the problem being studied). Clustering attributes, for instance, to arrive at a site typology would require numerous cases, and a program needs to be chosen which would not restrict their number. Stepwise Discriminant Analysis (Brown, 1977) appears to offer the greatest range of cases (450 cases with 50 variables), and could be interestingly utilized to test subjectively classified types against statistically derived attribute clusters from the same sample. Read's (1974) significant approach to typology provides several references to various clustering techniques. Hartigan (1975:24-25) also mentions cluster applications directly associated with archaeology and anthropology.

7.2 Site comparisons

This section summarizes the comparisons which have been made between the Baumann site and other sites throughout the text. It should be evident that there exists a scarcity of comparative material pertaining to Lalonde sites, and that that which is available is of limited scope.

The key features of the Baumann site will be outlined and where possible these will be compared to other Lalonde sites in order to define those characteristics which are peculiar to Lalonde. Since Wright (1966:66) has made it clear that the assemblages of the Late Ontario Iroquois stage developed out of the Middleport substage, and since it is agreed that Baumann is a Lalonde site, any connections between the Baumann data and the typical Middleport assemblage will also be outlined.

Most characteristic of the Baumann site are the following features: an unusually long house structure associated with a deep, rich midden, and filled with features which can be interpreted as postmoulds, hearths, and refuse pits; an unusual northeast-southwest orientation of the structure which would have caused its broad side to face prevailing winds; a meagre lithic assemblage, mainly represented by unifacially worked chert flakes which served as scrapers; varied chert sources ranging from the south along Lake Erie, to the east, or, the Balsam Lake area; a bone artifact assemblage which appears more varied than the lithic, and which consists of awls, beads, a whistle, pendants, and projectiles; pipes which are mainly of two styles, barrel-shaped and trumpet; rimsherds which are decorated with an unusually varied number of motifs which bespeak a high degree of innovation; a subsistence pattern which combines the growing of corn, beans, squash, with gathering nuts (and presumably berries), and fishing and hunting an extremely varied mammalian base; site location close to water sources, alongside a ravine, and with access to flat fields for cultivation.

The Baumann longhouse is not similar to known Lalonde structures. It is longer than those found at Copeland, and has definite activity areas spaced throughout its length, which Copeland houses do not. Furthermore, it lacks the bunklines apparent at the Copeland site. With regards to orientation, the structures at Copeland are not aligned in any single way, i.e. there appears to be no settlement planning. Thus, the orientation of the Baumann structure cannot be said to be typical, since there is no norm to compare it by. The definite activity areas in this structure may suggest that lineages of the contact Huron (Noble, 1968a:18) are becoming delineated in the settlement of this period.

The Baumann pipes and the bone and stone small tool assemblage find their counterparts in the collections of the Copeland, Fallis, and Lalonde sites. From the data available, the bone sample from these sites appears more varied than the lithic, as is the case at Baumann. Whereas

Baumann has few chert projectile points, however, they are well represented at Copeland, Lalonde, Fallis, and two previously unmentioned Lalonde sites, McGuire and Voutt (Ridley, 1952a:Fig. 69).

The three most common ceramic types at Copeland, Lalonde, and the sites analyzed by Latta (1978) are High Collar Lalonde, Black ~~Necked~~, and Huron Incised, in that order of frequency. These types are also the most common at Baumann, in the order given. The high collar rarely appears in Middleport collections, rarely on contact sites, but has its highest representation on Lalonde sites. Elaborate neck decoration also finds its origins during Middleport but again is most popular in Lalonde assemblages. The simple incised motif, characteristic of the type "Huron Incised" becomes most frequent during contact times, and is moving towards this popularity during Lalonde times. A further shared similarity among Lalonde assemblages is the profusion of decorative motifs.

Latta (1978:82) noted that on the various Lalonde sites which she analyzed, Canis sp. elements had the highest representation in the mammalian sample; this is also the case at Baumann. Latta (ibid.) also noted that the remainder of the subsistence base consisted of numerous small to medium-sized mammalian species, fish, and corn. This is not to say that Canis sp. was the most popular food item; fish, beaver, muskrat, etc., and plant foods are also important. Corn, beans, and squash seeds were recovered at Copeland (Channen & Clarke, 1965:13) but wild plum, so prevalent at Baumann, is missing. This difference may be due to differences in the immediate environment of the two sites. The collection and cultivation of plant species other than just corn, as well as fishing and hunting (mainly for smaller mammalian species) appears to form the subsistence base of Lalonde settlements.

That Lalonde has its antecedents in the Middleport substage of the Middle Ontario Iroquois stage is evidenced by artifact similarities between the two. The bone tool assemblage from Baumann is well represented, and indicates that those activities which required the use of bone tools were being carried out as during the preceding Middleport period, when bone tool assemblages similar in quantity and tool-type are duplicated on such sites as Webb, Moyer, and Middleport. Lithics, on the other hand, are better represented on Middleport sites, and more varied than those found on Lalonde sites, perhaps due to the latter's growing dependence on agricultural techniques to obtain food, with a concomitant decline in hunting activities.

Both the barrel-shaped and trumpet pipe styles so characteristic of Lalonde are well represented on Middleport sites, although the trumpet pipe is often elaborately incised on the latter type of site, and is not quite as flared as the Baumann styles (cf. Wintemberg, 1948:75; Figs. 1, 22, 23). Moyer, a late Middleport site, has a pipe assemblage closer in time, and very similar to Baumann. This suggests a development of Lalonde pipe styles out of Middleport types.

Five of the seven ceramic rimsherd attributes, described in the section "Ceramics" as being diagnostic of Lalonde, have counterparts in Middleport assemblages. The high collar is illustrated for the Lawson (Wintemberg, 1939:77; Fig. 9) and Middleport (Wintemberg, 1948:59, 61) sites. The simple collar motif is basic to several sherds illustrated for the Middleport period, particularly when associated with horizontal decoration (Wintemberg, 1948:59, Fig. 6, 63; Wright, 1966:189, Fig. 2, 3, 4). Latta is quoted noting connections between Middleport and Lalonde for the traits "Neck Decoration" and "Horizontal Overscore" in the section "Ceramics."

Although C14 dates are unavailable from other Lalonde sites, the date of A.D. 1690 ± 60 (N.M.C. 1222) places the Baumann assemblage within, and nearing the end of the Lalonde period.

7.3 Final remarks

With this research an attempt has been made to add to the limited data base available to students of Lalonde culture. Data elaborated upon in this text show Lalonde-type assemblages to be quite distinctive, with certain elements having a wide geographic spread. The high collar, for example, in conjunction with the undecorated trumpet pipe, and the barrel pipe are found on sites well outside the area known as "Huronia", the region of Lalonde occupation. High collars, furthermore, are definite temporal markers, and

Weber (1970) has shown the pipe assemblage to have temporally significant traits as well. Temporal strength as well as horizonal strength is a strong combination, and a result of a stable, strong occupation. The individuality of the Lalonde assemblage when compared to earlier and later assemblages gives further credence to this idea of a strong occupation.

Lalonde is at present largely understood in terms of the role it played in the period of transition which resulted in Huron culture. The term "division" has implications for this concept of fusion, and of Lalonde being a segment of a greater whole, namely the combination of the Southern and Northern divisions. While this is valuable for understanding Ontario prehistory, it is felt that the position of Lalonde in the chronological sequence has not been explicated--it requires elaboration.

To better understand and appreciate the fusion and transition which resulted in the Huron, it is vital to first understand the entities within this developmental sequence. Lalonde is not just a state of flux. With this research it was intended to halt chronological movement for a moment, and understand Lalonde as a stable occupation. Once this is understood, and Lalonde is appreciated as such, then one is in a better position to understand the fusion and change which proceed out of the Lalonde period.

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APPENDICES

APPENDIX A

X-RAY FLUORESCENT CHARACTERIZATIONS OF SOME COPPER ARTIFACTS FROM THE BAUMANN SITE (BdGv-14), ONTARIO

X-ray fluorescence has applications as a quick and fairly simple method of non-destructive elemental analysis for those elements with atomic number greater than 21. It has shown itself to be particularly convenient for the analysis of metallic artifacts of archaeological interest.

Excavations at the Baumann site, Ontario, in 1980 produced two metallic "copper" artifacts. This report is the result of M. Stopp's request to have the pieces in question analyzed non-destructively, and constitutes a very simple test of the hypothesis that they were manufactured from native copper.

X-ray Fluorescent Analysis

When a sample is struck by a beam of X-rays there is excitation of electrons in atoms near the surface of the sample, leaving vacancies in their original electron shells. An atom, in readjusting to this situation, fills the vacancy with another electron from a higher level, simultaneously emitting an X-ray with an energy uniquely characteristic of the type of atom. These fluorescent X-rays can be detected by means of a silicon crystal and the energies of the characteristic X-rays measured. Each X-ray, as it passes through the crystal, ionizes atoms along its path and a small voltage across the crystal causes sudden pulses of positive and negative ions to move in opposite directions towards electrodes. The small electrical pulses are amplified, and their heights, which are proportional to the energies of the X-rays which caused them, measured and sorted. We may display the accumulated data as a spectrum with pulse height (i.e., energy) along the x-axis and number of individual pulses (X-rays) along the y-axis.

We may easily identify the elements present in our sample by reference to the energies of the peaks in the spectrum, while measurement of the relative sizes of the peaks may allow fairly accurate estimates of the elements' concentrations in the sample.

<u>Coppers from the Baumann Site (BdGv-14)</u>

The purpose of XRF measurements on the two coppers from the Baumann site was simply to test the hypothesis that they were manufactured from native copper. Since we would expect native copper to be very pure, we would reject the hypothesis in the case of any copper which contained tin, arsenic, antimony, lead or silver in significant quantities, these being elements commonly found in bronzes. Analysis therefore requires only identification of elements responsible for peaks in the X-ray spectra of the coppers.

The first sample analyzed was a copper point (BdGv-14, 54:140, P.Z.) with an X-ray spectrum showing large peaks for copper and tin, and smaller ones for lead. The data for this spectrum appear in Table 1. The presence of tin and lead in this piece is more what we would expect of a true bronze, and the hypothesis that this is native copper must be rejected.

The second sample (rolled copper BdGv-14, 66:104, S80/E1.14) had a spectrum showing no peaks except the two characteristic of copper (Table 2). We are unable, on the basis of these data, to reject the hypothesis that this piece is native copper.

Conclusions

Although it would be premature to conclude that the second sample is native copper, it does seem reasonably certain that the first, with tin concentrations of about 10.8 to 10.9% and small amounts of lead,* is a true bronze. Assuming that bronze production was unknown locally during the period of occupation at the site, we may infer that the material for the point was imported, unless disturbance of deposits is sufficient to allow a much later date.

2 February 1981

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Archaeometry Lab
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*Tin concentrations were estimated by reference to bronze standards with known composition.

TABLE 1

PEAK	ENERGY	PEAK AREA	BACKGROUND	P-B
Copper K-alpha	8.04 keV	14952	3847	11105
K-beta	8.94	5988	2067	3921
Lead L-alpha	10.50 keV	very small		
L-beta	12.61	very small		
L-gamma	14.76	very small		
Tin K-alpha	25.16	21758	8202	13556
K-beta	28.79	9619	465	9154

TABLE 2

PEAK	ENERGY	PEAK AREA	BACKGROUND	P-B
Copper K-alpha	8.04 keV	10738	3362	7376
K-beta	8.94	3097	815	2282

X-ray Spectra for Sample 1 (Table 1) and Sample 2 (Table 2)

APPENDIX B

FEATURE DESCRIPTIONS

Feature #	E-W:N-S Diameter cm.	Depth cm.	Contents	Shape	Profile
1	52:50	9	gray ash;charcoal	circle	saucer
2	18:13	12	dark brown soil; charcoal	circle	irregular
3	70:76	15	dark brown soil; charcoal;fish bone faunal bone; fire-cracked rock; bodysherds	circle	irregular
4	18:13	20	dark brown soil; charcoal; bodysherds	circle	bell
5	24:23	16	charcoal;dark brown soil; bodysherds	circle	saucer
6	23:32	9	gray ash;charcoal	circel	basin
7	30:30	18	gray ash;charcoal	circle	conical
8	20:20	-	no data	circle	basin
9	51:81	8	dark brown soil; ash;charcoal;seed; faunal bone;chert flakes	irregular	basin
10	37:34	20	gray ash;charcoal; chert flakes	circle	saucer
11	40:39	30	dark brown soil; charcoal;faunal bone	circle	saucer
12	18:22	11	dark brown soil	circle	basin
13	20:44	9	no data	irregular	saucer
14	48:44	12	dark brown soil; gray ash;charcoal; faunal bone	circle	basin
15	28:27	17	dark brown soil; charcoal; chert flakes;rimsherd; bodysherd	circle	saucer
16	36:60	8	dark brown soil; charcoal;bodysherds	circle	irregular
17	32:12	12	dark brown soil; charcoal	circle	saucer
18	27:17	24	brown soil; charcoal;rimsherd; bodysherds	oval	squared bell
19	no data				
20	no data				
21	49:32	14	gray ash;charcoal; seeds;faunal bone	irregular	saucer

Appendix B cont'd.

22	20:20	11	brown soil; charcoal	irregular	saucer
23	38:64	16	dark brown soil; charcoal	irregular	basin
24	30:36	6	dark brown soil; charcoal	circle	basin
25	32:32	19	brown soil;seed; quartz flake	circle	saucer
26	15:60	5	gray ash;charcoal; bodysherd	oval	basin
27	44:45	31	dark brown soil; charcoal	circle	bell
28	16:10	-	black soil; charcoal	circle	-
29	10:10	7	dark brown soil; charcoal	circle	saucer
30	14:16	5	black mottled	circle	saucer
31	18:20	17	black mottled; charcoal	circle	nipple basin
32	28:30	7	black ash;charcoal; rimsherd;faunal bone	circle	basin
33	19:30	11	brown soil	circle	saucer
34	64:24	15	brown mottled	circle	basin
35	28:21	13	black soil; charcoal	oval	irregular
36	22:40	30	dark brown soil	circle	conical
37	32:50	17	brown soil	circle	basin
38	76:72	27	brown soil; charcoal;chert flake;quartz flake	circle	saucer
39	-	34	brown soil; charcoal	-	bell
40	-	10	gray soil	circle	saucer
41	no data				
42	32:36	13	gray ash;charcoal; faunal bone;chert flakes	oval	saucer
43	24:38	8	dark brown,black soil;charcoal	circle	basin
44	18:18	10	light brown,gray soil	circle	saucer
45	46:32	4	brown soil	circle	basin
46	38:42	9	dark brown soil	irregular	basin
47	12:20	9	dark brown soil; charcoal	oval	saucer
48	36:30	40	brown soil; charcoal;faunal bone;chert flakes; rimsherd;bodysherds	oval	conical

Appendix B cont'd

49	28:14	17	black mottled soil;charcoal; fish bone; bodysherds	irregular	basin
50	30:65	58	black soil; charcoal;faunal bone;bodysherds	irregular	conical
51	28:23	11	dark brown soil; charcoal;seed; bodysherds	oval	basin
52	80:40	6	dark brown soil	circle	basin
53	22:18	8	dark brown soil	circle	saucer
54	23:23	37	brown soil; charcoal	circle	conical
55	16:19	59	brown soil; charcoal	-	-
56	no data				
57	35:15	3	brown mottled soil;charcoal	oval	basin
58	20:30	5	dark brown soil; charcoal;faunal bone	oval	basin
59	58:26	6	dark brown soil; charcoal;seed; quartz flake; bodysherd	oval	basin
60	20:29	13	gray ash;charcoal	irregular	basin
61	15:18	18	gray ash;charcoal	circle	saucer
62	29:29	23	gray soil;charcoal; bodysherds	circle	bell
63	25:19	35	brown soil; charcoal;fish bone	circle	conical
64	~~43:60~~	no data			
65	no data				
66	31:31	41	dark brown soil; charcoal;chert flakes;fish bone; rimsherd;bodysherd	circle	bell
67	no data (stain)				
68	45:57	22	dark brown soil; charcoal;fish bone; bodysherds	circle	saucer
69	18:16	3	dark brown soil	circle	basin
70	20:19	27	black soil; charcoal;rimsherd; chert flakes; faunal bone	circle	squared bell
71	26:16	31	black soil; charcoal;quartz flakes;bodysherds	circle	bell

Appendix B cont'd.

72	15:14	13	black charcoal;pipe fragment;bodysherd	circle	squared bell
73	19:31	12	black soil;bodysherds; charcoal	irregular	saucer
74	28:27	31	brown soil;charcoal; seed;faunal bone	irregular	bell
75	16:20	23	brown soil;charcoal; fish bone;chert flakes;copper cylinder; bodysherds	circle	bell
76	20:26	28	black soil; charcoal;chert flakes;rimsherds; bodysherds	irregular	bell
77	26:22	30	brown soil; charcoal;faunal bone;chert flakes; bodysherds	irregular	bell
78	20:20	22	black soil; gray ash;charcoal	irregular	bell
79	20:30	10	brown soil; charcoal;quartz flakes;bodysherds	circle	nipple basin
80	10:10	12	brown soil; charcoal	circle	irregular
81	16:15	37	brown soil; charcoal;chert flakes;faunal bone	circle	bell
82	58:58	8	brown soil; charcoal;bodysherds	circle	basin
83	16:16	12	black soil; charcoal	circle	saucer
84	16:16	3	black soil; charcoal	circle	basin
85	63:52	21	black soil; charcoal;seeds; faunal bone	circle	saucer
86	14:14	9	black soil; charcoal	circle	saucer
87	34:24	12	brown soil; charcoal;rimsherd	circle	saucer
88	23:23	15	brown soil; charcoal; bodysherds	circle	squared bell
89	30:36	32	dark brown soil; charcoal;chert flakes;bodysherds	oval	bell
90	28:25	10	brown soil	circle	saucer
91	51:68	12	black soil;ash; charcoal;seed; faunalbone	circle	squared basin

Appendix B cont'd.

92	44:44	no data			
93	29:45	29	brown soil; charcoal	circle	basin
94	16:16	no data			
95	20:32		brown soil	kidney	saucer
96	18:52	8	black soil; charcoal	oval	squared basin
97	52:22	7	gray ash; charcoal	circle	basin
98	50:64	9	gray ash; charcoal	oval	basin
99	43:51	6	black soil; charcoal; gray ash	oval	squared basin
100	22:24	no data			
101	20:20	9	black soil	circle	nipple basin
102	27:18	13	black soil; charcoal;faunal bone;chert flakes	oval	saucer
103	35:48	11	gray ash; charcoal	oval	saucer
104	21:18	37	dark brown soil; charcoal;fish bone	oval	bell
105	25:21	23	dark brown,black soil;charcoal; faunal bone;chert flakes;bodysherds	circle	bell
106	22:23	30	brown soil; charcoal;chert and quartz flakes	oval	conical
107	45:34	49	brown soil; charcoal;fish bone;faunal bone; chert and quartz flakes;rimsherds; bodysherds	kidney	bell
108	21:21	31	dark brown soil; charcoal;fish bone;faunal bone; chert flakes; bodysherds	circle	bell
109	16:16	12	dark brown soil; charcoal	circle	nipple basin
110	32:18	no data			
111	58:32	15	dark brown soil; charcoal;fire-cracked rock	oval	saucer
112	33:36	18	dark brown soil; charcoal	circle	saucer

Appendix B cont'd.

113	54:48	9	gray ash; charcoal;orange and white ash	circle	saucer
114	38:27	32	gray ash; charcoal;orange and white ash; seeds;fish bone	circle	saucer
115	41:34	30	dark brown soil; fish bone;chert flakes;bodysherds	oval	bell
116	26:24	no data			
117	45:40	40	dark brown soil; charcoal;fish bone;faunal bone; ground slate;quartz flakes;bodysherds	oval	squared bell
118	75:75	22	gray ash;orange ash; charcoal;bodysherd; quartz flakes	irregular	basin
119	45:38	22	black soil; charcoal;fish bone;faunal bone; bodysherds	oval	squared basin
120	44:42	19	dark brown soil; bodysherds	oval	basin
121	13:20	13	gray ash; charcoal	oval	basin
122	32:28	12	black soil; charcoal; bodysherds	oval	saucer
123	48:32	18	gray ash;charcoal; seeds;fish bone; ground slate;quartz	circle	saucer
124	15:40	no data			
125	6:5	18	orange ash; charcoal;faunal bone	circle	nipple basin
126	31:30	15	black soil;gray ash;charcoal; bodysherds	circle	basin
127	40:42	37	gray ash; charcoal;faunal bone;bodysherd	circle	bell
128	18:18	5	brown soil	-	-
129	40:44	17	gray ash; orange ash; charcoal; seeds;fish bone	circle	saucer
130	44:64	14	gray ash; charcoal; faunal bone; bodysherds	oval	basin

Appendix B cont'd.

131	48:64	-	gray ash; charcoal	circle	basin
132	36:44	13	gray ash; orange mottling; fish bone;faunal bone;chert flakes	circle	basin
133	28:32	23	brown soil; charcoal; faunal bone;pipe fragments	circle	saucer
134	16:16	22	brown soil	circle	conical
135	19:24	7	brown soil	circle	saucer
136	17:17	9	black soil; charcoal	circle	saucer
137	16:18	79	brown soil; charcoal;seed; rimsherd;bodysherd	oval	conical
138	60:47	21	gray ash;charcoal; faunal bone;bodysherd	oval	saucer
139	56:48	13	gray ash;orange mottling;charcoal	circle	basin
140	38:40	10	gray ash;charcoal; fish bone; bodysherd	circle	basin
141	26:26	37	black soil; charcoal;fish bone;faunal bone; bodysherd	circle	conical
142	26:24	30	gray ash;orange mottling;charcoal	circle	basin
143	36:32	-	gray ash;charcoal	-	-
144	30:50	20	gray ash;charcoal	circle	basin
145	26:26	57	black soil; charcoal;fish bone; faunal bone	circle	bell
146	30:21	10	dark brown soil; charcoal	oval	saucer
147	28:38	14	gray ash;orange mottling;charcoal; fish bone	circle	saucer
148	60:54	26	gray ash;charcoal; fish bone;faunal bone	irregular	irregular
149	62:49	17	gray ash;orange mottling;fish bone;faunal bone; chert flakes	circle	basin
150	52:38	-	gray ash;charcoal	-	-
151	32:20	-	gray ash;charcoal	-	-
152	56:64	no data			

Appendix B cont'd.

153	41:41	-	black soil; ground stone; rimsherd; bodysherd	circle	-
154	48:28	-	charcoal	-	-
155	36:32	-	gray ash;charcoal	-	-
156	34:32	no data			
157	44:40	no data			
158	60:52	no data			
159	44:32	-	gray ash; charcoal; bodysherds	circle	basin
160	49:45	19	brown soil	circle	saucer
161	18:18	12	white ash; charcoal;seed	circle	nipple basin
162	18:20	40	black soil; charcoal; fish bone;faunal bone;bodysherds	circle	bell
163	25:18	23	dark brown soil; charcoal;fish bone;chert flakes; bodysherds	circle	saucer
164	26:9	8	black soil; charcoal	oval	basin
165	31:22	30	gray ash;orange mottling;charcoal; fish bone	circle	conical
166	21:18	7	gray ash;orange mottling	circle	saucer
167	32:30	9	dark brown soil; charcoal	oval	basin
168	42:40	18	gray ash;orange mottling;charcoal; bodysherd;seed; fish bone	circle	saucer
169	40:36	no data			
170	10:30	20	brown soil	circle	saucer
171	40:48	-	gray ash;charcoal	circle	-
172	40:32	19	black soil; charcoal;seeds; fish bone;faunal bone;chert flakes	circle	saucer
173	83:70	8	black soil;gray ash; charcoal;orange mottling;fish bone; chert flakes	irregular	basin
174	88:20	10	gray ash;orange mottling;orange ash layer;charcoal	circle	basin
175	16:24	12	gray ash;charcoal; orange mottling	circle	basin

Appendix B cont'd.

176	30:30	17	black soil; charcoal; rimsherd	circle	saucer
177	42:48	15	gray ash;charcoal; orange mottling	circle	saucer
178	32:23	26	black soil; charcoal;seeds; fish bone;bodysherds	oval	squared bell
179	38:33	3	dark brown soil; charcoal;bodysherds	circle	basin
180	36:48	12	dark brown soil; charcoal;fish bone;quartz flakes; bodysherds	kidney	saucer
181	36:36	4	brown soil; bodysherds	oval	basin
182	20:27	22	black soil; charcoal;fish bone;faunal bone; bone awl	oval	basin
183	95:60	14	dark brown; charcoal	irregular	saucer
184	28:24	33	dark brown soil; charcoal; bodysherds	circle	bell
185	40:37	13	gray ash;charcoal; fish bone	oval	saucer
186	40:33	12	gray ash;orange mottling;charcoal	oval	saucer
187	15:15	20	gray ash;charcoal; seed;fish bone; faunal bone;bodysherd	circle	bell
188	78:76	16	brown soil;gray ash pockets; charcoal	circle	basin
189	48:46	14	dark brown soil; charcoal;gray ash pocket;seeds;fish bone;fire-cracked rock;chert flakes	irregular	saucer
190	96:98	21	dark brown soil; chert flakes; bodysherds	irregular	basin
191	180:130	21	orange, black, yellow and brown mottling;charcoal; undecomposed wood	irregular	basin
192	22:23	13	brown soil; charcoal	circle	saucer
193	16:16	27	black soil; charcoal;faunal bone;worked bone	circle	bell

194	40:52	21	black soil; charcoal;chert flakes;rimsherd	oval	bell
195	50:49	18	brown soil;gray ash;charcoal; bodysherds	circle	bell
196	80:75	13	gray ash;charcoal; orange mottling	circle	saucer
197	80:80	16	gray ash;charcoal; orange mottling; fish bone	circle	saucer
198	130:150	20	gray ash;charcoal	circle	saucer
199	38:37	23	dark brown soil; charcoal;faunal bone;fire-cracked rocks;chert flakes	circle	saucer
200	18:22	39	black soil; charcoal;fish bone; faunal bone;bodysherd	oval	bell
201	150:120	10	gray ash;orange mottling;charcoal; fish bone	irregular	basin
202	45:45	6	gray ash;orange mottling;orange ash layer	oval	basin
203	20:28	6	dark brown soil; charcoal;quartz detritus	circle	saucer
204	34:40	14	gray ash;white ash;charcoal	circle	saucer
205	30:43	12	gray ash;white ash;charcoal	oval	saucer
206	31:25	23	black soil; ash pockets; charcoal;fish bone;faunal bone; bodysherd	oval	saucer
207	94:65	42	brown soil; charcoal;white ash pockets;fish bone; faunal bone	oval	squared basin
208	35:36	6	gray ash;white ash;charcoal	circle	basin
209	37:39	25	black soil; charcoal; bodysherds	circle	saucer
210	36:18	20	dark brown soil; charcoal	circle	saucer
211	19:16	35	brown soil; charcoal;bodysherd	circle	bell
212	38:28	7	black soil; charcoal	circle	basin

Appendix B cont'd.

213	36:32	5	gray ash; charcoal	circle	basin
214	44:43	15	gray ash; charcoal; orange mottling	circle	basin
215	56:48	12	black soil; charcoal; fish bone; chert flakes; bodysherds	circle	saucer
216	45:88	35	brown soil; gray ash pockets; charcoal; fish bone; bodysherd	irregular	irregular
217	22:19	4	gray ash; orange mottling; bodysherd	oval	basin
218	28:29	20	black soil; gray ash; charcoal; fish bone	oval	saucer
219	30:32	7	gray ash; charcoal	circle	basin
220	43:63	16	gray ash; white ash; charred wood lining; faunal bone; rimsherd; bodysherd	circle	squared basin
221	34:39	18	black soil; gray ash pockets; charcoal; fish bone; faunal bone; fire-cracked rock	oval	saucer
222	54:45	20	brown soil; rimsherd; bodysherds	circle	saucer
223	32:40	12	black soil; charcoal; bodysherd	oval	saucer
224	27:30	22	black soil; charcoal; fish bone; bodysherd	circle	bell
225	44:36	-	gray ash; charcoal	circle	-
226	24:20	-	brown soil; charcoal	circle	-
227	15:13	-	brown soil; charcoal	circle	-
228	28:40	10	black soil; charcoal	irregular	saucer
229	120:128	-	brown soil	irregular	-
230	22:18	15	brown soil; gray ash pockets; charcoal; bodysherd	circle	bell
231	22:25	20	brown soil; charcoal	circle	bell
232	52:54	12	brown soil; charcoal	circle	basin
233	36:53	17	dark brown soil; charcoal	irregular	saucer

234	28:54	9	black soil; charcoal;fish bone; faunal bone;worked bone;chert flakes; bodysherds	oval	basin
235	61:25	34	dark brown; charcoal;faunal bone	oval	bell
236	73:40	16	brown soil	kidney	saucer
237	25:26	24	brown soil; charcoal; bodysherd	oval	bell
238	48:52	15	brown soil; charcoal; fish bone	circle	basin
239	44:40	9	gray ash;charcoal	circle	basin
240	32:60	25	brown soil;gray ash pockets;fish bone;faunal bone; quartz flake; bodysherds	oval	irregular
241	40:52	12	gray ash;charcoal; orange mottling; bodysherd	circle	basin
242	38:42	6	gray ash;charcoal; orange mottling	circle	basin
243	52:40	6	gray ash;charcoal; fish bone	circle	basin
244	38:42	12	brown soil; charcoal;gray ash; orange mottling; fire-cracked rock	circle	bell
245	22:24	45	black soil; charcoal;gray ash pockets;fish bone; bodysherds	circle	bell
246	42:48	21	gray ash;charcoal; orange mottling; fish bones;bodysherds	circle	saucer
247	22:20	3	gray ash;charcoal; orange ash	circle	basin
248	56:51	18	gray ash;charcoal; orange mottling; faunal bone	circle	saucer
249	56:40	20	gray ash;charcoal; faunal bone	oval	saucer

APPENDIX C

BAUMANN SITE CERAMIC CODE

Column
(On IBM
Code Sheets)

2-5 Registry Number

6-8 House Number

9-11 Feature Number

12-17 Square Number

18-19 Provenience
1. unknown
2. exterior
3. subsoil
4. pit inside house
5. hearth inside house
6. postmould inside house
7. postmould in house wall
8. pit outside house
9. hearth outside house
10. midden
11. burial cyst
12. exterior, Test Trench "A"
31. Test Trench "B"
32. Test Trench "C"
50. stain
60. surface
70. plowzone

20-22 Nature of specimen, including last identifiable, not necessarily complete part.
1. unknown
2. whole pot
3. whole rim
4. whole body
5. lip to part of collar
6. lip to base of collar
7. lip to neck
8. lip to shoulder
9. lip to body
10. rim to neck
11. rim to shoulder
12. neck
13.
14. neck to shoulder
15. shoulder
16. body
17. base
18. lip to base
19. lip to base, including base

23-25 Temper
1. unknown
2. none
3. grit
4. grit & shell
5. shell
6. limestone & grit
7. limestone
8. mica & grit
9. mica & shell
10. mica & grit & shell
11. mica & limestone & grit
12. mica & limestone
13. grit & quartz

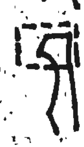
26-28 Rim Form
1. unknown
2. collared
3. collarless
4. collarless with thickened lip
5. collared with thickened lip

Appendix C cont'd.

29-30 Rim Orientation
1. unknown
2. vertical
3. outflaring
4. insloping

31-32 Exterior Rim Collar Profile, or, Exterior Rim Profile (Collarless sherds)
1. unknown
2. concave
3. convex
4. straight
5. 
6. concave-convex
7. 
8. 
9. 

33 Interior Collar Profile
1. unknown
2. concave
3. convex
4. straight
5. concave-convex
6. convex-concave

34-35 Lip Form
1. unknown
2. 
3. 
4. 
5. 
6. 
7. 
8. 
9. 
10. 
11. 
12. 

36 Shape of Base of Collar - leave blank if sherd is Collarless
1. unknown
2. right angle
3. obtuse
4. acute
5. rounded

Appendix C cont'd.

37-39	Collar Height - leave blank if sherd is Collarless 0. unknown 1-999 mm.	
40-41	Lip Width 0. unknown 1-99 mm.	
42-43	Basal Collar Width 0. unknown 1-99 mm.	
44-45	Maximum width of rimsherd, below lip, if Collarless 0. unknown 1-99 mm.	
46-47	Neck Height 0. unknown 1-99 mm.	
48-49	Shoulder Length 0. unknown 1-99 mm.	
50-52	Rim Exterior Orifice Diameter 0. unknown 1-999 mm.	
53-54	Rim Interior Design Motif 0. absent 1. unknown 2. see motifs	
55-56	Rim Interior Design Technique 0. absent 1. unknown 2. incised 3. linear stamp 4. punctate 5. incised/smoothed over 6. incised & applied 7. linear stamp & applied 8. incised & punctate	9. cut(notched) 10. incised & impressed 11. impressed 12. incised with notched end on tool leaving a double groove 13. cut & incised 14. linear stamp & impressed 15. incised & linear stamp
57-58	Lip Design Motif 0. absent 1. unknown 2. see motifs	
59	Collar - leave blank if only lip and part of collar is present 1. unknown 2. Collarless plain 3. Collarless decorated	4. Collared plain 5. Collared decorated

Appendix C cont'd.

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60 Status of sherd
1. juvenile pottery - amateur attempt with undeveloped decorative technique and motif

61-62 Collar Motif: Primary
1. unknown
2. simple //// or IIII
3. horizontal ___ or ___ or ═══
4. hatched: any simple crossed by oblique lines i.e. or ///
5. interrupted or // // or ////
6. complex or or or or or
7. opposed or or or \\\\═
8. crossed: any simple crossed by horizontal line or lines
9. notched
10. plain
11. punctates

63-65 Collar Primary Design Motif
1. unknown
2 - see motifs

66-67 Collar Primary Design Technique
1. unknown
2 - see techniques for Columns 55-56

68-70 Collar Primary and Secondary Design Motif
1. unknown
2 - see motifs

71-72 Secondary Decoration
0. absent
1. unknown
2 - see motifs

73-74 Neck Decoration Motif
0. absent
1. unknown
2. horizontal
3. horizontal ? part of neck missing
4. oblique
5. opposed
6. horizontal/oblique
7. horizontal/opposed

75-80 Borden Number of site

**************************CARD # 2***********************

2-5 Registry Number

6-8 Neck Design Motif - leave blank if answer in Column 73-74 is "0" or "1" or "3"
1. unknown
2 - see motifs

9-10	Neck Design Technique 1. unknown 2. see techniques for Column 55-56
11-13	Collarless Rim Design Motif - leave blank if sherd is Collared 1. unknown 2 - see motifs
14-15	Collarless Rim Design Technique - leave blank if sherd is Collared 1. unknown 2 - see techniques for Column 55-56
16-17	Collarless Rim Secondary Decoration - leave blank if sherd is Collared 0. absent 1. unknown 2 - see motifs
18-19	Shoulder Profile 1. unknown 2 - see profiles
20-22	Shoulder Design Motif - complete motif present 0. absent 1. unknown 2 - see motifs
23-25	Shoulder Design Motif - may be incomplete 0. absent 1. unknown 2 - see motifs
26-27	Shoulder Design Technique - leave blank if motif is absent 1. unknown 2 - see techniques for Column 55-56
28-30	Body Design Motif 0. absent 1. unknown 2 - see motifs
31-32	Body Design Technique - leave blank if motif is absent 1. unknown 2 - see techniques for Column 55-56
33-34	Body Shape 1. unknown 2. - see shapes
35-37	Shoulder Diameter 0. unknown 1-999 mm.

38-40 Maximum Vessel Diameter
0. unknown
1-999 mm.

41-42 Rim Castellation Form
0. absent
1. unknown
2. - see forms

43-44 Rim Castellation Associated Design Motif - leave blank if answer in Column 41-42 (Card 2) is "0" or "1"
1. unknown
2. none, except as recorded under rim for Collar Motif
3 - see motifs

45-46 Carbon Encrustation
0. absent
1. unknown
2. present exterior
3. present interior
4. both
5. lip
6. edge
7. edge and interior
8. lip and interior
9. lip edge, interior and exterior
10. interior, lip, exterior
11. edge of interior, lip
12. exterior and lip

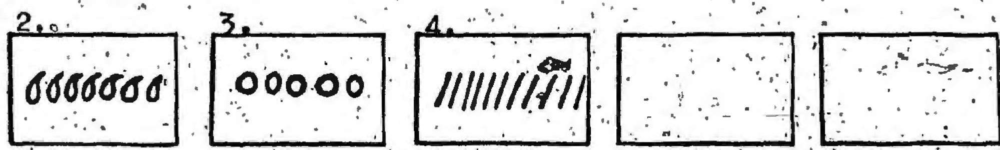
47-48 Other Features
0. absent
1. unknown
2. coil breaks
3. handles
4. feet
5. drilled holes
6. appliques
7. effigies
8. beginning of castellation
9. handle break under castellation
10. lines obliterated by smoothing on collar
11. applique from interior
12. double orifice vessel
13. drilled hole at beginning of castellation
14. scalloped rim
15. decorated handle under castellation
16. beginning of a second castellation
17. child's pot
18. incised, smoothed-over design technique
19. 5 + 7
20. gashes on lip
21. basal notching
22. seed pot
23. 7 + 20
24. 7 + 9
25. 9 + 20
26. 7 + 21
27. 14 + shoulder castellation

Appendix C cont'd.

49-50	Neck Design Below Castellation - leave blank if sherd has no castellation 1. unknown 2. undecorated 3. same as elsewhere 4 - see motifs	
51-52	Pottery Design Type 1. unknown 2. Huron Incised 3. Sidey Notched 4. Benson Barred 5. Warminster Crossed 6. Long Point Horizontal 7. Lawson Opposed 8. Lawson Incised 9. Sidey Crossed 10. Dutch Hollow Notched 11. Warminster Horizontal 12. Black Necked 13. Niagara Collared 14. Ontario Oblique 15. Middleport Oblique 16. Middleport Crisscross 17. Ripley Triangular 18. Ontario Horizontal 19. Thurston Horizontal 20. Seed Incised 21. Pound Blank 22. Pound Necked 23. Ripley Plain 24. Corn Ear (Roebuck) 25. Otsungo Incised (Cahiague) 26. Richmond Incised 27. Seed Corded 28. Lalonde High Collar	
53	Midden Quadrant - leave blank if not from midden 1. unknown 2. NW 3. NE 4. SW 5. SE 6. Level 1 7. Level 2	
54-59	Borden Number of site	

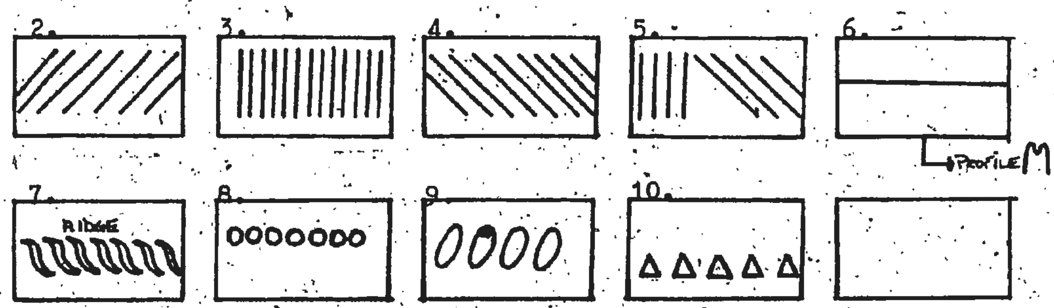
BdGv-14 Rim interior decorative motif (Card 1, Col. 53-54)

0. Absent
1. Unknown



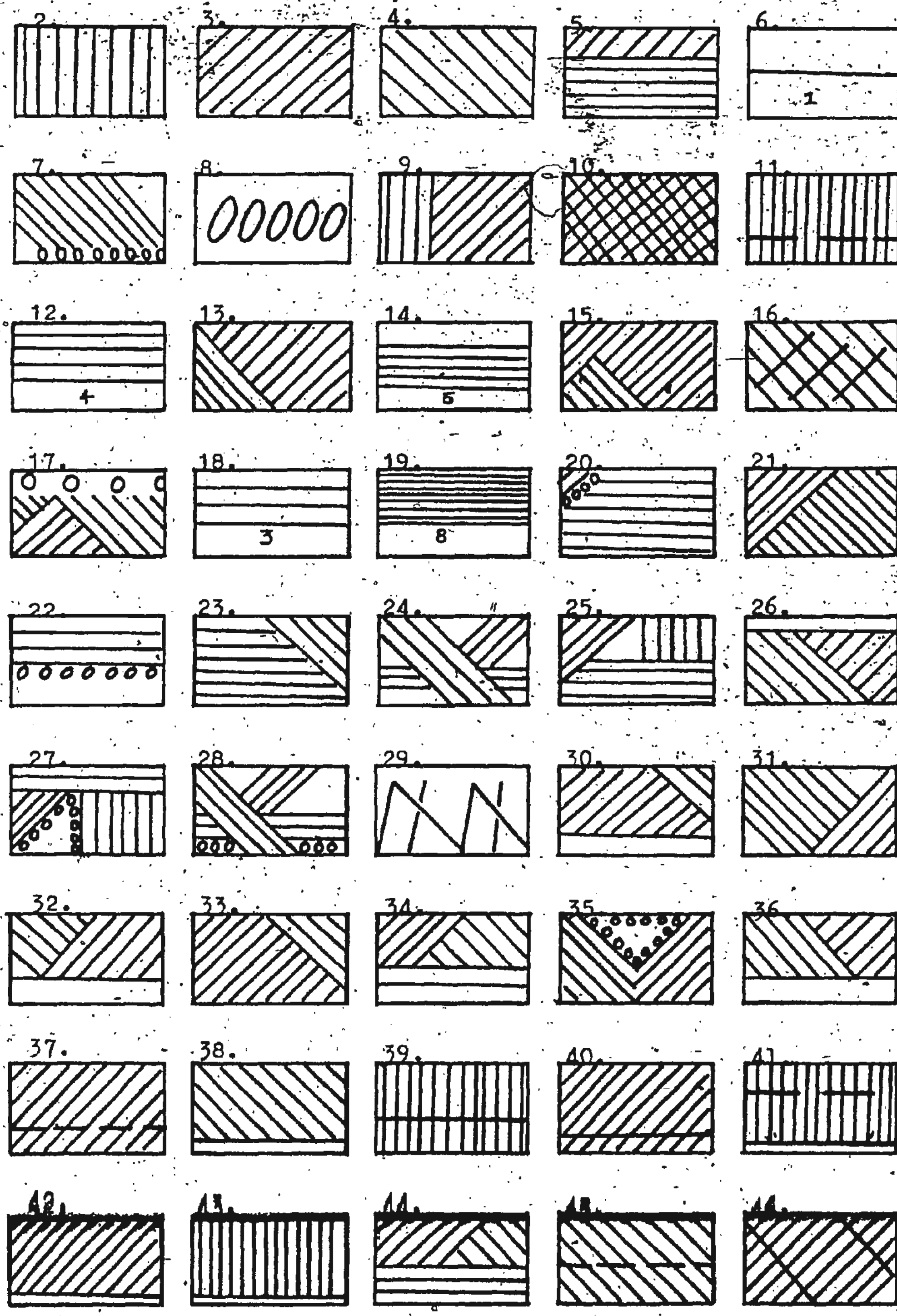
BdGv-14 Lip decorative motifs (Card 1, Col. 57-58)

0. Absent
1. Unknown

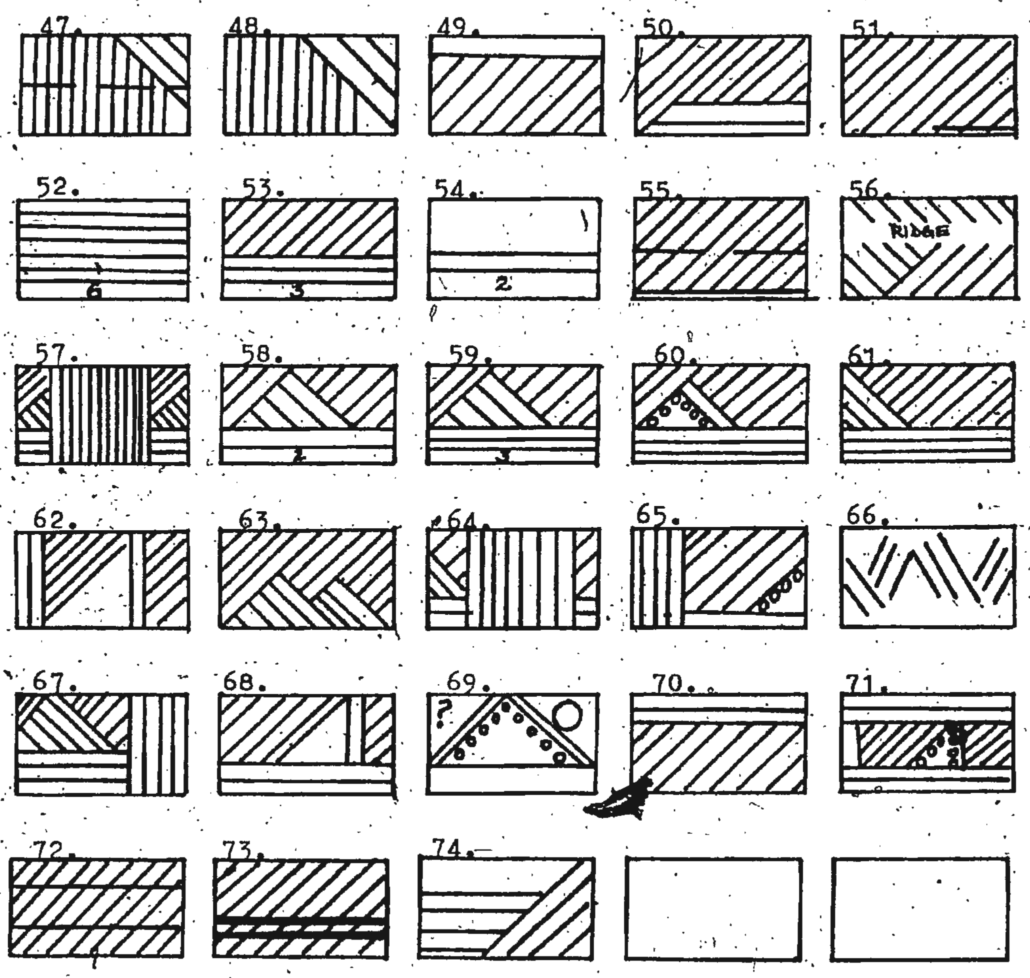


BdGv-14 Decorative motifs (Card 1, Cols. 63-65;68-70)

0. Absent
1. Unknown

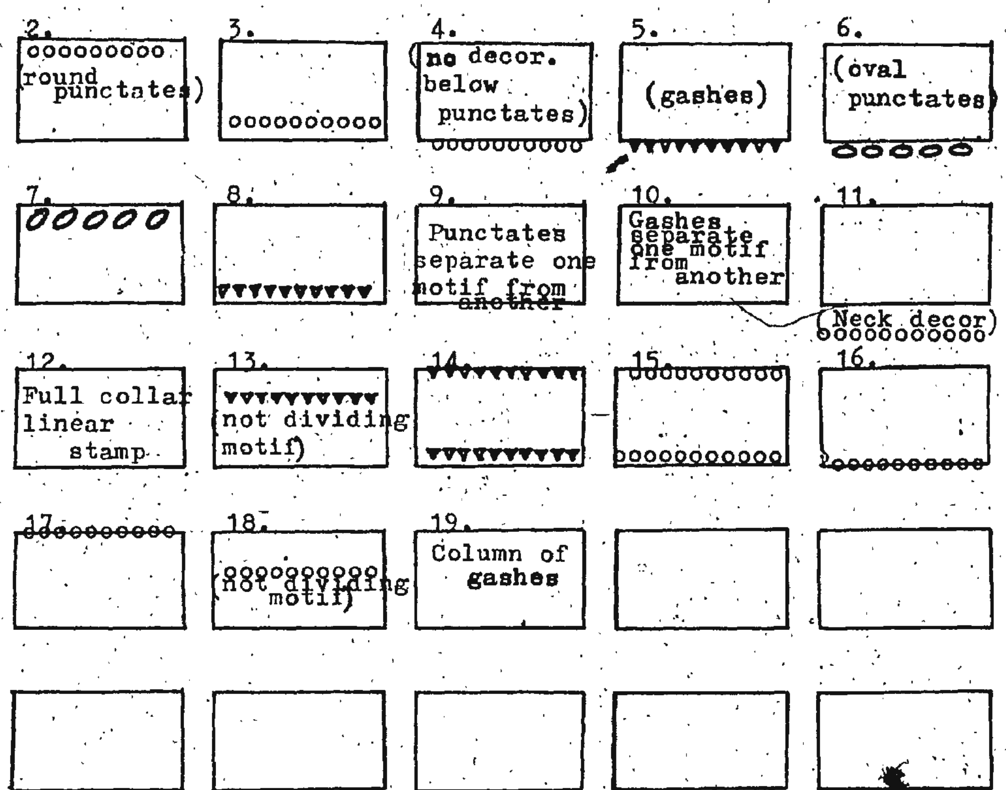


Decorative motifs cont'd.



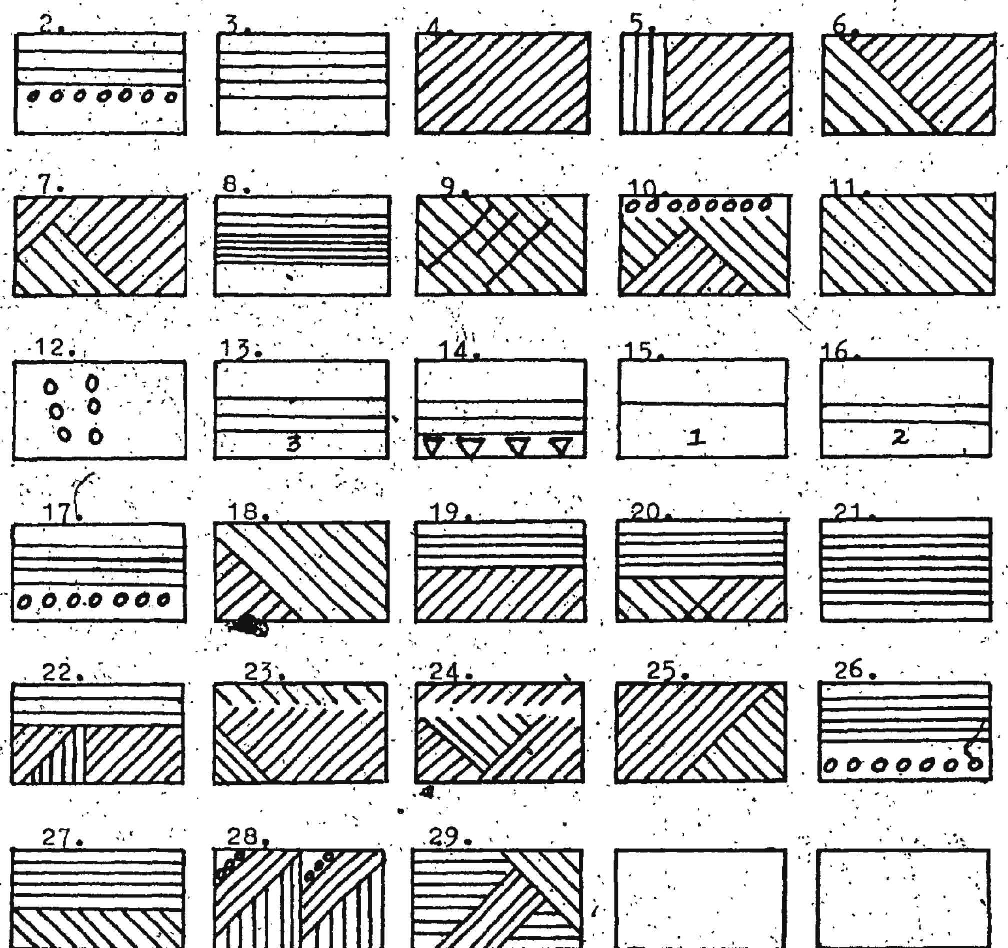
BdGv-14 Secondary decoration (Card 1, Col. 71-72)

0. Absent
1. Unknown



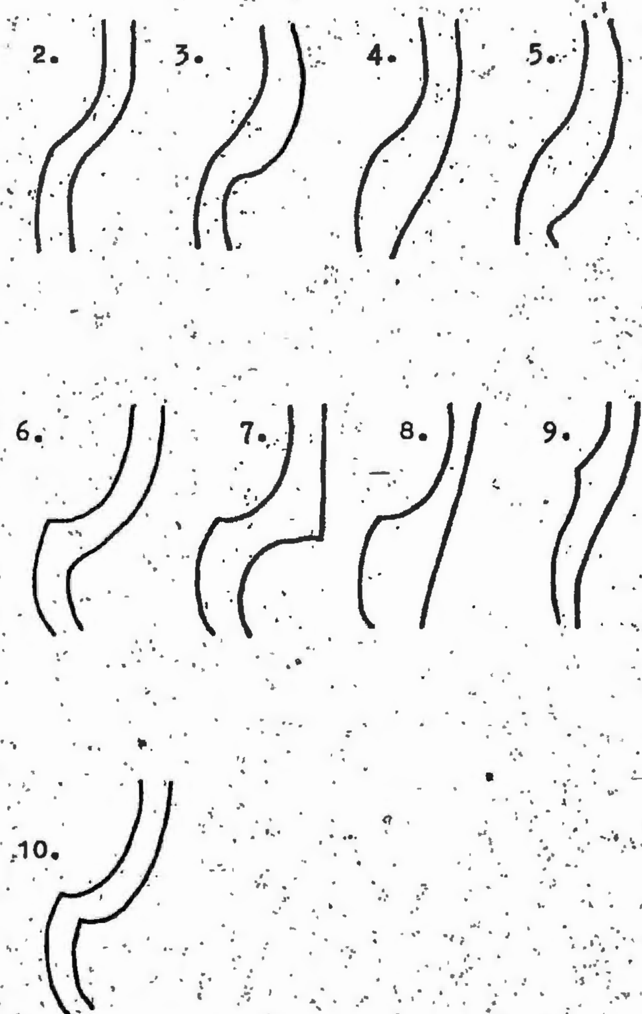
BdGv-14 Neck design motif (Card 2, Col.6-8)

1. Unknown



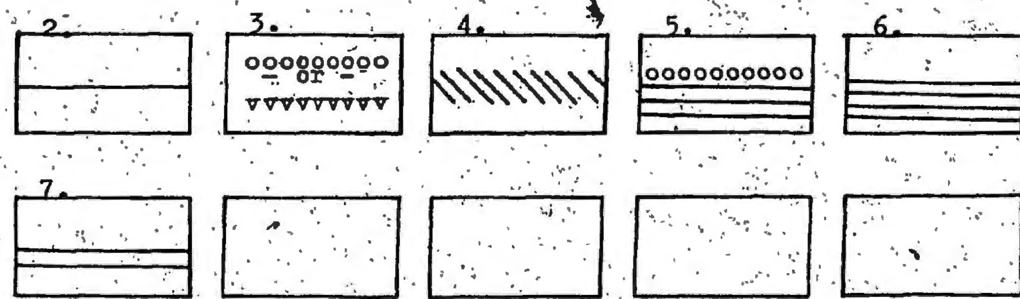
BdGv-14 Shoulder profile (Card 2, Col. 18-19)

1. Unknown



BdGv-14 Shoulder motifs (Card 2, Col, 20-22)

0. Absent
1. Unknown



BdGv-14 Body design motif (Card 2, Col. 31-32)

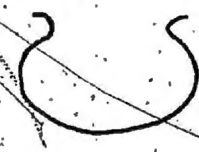
0. Absent
1. Unknown

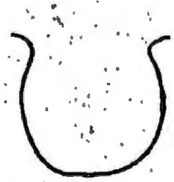
2. 3.

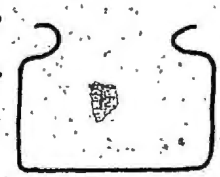
BdGv-14 Body shape (Card 2, Col. 33-34)

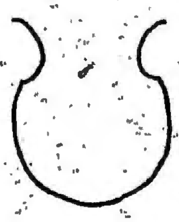
1. Unknown

2. 

3. 

4. 

5. 

6. 

BdGv-14 Castellations (Card 2, Col. 41-42)

0. Absent
1. Unknown

2. Pointed

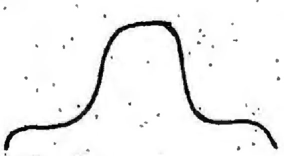
3. Incipient

4. Notched

5. Double Notched

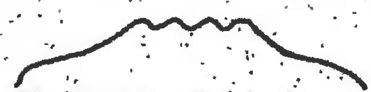
6. Incipient Turret

7. Grooved



8. Turret

9. Nubbin, or, Flat-topped



10. Triple Notched

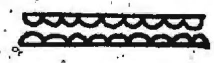
11. 4 Notches

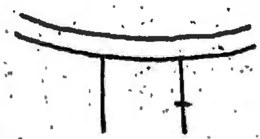
12. 5 Notches

13. Flat-topped, Grooved

14. Rounded, higher than Incipient

15. 6, or more, notches

16.  Notches, bird's-eye view



17. Flat, bird's-eye view

18. Slight point

BdGv-14 Castellation designs (Card 2, Col. 43-44)

1. Unknown
2. None, except normal collar decoration

3. chevrons

4. Inverted chevrons

5.

6.

7. Irregular

8.

9.

10.

11.

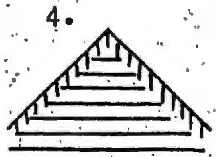
12. Plain, no decoration

13.

BdGv-14 Neck design below castellation (Card 2, Col. 49-50)

1. Unknown
2. Undecorated
3. Same as elsewhere

4.



5.

6.

APPENDIX D

CERAMIC ATTRIBUTE DATA

TABLE 1: Provenience (Col. 18-19)

	f	%
Heidenreich's Survey	37	9.8
Unknown	1	0.3
Subsoil in House 1	19	5.2
Pit in House 1	15	4.1
Hearth in House 1	2	0.5
Hearth outside House 1	1	0.3
Midden 1	255	69.3
Test Trench A	7	1.9
Test Trench B	3	0.8
Test Trench C	5	1.4
Plowzone	24	6.6
TOTAL	368	100.0

TABLE 2: Nature of Specimen (Col. 20-22)

	f	%
Whole Rim	1	0.3
Lip to part collar	121	32.9
Lip to base collar	33	9.0
Lip to neck	156	42.4
Lip to shoulder	46	12.5
Lip to body	11	3.0
TOTAL	368	100.0

TABLE 3: Temper (Col. 23-25)

	f	%
Unknown	1	0.3
None	36	9.8
Grit	172	46.7
Grit & shell	1	0.3
Limestone & grit	9	2.4
Mica & grit	86	23.4
Mica & limestone	1	0.3
Grit & quartz	62	16.8
TOTAL	368	100.0

APPENDIX D cont'd

TABLE 4: Rim Form (Col. 26-28)

	f	%
Lip to part collar	121	32.9
Collared	228	62.0
Collarless	16	4.3
Collared thick lip	3	0.8
TOTAL	368	100.0

TABLE 5: Rim Orientation (Col. 29-30)

	f	%
Unknown	116	31.5
Vertical	35	9.5
Outflaring	206	56.0
Insloping	11	3.0
TOTAL	368	100.0

TABLE 6: Exterior Rim Collar Profile (Col. 31-32)

	f	%
Unknown	15	4.1
Concave	24	6.5
Convex	6	1.6
Straight	317	86.1
Motif A (see code)	1	0.3
Concave Convex	1	0.3
Motif B (see code)	1	0.3
Motif C (see code)	1	0.3
Motif D (see code)	2	0.5
TOTAL	368	100.0

TABLE 7: Interior Rim Collar Profile (Col. 33)

	f	%
Unknown	26	7.1
Concave	36	9.8
Convex	35	9.5
Straight	249	67.7
Concave convex	4	1.1
Convex concave	18	4.9
TOTAL	368	100.0

APPENDIX D cont'd.

TABLE 8: Lip Form (Col. 34-35)

		f	%
Unknown		1	0.3
Motifs (see code)	A	154	41.8
	B	160	43.5
	C	7	1.9
	D	12	3.3
	E	14	3.8
	F	2	0.5
	G	7	1.9
	H	1	0.3
	I	4	1.1
	J	1	0.3
	K	5	1.4
TOTAL		368	100.0

TABLE 9: Shape of Base of Collar (Col. 36; does not include collarless sherds)

	f	%
Unknown	136	37.0
Right Angle	5	1.4
Obtuse	208	56.5
Acute	1	0.3
Rounded	18	4.9
TOTAL	368	100.0

TABLE 10: Collar Height (Col. 37-39; left blank if collarless)

		f	%
Unknown		136	37.0
Known (mm.)	1	2	0.5
	2	1	0.3
	4	1	0.3
	5	3	0.8
	6	2	0.5
	7	1	0.3
	8	5	1.4
	9	10	2.7
	10	22	6.0
	11	14	3.8
	12	15	4.1
	13	29	7.9
	14	21	5.7

cont'd.

APPENDIX D cont'd.

TABLE 10: Collar Height cont'd.

	f	%
15	11	3.0
16	18	4.9
17	13	3.5
18	5	1.4
19	13	3.5
20	2	0.5
21	5	1.4
22	3	0.8
24	1	0.3
26	1	0.3
27	1	0.3
28	1	0.3
35	2	0.5
38	1	0.3
39	4	1.1
40	1	0.3
41	1	0.3
47	1	0.3
49	1	0.3
50	3	0.8
51	1	0.3
52	2	0.5
53	1	0.3
54	2	0.5
57	1	0.3
64	1	0.3
66	1	0.3
67	2	0.5
69	1	0.3
73	2	0.5
75	2	0.5
77	1	0.3
85	1	0.3
TOTAL	368	100.0

TABLE 11: Lip Width (Col. 40-41)

		f	%
Unknown		5	1.4
Known (mm.)	1	1	0.3
	2	1	0.3
	3	14	3.8
	4	54	14.7
	5	85	23.1
	6	77	20.9
	7	51	13.9

cont'd.

APPENDIX D cont'd.

TABLE 11: Lip Width cont'd.

	f	%
8	37	10.1
9	19	5.2
10	13	3.5
11	6	1.6
12	4	1.1
13	1	0.3
TOTAL	368	100.0

TABLE 12: Basal Collar Width (Col. 42-43)

		f	%
Unknown		141	38.3
Known (mm.)	1	2	0.5
	4	2	0.5
	5	1	0.3
	6	8	2.2
	7	19	5.2
	8	32	8.7
	9	37	10.1
	10	44	12.0
	11	29	7.9
	12	19	5.2
	13	12	3.3
	14	9	2.4
	15	3	0.8
	16	2	0.5
	17	3	0.8
	18	2	0.5
	20	1	0.3
	21	1	0.3
	31	1	0.3
TOTAL		368	100.0

TABLE 13: Maximum Rimsherd Width (Col. 41-45; measured below lip for only collarless rimsherds)

		f	%
Unknown		355	96.5
Known (mm.)	8	6	1.6
	9	3	0.8
	10	3	0.8
	12	1	0.3
TOTAL		368	100.0

TABLE 14: Neck Height (Col. 46-47)

		f	%
Unknown		245	66.6
Known (mm.)	1	1	0.3
	5	1	0.3
	6	3	0.8
	7	1	0.3
	8	2	0.5
	9	6	1.6
	10	4	1.1
	11	5	1.4
	12	4	1.1
	13	1	0.3
	14	6	1.6
	15	7	1.9
	16	9	2.4
	17	4	1.1
	18	6	1.6
	19	9	2.4
	20	10	2.7
	21	6	1.6
	22	5	1.4
	23	4	1.1
	24	4	1.1
	25	2	0.5
	26	4	1.1
	27	2	0.5
	28	3	0.8
	30	2	0.5
	32	4	1.1
	33	1	0.3
	34	1	0.3
	35	1	0.3
	37	1	0.3
	41	1	0.3
	42	2	0.5
	58	1	0.3
TOTAL		368	100.0

TABLE 15: Shoulder Length (Col. 48-49)

		f	%
Unknown		356	96.7
Known (mm.)	9	1	0.3
	11	1	0.3
	13	1	0.3
	14	1	0.3

cont'd.

TABLE 15: Shoulder Length cont'd.

	f	%
18	1	0.3
23	1	0.3
25	1	0.3
27	1	0.3
28	1	0.3
36	2	0.5
47	1	0.3
TOTAL	368	100.0

TABLE 16: Rim Exterior Orifice Diameter (Col. 50-52)

		f	%
Unknown		365	99.2
Known (mm.)	110	1	0.3
	190	1	0.3
	200	1	0.3
TOTAL		368	100.0

TABLE 17: Rim Interior Design Motif (Col. 53-54)

		f	%
Motif absent		353	95.9
Unknown (inside surface gone)		1	0.3
Motifs (see code)	2	10	2.7
	3	3	0.8
	4	1	0.3
TOTAL		368	100.0

TABLE 18: Rim Interior Design Technique (Col. 55-56)

	f	%
Motif absent	353	95.9
Unknown	1	0.3
Incised	1	0.3
Linear stamp	3	0.8
Punctate	10	2.7
TOTAL	368	100.0

APPENDIX D cont'd.

TABLE 19: Lip Design Motif (Col. 57-58)

		f	%
Motif absent		336	91.3
Unknown		1	0.3
Motifs (see code)	2	5	1.4
	3	5	1.4
	4	3	0.8
	5	2	0.5
	6	3	0.8
	7	4	1.1
	8	2	0.5
	9	2	0.5
	10	5	1.4
TOTAL		368	100.0

TABLE 20: Primary Collar Motif (Col. 61-62)

	f	%
Undefinable	27	7.2
Simple	192	52.2
Horizontal	20	5.4
Hatched	3	0.8
Interrupted	1	0.3
Complex	37	10.1
Opposed	74	20.1
Crossed	2	0.5
Plain	9	2.4
Punctates	3	0.8
TOTAL	368	100.0

TABLE 21: Collar Primary Design Motif (Col.63-65)

		f	%
Undefinable		118	32.1
Motifs (see code)	2	31	8.4
	3	86	23.4
	4	19	5.2
	5	2	0.5
	6	1	0.3
	8	3	0.8
	9	4	1.1
	10	2	0.5
	12	6	1.6
	13	11	3.0

cont'd.

APPENDIX D cont'd.

TABLE 21: Collar Primary Design Motif cont'd.

	f	%
14	2	0.5
15	2	0.5
18	3	0.8
19	1	0.3
20	1	0.3
21	8	2.2
23	1	0.3
24	1	0.3
25	1	0.3
27	1	0.3
29	1	0.3
31	2	0.5
32	1	0.3
33	2	0.5
34	1	0.3
35	1	0.3
37	1	0.3
38	1	0.3
39	1	0.3
42	6	1.6
43	3	0.8
44	2	0.5
46	1	0.3
48	4	1.1
51	1	0.3
52	3	0.8
53	1	0.3
54	1	0.3
57	2	0.5
58	3	0.8
59	7	1.9
60	1	0.3
61	1	0.3
62	1	0.3
63	1	0.3
64	1	0.3
65	1	0.3
66	2	0.5
67	2	0.5
68	1	0.3
69	1	0.3
71	2	0.5
72	1	0.3
73	1	0.3
74	3	0.8
TOTAL	368	100.0

APPENDIX D cont'd.

TABLE 22: Collar Primary Design Technique (Col. 66-67)

	f	%
Unknown	40	9.8
Incised	283	76.9
Punctate	2	0.5
Incised & punctate	10	2.7
Incised & impressed	8	2.2
Impressed	25	6.8
TOTAL	368	100.0

TABLE 23: Collar Primary and Secondary Design Motif (Col. 68-70)

		f	%
Unknown (incomplete rims)		121	32.9
Motifs (see code)	2	17	4.6
	3	51	13.9
	4	12	3.3
	5	4	1.1
	6	1	0.3
	7	1	0.3
	8	3	0.8
	9	4	1.1
	10	1	0.3
	11	5	1.4
	12	4	1.1
	13	9	2.4
	14	2	0.5
	15	2	0.5
	18	3	0.8
	20	4	1.1
	21	6	1.6
	23	1	0.3
	25	1	0.3
	26	1	0.3
	27	1	0.3
	28	1	0.3
	29	1	0.3
	30	2	0.5
	32	2	0.5
	34	2	0.5
	35	1	0.3
	36	2	0.5
	37	18	4.9
	38	4	1.1
	39	4	1.1

cont'd.

APPENDIX D cont'd.

TABLE 23: Primary and Secondary Motif cont'd.

	f	%
40	5	1.4
41	1	0.3
42	11	3.0
43	4	1.1
44	2	0.5
45	3	0.8
46	3	0.8
47	2	0.5
48	2	0.5
49	1	0.3
50	1	0.3
51	2	0.5
52	4	1.1
53	1	0.3
54	1	0.3
55	1	0.3
56	1	0.3
57	2	0.5
58	3	0.8
59	7	1.9
60	1	0.3
61	1	0.3
62	1	0.3
63	1	0.3
64	1	0.3
65	1	0.3
66	2	0.5
67	2	0.5
68	1	0.3
69	1	0.3
70	1	0.3
71	2	0.5
72	1	0.3
73	1	0.3
74	3	0.8
TOTAL	368	100.0

APPENDIX D cont'd.

TABLE 24: Secondary Decoration (Col. 71-72)

		f	%
Absent		267	72.6
Unknown		18	4.9
Motifs (see code)	2	2	0.5
	3	5	1.4
	4	34	9.2
	5	8	2.2
	6	1	0.3
	8	7	1.9
	9	1	0.3
	11	22	6.0
	16	3	0.8
TOTAL		368	100.0

TABLE 25: Neck Decoration Motif (Col. 73-74)

	f	%
Absent	136	37.0
Unknown	132	35.9
Horizontal	38	10.3
Horizontal ?; part of neck missing	23	6.3
Oblique	10	2.7
Opposed	21	5.7
Horizontal/oblique	4	1.1
Horizontal/opposed	4	1.1
TOTAL	368	100.0

CARD 2 TABLE 26: Neck Design Motif (Col. 6-8)

		f	%
Unknown (includes Horizontal ?)		292	79.3
Motifs (see code)	2	6	1.6
	3	4	1.1
	4	6	1.6
	5	1	0.3
	6	3	0.8
	7	3	0.8
	8	1	0.3
	9	1	0.3
	10	3	0.8
	11	2	0.5
	12	1	0.3

cont'd.

APPENDIX D cont'd.

TABLE 26: Neck Design Motif cont'd.

	f	%
13	12	3.3
14	1	0.3
16	7	1.9
17	5	1.4
18	2	0.5
19	3	0.8
20	2	0.5
21	1	0.3
22	2	0.5
23	2	0.5
24	2	0.5
25	1	0.3
26	1	0.3
27	1	0.3
28	3	0.8
TOTAL	368	100.0

TABLE 27: Neck Design Technique (Col. 9-10)

	f	%
Unknown	282	76.6
Incised	70	19.0
Incised & punctate	16	4.3
TOTAL	368	100.0

TABLE 28: Shoulder Profile (Col. 18-19)

		f	%
Unknown		356	96.2
Profiles (see code)	2	5	1.4
	4	3	0.8
	6	3	0.8
	9	1	0.3
TOTAL		368	100.0

APPENDIX D cont'd.

TABLE 29: Shoulder Design Motif (Col. 20-22; complete motif must be present)

		f	%
Unknown		357	97.0
Motifs (see code)	3	7	1.9
	4	1	0.3
	5	1	0.3
	6	1	0.3
	7	1	0.3
TOTAL		368	100.0

TABLE 30: Incomplete Shoulder Motif (Col. 23-25)

		f	%
Inapplicable		367	99.7
Motifs (see code)	2	1	0.3
TOTAL		368	100.0

TABLE 31: Shoulder Design Technique (Col. 26-27)

	f	%
Unknown	355	95.6
Incised	4	1.1
Punctate	7	1.9
Incised & punctate	2	0.5
TOTAL	368	100.0

TABLE 32: Body Design Motif (Col. 28-30)

		f	%
Absent		11	3.0
Unknown		355	96.5
Motifs (see code)	2	1	0.3
	3	1	0.3
TOTAL		368	100.0

APPENDIX D cont'd.

TABLE 33: Body Design Technique (Col. 31-32)

		f	%
Unknown		366	99.4
Incised		2	0.5
TOTAL		368	100.0

TABLE 34: Body Shape (Col. 33-34)

		f	%
Unknown		367	99.7
Shapes (see code)	4	1	0.3
TOTAL		368	100.0

TABLE 35: Shoulder Diameter (Col. 35-37)

		f	%
Unknown		367	99.7
Diameter (mm.)	70	1	0.3
TOTAL		368	100.0

TABLE 36: Maximum Vessel Diameter (Col. 38-40)

	f	%
Unknown	368	100.0

TABLE 37: Rim Castellation Form (Col. 41-42)

		f	%
Absent		320	87.0
Unknown (partial)		10	2.7
Motifs (see code)	2	14	3.8
	8	2	0.5
	9	7	1.9
	12	1	0.3
	18	14	3.8
TOTAL		368	100.0

APPENDIX D cont'd.

TABLE 38: Rim Castellation Design Motif (Col. 43-44)

		f	%
Unknown		326	87.2
As under rim		11	3.0
Motifs (see code)	3	1	0.3
	4	17	4.6
	5	1	0.3
	6	1	0.3
	7	1	0.3
	8	1	0.3
	9	1	0.3
	10	8	2.2
	11	1	0.3
TOTAL		368	100.0

TABLE 39: Carbon Encrustation (Col. 45-46)

	f	%
Absent	335	91.0
Present exterior	3	0.8
Present interior	27	7.3
Edge & interior	1	0.3
Lip & interior	2	0.5
TOTAL	368	100.0

TABLE 40: Other Features (Col. 47-48)

	f	%
Absent	346	94.0
Castellation begins	11	3.0
Lines obliterated by smoothing	2	0.5
Second castellation begins	1	0.3
Child's pot	7	1.9
Incised and smoothed	1	0.3
TOTAL	368	100.0

TABLE 41: Neck Design Below Castellation (Col. 49-50)

		f	%
No castellation/unknown		350	95.1
Undecorated		6	1.6
As elsewhere		7	1.9
Motifs (see code)	4	2	0.5
	5	2	0.5
	6	1	0.3
TOTAL		368	100.0

APPENDIX E

FEATURES CODE (BdGv-14)

Column		
1 - 3	Feature number	0 - unknown
4 - 9	Square number	0 - unknown
10 - 12	North - South diameter	0 - unknown 1 - 999 cm.
13 - 15	East - West diameter	0 - unknown 1 - 999 cm.
16 - 18	Depth	0 - unknown 1 - 999 cm.
19 - 20	Profile shape	0 - unknown

1 -  saucer
5 - irregular

2 -  basin
6 -  squared basin

3 -  bell
7 -  squared bell

4 -  conical
8 -  nipple basin

21 - 22	Blank	
23 - 24	Interpretation	0 - unknown 1 - hearth 2 - refuse pit 3 - 4 -
25 - 32	Contents, non-ceramic	Blank - none 0 - unknown 1 - charcoal 2 - floral i.e. seeds, pollen 3 - fish bone 4 - other faunal 5 - worked stone 6 - worked bone 7 - metal 8 - fire-cracked rock 9 - flakes i.e. chert, quartz

APPENDIX E cont'd.

FEATURES CODE cont'd.

Column		
33 - 39	Ceramic contents	
		Blank - none
		0 - unknown
		1 - whole pot
		2 - one rimsherd i.e. dec. or undec.
		3 - two or more rimsherds
		4 - one body sherd
		5 - two or more bodysherds
		6 - pipe fragments

PLATES

Plate 1. Postmould profile extending into plowzone.

Plate 2. Feature exhibiting red oxidation with post-
moulds intersecting it.


BdGv-14
Sq. 64:106
PM. # 21
01/07/80


BdGv-14
Sq. 56:126
F 270
Aug 12/80
NOTE: PM. THROUGH
FEATURE

Plate 3. Ground schist fragments.

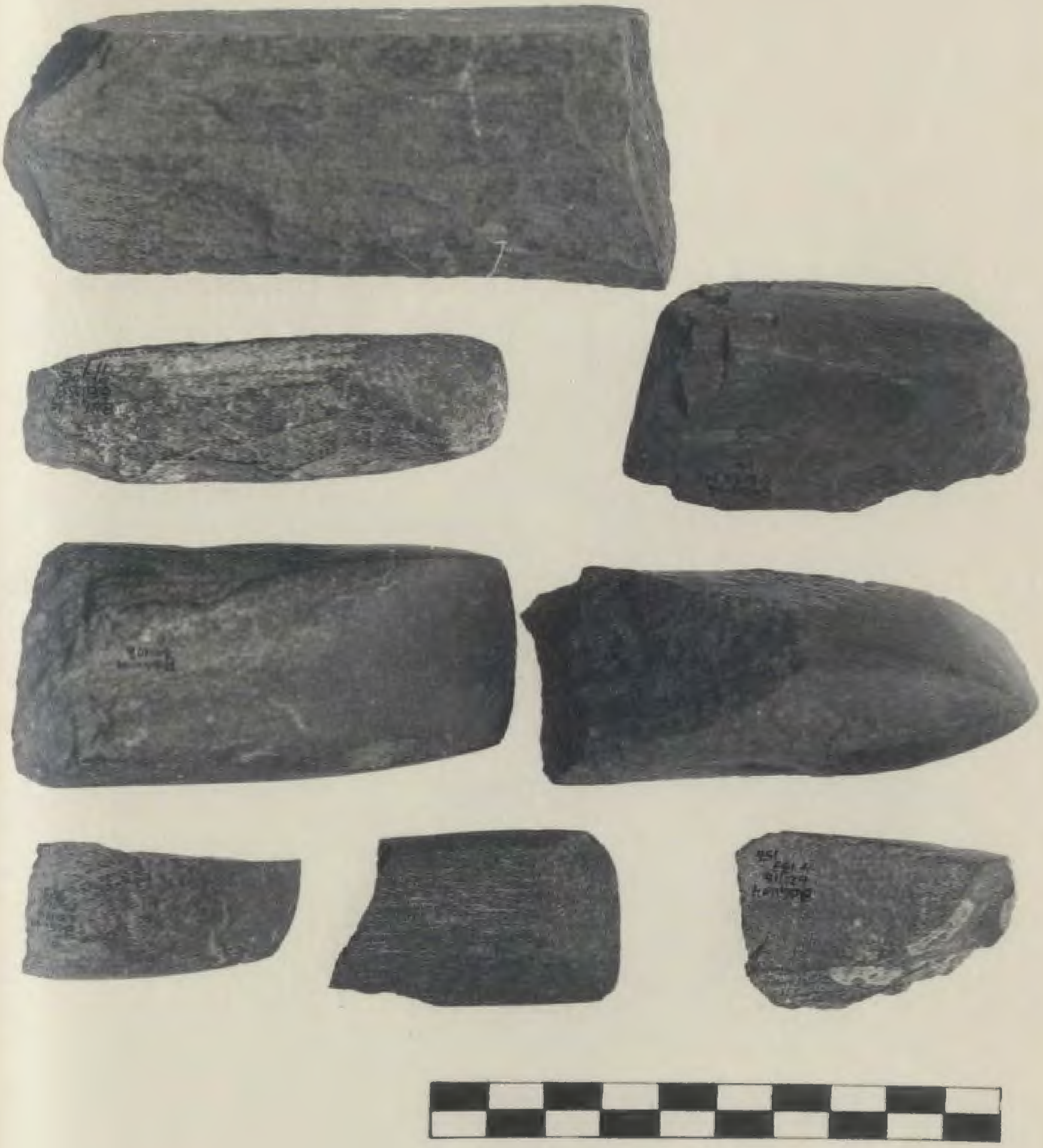


Plate 4. Unifacially worked chert flakes.

Top left: Flattened soapstone bead.


1CM

Plate 5. Top: quartz drill or punch.

Bottom: quartz biface.

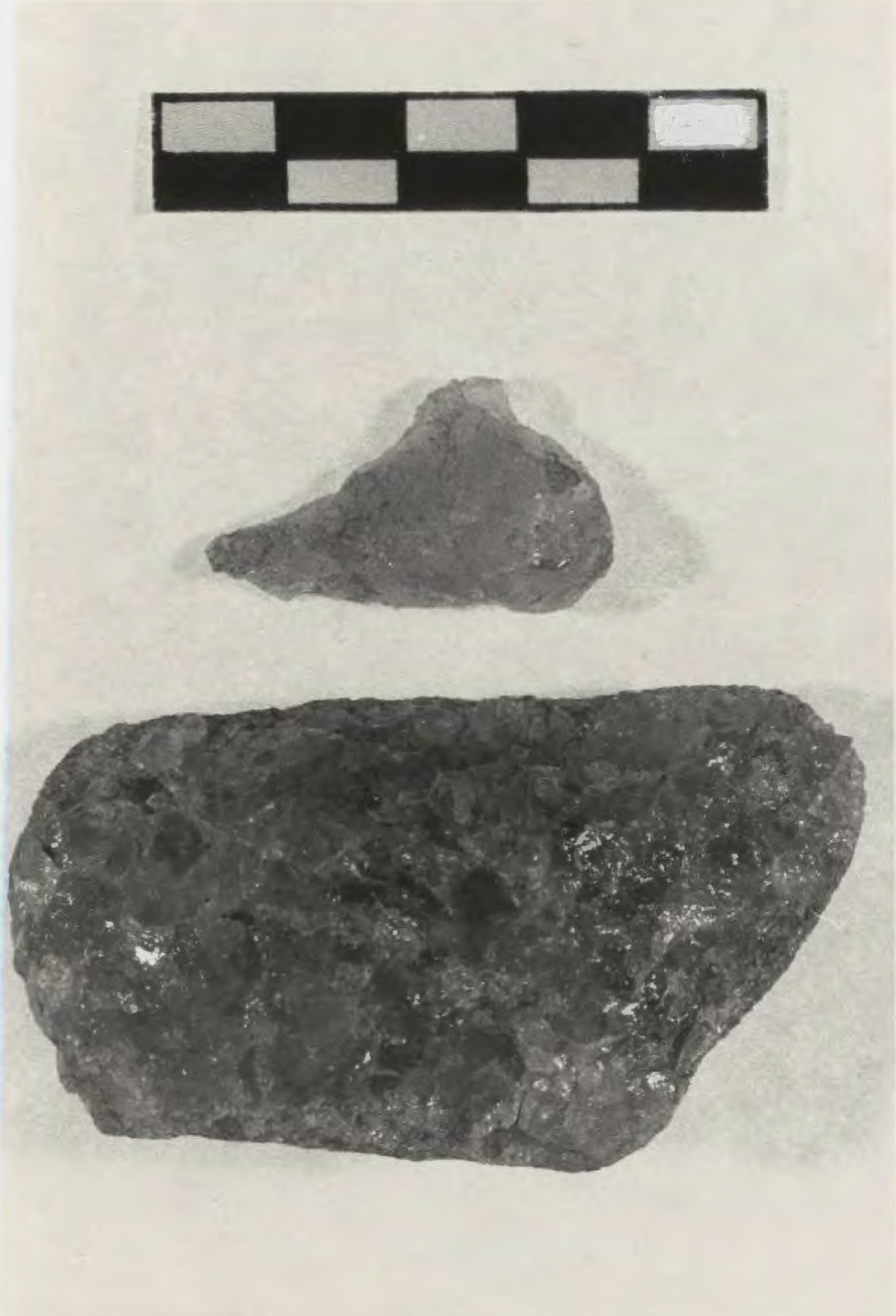


Plate 6. Bone beads.

Plate 7. Bone awls and awl fragments.

Plate 8. Worked bone projectiles.

Plate 9. Bone whistle fragment.

Plate 10. Top: deer phalange pendant/toggle.

Bottom: longbone pendant.

Plate 11. Left: Native copper

Right: European trade copper


1 CM

Plate 12: Trumpet and barrel pipes.
Artifact No. 151: rectangular pipe stem fragment.

Plate 13. Incised trumpet pipe.

Plate 14. Juvenile rims.

Plate 15. Incised ceramic disc.

Plate 16. Simple collar motif in association with horizontal decoration.

Plate 17. Horizontal collar motif rim sherds.

Plate 18. Various neck decorative motifs.

Plate 19. Examples of interrupted horizontal motif over primary decorative motif.

Plate 20. Example of high collar rim and associated nubbin castellation.

Plate 21. High collar rimsherd.

Plate 22. High collar rim, neck, and shoulder fragment.

Plate 23. Castellation Forms.

Plate 24. High-collar decorative motifs.

Plate 25. Examples of castellations and associated decorations.

Plate 26. Various decorative motifs.

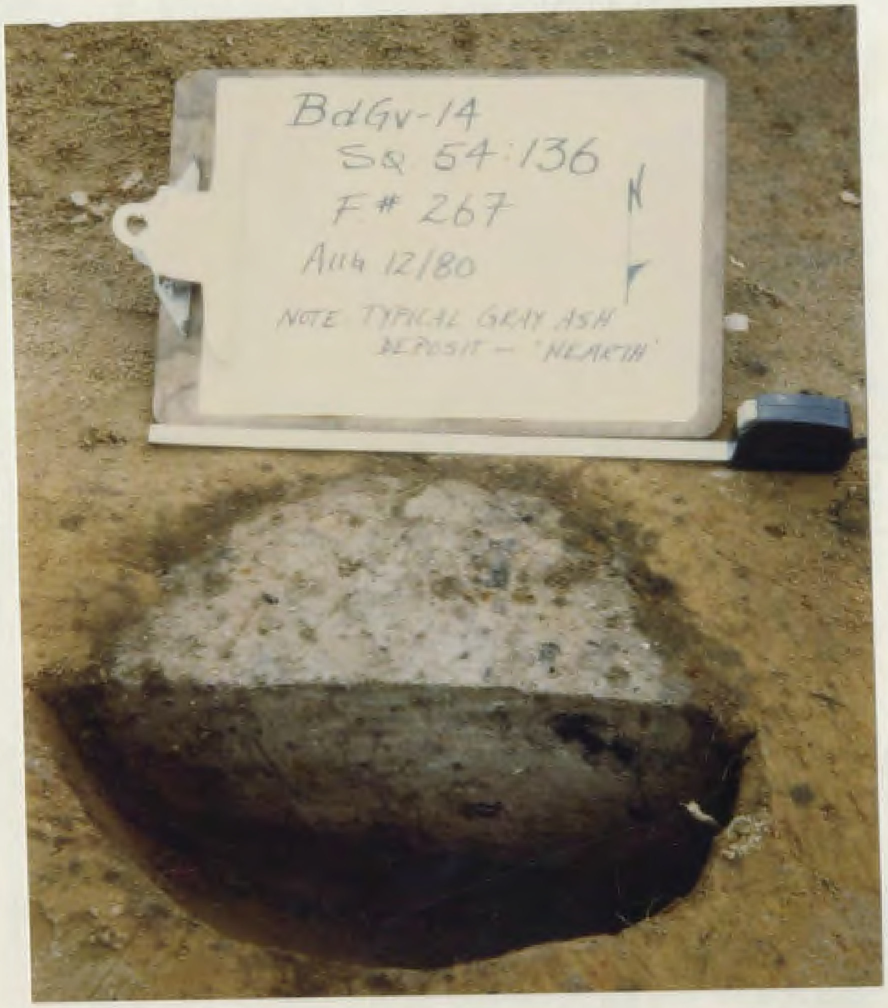
Plate 27: Examples of interior decoration and lip decoration.

Plate 28. Most complete vessel recovered bearing juvenile decoration.

Plate 29. Section of wall and start of rounded north-east end of House 1.

Plate 30. Activity area within House 1, showing post-mould clusters and refuse features along base of photograph.

Plate 31. Gray ash deposit - hearth.


BdGv-14
SQ 54:136
F # 267
Aug 12/80
N
NOTE TYPICAL GRAY ASH
DEPOSIT — 'HEARTH'