THE DORSET PALAEOESKIMO SITE AT POINT RICHE, NEWFOUNDLAND: AN INTRA-SITE ANALYSIS

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The Dorset Palaeoeskimo Site at Point Riche, Newfoundland: An Intra-site Analysis

by

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Abstract

This thesis present the results of several seasons of fieldwork at the Dorset Palaeoeskimo site at Point Riche, Newfoundland. It includes a detailed description of two months of fieldwork that was conducted by the author in 2001 to gain additional data required in the analysis of the site. This included an integrated geophysical and topographic survey and the excavation of a house depression. This evidence is considered along with data from two depressions previously excavated by M. A. P. Renouf, Memorial University of Newfoundland in the analysis and interpretation of the site. It is proposed that variability between the dwellings architecture and artefact distributions is the result of a) the original misinterpretation of a midden-filled depression as a dwelling and b) changes in the Dorset Palaeoeskimo settlement and subsistence pattern towards the end of their occupation of the peninsula.

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CHAPTER 1

Introduction

1.1 Introduction to research

This thesis presents the results of several seasons of fieldwork conducted at the Dorset Palaeoeskimo site (EeBi-20) at Point Riche, Newfoundland (Figure 1). The site is situated approximately 4 km southwest of the better known Dorset Palaeoeskimo site of Phillip's Garden (EeBi-1). The Point Riche site consists of approximately 15 house depressions that run along a raised beach terrace 100 m from the modern shoreline.

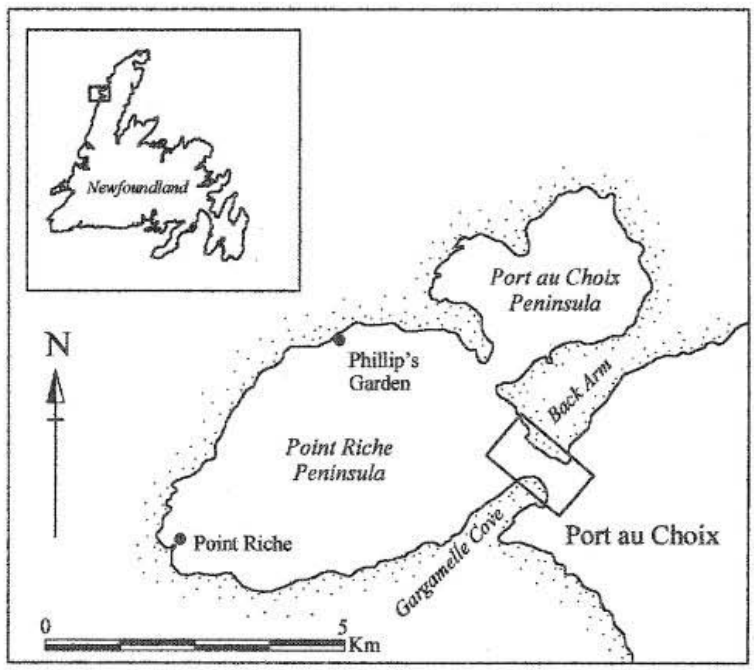


Figure 1. Location of Point Riche and Phillip's Garden

Between 1985 and 1991 excavation of two of the depressions by M.A.P. Renouf, Memorial University of Newfoundland, revealed the remains of what were interpreted as two Dorset Palaeoeskimo houses: Feature 1[1] and House Feature 8 (Renouf 1985, 1986, 1987, 1992). Preliminary analysis of the houses' architectural features and artefact assemblages demonstrated that there was considerable variability between the two dwellings (Renouf 1992:70). Although some tentative suggestions were made to explain this variation, many aspects of the site remained unresolved. The number of and variability between house structures and associated data at Point Riche was unclear. The season of occupation at Point Riche was ambiguous. The function of the site within the settlement-subsistence pattern of the Dorset Palaeoeskimo inhabitants of the area was only partially understood. In 2001, Priscilla Renouf suggested that I return to Point Riche to excavate a third house depression to gain additional data on dwelling structure, chronology, artefacts and faunal material, which were required to reach a fuller understanding of the site.

1.2 Research questions

The 2001 field season at Point Riche was set up to address four principal research questions: 1) What are the number and distribution of house structures and associated features at Point Riche? 2) What is the degree of architectural variability between house structures at Point Riche? 3) Can activity areas be seen in the distribution of artefacts in and around the houses? 4) How do we explain the variability that is observed between

[1] Although Renouf (1995) originally referred to Feature 1 as "House Feature 1", it is now thought that its original classification as a house is incorrect. It is, therefore, referred to in this thesis merely as Feature 1.

the dwellings artefact assemblages? Each of these questions is dealt with individually below.

What are the number and distribution of house structures and associated features at Point Riche?

An earlier survey of the topographic features at Point Riche (Renouf 1985:18a) identified 33 shallow depressions over an area of approximately 250 m x 130 m. However, it was not clear from the topographic features alone which of these depressions represented the remains of Dorset Palaeoeskimo dwellings. Many were believed to be the remains of modern outbuildings associated with the lighthouse 200 m to the north, or natural depressions relating to the drainage pattern of the limestone bedrock, clearer examples of which could be seen on the exposed bedrock nearer the beach.

Test-pitting determined that 19 of the depressions contained faunal material and artefacts identified to the Middle Dorset period. The distribution of the cultural material corresponded with the presence of a waxy plant that covered an area approximately 40 m x 50 m towards the southern extent of the depressions. This was believed to delimit the site's extent. However, additional Palaeoeskimo material (EeBi-19), including fine-grained chert flakes, microblades and a scraper, was identified directly west of the lighthouse (Renouf 1985:18). Additionally, test-pitting in 1991 revealed a thin black cultural level with a number of microblades below 30 cm of peat, south of the waxy vegetation (Renouf 1992:69). These two find spots were thought to indicate that either

the site was larger than originally thought, or that there were separate areas of Palaeoeskimo activity/occupation in the area.

To address the issue of site size, during the 2001 field season I conducted an integrated geophysical survey to map the number and distribution of Dorset Palaeoeskimo dwellings at Point Riche. Geophysical survey techniques have the advantage over a number of more traditional survey approaches, such as test pitting, in that they provide for a rapid and non-invasive identification of archaeological features. This allows for large areas to be 100% surveyed. The results also provide relatively detailed site maps enabling the identification and interpretation of archaeological features. At Point Riche it was anticipated that this would allow Dorset Palaeoeskimo dwellings to be distinguished from the depressions that were the result of modern buildings or natural hollows. An additional advantage of geophysical survey is that it also has the potential to map archaeological features that have no identifiable surface trace. It was hoped that external features associated with the dwellings, such as middens and hearths, would be identified. Two techniques were used, magnetometry and resistivity (also known as conductivity).

Additional geophysical survey work was also conducted at a second Dorset Palaeoeskimo site at Phillip's Garden to obtain survey data for comparison with Point Riche. The site at Phillip's Garden is located approximately four kilometres northeast of Point Riche along the Point Riche Peninsula (Figure 1). From previous excavations (Harp 1976; Renouf 1985, 1986, 1987, 1991, 1992. 1993a) it was clear that the structural remains at Phillip's Garden were more substantial and better defined than those at Point

Riche. It was therefore likely that any results from geophysical survey at Phillip's Garden would be clearer and thus easier to interpret. It was anticipated that the results of geophysical survey at Phillip's Garden would aid in the interpretation of the geophysical results from Point Riche, which were expected to be more ephemeral.

What is the architectural variability between house structures at Point Riche?

Between 1985 and 1991, excavation of two of the depressions at Point Riche revealed the remains of two Dorset Palaeoeskimo houses, Feature 1 and House Feature 8. These two dwellings displayed considerable architectural differences. Feature 1 (Figure 2), despite appearing as a clear depression on the surface (0.25 m in depth), turned out to be an ephemeral feature masked by frequent undulations in the limestone substrata. No clear structural elements were identified and it was interpreted as a dwelling based on the presence of two bone filled pits (Feature 2 and Feature 6) found within the depression (Renouf 1985:26) as this feature type had been found by both Harp (1976) and Renouf (1991) in well-defined dwellings in Phillip's Garden.

House Feature 8 (Figure 3) consisted of a well-defined structure, 5.5 m in width and 7.0 m in length, with gravel walls up to 0.15 m in height and 1.5 m in width on three sides. The absence of the gravel wall in the west was thought to mark a possible opening to the dwelling. Two small internal features were noted just inside the opening (Features 21 and 22). Feature 21 consisted of a pair of holes, 21.5 cm and 9 cm in depth which formed a narrow irregular pit 60 cm in length by 30 cm in width. Feature 22 was a small pit 63 cm in length, 40 cm in width and 40 cm in depth. Although a number of artefacts

were found in both of these features, they were thought to be natural in origin (Renouf 1985).

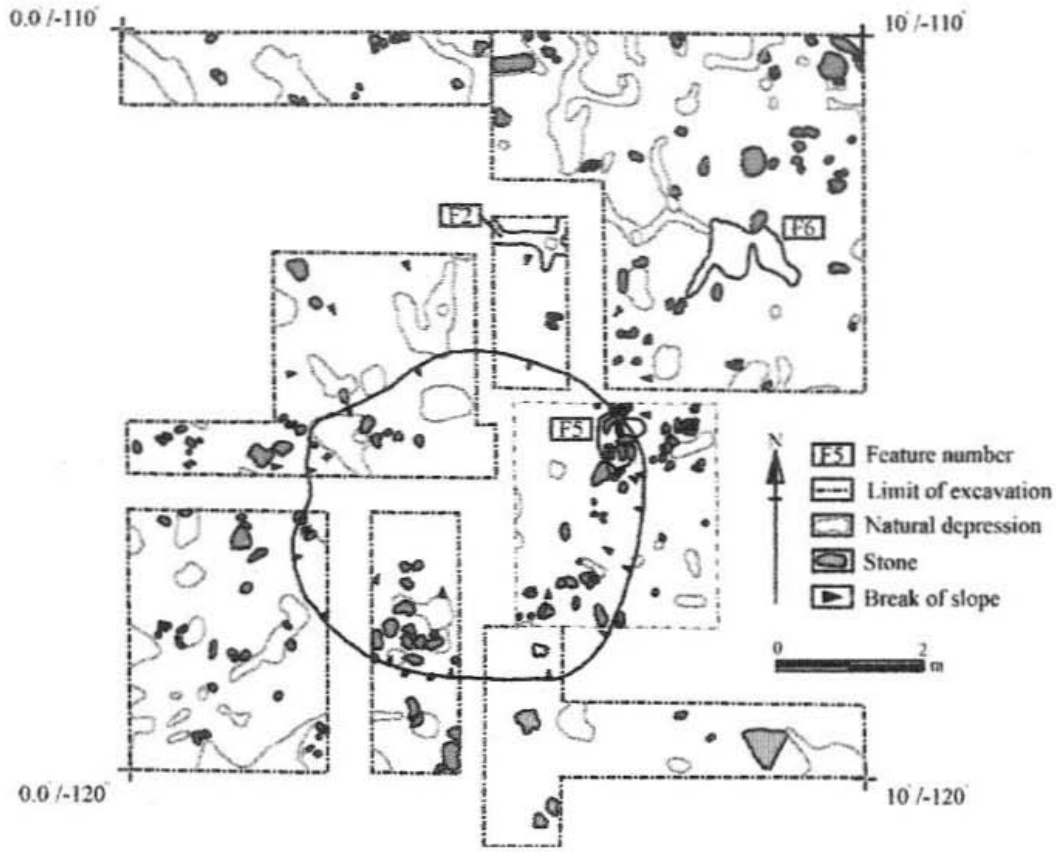


Figure 2. Feature 1 (based on Renouf 1986:Figure 8)

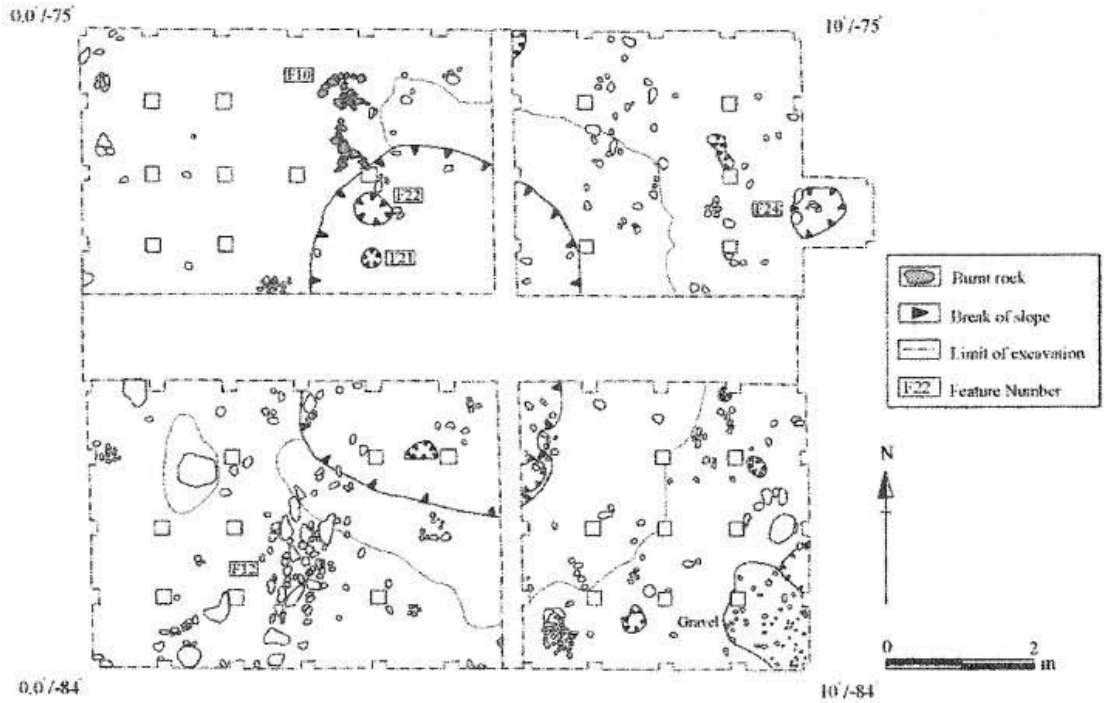


Figure 3: House Feature 8 (based on Renouf 1992: Figure 11)

A number of clearer features were found outside the dwelling (Figure 3). A linear arrangement of large limestone and sandstone slabs (Feature 12), 2.5 m in length and 1.0 m in width, extended at right angles from the southwest corner of Feature 8. Approximately 50 artefacts were found associated with this feature, including a variety of stone tools, flakes and soapstone fragments. This feature was interpreted as the equivalent of the axial pavements often found inside Palaeoeskimo houses (Renouf 1992:60). A hearth (Feature 24) was identified approximately 2 m east of House Feature 8. It consisted of a shallow pit, 70 cm in diameter and 13 cm in depth. It was filled with charcoal-stained soil containing some bone and flakes. Immediately northwest of House

8 was a disturbed semicircular arrangement of fire-burned cobbles and flat rocks (Feature 10). This was interpreted as a heating platform originally measuring approximately 0.70 m in diameter. A midden (Feature 14) was located 8 m west of House Feature 8. Shovel testing suggested it measured approximately 5.0 m in length, 4.0 m in width and 0.10 m in depth. It contained some bone, burnt seal fat and abundant lithic artefacts.

To address the issue of variability in dwelling architecture I excavated a third depression to establish if the level of variation between houses observed by Renouf could be demonstrated for a third dwelling at the site. As only two dwellings had been excavated it was unclear to what extent the differences were meaningful. The excavation of a third dwelling increased the data available for comparison. Furthermore, the results of the geophysical survey were used to provide additional data on the architectural layout of the unexcavated dwellings and associated features at Point Riche, thereby adding considerably to the information available from excavation. The excavation of a third dwelling also provided additional data on artefact densities and distributions required to address a number of the other research questions. A comparison of the three excavated depressions was than conducted to explain the different degrees of architectural variability that was observed.

Can activity areas be seen in the distribution of artefacts in and around the houses?

In this thesis I conduct a spatial analysis of artefact distributions at Point Riche to establish the type and location of activities that took place in and around the dwellings. This type of analysis rests on two basic assumptions. First, that different functional

artefact classes will reflect functionally specific activities. Second, that artefact location will reflect the location of an activity. Both of these assumptions need to be questioned. Inferences about the function of an activity area based on the presence or absence of particular functional classes of stone tools can encounter difficulties, as there are problems in determining the *specific* function of a stone tool from its shape alone (Odell 1981; Andrefsky 1997). The shape of a stone tool does not necessarily correlate to a particular function and some stone tools might have had a variety of functions (Andrefsky 1997:125). To limit some of the inherent biases that might arise during the identification of specific activity areas at Point Riche, inferences based on the identification of tool functions were deliberately kept broad. For example, scrapers, which might have had multiple functions, were taken to indicate the location of a processing/fabrication activity rather than a specific task. The artefacts were grouped into their broad functional categories, which included hunting, tool production, processing/fabrication and other, based on the tentative functional attribution presented by McGhee (1979:112).

The second assumption, which proposes that the provenience of an artefact reflects the location of the activity associated with it, is potentially more problematic. It has been demonstrated that many artefact distributions studies are flawed as they failed to consider the contributions of various formation processes (Schiffer 1987:281). For example, many studies that attempted to recognise activity areas on house floors failed to consider the possibility that clusters of artefacts were created through refuse disposal.

This issue is particularly pertinent for the Palaeoeskimo dwellings at Point Riche, as both excavation (Renouf 1997:27) and magnetometry at Phillip's Garden and at Point Riche (Chapter 2) have demonstrated that dwellings are often filled with midden material after their abandonment. The dumping of refuse in houses after their abandonment has also been documented amongst contemporary Inuit populations at Minguotok, Frobisher Bay (Henshaw 2000:64). Therefore, before the spatial analysis of artefacts was conducted, an attempt was made to distinguish material in and around the dwellings that did not relate to their occupation. Unfortunately, at Point Riche, most of the artefacts came from a single stratigraphic horizon, making it impossible to separate artefacts from occupation and post-occupation deposits on a stratigraphic basis. An alternative approach was therefore necessary. In this thesis I explore the possibility that midden material inside the dwellings can be identified on the basis of the structure (i.e., distribution and tool diversity) of the artefact assemblages themselves. I do this by comparing the horizontal distribution of artefact assemblages from the three dwellings at Point Riche to a midden assemblage (Feature 14) from the site to establish whether any showed characteristics similar to the midden in the way that the artefacts were distributed. It was hypothesised that an occupation deposit on a house floor should display a different structure within its horizontal artefact distribution than a midden, as the two assemblages would have formed in very different ways. To test this hypothesis, the distributions were analysed statistically through Nearest Neighbour Analysis and by visual inspection.

Another way that midden deposits might be distinguished from house floor deposits is in the relative frequency of the different tool types in their artefact

assemblages. McGhee (1979:51), in his analysis of the Independence I Palaeoeskimo material from Port Refuge, noted that artefacts were differentially distributed between feature types. It is therefore possible that middens might be distinguished on the basis of their artefact assemblage composition. In particular, it was anticipated that middens would have a greater range of artefacts in their assemblages as a greater diversity of artefact types has been hypothesised as being characteristic of secondary refuse deposits (Schiffer 1987:282). This is because refuse deposits are usually formed from a settlement's entire range of activities, whereas primary refuse deposits, such as an activity area or house floor, tend to have a low diversity of artefact types, being formed from a more restricted range of activities (Schiffer 1987:282).

The artefact assemblages from the three dwellings and the midden at Point Riche were compared statistically through hierarchical cluster analysis with fourteen artefact assemblages from other Dorset Palaeoeskimo sites from the island of Newfoundland, including both midden and house assemblages, to establish if middens and houses could be distinguished on the basis of their artefact assemblages. It was anticipated that if middens could be distinguished as a generic feature type on the basis of their artefact assemblages, then all the midden assemblages in the comparative analysis would group together as a single cluster. This did not turn out to be the case. However, the assemblages did appear to cluster on the basis of a number of other variables. The analysis was therefore extended to explore the reasons behind the variability in the dwellings artefact assemblages and is discussed in greater detail in the following research question.

Assemblages that were identified as contaminated with midden material were removed from the activity area analysis. The remaining assemblages were examined to see if there were any discernable activity areas based on the empirical observation of horizontal artefact distributions presented on maps.

How do we explain the differences observed in tool type frequency between the dwellings?

Following her excavations in 1985 and 1991, Renouf (1992:70) noted that there were some significant differences in the proportions of functional artefact types between Features 1 and 8. House Feature 8 had fewer soapstone fragments, endblades and microblades, but significantly more core fragments and retouched flakes than Feature 1. These differences were thought to relate to different activities that were carried out at the houses. However, it was unclear whether this also related to differences in the season of their occupation. I directed the excavation of a third house in 2001, producing an artefact assemblage that was different again from the two dwellings excavated by Renouf. To address the issue of variability in the number and diversity of tool types between the dwellings at Point Riche, I undertook a statistical analysis of the artefact assemblages. The approach taken was an extension of the hierarchical cluster analysis used to identify midden material.

The composition of artefact assemblages is particularly sensitive to a number of natural and cultural processes (Schiffer 1987). For example, differences in preservation conditions (Schiffer 1987), the length of a site's occupation (Yellen 1977) and the

function of a site within a hunter-gatherer adaptive system (Chatters 1987; Binford 1980) can all influence the range and number of artefacts in an assemblage.

As it was unclear which variable(s) might be influencing the composition of the artefact assemblages, an approach was required that would allow various avenues to be investigated simultaneously. One appropriate technique is hierarchical cluster analysis, which can be used in situations where very little is known about the structure of the data being analysed (Shennan 1997:254). It is also a particularly suitable technique in archaeology as there is a good fit between the kinds of classification tasks archaeologists carry out and the type of things that cluster analysis does, namely produce groups on the basis of similarity (Shennan 1997:253).

The artefact assemblages from Feature 1, House Features 8 and 30 and midden Feature 14 were compared with a representative sample of other Dorset Palaeoeskimo habitation sites on the island of Newfoundland. The basic premise behind this approach was that the cluster analysis would group together assemblages that had been influenced by similar variables. If the dominant variable influencing the composition of an artefact assemblage was feature type, we would expect the clusters generated by the cluster analysis to reflect this. For example, all the midden assemblages would fall into one group, and all dwelling occupation deposits would fall into another. However, if the dominant variable was season of occupation, we would anticipate the cluster analysis to group the assemblages based on whether the sites had been occupied during the winter, spring, summer etc. The results of the cluster analysis were, therefore, reviewed against a

number of possible variables, including feature type, length of occupation, house function, seasonality and site function, to see which made the most intuitive sense.

Only lithic artefacts were included in the analysis as this limited the number of variables that could potentially affect the frequency of tool types in an assemblage. For example, by excluding bone tools, the influence of differential preservation conditions between the assemblages was considerably reduced.

Once it was established which variable(s) were influencing the composition of artefact assemblages, it was then possible to make inferences regarding differences that were observed among the houses at Point Riche. Having achieved this, the results of the cluster analysis were then compared to alternative lines of evidence from the Point Riche, including the faunal data, house architecture and the distribution of artefacts to reach a fuller understanding of the site as a whole.

The bulk of this thesis, Chapters 2, 3 and 4, presents a detailed description of the methodology and results of the 2001 field season at Point Riche and Phillip's Garden. Chapter 2 describes the survey component of the 2001 season and provides an interpretation of the results in answer to the first research question, which sought to understand the number and distribution of dwellings at the site. Chapters 3 and 4 present a description only of the excavation component of the 2001 field season and include a description of the House Feature 30 and artefacts respectively. The second half of this thesis is concerned with a comparison of the results of the 2001 field season to data obtained by Renouf in previous years. This includes, in Chapter 5, a comparison of dwelling architecture to answer the question regarding architectural variability at the site.

Chapter 6 explores the spatial distribution of artefacts to establish if any distinct activity areas can be observed in and around the dwellings. In Chapter 7 I investigate the variability that is observed between the artefact assemblages at Point Riche and draw together all the lines of evidence to investigate the site's possible function and seasonality. Conclusions are presented in Chapter 8.

CHAPTER 2

The Survey

2.1 Introduction

This chapter presents a description of the geophysical and topographic survey component of the 2001 archaeological investigations at Point Riche. It outlines the reasons for conducting the survey and provides a brief introduction to the principles of the techniques used. This is followed by a more detailed discussion of the survey methodology and results.

The main purpose of the geophysical survey was to gain an accurate picture of the number, type and distribution of house depressions at Point Riche. Although a number of maps had been produced for the site it was still unclear how many Palaeoeskimo dwellings existed. It was suspected that many of the depressions were not Palaeoeskimo dwellings at all, but rather natural sinkholes or the remains of modern outbuildings relating to the lighthouse (Renouf 1985:23). Additionally, preliminary analysis of the two dwellings excavated in previous seasons indicated that there was considerable variability in the house types at the site (Renouf 1992:70). It was unclear to what extent this variability extended to other dwellings at Point Riche. Although a third depression was to be excavated during the 2001 field season, it was hoped that the results from the survey would provide additional data on the main architectural features of many of the house depressions at Point Riche without the need for excavation, thereby adding considerably to the information that would be available for analysis.

An additional geophysical survey was conducted at the Dorset Palaeoeskimo site at Phillip's Garden. The aim of the Phillip's Garden survey was to collect data that could be compared to the survey results from Point Riche. As the structural remains at Phillip's Garden are more substantial and well defined than those at Point Riche, they produced results that were clearer and thus easier to interpret. These could then be used to aid the interpretation of the results from Point Riche.

2.2 Principles of geophysical survey

There are a number geophysical techniques that can provide rapid, non-invasive survey of subsurface archaeological remains. Those used during the 2001 field season were magnetometry and resistivity (sometimes referred to as conductivity). The choice of these techniques was based on a number of factors including the wide range of archaeology that is potentially detectable through a combination of the two techniques, their relatively fast speed in both the collection and processing of data and the availability of the instruments.

2.2.1 Magnetometer survey

Magnetometer survey in archaeology is based on the measurement of small anomalies in the earth's magnetic field that can be brought about by human activity. This is possible as many of the rocks and soils of the earths crust are very weakly magnetic as they are partially composed of iron compounds. Different rocks and soils will have varying levels of magnetism/magnetic susceptibility depending upon the quantity and

type of iron compounds in them. For example topsoil is generally more magnetic than the underlying subsoil. As humans occupy a site they often redistribute these soils and rocks or even artificially enhance the magnetic properties of them, thereby creating observable anomalies in the earth's magnetic field (Clark 1990:64). The unit of measurement in magnetometry is the nanotesla (nT)=10^{-9} tesla (T).

For example, during the construction of a semi-subterranean dwelling, the topsoil in the centre of the house is likely to be removed during the excavation of the central depression. This topsoil might in turn be used in the construction of the house walls. In such a scenario one would expect the central depression to have lower magnetic properties, and the walls to have higher magnetic properties than the surrounding soil matrix, which being undisturbed will be generally constant. Alternatively, materials with magnetic properties differing from those of the surrounding soil matrix might be used to construct the dwelling. Stone, which often has lower magnetic properties than topsoil, would be a case in point.

Additionally, human activity can substantially enhance the magnetic susceptibility of a soil, particularly through heating. Hearths, kilns and ovens display thermoremanent magnetism, a permanent form of magnetism caused by the realignment of iron minerals to the earth's magnetic field when they are heated to high temperatures (above 675°C for haematite, 565°C for magnetite) (Clark 1990:65). Such features often have very high positive magnetic properties compared to the natural soil and are easily detected through magnetometry. The same is true for features that contain a high proportion of burnt

material, as is often the case with midden deposits containing charcoal and fire-cracked rocks, or house floors with occupational debris.

2.2.2 Resistivity survey

Resistivity is in principle very much like magnetometry, although the physical property being measured is electrical resistance. The electrical resistance of the ground is almost entirely dependent upon the amount of moisture in it (Clark 1990:27). Buried archaeological features will have different levels of electrical resistance from each other and the surrounding soil depending upon the moisture content of their matrix. For example a stone wall, being generally moisture resistant, will have a higher electrical resistance than a pit filled with damp soil. These differences can be detected and measured by a resistivity meter. Resistivity is specific resistance, which allows the resistance of different materials to be compared. The unit of measurement is the ohm-metre (Ω-m): the resistance of a one metre cube of a material when a potential of one volt is applied between two opposite faces of the cube (Clark 1990:27).

2.3 Instrumentation

The survey instruments used in the 2001 field season were a Geoscan FM36 Fluxgate Gradiometer (magnetometry), a Geoscan RM15 Soil Resistivity meter (resistivity) and a Nikon DTMA5LG total station theodolite with TDS/48GX data collector (topographic).

2.4 Processing and display of data

The raw data were downloaded in Geoplot 2 where they were processed and converted into images suitable for display. Each survey underwent the following procedures: 1) "De-spiking" to remove many of the readings that most likely resulted from modern metal objects in the ground. 2) "Zero mean traverse" to remove the slope effect in the graphics caused by natural background conditions of the survey area. 3) "Interpolate X and Y" to smooth the graphics data between survey squares. This thesis only presents processed images.

There are a number of display options available for the presentation of geophysical data. Those presented here are in the grey scale format. This divides a given range of readings into a set of number classes, each with a predefined shade of grey (Ovenden-Wilson 1997). It is usual for an increase in number class to correspond with an increase in tone. This approach is particularly good at displaying an accurate plan of the archaeological features. It also allows some variation between the strength of anomalies on the same plot to be compared.

2.5 Survey descriptions[2]

2.5.1 Phillip's Garden

The Dorset Palaeoeskimo site at Phillip's Garden is located approximately four kilometres northeast of Point Riche along the Point Riche Peninsula (Figure. 1). It is situated in a 1.8 hectare meadow bordered on three sides by thick stunted-spruce forest

[2] The interpretation of survey results are based on conversations with Jeremy Taylor, University of Leicester, the geophysicist who supervised the geophysical component of the 2001 field season.

(Renouf and Murray 1999). The meadow encompasses three raised beach terraces ranging 6-11 m above the present sea level. Cultural material and the remains of over 36 house depressions cover the upper two terraces, 8-11 m above sea level (Harp 1976:120).

The exact number of house depressions is unknown as identification has, to date, been based on observable surface topography and the presence of clumps of iris that appear to favor the growing conditions within the depressions. Excavation has shown that some houses are masked by midden material deposited after the abandonment of the dwellings, while the encroaching forest obscures others. A corrected number of over 50 dwellings has been suggested (Renouf and Murray 1999:119) although the precise number of dwellings at the site is not known.

The area chosen for geophysical survey was in the southwestern corner of the site (Figure 4). This area was selected as it was the only part of the site that had not undergone substantial excavation in previous years. The site grid, first set up by Parks Canada in 1984, was reestablished with the aid of a total station theodolite and used for all subsequent survey. The geophysics grid consisted of five 20 m x 20 m and three 20 m x 10 m blocks (a total of 2600 m^2). Due to the limited time available (a single day) only a broad interval magnetometer survey was conducted at Phillip's Garden. Readings were logged at 1m intervals along parallel traverses spaced 1m apart.

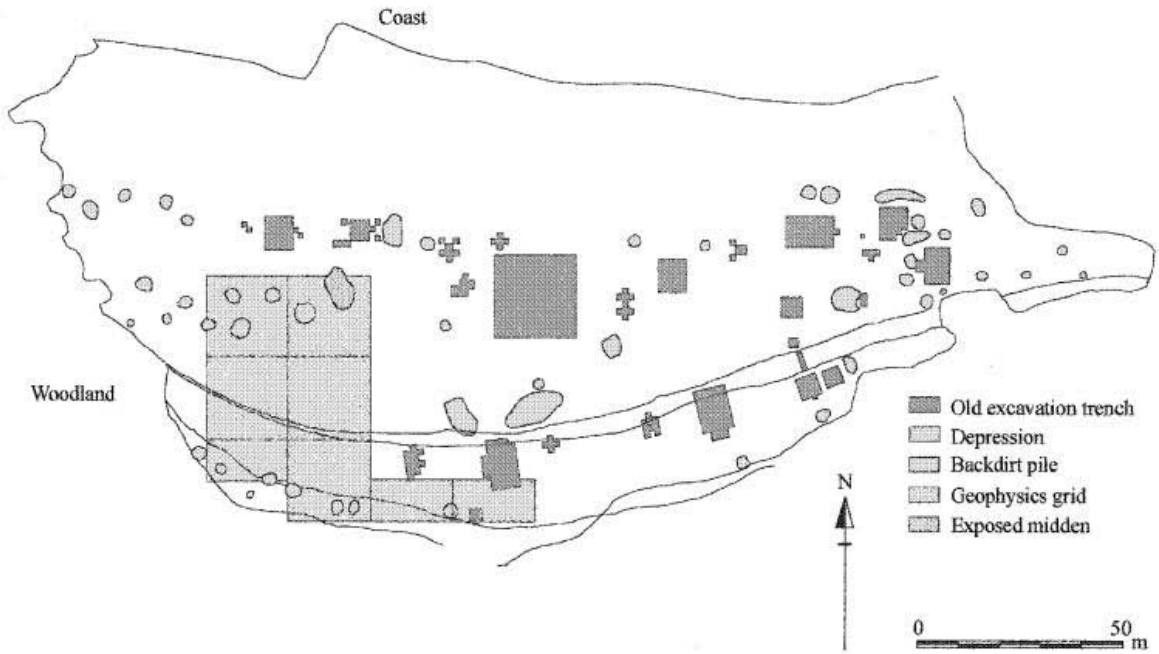


Figure 4. Location of magnetometer survey at Phillip's Garden

One of the most striking aspects of the Phillip's Garden magnetometer survey is the large number of small anomalies (Figure 5: A) that lie outside the house depressions (Figure 5: C), particularly toward the southern end of the survey. Most appear to be round, measuring approximately 1 m in diameter. The size and shape of these features suggest that they are likely to be pits filled with organic matter and/or areas of burning such as hearths.

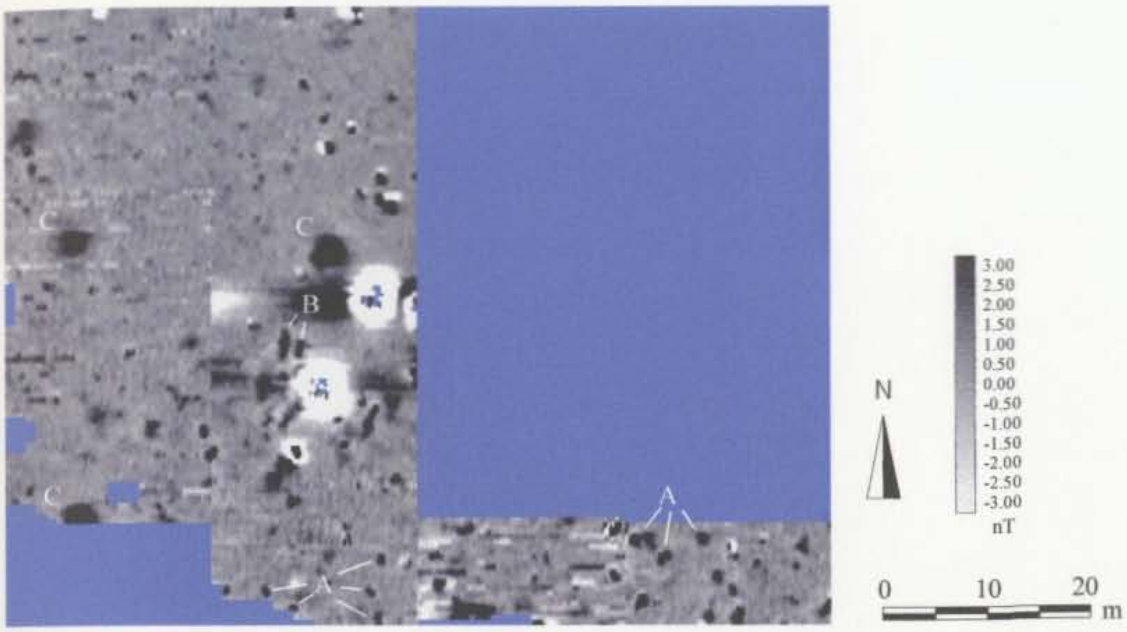


Figure 5. Results of magnetometer survey of Phillip's Garden
A: Small "pit" anomalies, B: Linear anomalies, C: Buried House Depression

It is interesting that most of these small features are spatially separated away from the houses. Many are located towards the back of the middle terrace between two distinct clusters of houses visible on the surface, one group situated towards the front of the survey area and one group towards the back of the site[3] (Figure 6). This suggests that the inhabitants of Phillip's Garden structured their settlement in such a way as to separate deliberately the different components from one another. Without excavation the nature of these components is unclear, although as most of the anomalies appear to be the shape

[3] The depressions at the back of the site, recorded in the topographic survey (Figure 6: yellow circles), do not show up in the geophysical survey (Figure 5). The reason for this is that they were not filled with midden material and were thus invisible to the magnetometer. This is explained in more detail later in the text.

and size of pits it is possible that there was some degree of formalized disposal of refuse away from the dwellings.

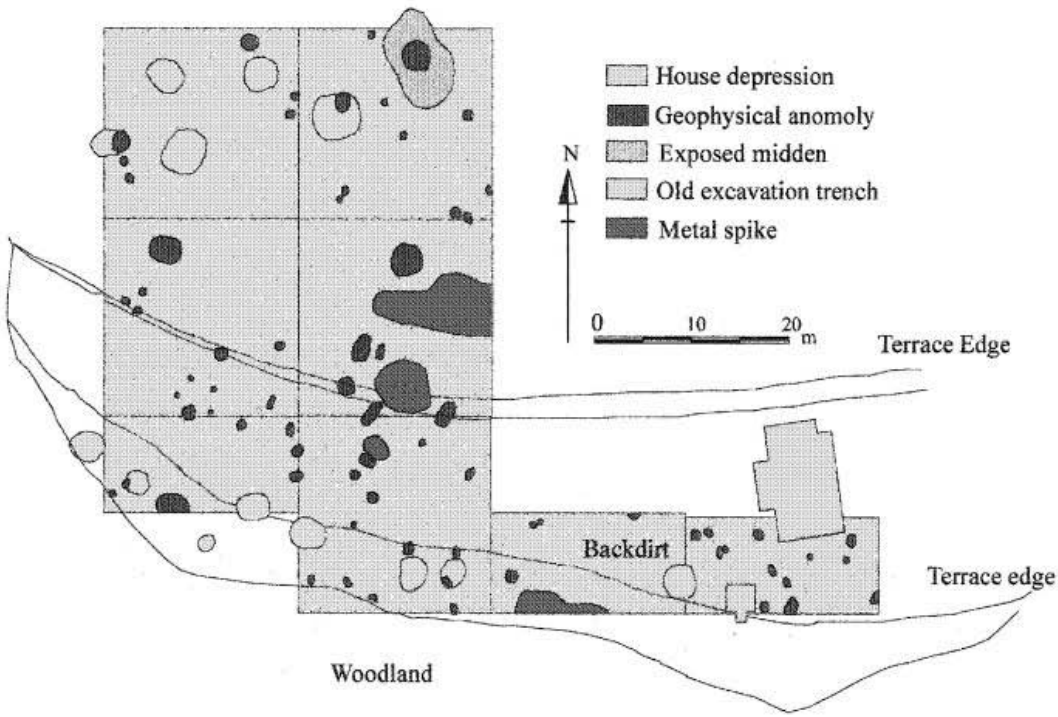


Figure 6. Topographic features and interpreted magnetic anomalies at Phillip's Garden

Also noticeable in the survey results are a number of slightly larger sub-rectangular features measuring approximately 2 m in length and 1 m in width (Figure 5:B). These bear a remarkable similarity in size and shape to graves and in many contexts might be interpreted as such. However, although a single child burial was recovered from one of the houses at Phillip's Garden (Harp and Hughes 1968:17), Dorset Palaeoeskimo burials from the area tend to be restricted to caves (Brown 1988:68; Harp

and Hughes 1968:8). It is more likely that these features are diffuse middens or elongated refuse pits. Alternatively, they may be external axial features similar to the one identified outside House Feature 8 at Point Riche (Renouf 1992:60).

Also visible in the magnetometer survey are number of large round anomalies approximately 5 m in diameter (Figure 5: C). These are almost certainly house depressions that have been completely filled with midden material to leave no surface trace. While the presence of buried houses at the site has long been known (Renouf and Murrey 1999:119), it has proven difficult to calculate their extent across the site. Comparison of the magnetic anomalies to the topographic features of the site (Figure 6) shows at least three buried houses (large red circles) compared to ten examples visible as surface features (yellow circles). If this ratio of three to ten is similar across the whole site, it is possible that there are up to 70 houses at Phillip's Garden (based on a previous estimate of 50 by Renouf 1999:119).

One notable feature of the survey is that many of the house depressions (those that are clearly visible as surface features) are not visible in the magnetometer survey (Figure 6). This is the result of the structural elements of the houses, for example the walls, being constructed from materials that have the similar magnetic properties to the surrounding soil matrix, which in this case is limestone. It would appear that features become detectable only when they become filled or mixed with a material that is significantly different from the surrounding soil matrix, for example midden material.

2.5.2 Point Riche

The Dorset Palaeoeskimo site at Point Riche (EeBi-20) is located on the southeastern corner of the Point Riche Peninsula, approximately four kilometres west of the modern town of Port au Choix (Figure 1). It is situated on an exposed and slightly elevated grassy terrace, averaging 10 m above high water mark[4], that runs parallel to and approximately 150 m from the modern shoreline. The geology of the point consists of well-bedded, dark grey, fossilferous limestone with characteristic dolomite-argillaceous seams (Dept. of Mines and Energy 1992).

Four surveys were conducted at Point Riche over a period of five days: topographic survey, resistivity survey, broad interval magnetometer survey and close interval magnetometer survey. Each is discussed separately below.

2.5.2.1 Topographic survey

The aim of the topographic survey was to map the number and distribution of *potential* house depressions at Point Riche. These depressions could then be compared to the results from the geophysical surveys to establish which were most likely cultural rather than natural in origin. Depressions that were clearly modern, those mostly situated adjacent to the road that runs from Port au Choix to the Point Riche lighthouse, were not included in the survey.

The site grid, first set up by Parks Canada in 1984, was reestablished and used to locate all subsequent survey and excavation provenience data. The survey was conducted

[4] All elevations in this report given as height above high water mark

using a total station theodolite with readings logged automatically in a data collector. The data were downloaded and converted in *Surveylink* to a format suitable for the GIS software *Mapinfo*, where it was manipulated to create the site maps.

A total of 39 potential Palaeoeskimo dwellings was recorded (Figure 7). Most of these were identified as surface depressions. However, a number of regular shaped clusters of iris were also included in the count as it was noted that these flowers appeared to favour the growing conditions provided by house depressions at Phillip's Garden (Renouf and Murray 1999:119). The majority of these features ran approximately north-south, squeezed between the terrace edge than ran parallel to the shore line and a marshy area situated to the east.

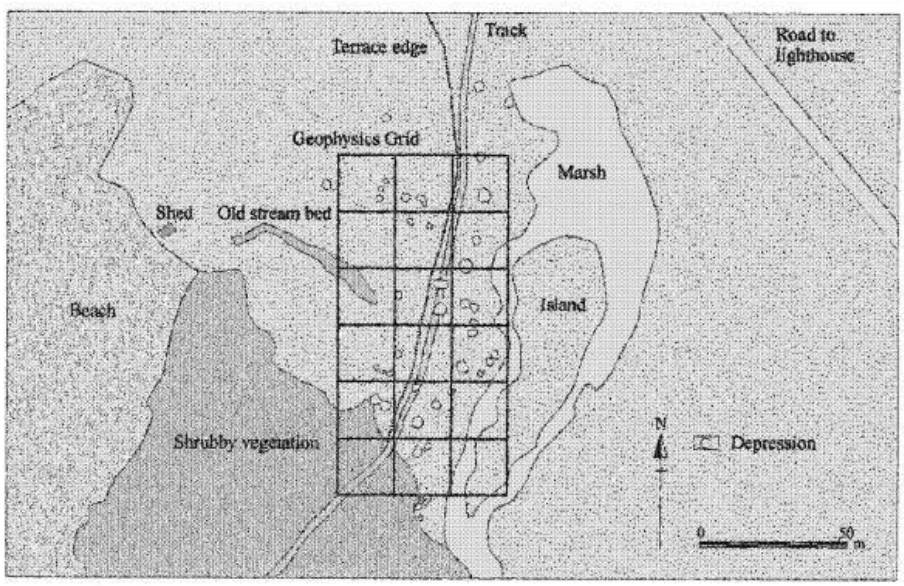


Figure 7. Location of survey grid and topographic features at Point Riche

2.5.2.2 Resistivity survey

A 120 m x 60 m geophysics grid was laid out by total station theodolite over the area believed to be the focus of Palaeoeskimo settlement as identified by Renouf (1985:20) (Figure 7). Because of the relatively slow speed of resistivity only the 12 easternmost blocks were surveyed. Resistivity was conducted using a twin probe arrangement with readings logged at 1m intervals along zig-zag traverses spaced 1m apart within the 20 m^2 blocks.

The results of the resistivity survey (Figure 8) were disappointing as no archaeological features were detected. This was mostly because of massive changes in soil moisture across the site that went from exposed bedrock to a waterlogged marsh within a distance of 20 m. Such massive and rapid changes in soil moisture, which have a direct relationship with the electrical resistance of the ground, masked any of the subtle changes in electrical resistance that may have been expected from the archaeological features.

Although no clearly definable dwellings were identified in the resistivity survey, comparison of the results with the surface features recorded in the topographic survey did show some of the depressions to correspond with areas of very low resistance (Figure 9). As low resistance is indicative of a wetter, more conductive deposits, it is likely that these depressions are the result of solution hollows in the limestone bedrock or silted-up streambeds rather than cultural activity. Both of these natural feature types were present elsewhere on the site and produced similar low resistance anomalies in the survey (Figure 8:C).

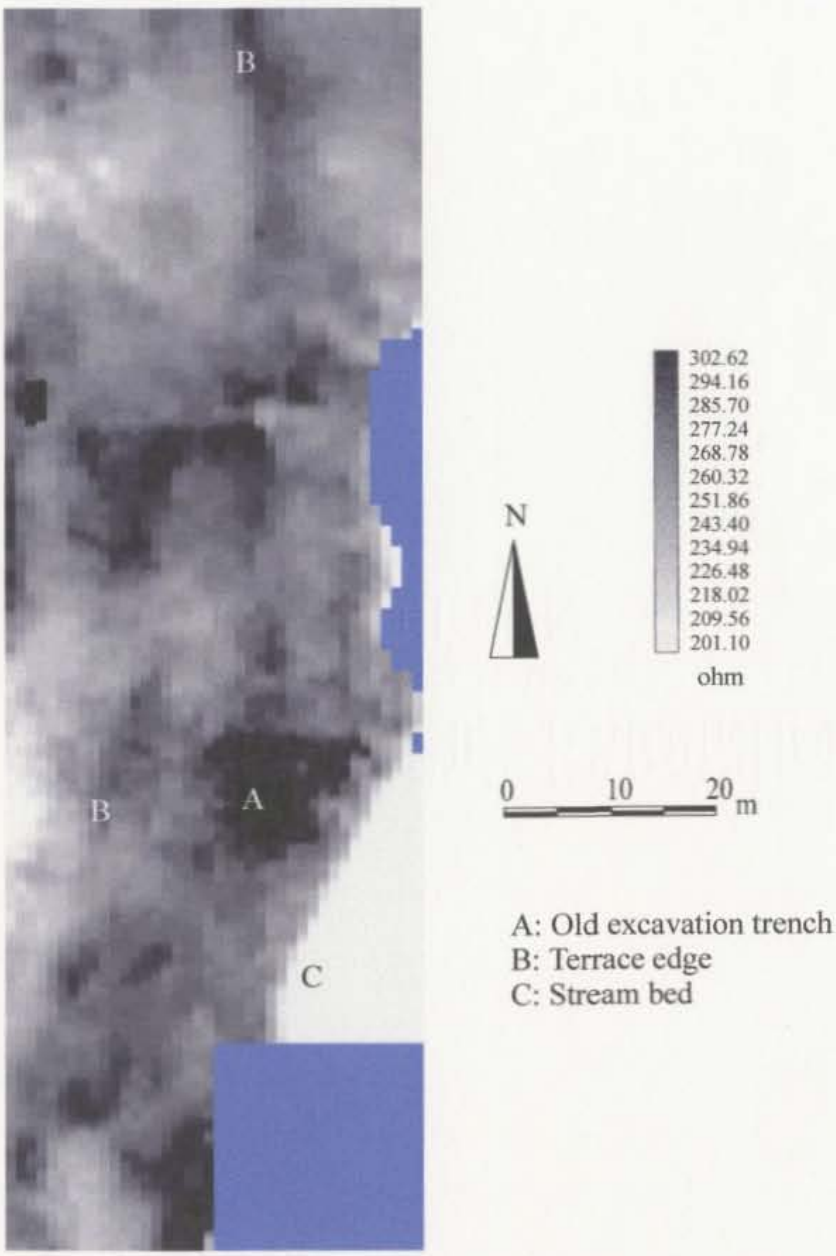


Figure 8. Results of resistivity survey at Point Riche

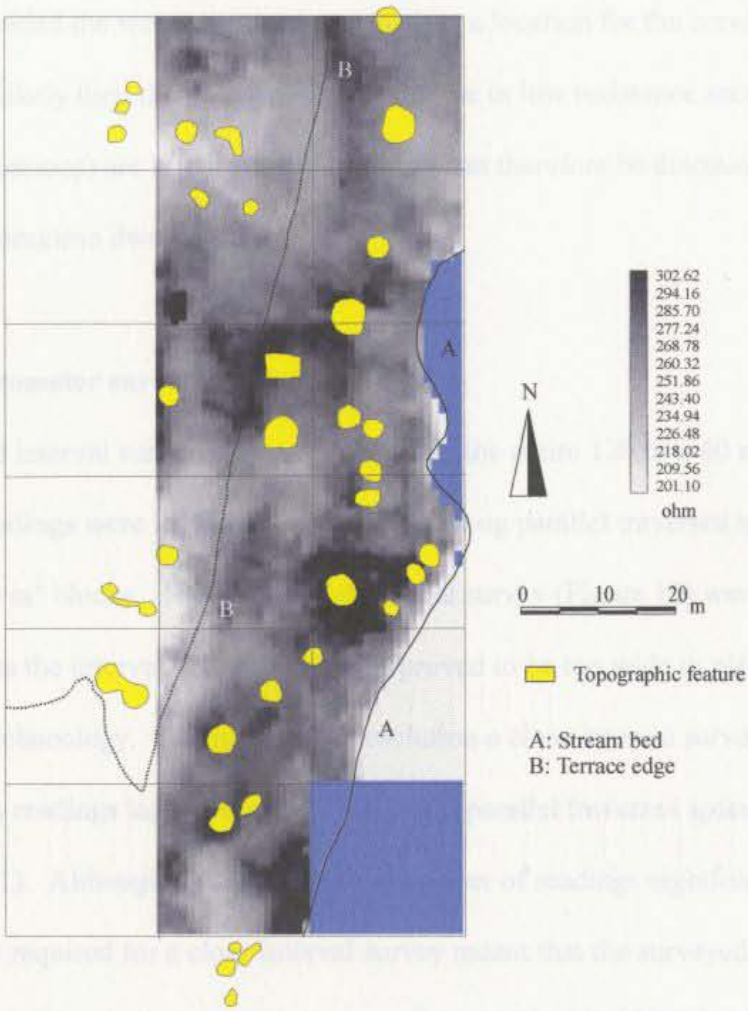


Figure 9. Resistivity results with the topographic features at Point Riche

The location of these low resistance features was also in stark contrast to the location of most of the other depressions, including those confirmed to be houses through subsequent excavation. These were situated on the driest part of the site that ran parallel to and approximately 10 m east of the terrace edge (seen as the high resistance black line running north-south in Figure 9: B) and demonstrate that the Dorset Palaeoeskimos

deliberately avoided the wetter areas when selecting a location for the construction of a dwelling. It is likely then that the depressions that lie in low resistance areas (e.g. Figure 9: top left depressions) are likely to be natural and can therefore be discounted as potential Palaeoeskimo dwellings.

2.5.2.3 Magnetometer survey

A broad interval survey was conducted over the entire 120 m x 60 m survey grid (Figure 7). Readings were logged at 1m intervals along parallel traverses spaced 1m apart within 20 m^2 blocks. The results of the initial survey (Figure 10) were disappointing as the interval between readings proved to be too wide to pick up the subtle nature of the archaeology. To improve the resolution a close interval survey was conducted with readings logged every 0.25 m along parallel traverses spaced 0.50 m apart (Figure 11). Although this increased the number of readings eightfold, the additional time required for a close interval survey meant that the surveyed area had to be reduced to the eight eastern-most grid squares. Fortunately this 120 m by 40 m area was centred over the greatest concentration of depressions.

The most striking features in the surveys (Figures 10 and 11) are the sharp black and white anomalies towards the centre of the plots. These should be ignored as they are produced by metal objects, the result of the Parks survey pegs and grid pegs left in the ground in previous season's excavation areas.

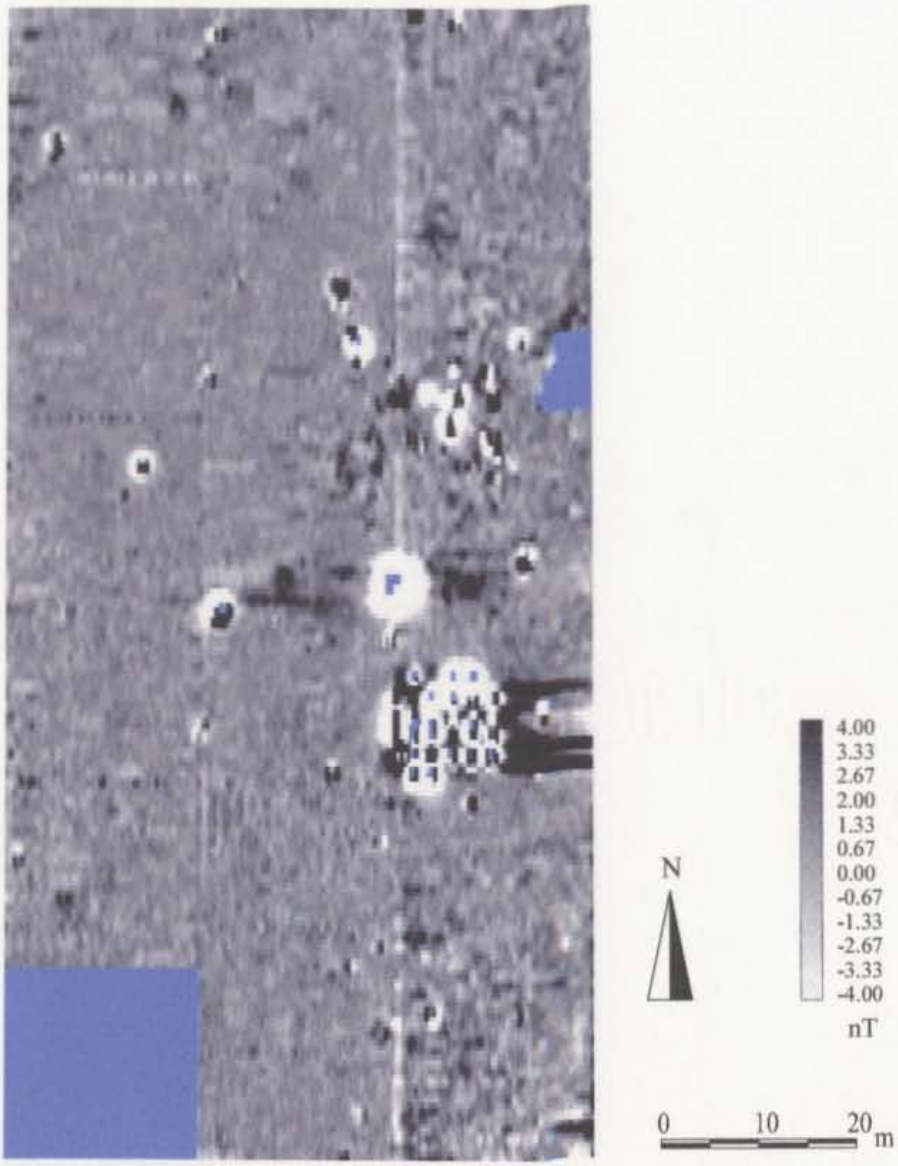


Figure 10. Results of broad interval magnetometer survey at Point Riche

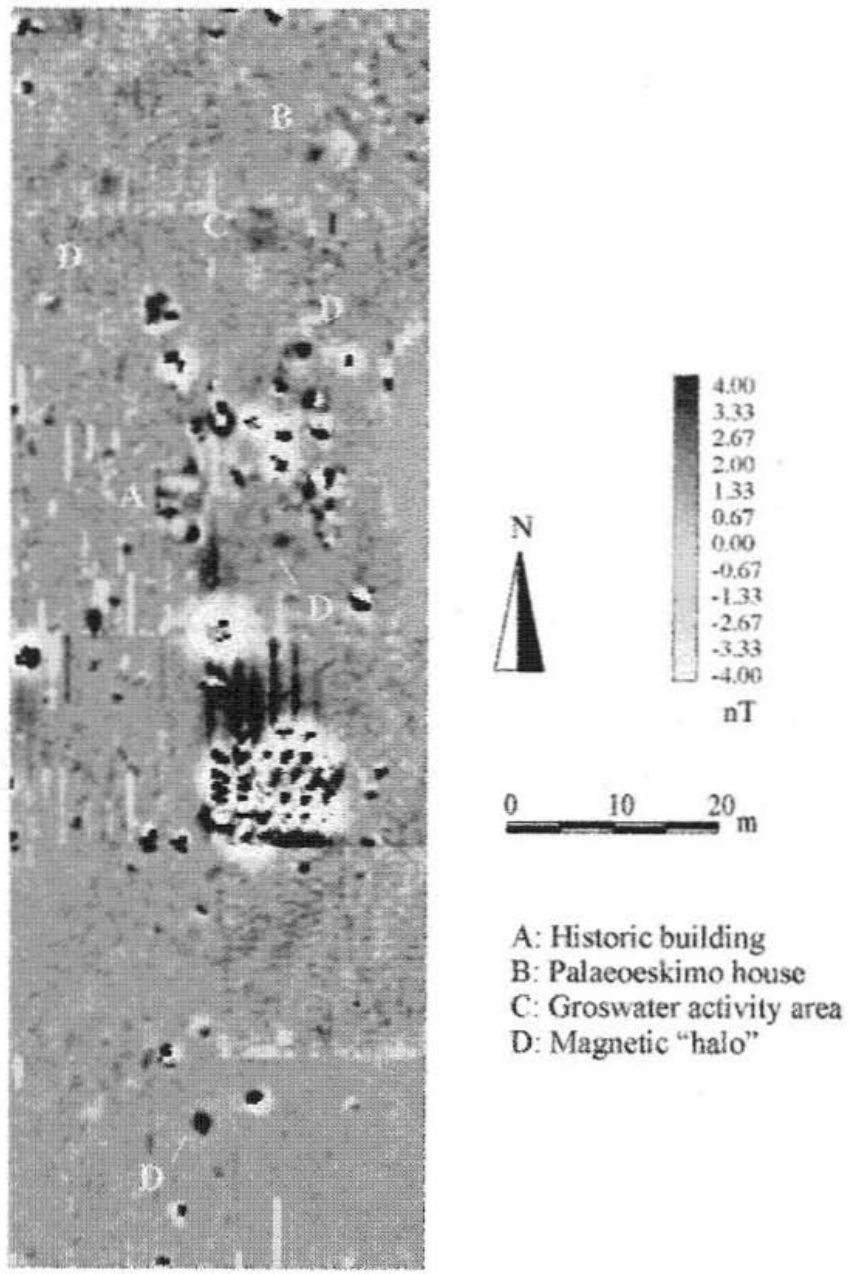


Figure 11. Results of close interval magnetometer survey at Point Riche

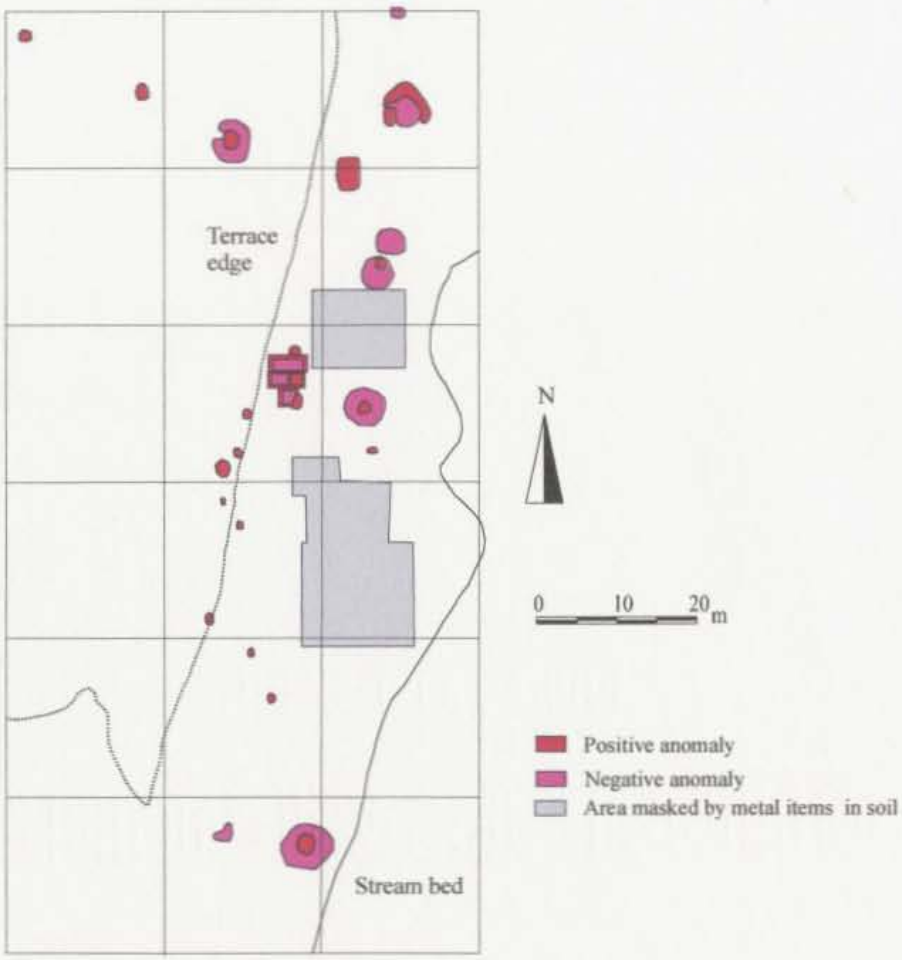


Figure12. Interpretation of the magnetometer survey at Point Riche

The clearest archaeological feature in the magnetometer survey was a rectangular structure just north of centre in the close interval survey (Figure 11: A and 13). This is clearly an historic building consisting of three rooms. Interestingly, the surface traces of this building were identical to the Palaeoeskimo dwellings at the site, all showing up as a sub-rounded depressions and it was included in the original site map (Renouf 1985:22a).

Its identification as an historic structure demonstrates the ability of magnetometry to differentiate between historic and prehistoric structures at Point Riche and allowed a more accurate estimate of the number of Dorset dwellings on the site to be made.

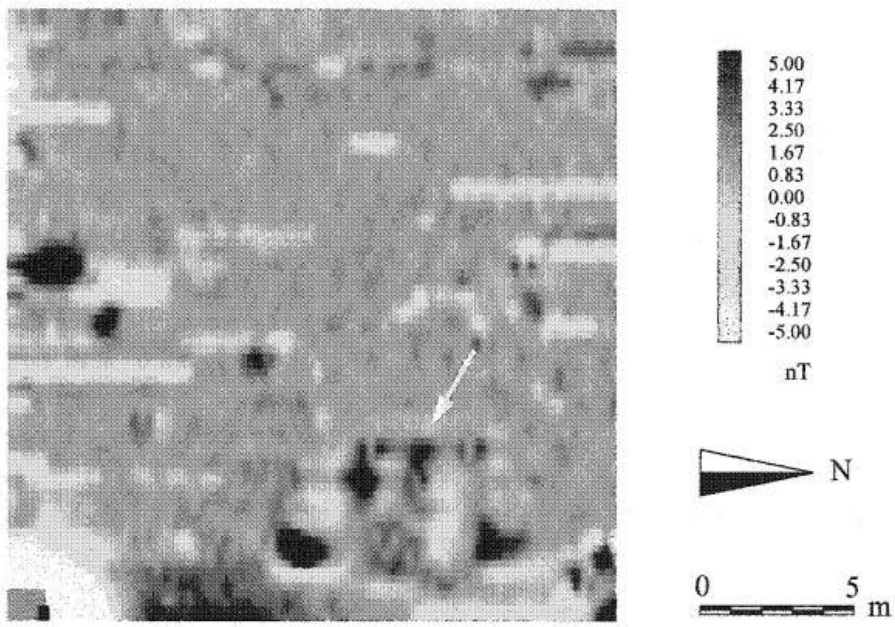


Figure 13. Detail of magnetometer survey at Point Riche showing historic building

Most of the other anomalies identified in the survey are extremely weak. The clearest are in the top right hand corner of the survey (Figure 11: B and C). Anomaly B appears as a round area of negative magnetism surrounded by a semi-circle of positive magnetism (Figure 14). Not only did the location of this anomaly corresponded with a well-defined surface depression, it also showed distinct similarities in form with House Feature 8 excavated in 1991 (Renouf 1992:46-56). The anomaly appeared to show a

central depression surrounded by a horse-shoe shaped wall, identical to the architecture of House Feature 8 (Figure 3) and it was on this basis that it was chosen for subsequent excavation (House Feature 30).

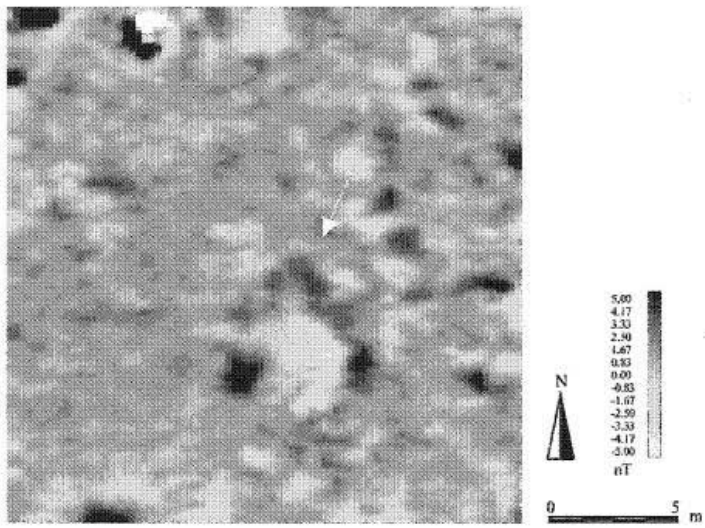


Figure 14. Detail of magnetometer survey at Point Riche showing Palaeoeskimo house

The advantage of following geophysical survey with excavation is that it allows known features types to be compared to the geophysical anomalies that they produce. These can then be used to interpret similar anomalies recorded elsewhere in the survey. For example, the semi-circle of positive magnetism recorded around the depression in the geophysical survey was found to relate to a platform that was identified during the

subsequent excavation of the depression. Similar anomalies observed around unexcavated depressions are therefore likely to be platforms.

The results of the close interval survey show negative magnetic "halos" around four of the depressions (Figure 11: D). As suggested above, we would expect these to represent platforms similar to those identified with House Features 8 and 30. The reason that they show up as a negative rather than a positive anomaly, as was the case with House Feature 30, might be explained as a result of the different building materials that the Dorset Palaeoeskimo used to construct their house platforms. House Feature 30's platform, which produced a positive magnetic signal, was constructed from a clay rich earth bank. House Feature 8's platform, however, was constructed from a limestone gravel bank (Renouf 1992:51). The survey results from Phillip's Garden suggest that features constructed from limestone will have very low magnetic properties and will be undistinguishable from the natural limestone gravel substrata. This was also observed with House Feature 30 where the section of the platform constructed from limestone rocks showed a lower magnetic signal than the section constructed from clay rich earth. The low magnetic halos around the unexcavated dwellings may therefore be gravel platforms similar to House Feature 8 rather than the earth bank seen in House Feature 30.

The other clear anomaly in the north of the survey (Figure 11: C) appeared as a sub-rectangular area of positive magnetism approximately 4 m southwest of anomaly B (House Feature 30). The characteristics of this anomaly suggested that it might be caused by a spread of burnt material and organic matter, most likely the result of a diffuse midden. The proximity of this feature to House Feature 30 led us to believe that it was

probably a midden associated with the house and it was therefore chosen for limited excavation. However, it proved to be a Groswater activity area.

The remaining anomalies all appeared as circular areas of positive magnetism of varying sizes (Figure 10 and 11). The results from the survey at Phillip's Garden suggested that some of these probably represent depressions that had been filled with midden material. Interpreting the numerous very small anomalies is more difficult. They may represent small external pits and/or areas of burning such as hearths. However, it should be noted that the two hearths subsequently identified outside House Feature 30 did not show up in the magnetometer survey at all. Additionally, two relatively strong magnetic anomalies observed immediately east and west of the central depression of House Feature 30 (Figure 14) had no corresponding archaeological feature when excavated. However, if the small magnetic anomalies are pits it is interesting that they, like at Phillip's Garden, are spatially separated away from the house depressions. Again this might be interpreted as a formal division of different activities at the site.

2.6 Interpretation

The results of the resistivity survey allowed us to suggest which of the surface depressions identified in the topographic survey were natural in origin. Likewise a comparison of the topographic data with the magnetometer survey results clearly shows which depressions are associated with magnetic anomalies and which are not (Figure 15). As these anomalies are produced by human activity it seems reasonable to suggest that of

all the depressions at Point Riche, those with anomalies are most likely to be Dorset Palaeoeskimo dwellings.

Figure 15. Topographic survey and interpreted magnetic anomalies at Point Riche

Figure 16 presents a map of the main Dorset Palaeoeskimo features at Point Riche. It includes depressions that had associated magnetic anomalies (apart from the historic structure). Depressions outside the survey area or those masked by the anomalies produced by the grid pegs are also shown but labelled undetermined. Also included are a number of the stronger anomalies from the magnetometer survey that had no identifiable

surface trace, as it is believed that these are pits and/or other archaeological features. It excludes depressions thought to be natural solution hollows (based on the resistivity survey) and those depressions that appeared highly amorphous in the topographic survey.

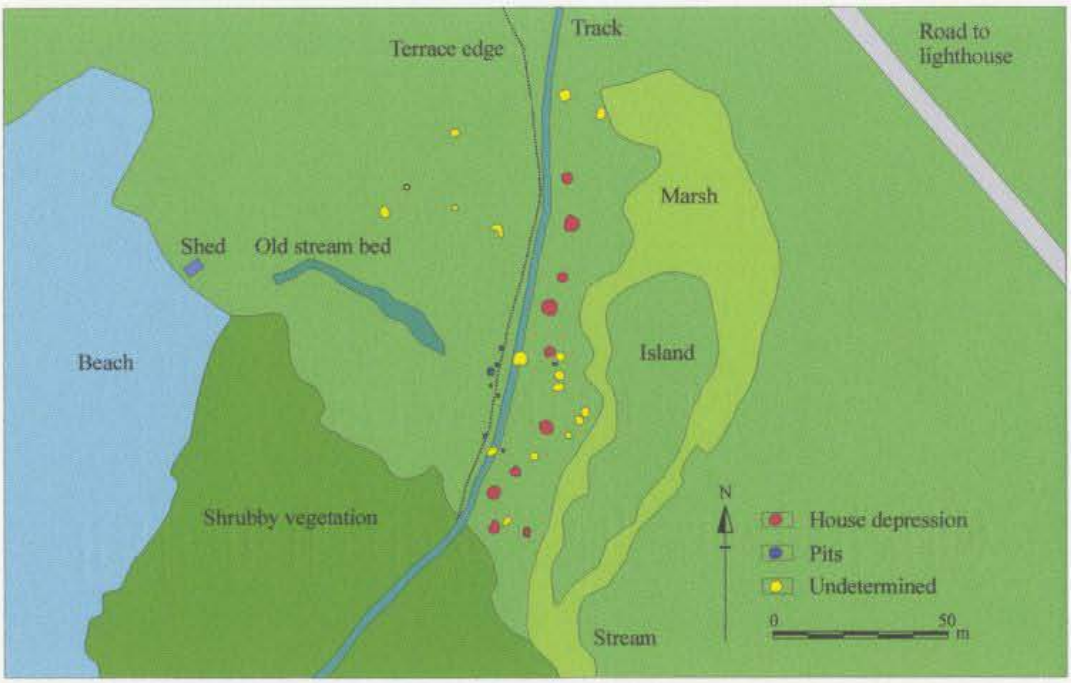


Figure 16. Map of House depressions and cultural features at Point Riche

At least 10 dwellings can be seen to run north-south, parallel to and approximately 10 m east of the terrace edge (Figure 16). This is an ideal location as it places the houses just behind the terrace ridge, which not only provides protection from the prevailing wind but is also the driest part of the site (judging by the resistivity results). It is also a convenient location for fresh water that runs as a stream 10 m to the

east as well as providing a clear vantage point out to sea. Although this terrace is approximately 100 m from the present shoreline it is probable that it was considerably closer during the Dorset occupation of the site. Renouf and Bell (1997:54) have suggested that the "Type A" sea level curve is the most appropriate for the Port au Choix region. The "type A' curve shows sea levels approximately 1-2 m above current levels during the time of Dorset Palaeeoeskimo occupation of the site. This put the active shoreline approximately 50 m from the site.

The spatial distribution of houses shows remarkable regularity, with most spaced along the terrace edge approximately 10 m away from one another. Given this regularity it is possible that at least five of the undetermined depressions that fall into this regular spacing are also dwellings. This would put the total count of houses at 15. A number of additional small archaeological features cluster along the outer edge of the terrace towards the centre of the site.

A number of depressions can also be seen to run off at approximately 90 degrees to the main group down the terrace slope. While three do have positive magnetic anomalies associated with them it is believed that they are more likely to be midden deposits dumped in convenient natural hollows. The depressions are relatively small and irregular and they run parallel to an old streambed that follows a natural fault in the limestone bedrock.

CHAPTER 3

The Excavation

3.1 Introduction

This chapter presents a description of the excavation component of the 2001 archaeological investigations at Point Riche. It outlines the excavation and recording methods used and provides a phased description of individual features and deposits. A more detailed description of individual features and deposits can be found in appendix 1. The purpose of the excavation was to obtain additional data that would allow many of the research questions outlined in Chapter 1 to be addressed. This data are analysed and compared to data obtained by Renouf in the following chapters.

3.2 Excavation and recording methods

Two trenches, Areas 1 and 2, were excavated during the 2001 field season (Figure 17). The location of the trenches was primarily based on the results of the magnetometer survey. This clearly showed a number of magnetic anomalies associated with one of the depressions that lay approximately 20 m north of House Feature 8, excavated by Renouf in 1991. The strength and clarity of the anomalies suggested that the archaeology in this area remained relatively undisturbed. Area 1, a 10 m x 10 m trench, was opened up to investigate this depression and any close external features that might relate to it. Area 2 was a small 3 m x 1 m test trench that was oriented to investigate a large positive magnetic anomaly that was identified 4 m to the southwest of the depression. The

magnetic signature of this feature and its close spatial proximity to the depression suggested that it might be a midden associated with the dwelling.

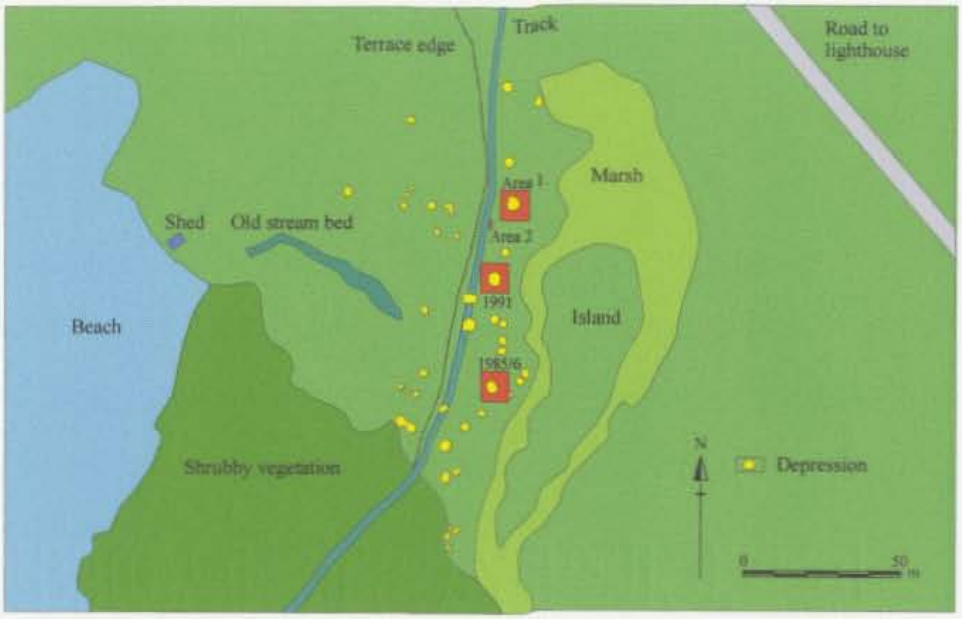


Figure 17. Location of excavation trenches at Point Riche

The turf/topsoil was initially removed with shovels. However, it soon became clear that artefacts were to be found immediately below the turf so excavation switched to trowels to remove as thin a turf layer as possible. All deposits, features and fills were excavated by hand, numbered and recorded as part of a continuous stratified sequence (MOLAS 1994: section 1.2). Each was recorded in plan and section as appropriate. Artefacts were numbered as part of a continuous catalogue number sequence in accordance with the Parks Canada recording system and located in three dimensions with the use of a total station theodolite. Individual flakes and bone fragments were also

located in three dimensions through the use of a total station theodolite and catalogued to 1 m^2 units for each deposit. All deposits, apart from the turf Level 1, were 100% dry sieved through a 4 mm mesh. Environmental samples were taken as appropriate and processed on site using bucket flotation through a 500 μ mesh. All charcoal was located in three dimensions by the total station theodolite and collected for radiocarbon dating. Photography was through black and white print, colour transparency and video.

At the beginning of the 2001 field season it was intended to identify and follow the levels and deposits that had been identified during the two previous field seasons (Renouf 1986:24; 1992:46). In this way it was hoped that identical level numbers could be assigned to deposits that were most likely the same. However, it soon became clear that this would not be possible as the number, type and sequence of deposits in Areas 1 and 2 were different from those identified in previous seasons. As a result the level numbering system was abandoned mid-excavation and all deposits, cuts and features were allocated a single "Feature" number regardless of whether they might be considered a feature in the archaeological sense or not. Fills of cuts were assigned the same feature number as the cuts themselves in order to follow the previous season's recording system as closely as possible. This did not prove to be a problem as no one cut had more than a single fill. A total of 7 levels (Levels 1-7) and 34 "Features" (Features F30-F63) were identified. Levels may or may not correspond to Levels with the same number from previous seasons. Features were numbered from the first available unused number from the 1992 season.

3.3 Stratigraphy

The stratigraphy at Point Riche was generally shallow with an average total depth of 20 cm (Figure 19). The deposits within the depression were slightly deeper, measuring up to 45 cm in total depth. The stratigraphy for Area 1 is presented as a Harris Matrix (Figure 18). This is a graphical representation of the relative stratigraphic positions of the different deposits and features recorded during the excavation (Harris 1989:34).

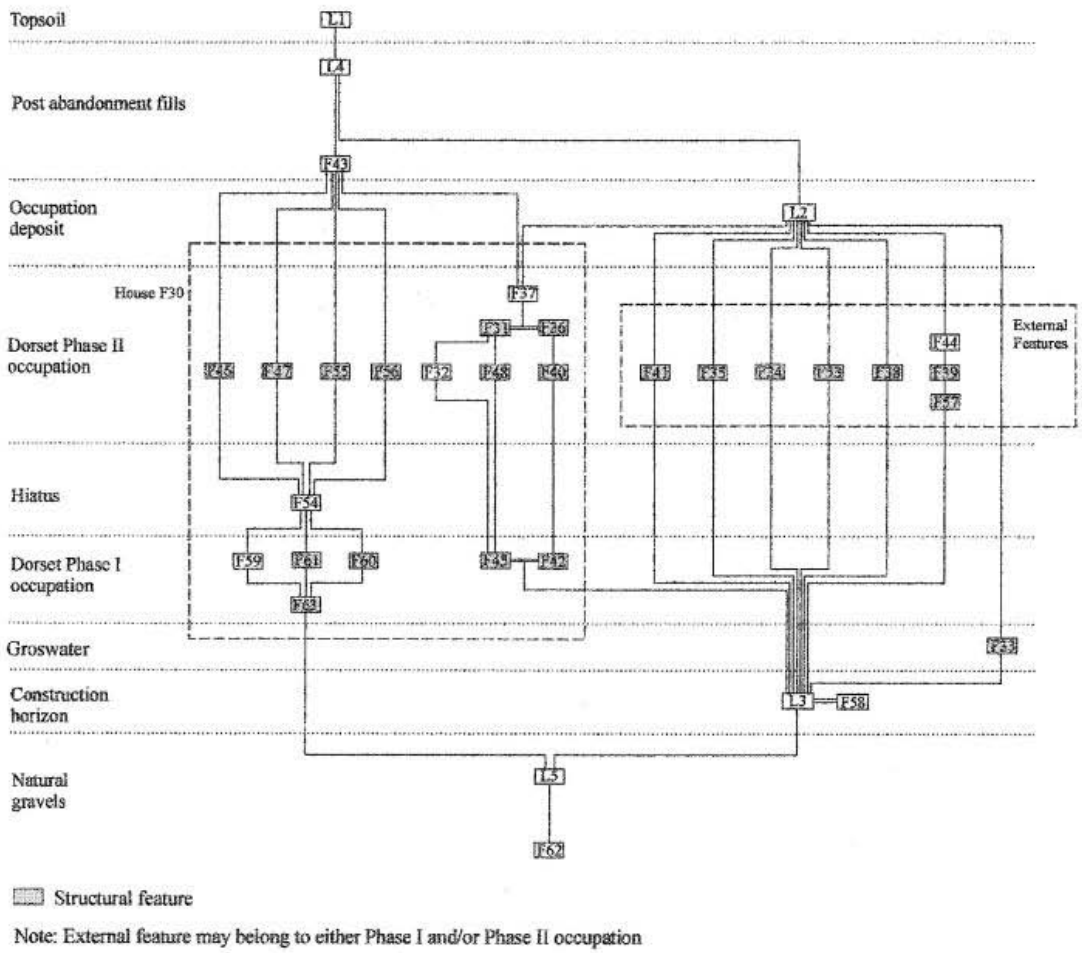


Figure 18. Area 1 Harris Matrix

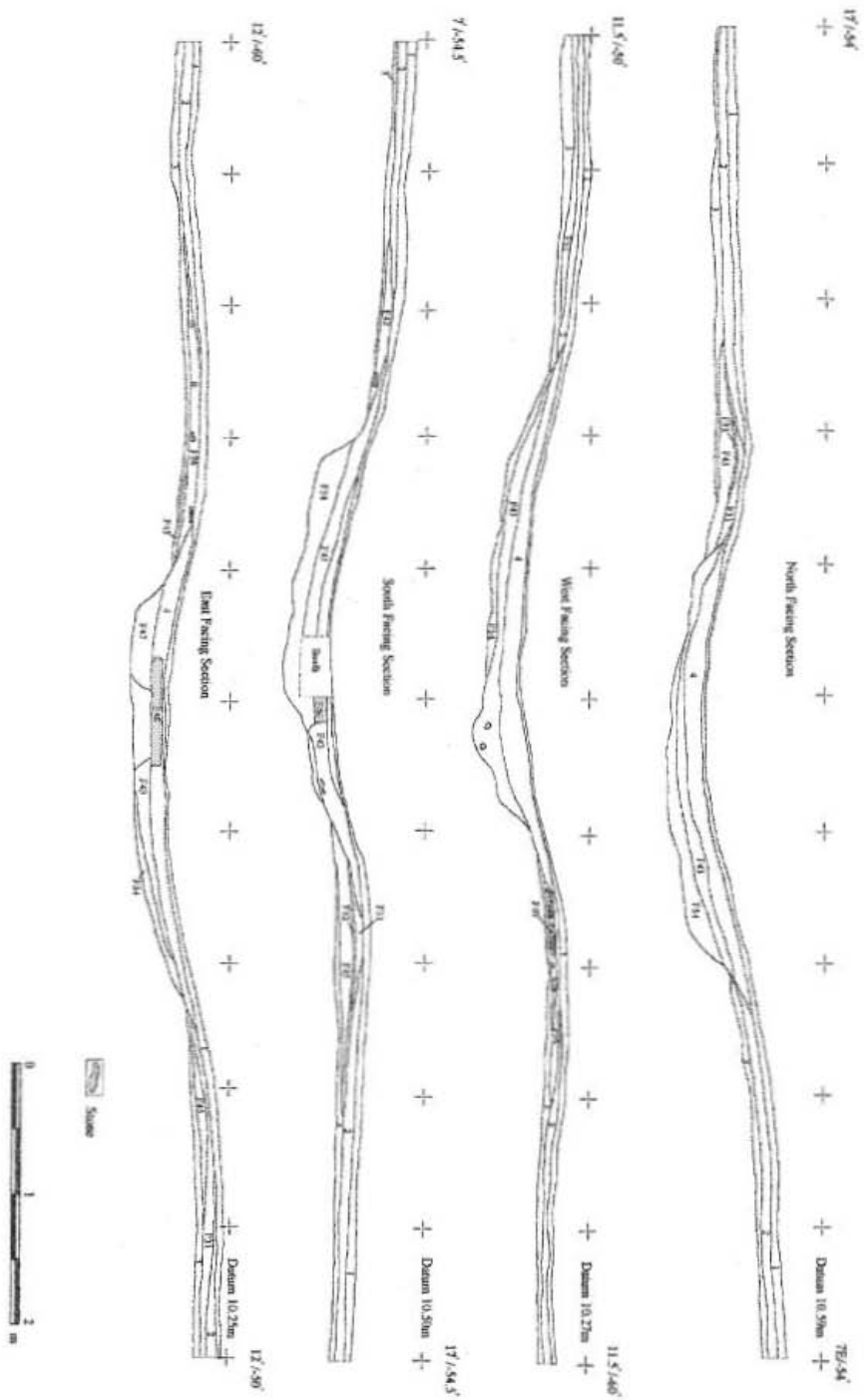


Figure 19. Profiles through Area 1

The sequence of deposits in Area 2 varied remarkably from Area 1 despite being only 3 metres away (Figures 20 and 21). The most notable difference was the presence of a peat deposit, Level 7, instead of the topsoil Level 1. The stratigraphic sequence for Area 2 is presented as a Harris Matrix below (Figure 22).

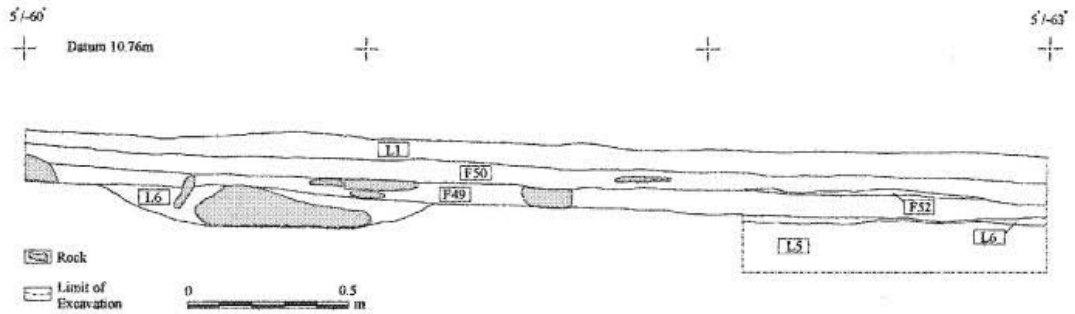


Figure 20. West facing profile through Area 2

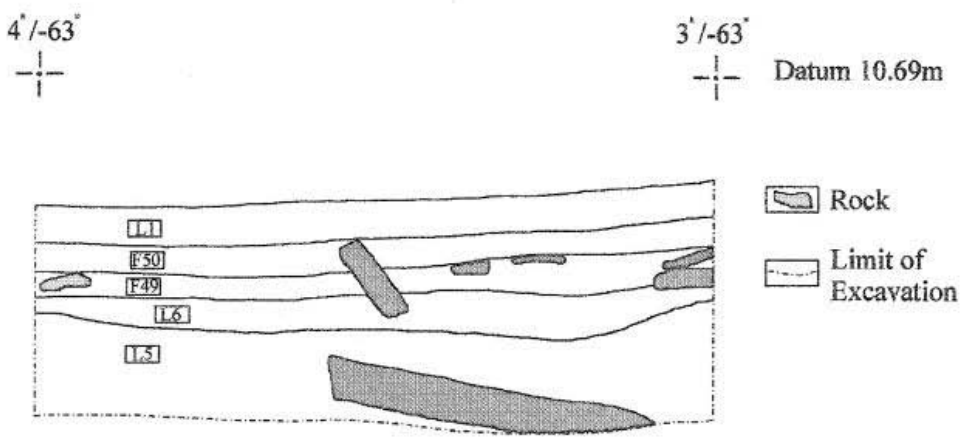


Figure 21. North Facing profile through Area 2

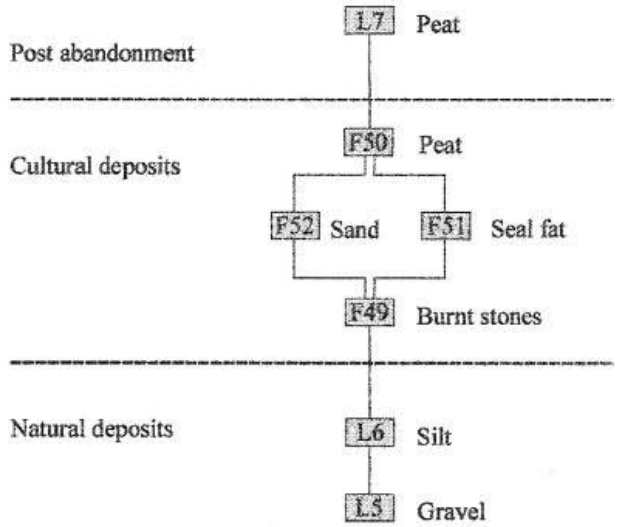


Figure 22. Area 2 Harris Matrix

3.4 Phased description

This section presents a phased description of the features and deposits excavated during the 2001 field season. This describes the archaeology as a sequence of events that led to the site's formation, in a sense a site history. Phasing was based on the stratified relationships between archaeological features and deposits augmented by the identification of culturally diagnostic artefacts. Features with no stratigraphic relationships or culturally diagnostic finds were tentatively assigned to phases through spatial relationships. Three principal periods have been identified:

Period 1: Groswater Palaeoeskimo

Period 2: Dorset Palaeoeskimo Phase I

Period 3: Dorset Palaeoeskimo Phase II

3.4.1 Period 1: Groswater Palaeoeskimo

The earliest identified occupation identified in Areas 1 and 2 was represented by a spread of flat limestone rocks (Feature 49) (Plate 6; Figure 23) located in Area 2. It was dated to the Groswater period on the basis of a number of diagnostic Groswater Palaeoeskimo artefacts (Plate 1).

Plate 1. Groswater artefacts from Feature 49 and 50

However, the presence of 13 tip-flute spalls in the area also attests to some Dorset Palaeoeskimo activity. As these two phases of activity were not separated

stratigraphically, it is possible that some of the culturally undiagnostic artefacts, particularly the flakes, are also Dorset Palaeoeskimo. However, examination of the raw material utilization between Areas 1 and 2 show some marked differences (Figure 24).

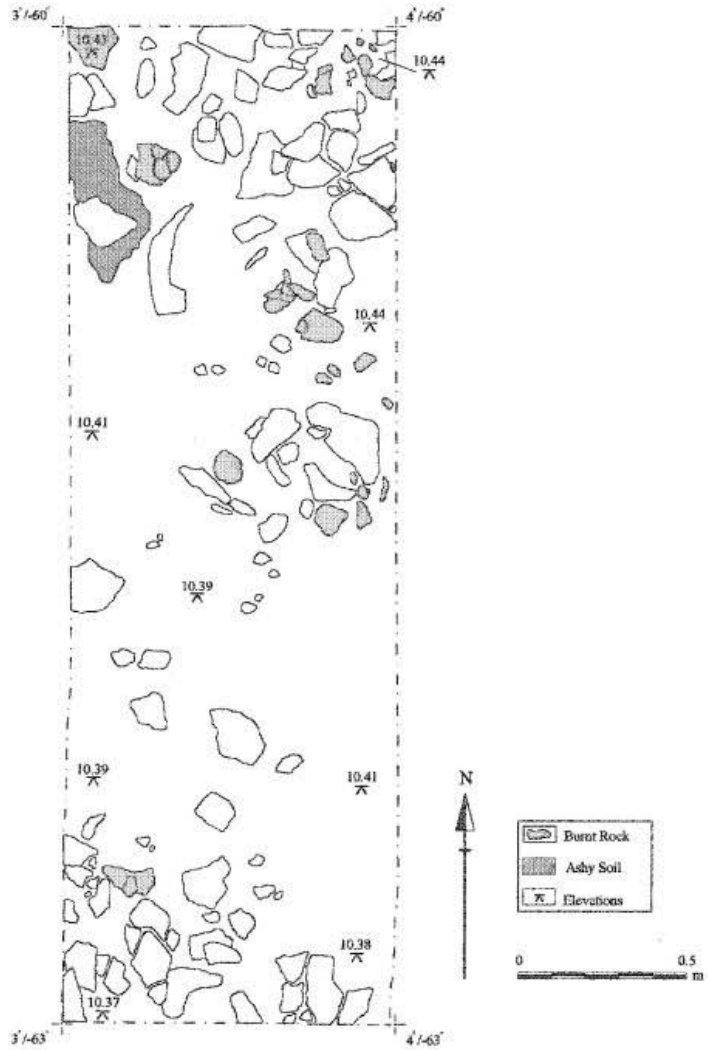


Figure 23. Period 1: Groswater Palaeoeskimo features in Area 2

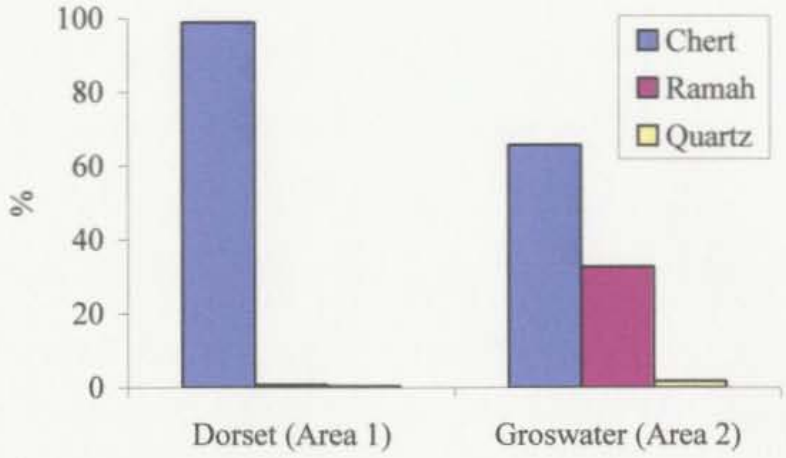


Figure 24. Differences in raw material utilization between the Groswater and Dorset Palaeoeskimo at Point Riche

The raw material found in Area 1 was almost exclusively Cow Head chert (98.9%), whereas there was a greater range of materials from Area 2 with a notable increase in Ramah chert. Anton (2002), in her analysis of Early Dorset and Groswater sites in Northern Labrador, has observed that there was a marked decrease in the range of raw materials used by the Early Dorset compared to the Groswater Palaeoeskimo. This would support the notion that most of the material found in Area 2 was generated by Groswater Palaeoeskimo activity. A single radiocarbon date (uncalibrated) of 1830 +/- 40 BP (beta-160978) was recovered from the feature.

Many of the rocks in Area 2 were fire-cracked or had been discoloured to a pinkish-black through heating. They appeared to have been laid down to form a surface, although the precise nature of this feature was unclear given the limited area that was

exposed. The results from the magnetometer survey (Figure 11) suggested that it covered an area at least 5 m by 4 m, which would not be an unreasonable dimension for a house floor. Mixed around the stones were thin lenses of blackened soil and grey ash-like deposits.

Lying on top of the stones was a single round cake of burnt seal fat (Feature 51) (Plate 6), approximately 0.23 m in diameter, as well as many other smaller pieces of burnt fat concentrated to the north of the area (Figure 25). Numerous artefacts associated with the processing of animals, including scrapers, microblades, burin-like tools and bifacially worked knives were also found lying on top of the stones. Most of these were concentrated to the south of the area. Also present were hundreds of small chert flakes and a number of core fragments.

Another possible Groswater feature (Feature 33) was identified in Area 1 approximately one m south of House F30 (Figure 26, Plate 3). Like Feature 49, it also consisted of an amorphous collection of flat limestone rocks, although none showed evidence of burning. No clear structural function could be determined. It was tentatively assigned to the Groswater Period on the basis of a single box-based endblade found in association with the feature. However, it may alternatively have been the badly disturbed remains of an external axial feature, similar to that (Feature 12) identified with House Feature 8 (Renouf 1992:60). Feature 33 was located and oriented almost identically to Feature 12 although, unlike Feature 12, there was no associated artefact cluster found with Feature 33.

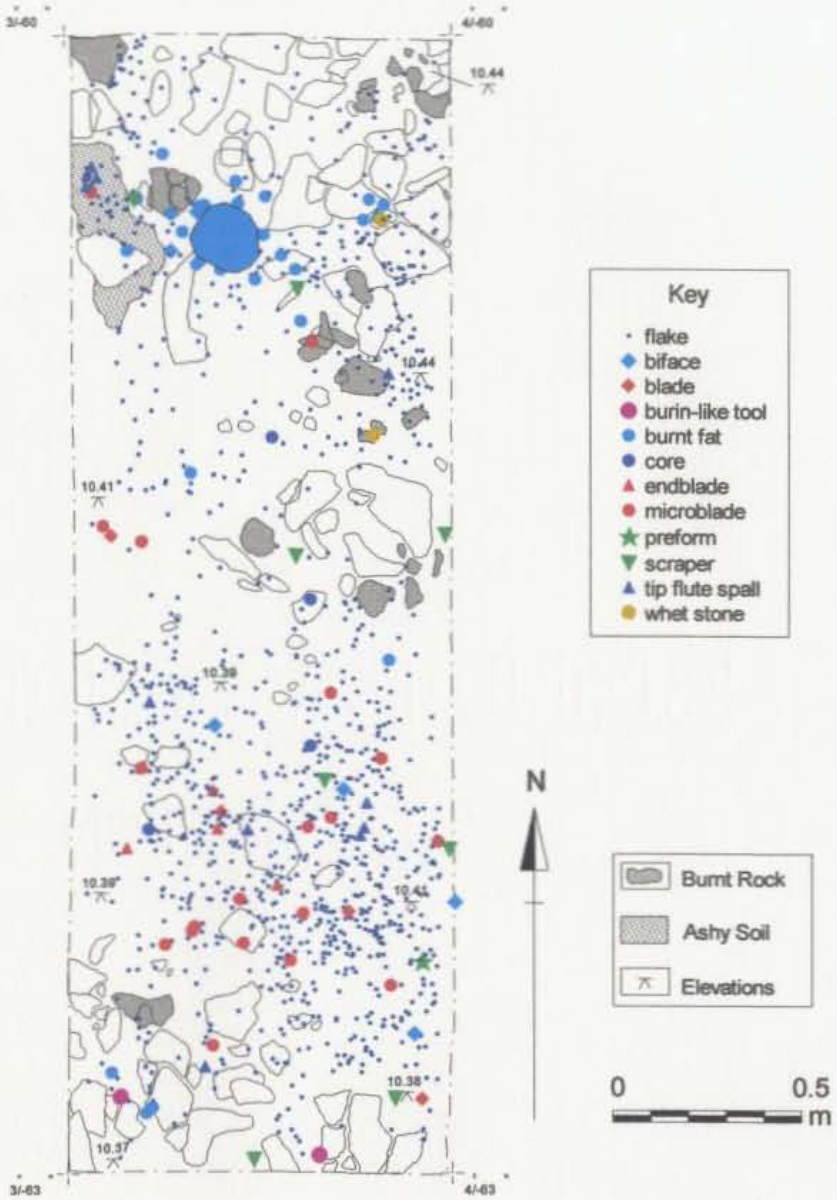


Figure 25. Distribution of Artefacts in Area 2

3.4.2 Period 2: Dorset Palaeoeskimo Phase I

The second period of occupation at Point Riche identified during the 2001 season saw the construction of a semi-subterranean dwelling (House Feature 30) approximately 10 m east of the terrace edge that runs parallel to the beach (Figure 27, Plate 2). A U-profile pit (Feature 63) (Plate 6) 3.60 m in length, 3.10 m in width and 0.60 m in depth was cut through a thin topsoil (Level 3) into the underlying natural gravel deposits (Level 5). A low earth bank (Feature 45) was built up on the eastern side of the depression to a height of 0.11 m (Figure 26). This counteracted the natural break of slope of the ground surface that falls to the east and created a level living area approximately 1.6 m wide around the central depression.

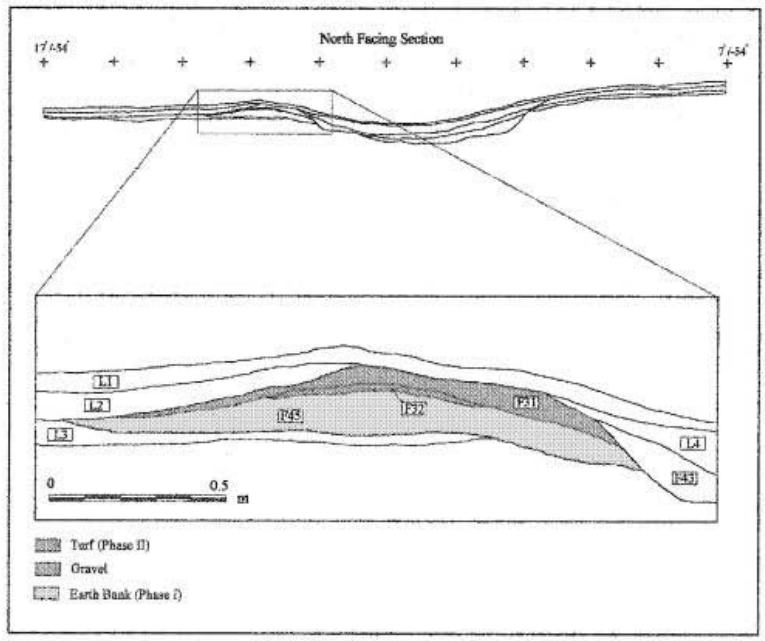


Figure 26. Detail of profile through the earth bank (Feature 45) of House Feature 30

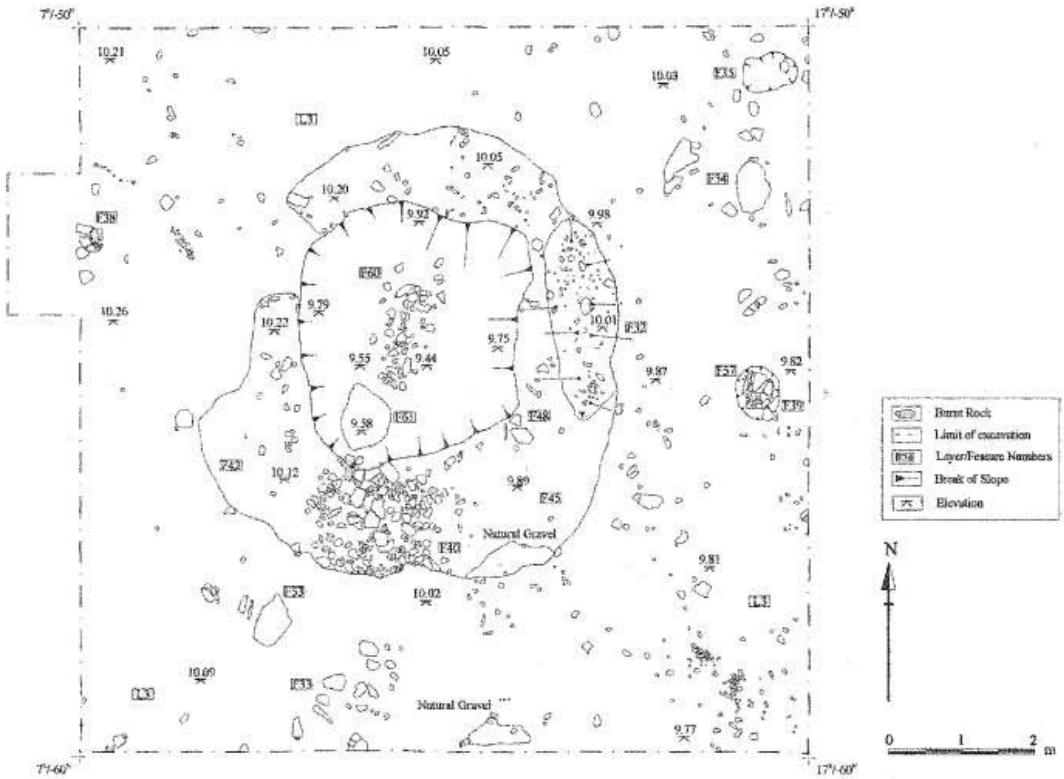


Figure 27. Period 2: Dorset Palaeoeskimo Phase I
(also includes possible Groswater feature F33)

This living area was clearest at the southern end of the dwelling where an arrangement of flat limestone rocks (Feature 40) was constructed to form a "bench" 2.16 m in length by 1.64 m in width (Figures 28, Plate 4).

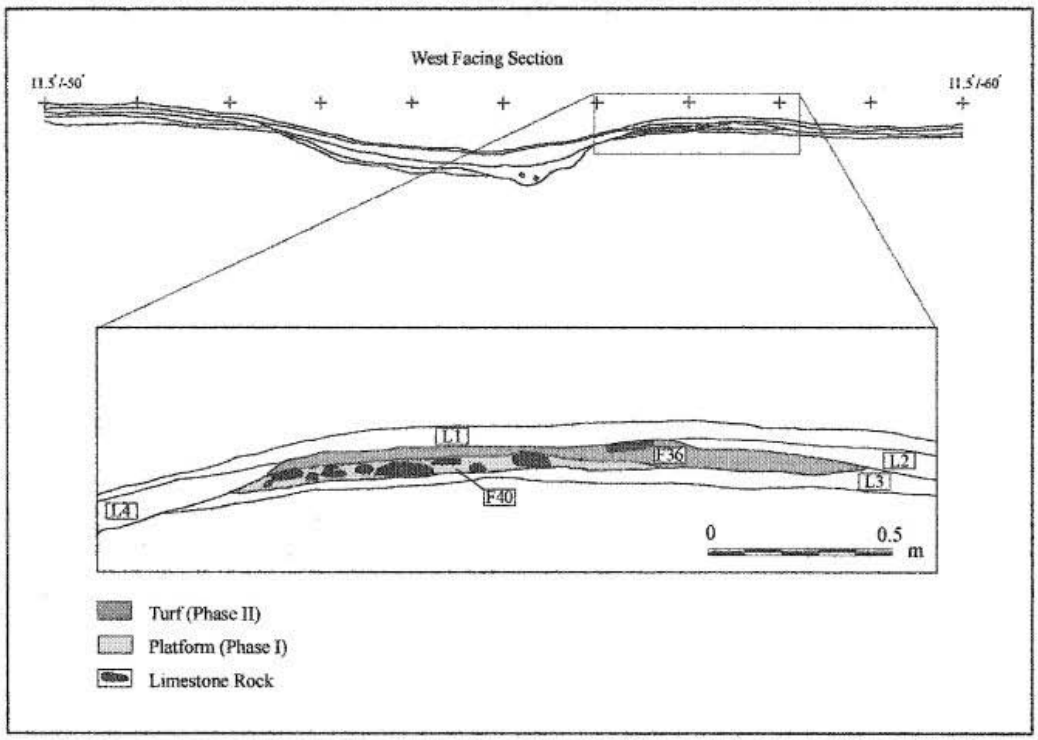


Figure 28. Detail of profile through the "bench" (Feature 40) of House Feature 30.

The southern extent of this feature was clearly defined and formed a gentle semi-circle that mirrored the curvature of the central depression. This line marked the position of the outer wall of the house. The living surface around the rest of the dwelling was defined by a highly compacted soil (Feature 42) (Plate 4). This deposit did not appear to

have been deliberately laid down but rather represented the consolidation of the floor of the house through compaction. This too averaged 1.6 m in width, which would have made the entire dwelling approximately 6.50 m in diameter.

A linear arrangement of limestone cobbles (Feature 60) (Plate 5) 1.44 m in length by 0.78 m in width, ran north to south through the centre of the depression. A large flat limestone slab (Feature 61) (Plate 5) had been placed at the southern end of these cobbles. These two features effectively divided the house into two halves and it is possible that they represent a form of axial feature, an architectural structure that is often found in the houses of Dorset Palaeoeskimo dwellings (Maxwell 1985:153).

Towards the southeastern corner of the house just outside the central depression was an amorphous arrangement of four irregular limestone rocks (Feature 48). These rocks, although presumably deliberately placed, showed no clear function. They may have served as some form of pot stand, as the stones were very similar to those found associated with a heating platform (Feature 38) found outside the dwelling. However, the stones showed no signs of burning and no charcoal was found near the feature. It may alternatively have served as a post-pad (foundation to a vertical roof support).

Establishing the location of the dwelling's entranceway proved difficult as no clear architectural evidence of one was found. A gap in the compacted earth floor was noted on the western side of the dwelling, although one might have expected an entranceway to show more evidence of compaction, or wear and tear, rather than less. However, this area also coincided with a gap in the artefact distribution as well as a strange low magnetic anomaly in the magnetometer survey (Figure 14: the white tail

emanating out of the western side of the depression). It is therefore believed that this is the most likely position for the entrance. Having the entrance located on the western side of the dwelling would make sense, as it would have provided clear vantage out to sea.

On the floor of the central depression were the remains of an occupation deposit (Feature 59) that consisted of crushed bone chips (Plate 5) and occasional charcoal flecks. Lying directly on top of this deposit, apparently abandoned when the house went out of use, was a whetstone/abrader (Plate 7), a number of sections of sled runner (Plate 8) and a piece of worked whale rib (Plate 9) that may have been a structural element in the superstructure of the house.

Approximately 2 m around the outside of the house was a number of small features and activity areas. Although no stratigraphic relationship between these features and the house was established, their spatial proximity and regular placement from the dwelling make it clear that they relate to the occupation of the house. It was not possible however, to ascertain whether they related to the first or second phase of occupation or a mixture of the two. They are described as part of Phase I merely as a matter of convenience.

Immediately to the east of the house was an arrangement of flat limestone rocks (Feature 39) piled into two stacks 12 cm apart to form a structure approximately 50 cm square and 13 cm in height (Figure 29, Plate 4). It had been constructed in a shallow round pit (Feature 57) (Plate 5) that had subsequently filled with a dark greasy soil (Feature 44). The greasy nature of the soil around this feature, which is thought to originate from seal fat, may indicate that it originally served as a pot stand.

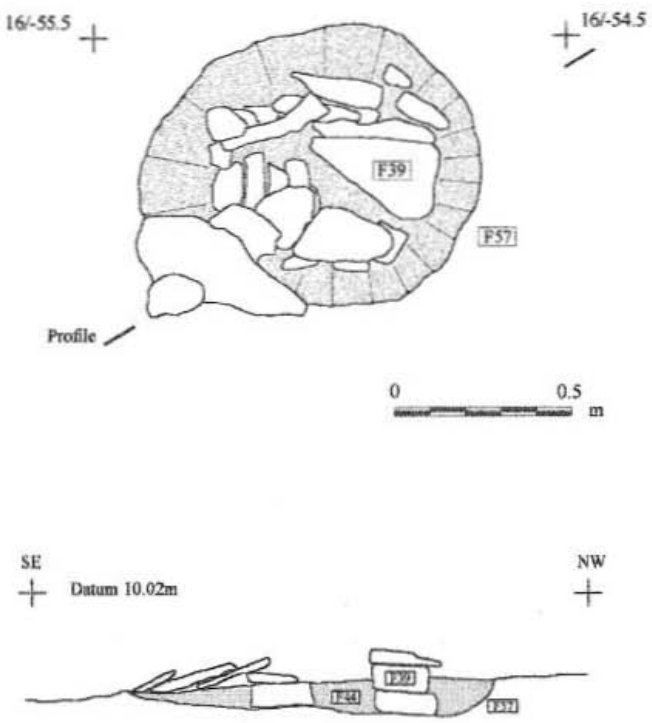


Figure 29. "Pot-Stand" Feature 39

Immediately west of the house was a small stone pad (Feature 38) 0.39 m in length by 0.35 m in width and 10.0 m in height constructed from relatively thick limestone rocks (Figure 30, Plate 3). The stones showed signs of severe heating and had disintegrated to a fine sand in many places. This feature was believed to be a formalized hearth that lay directly outside the proposed entranceway to the dwelling.

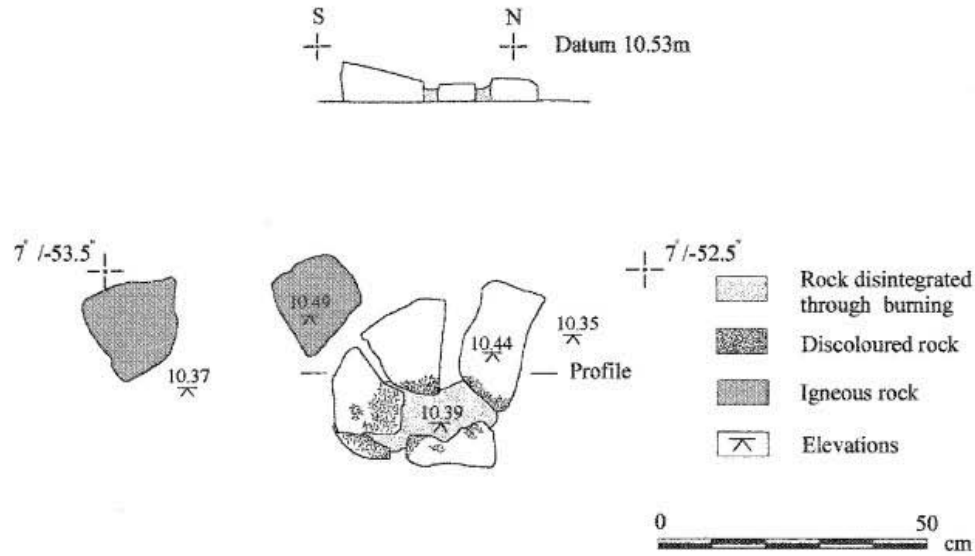


Figure 30. Hearth/heating platform Feature 38

Another hearth (Feature 35) was situated approximately 3 m north east of the house. Unlike Feature 38, no arrangement had been made to formalize this feature. It consisted of a small sub-rectangular pit 0.70 m in length, 0.52 m in width and 8 cm in depth, which appeared to have burnt into the ground rather than having been deliberately excavated. Many charcoal flecks and burnt pieces of soil were within its fill were.

A number of large flat limestone slabs (Feature 34 and Feature 53) were around the house (Plate 3). The function of these remained unclear, although the presence of similar slabs inside the house suggested that they might have been used as expedient work surfaces. However, no artefact distributions were found in association with the external slabs, nor could any evidence of use be seen on their surface. They were,

however, highly eroded so it is unlikely that any would have survived, as most of the upper surface had flaked away. They may alternatively have acted as some form of tent fixing, perhaps acting as weights for the skin walls of the dwelling.

The dwelling then underwent a period of abandonment during which time up to 0.17 m of gravel (Feature 54) eroded into the central depression.

3.4.3 Period 3: Dorset Palaeoeskimo Phase II

The reoccupation of the house is marked by the reestablishment of a large central limestone slab (Feature 46) placed inside the depression directly on top of the eroded gravel (Feature 54) (Figure 31, Plate 4). No attempt appears to have been made to re-excavate the centre of the house. A large pit (Feature 47) (Plate 5) 1.18 m in length, 0.70 m in width and 0.21 m in depth was cut into the centre of the southern face of the central depression immediately besides the stone slab (Feature 46). The function of this was undetermined although it may originally have supported the stone vertically. However, no packing stones were observed in or close by the pit and it is thought that the stone slab most probably served as a work surface.

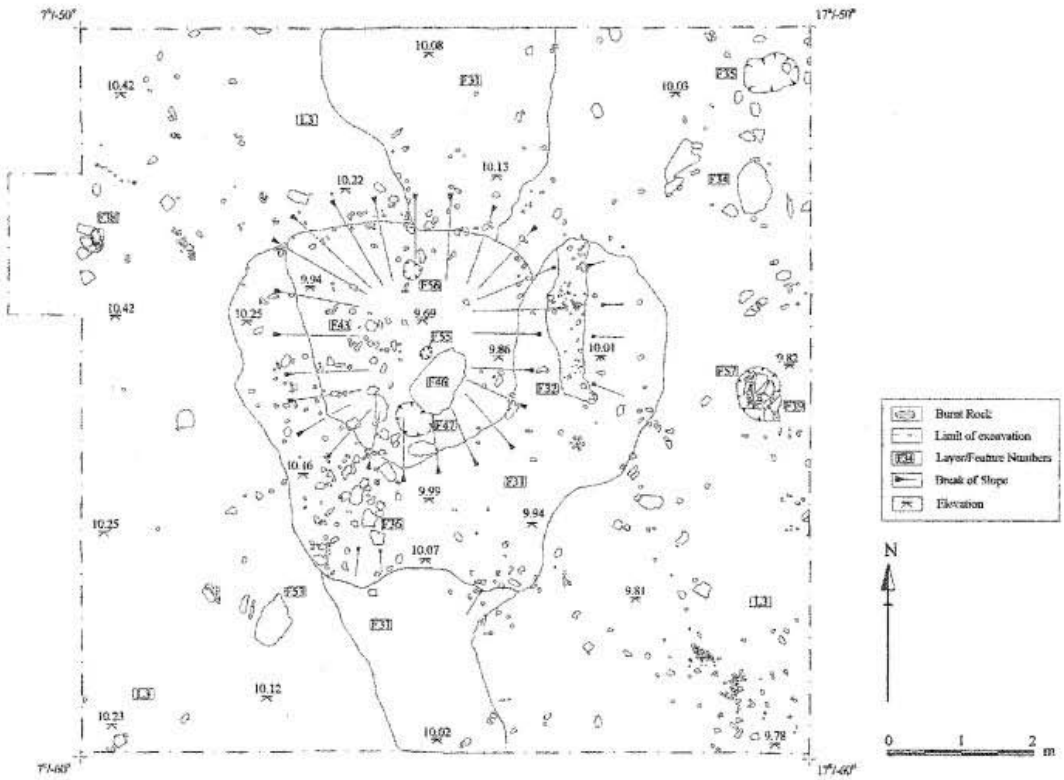


Figure 31. Period 3: Dorset Palaeoeskimo Phase II

Two post/stake holes (Feature 55 and Feature 56) were excavated into the centre of the house through the eroded gravel (Feature 54), presumably to hold roof supports. The living platform around the house appears to have been modified with the addition of turf "matting" (Feature 31=Feature 36) (Plate 2), although it is possible that this deposit represented a natural turf development associated with the abandonment of the house. It is not, however, believed to be collapsed roofing material/insulation as it was not identified inside the dwelling, nor is it believed to be the remnants of a turf wall as the deposit was so thin. Whatever its original purpose, it appears to have functioned as the floor of the house platform during the Phase II occupation, as it had a distinct artefact distribution lying on top of it. The limits of the turf, particularly Feature 31, were extremely difficult to define. It appears to have spread to the north and south away from the dwelling. However, extent of the turf is probably a result of disturbance following the final abandonment of the house rather than a reflection of the original shape of the dwelling platform.

It should be noted that the interpretation of a two-phased Dorset occupation is based on two deposits inside the dwelling. The first was the eroded gravel deposit (Feature 54) inside the central depression and the second was the turf (Feature 31=Feature 36) addition to the living platform. The gravel (Feature 54) separated what was believed to be two floor surfaces, the earlier clearly marked by an occupation deposit (Feature 59) the second less so by the placement of a single stone slab (Feature 46) in the centre of the depression. The turf (Feature 31=Feature 36) around the central depression clearly divided two distinct artefact distributions and was therefore taken to be a

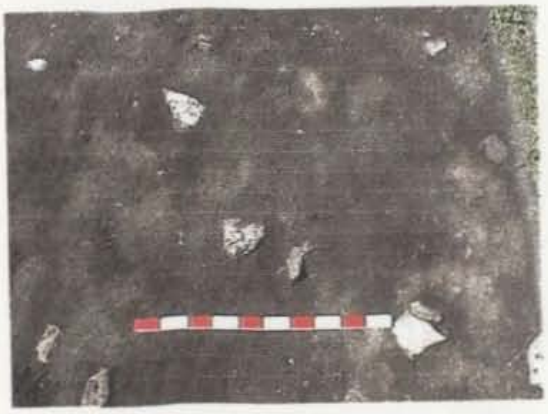
deliberate modification to the platform with the addition of a turf matting prior to a second phase of occupation. However if the stone slab (Feature 46) had originally been supported vertically within the pit (Feature 47) it may have been contemporary with the first phase of occupation, only to tip over after the central depression had filled with gravel (Feature 54) to give the appearance that it had been placed on top of the gravel deliberately at a later date. The turf could equally be explained as a natural soil development after the abandonment of the house, some of the artefacts becoming incorporated into its matrix to give the appearance of two distinct activity horizons.

Equally problematical is the relationship between the deposits of the living platform around the house and those inside the depression, as no direct stratigraphic relationship between the two could be found. As two potential phases of activity were identified for both the living platform and the central depression the simplest interpretation was to place the earlier period of use of the depression and platform together as one phase and the later period of use of both as another phase.

To summarise, the 2001 excavations at Point Riche revealed the remains of the first positively identified in-situ Groswater Palaeoeskimo feature at the site and the remains of a well-defined house depression. As the focus of this thesis is on the Dorset Palaeoeskimo occupation of the site, the Groswater feature is not included in further analysis. Data on the House Feature 30's architecture and associated features is used to address the research question on architecture variability at Point Riche in Chapter 5, where it is compared to architectural data recovered from previous seasons of excavation by Renouf.

Level 4: silt fill in house depression

House Feature 30: sections removed



Level 5: natural gravel

Feature 31: Turf "matting"

House Feature 30 mid excavation

Feature 32: gravel spread on bank

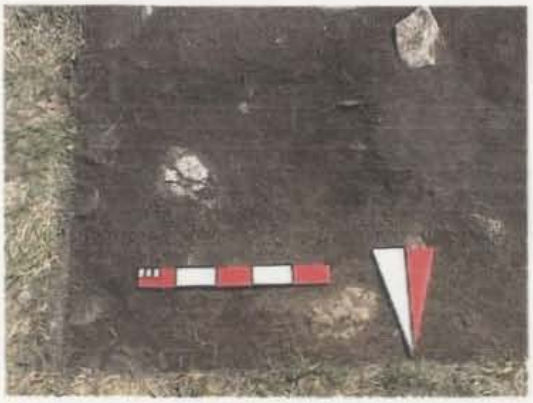
Plate 2. Level and Feature photos

Feature 33: stone arrangement

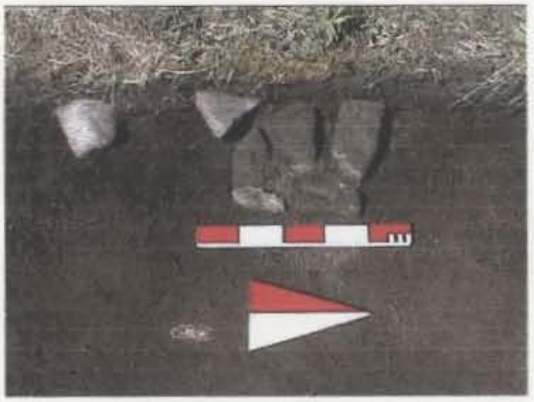
Feature 36: turf mat on stone "bench"

Feature 34: stone arrangement

Feature 37: small pit



Feature 35: hearth (excavated)



Feature 38: heating platform

Plate 3. Level and Feature photos

Feature 39: pot-stand

Feature 43: stone fill of depression

Feature 40: stone "bench"

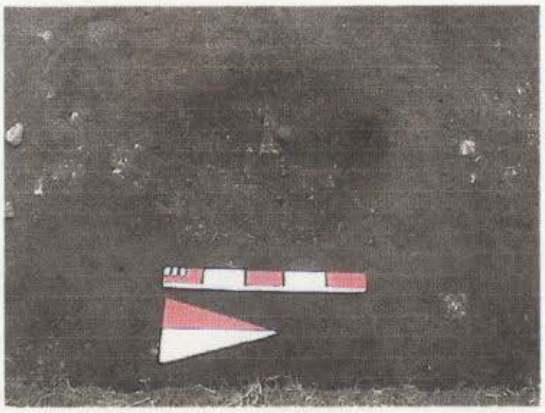
Feature 45: earth bank

Feature 42: compacted earth

Feature 46: stone slab inside House

Plate 4. Level and Feature photos

Feature 47: pit (left of stone)



Feature 57: small pit

Feature 55: stake-hole

Feature 59: occupation deposit

Feature 56: post-hole

Features 60 and 61: axial feature

Plate 5. Level and Feature photos

Feature 62: natural boulders

Feature 49: stone spread

Feature 63: house depression

Feature 51: burnt fat

Level 6: natural silt

Feature 52: white sand and silt spread

Plate 6. Level and Feature photo

CHAPTER 4

The Finds

4.1 Introduction

This chapter presents a brief description of the main classes of archaeological finds from the 2001 field season at Point Riche. This includes the artefacts, the faunal material and the radiocarbon dates.

4.2 The artefacts

The Point Riche artefact assemblage consists of a variety of bone and lithic tools of both the Dorset and Groswater Palaeoeskimo tradition (Plates 6 and 7). Because of the generally unfavorable preservation conditions at the site the vast majority of the assemblage is comprised of lithic artefacts (Table 1). The artefact types recovered from the 2001 field season are generally consistent with those found in previous seasons. However, a new aspect in the 2001 artefact assemblage is the presence of a large number of pumice nodules found inside House Feature 30 (Plate 6; Figure 31). Although the exact function of these is yet to be established, the wear patterns on many of the nodules suggest that they were used as abraders.

Table 1. Artefacts from Areas 1 and 2

Artefact	Area 1	Area 2	Artefact	Area 1	Area 2
Abrader	2	2	Pumice nodule	39	0
Biface	0	9	Raw material (chert)	2	0
Burin-like tool	0	2	Retouched/Utilized flake	8	1
Core	26	4	Scraper	5	8
Endblade	23	4	Slate tool	2	0
Flake	2123	1133	Sled runner	5	0
Harpoon head	1	0	Tip flute spall	38	13
Microblade/blade	29	23			
Preform	15	2	**Total (excluding flakes)**	**195**	**68**

4.3 The faunal remains[5]

The faunal assemblage consists of 568 bone fragments weighing 261 g. The assemblage is in extremely poor condition and is mostly comprised of highly fragmented unidentifiable bone chips. The majority of the assemblage was retrieved from the lower fills of the house depression where the alkaline conditions of the limestone gravel substrate proved more favourable. Only 37 bone fragments could be identified to taxon (Table 2).

The identifiable bone is totally derived from marine species and includes 19 fish (*Pisces*), 2 whale (*Cetacea*) and 16 seal (*Phocidae*) bones. Of the seal bones, three can be identified as harp seal (*Phoca groenlandica*). Six pieces of worked whale bone were found in addition to the unmodified faunal assemblage (Table 1 and Plate 7).

[5] The description of the faunal assemblage is based on conversations with Lisa Hodgetts, the faunal specialist working on the Phillip's Garden material at Memorial University.

Table 2. Faunal assemblage from House Feature 30

Catalogue	Feature	Taxon	Element	Comment
7A555A84	F37	*Cetacea*	unid	fragment
7A555A131	F45	*Phocidae*	auditory bulla	fragment
7A555A161	F45	*Phocidae*	incisor	
7A555A166	F45	*Phocidae*	metatarsus	shaft fragment
7A555A175	F45	*Phoca groenlandica*	auditory bulla	fragment right side
7A555A175	F45	*Phocidae*	cranial	interorbital
7A555A182	F45	*Phoca groenlandica*	auditory bulla	fragment left side
7A555A182	F45	*Phocidae*	cranium	zygomatic
7A555A192	F45	*Phocidae*	auditoy bulla	2 fragments left side
7A555A192	F45	*Phocidae*	auditoy bulla	2 fragments right side
7A555A192	F45	*Phocidae*	cranium	zygomatic crest
7A555A192	F45	*Phocidae*	cranium	post-canine
7A555A201	F54	*Phocidae*	hind phalanx	proximal unfused epiphysis
7A555A219	F54	*Cetacea*	unid	fragment
7A555A223	F54	*Phoca groenlandica*	calcanium	distal
7A555A75	F43	*Phocidae*	femur	distal
7A555A246	F59	*Pisces*	unid	19 fragments from flot

A minimum of three harp seal are represented in the assemblage based on the number of auditory bulla. All the seal bone comes from adult individuals (above 1 year), which may or may not be a result of the preservation conditions, as juvenile bone is less dense and therefore less likely to preserve than adult bone. The identifiable bone consists of the denser elements of the seal skeleton, in particular the cranium, and their dominance in the assemblage is more likely a result of differential preservation rather than any anthropomorphic activity. No cut marks were visible although again this is probably a result of the condition of the bone. Very little of the bone was burnt (>0.3%).

4.4 The radiocarbon dates

Two charcoal samples were sent off for radiocarbon dating. One (Beta-160980) was associated with the occupation deposit (Feature 59) found on the floor of House F30 and the other (Beta-160978) was from the burnt stone deposit (Feature 49) in Area 2. Both dates fall within the range of dates already gained from the site (Table 3). While this presents no problem for the dating of House F30, the date from the stone Feature F49 was later than expected. However, the date does fall within the extreme end of the Groswater chronological range on the Island of Newfoundland, which currently ranges from 2800BP to ca.1900 (Renouf in Press).

Table 3. Radiocarbon dates for Point Riche
(all samples come from wood charcoal)

Lab No.	Year	Description of provenience	C14 Years BP Uncalibrated	C14 Years BP Calibrated Intercept method, 1 sigma (Stuiver and Becker 1986)
Beta-15376	1985	Scattered within Feature 1	1750 +/-80	1735-1555
Beta-15382	1985	Pit Feature 2 located within Feature 1	1750 +/-90	1795-1550
Beta-15377	1985	Scattered outside Feature 1 (?midden feature)	1546 +/-80	1350-1525
Beta-50024	1991	Scattered within House Feature 8	1830 +/-90	1882-1625
Beta-50025	1991	Inside slope of wall (Level 2WC) of House Feature 8	1760 +/-150	2042-1350
Beta-50026	1991	Hearth Feature 24 outside House Feature 8	1800 +/-70	1882-1617
Beta-160980	2001	Within occupation deposit of House Feature 30's floor	1650 +/-40	1570-1520
Beta-160980	2001	On top of burnt stones Feature 49 (Groswater)	1830 +/-40	1820-1710

The other late Groswater Palaeoeskimo dates for the island also all come from the northern half of the Great Northern Peninsula and include: Peat Garden, 1938 +/-65 (BGS 2252), 1753 +/-45 (BGS 2253) (Hartery and Rast 2001: 19), and 1970 +/-100, 1820+/-45 (Tim Rast pers. comm.), three from Phillip's Garden East 1910 +/-150 (Beta 19088), 1930 +/-140 (Beta 19085) (Renouf 1987:47) and 1730 +/-200 (Beta 23980) (Renouf 1987), one from Phillip's Garden West 1960+/-80 (Beta 66438) (Renouf 1993:78) and one from Broom Point 1970 +/-150 (I-11374) (Krol 1987:59).

The date ranges at Point Riche are consistent with other sites from the island, with the late date from stone spread (Feature 49) falling at the extreme end of the Groswater Palaeoeskimo chronological range from the Northern Peninsula. The date from House Feature 30 falls comfortably within the date ranges of the Dorset Palaeoeskimo occupation on the island, which currently ranges between 2140+/-100 BP to 1280+/-60 BP (Renouf 1999:405). The Groswater and Dorset Palaeoeskimo finds at Point Riche are consistent with the tool assemblages from other Groswater and Dorset sites in the area. The single unusual tool type is the pumice abrader, which was found in relatively large numbers. The artefacts recovered from the 2001 excavations are compared to the artefacts recovered from previous seasons of excavation by Renouf and used to address the research questions on activity areas (Chapter 6) and variability at the site (Chapter 7).

Abrader

Pebble cores

Burin-like tools

Endblades

Cores

Slate objects

Plate 7. Artefacts

Knives and bifaces

Pumice "abraders"

Microblades

Scrapers

Preforms

Sled runner

Plate 8. Artefacts

Worked whalebone

Detail of worked whalebone

Plate 9. Artefacts

CHAPTER 5

House Architecture

5.1 Introduction

The goal of the architectural analysis was to investigate the degree to which the houses and their associated features at Point Riche varied. One of the main unresolved aspects of the previous seasons of excavation at Point Riche was an explanation of the architectural differences observed between Feature 1 and House Feature 8. It was unclear whether these differences might relate to differences in function, seasonality or a combination of the two (Renouf 1992:70). Following the excavation of a third house (House Feature 30) in 2001 it is now possible to explain these differences.

5.2 Comparison of house architecture

When comparing the architecture between the three houses one is immediately struck by the remarkable similarity between House Feature 8 (Figure 3) and House Feature 30 (Figures 26). Feature 1 (Figure 2), on the other hand, shows no similarity to either of these two dwellings, apart from the presence of a central depression. Indeed the total lack of definable features associated with House Feature 1 makes it difficult to make any comment and about its architecture at all. It is therefore not included in the comparison of house architecture but dealt with separately below.

Both House Feature 8 and House Feature 30 consisted of a central depression surrounded by a platform on three sides, with an apparent entranceway to the west.

House Feature 8 was slightly larger at 5.5 m by 7 m (38.5 m^2) compared to 6 m by 6 m (36 m^2) for House Feature 30. The main difference in size was accounted for by differences in the dimensions of the central depression, as the platforms surrounding the depressions of both houses were generally the same size at approximately 1.60-1.80 m in width. The shape of the central depressions in each dwelling was also slightly different and probably accounts for the minor differences in the shape of the two houses, House Feature 8 being slightly more rectangular. However, the lack of a definable platform on the western side of House Feature 8 probably over-accentuates its rectangular shape. If the platform continued around into this area then the dwellings would not have been significantly different.

Another similarity is that both houses have a number of small, shallow pits inside their central depressions (House Feature 8: Features 21 and 22, House Feature 30: Features 47, 55 and 56). Although their locations differ, their shape and size are generally the same. The function of these is unclear although they are not thought to have acted as storage pits as few finds were found associated with them. It is possible that they acted as post-holes for roof supports, although this too is uncertain.

There is also a remarkable similarity in the type and arrangement of external features associated with the two dwellings. Both had a small pit hearth, Feature 35 (House Feature 30) and Feature 24 (House Feature 8) in almost identical positions, approximately 2 m east of the main structure. This location was likely favoured, as it would have been sheltered from the prevailing westerly wind by the house structures. Both dwellings also had a number of large flat limestone slabs (House Feature 30:

Features 34 and 53, no feature numbers assigned for House Feature 8) situated one to two metres around the outside the dwellings. Whilst the function of these is unclear it is notable that their size, shape and location is consistent for both houses. Their position around the outside of the dwelling suggests that they were used as some form of tent fixing.

Both houses also had formal arrangements of heavily burnt stones in the vicinity of their entranceways, Feature 10 (House Feature 8) and Feature 38 (House Feature 30). Although they were of varying size and form, both consisted of a variety of burnt sandstone and limestone rocks. These also included large water-worn beach cobbles, and were the only locations that beach cobbles were identified at either dwelling. Feature 10 was slightly larger than Feature 38 and was situated closer to the dwelling, possibly even inside, whereas Feature 38 was approximately 2.5 m west of the entrance. Although both features were disturbed, they were both clearly the remaining structural elements of larger features. Renouf (1990:56) suggested that Feature 10 may have acted as a kind of heating platform similar to the "stone-piles" found in the north Norwegian Younger Stone Age.

Although there were many similarities between House Features 8 and 30 there were also some notable differences. While the platforms of both dwellings were of similar shape and size, the materials from which they were constructed differed. The platform of House Feature 8 was formed by piling up the natural gravel subsoil (Level 5) into a bank around the depression. In contrast, the platform (Feature 36) of House Feature 30 was constructed by piling up the thin topsoil (Level 3). A section of House

Feature 30's platform was also constructed from flat limestone rocks to form a small rectangular bench (Feature 40). Additionally, during the second phase of occupation at House Feature 30, the platform appeared to have consisted of turf. The reason for these differences is not clear. The availability of building materials cannot account for the differences, as all materials were available in the immediate vicinity of both dwellings. One can only speculate that the primary concern of the house builders was to create a platform to the house as expediently as possible.

Another difference between the two houses is the inclusion of large stone slabs (Features 46 and 61) inside House Feature 30, which were absent from House Feature 8. Both phases of occupation of House feature 30 had them, which suggests their inclusion was considered important. Again, their function is not clear although they are thought to have acted as work surfaces.

The greatest difference between the two dwellings is in the placement of their axial features. Although both axial features were similar in size and orientation, the axial feature (Feature 12) of House Feature 8 is found outside the dwelling, whereas the axial feature (Feature 60) of House Feature 30 is located inside the dwelling. Axial features are commonly found within Palaeoeskimo dwellings and come in a variety of forms (Maxwell 1985:153). They were the central cooking and working area in Dorset Palaeoeskimo dwellings (McGhee 1990:68) and possibly acted as the social focus of the household (Renouf 1992:60). Any difference in the location of this feature would therefore have a significant bearing on the organisation of activities and space within the house. This is partly confirmed in the examination of the artefact distributions associated

with the two houses. Most of the activities at House 8 are found outside the dwelling in association with the axial feature, whereas a greater proportion of activities are found inside House Feature 30 (this is explored in more detail in Chapter 6). However, it should be noted that a similar, although more poorly defined, stone arrangement (Feature 33) was identified south of House Feature 30. Although this was interpreted as a possible Groswater feature, it may in fact have been a similar external axial feature to that of Feature 12 that had been badly disturbed

House Feature 1 is in stark contrast to both House Feature 8 and House Feature 30. No architectural or external features were found in association with this depression and it was only interpreted as a house on the basis of two bone-filled pits (Features 2 and 5) found inside it (Renouf 1986:26). Given the well defined nature of the other two houses, that not only included clearly definable architectural features but also a number of other features associated with their occupation, one has to question whether House Feature 1 was a dwelling at all. It is possible that House Feature 1 was originally similar to the other dwellings but was substantially disturbed after its abandonment, perhaps when stones and other architectural features were removed to construct new dwellings at the site. However, this seems unlikely as one would expect to find the diminished remains of some features particularly those cut into the substrata. It seems more likely that Feature 1 was originally misinterpreted as a dwelling. This is explored further in Chapter 6.

The comparison of House Features 8 and 30 has demonstrated that there is a remarkable similarity in the overall design of the two dwellings. Both are generally the

same size and shape and consist of a central depression, surrounded by a platform of similar width with an entranceway located on the western side of the dwelling. A small informal hearth is located almost identically at the rear of each dwelling and both appear to have a more formal hearth arrangement near their entrances. The only major difference between the two dwellings is in the location of their respective axial features. While differences in the location of an axial features is clearly significant in terms of the spatial organisation of a dwelling and the location of day-to-day activities associated with it, I do not believe the difference should be stressed in terms of the dwelling architecture. The difference in this instance may merely represent seasonal differences in the occupation of the dwelling, with the presence of an external axial feature indicating spring or summer use (this is discussed in more detail in Chapter 7). A more significant difference would be the presence verses the absence of an axial feature, or differences in their construction. Both of the axial features at Point Riche are similar in terms of their shape, size, orientation and construction.

When we also take into account the results of the magnetometry survey it appears that this high degree of standardisation may have extended to many of the other dwellings at Point Riche. Negative and positive halos observed around many of the depressions (Figure 11) suggest that they also had platforms similar to those identified in the two excavated dwellings.

This high degree of standardisation in house design is contrary to observations made by Fogt (1998:70) in her analysis of Dorset Palaeoeskimo dwellings excavated in Newfoundland. She highlighted the variability in dwelling type and construction that

exists not only between sites but also between houses on the same site (for example Phillip's Garden and Point Riche). Whilst there is no doubt that this variability does exist between many of the sites, it is possible that it has been overstated. Her conclusions were partly based on architectural differences between House Features 1 and 8 at Point Riche. It now appears, however, that Feature 1 was not actually a dwelling but a natural feature, which would explain why we see such a high level of variation. The excavation of a third house in conjunction with the results of the magnetometry survey suggest that, at least at an intra-site level, there can be a high degree of conformity in house design.

CHAPTER 6

Artefact Distributions and Activity Areas

6.1 Introduction

The goal of the distribution analysis was to investigate patterns in the horizontal distribution of artefacts that might reflect distinct activity areas within the houses and their associated features. However, prior to the distribution analysis it was suspected that one of the depressions (Feature 1) had been originally misinterpreted as a dwelling and was in fact a natural depression filled with diffuse midden material. This suspicion was partly based on the lack of architectural features associated with the depression. Additionally, during a preliminary examination of the artefact distribution maps it was noted that there were some major differences in the horizontal distribution of the artefact assemblages between Feature 1 and House Features 8 and 30 (Figures 32-33, 35-36). It appeared that there was little or no clustering of artefacts in and around Feature 1. This contrasted to House Features 8 and 30, which both appeared to have a greater tendency towards clustering.

The presence of midden material within house and natural depressions had also been demonstrated by excavation (Renouf 1997:27) and through the magnetometry survey (Chapter 2). If the artefacts in Feature 1 were a product of midden deposition then any interpretations that discussed activity areas or the functional use of space based on the artefact distributions would be seriously flawed.

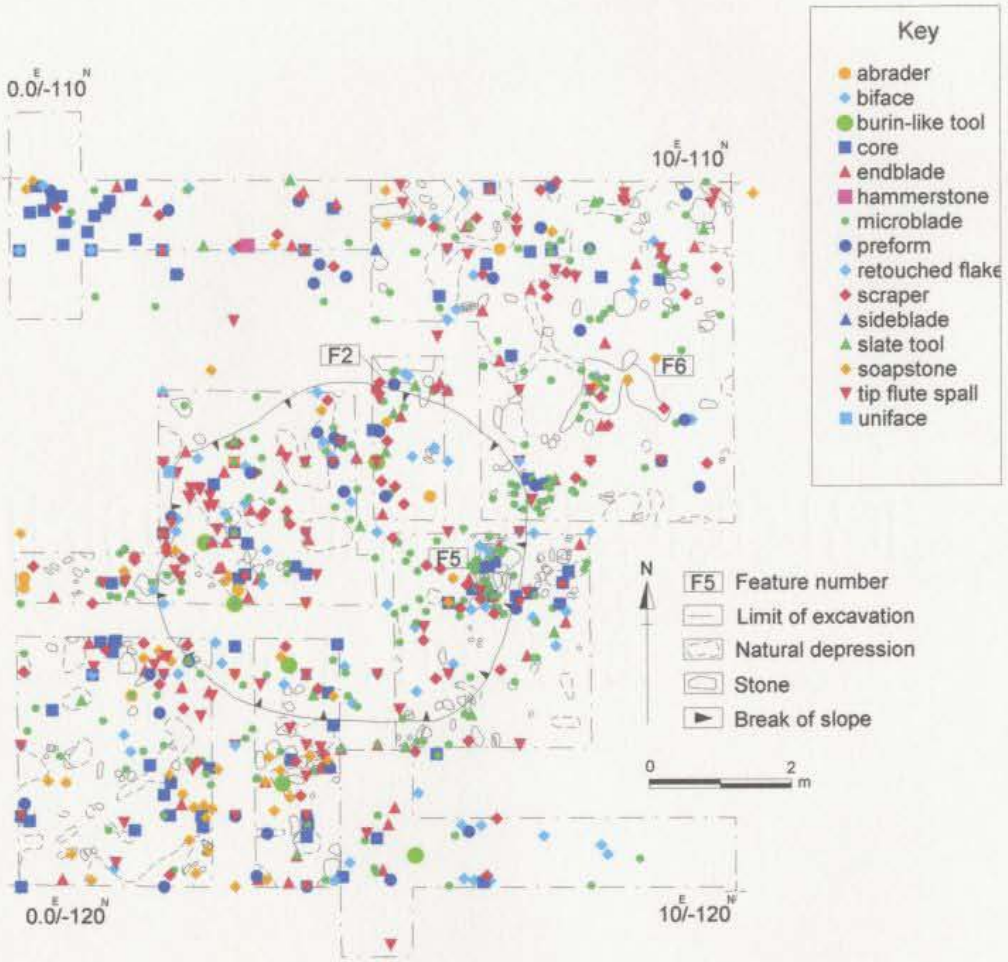


Figure 32. Feature 1 artefact distribution

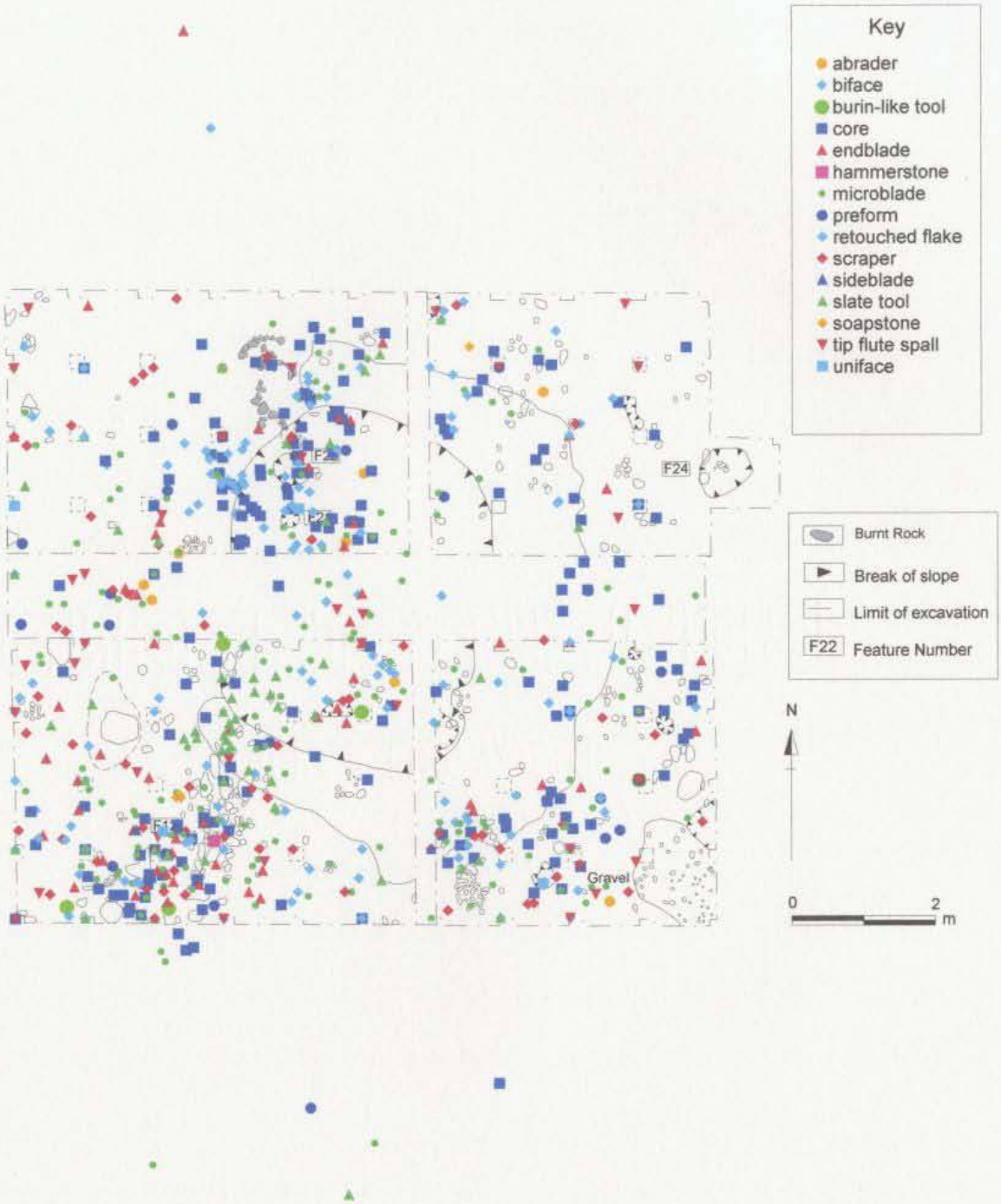


Figure 33. House Feature 8 artefact distribution

Middens are by definition dumps of material (The Concise Oxford Dictionary of Current English 1990: 749) and are classified archaeologically as secondary deposits (Schiffer 1987:58). The horizontal distribution of artefact from secondary deposits should not be used to denote activity areas (Schiffer 1987:281). Neither should they be used to define functional differences between dwellings, as they do not relate to the dwellings' occupation, but rather to depositional events after the dwelling was abandoned. It was therefore important to identify if any of the dwellings had midden material in them, for if they did, interpretations on the identification of activity areas and investigations into functional differences between the houses would be flawed. Unfortunately, most of the artefacts from Point Riche come from a single depositional horizon (Level 2), which makes it impossible to distinguish those artefacts that were deposited during the dwelling's occupation, from those that were deposited after their abandonment on stratigraphic grounds. An alternative method was therefore needed.

6.2 Investigation into assemblage classification

A preliminary analysis of the artefact distribution maps had indicated that there were some discernable differences between the dispersion of the artefacts in and around the three depressions. Renouf (1992:70) had also noted that there had been some major differences in the relative frequency of tool types in the artefact assemblages between Feature 1 and House Feature 8. It was therefore hypothesised that a midden assemblage might be distinguished from an occupation assemblage on the basis of the structure of its artefact distributions and /or the relative frequency of tools in its artefact assemblage. To

test if this hypothesis was correct the artefact assemblages from Features 1, 8 and 30 were compared statistically to a midden assemblage (Feature 14), identified 8 m west of House Feature 8 (Renouf 1992:64). Two approaches were used. First, nearest neighbour analysis was employed to see if the horizontal distribution of artefacts varied between houses and middens and second, hierarchical cluster analysis was employed to see if the frequency of tool types in artefact assemblages were more similar between features of the same type (e.g. midden vs. midden) compared to features of different types (e.g. midden vs. house).

Nearest neighbour analysis is a descriptive statistic that allows the spatial arrangement of a pattern of points to be determined within a defined study area (McGrew and Monroe 2000:172). In nearest neighbour analysis the Euclidean (straight-line) distance of each point to its "nearest neighbour" is determined. The average nearest neighbour distance is then calculated from these distances. The spacing between points can then be analysed by comparing the observed average distance between points to an expected average distance for a particular type of distribution (e.g. a random or Poisson distribution) (McGrew and Monroe 2000:173). Results are given as an "R" value and described as tending towards dispersed, random or clustered. The R-value will lie somewhere on a continuum in the nearest neighbour index, the extreme ends of which are represented by perfectly clustered and perfectly dispersed distributions. The R-value for a perfectly clustered set of points will always be zero as all points would lie directly on the same spot and therefore have zero distance between them. The R-value for a perfectly dispersed pattern varies, as it is a function of the point density and will therefore

change depending upon the number of points within the study area (McGrew and Munroe 200:174). However, it will always be higher than 1.0, which is the "R" value for a perfectly random distribution. Any value higher than 1.0 will therefore be tending towards a dispersed distribution; the higher the value is above 1.0 the more regular the distribution. It should be noted, however, that as the "R" value for a perfectly dispersed pattern is a function of the point density, the "R" values of different assemblages cannot be directly compared. The test merely establishes the general level to which the different artefacts classes are either clustered, randomly or regularly dispersed. The analysis was conducted in the GIS software archinfo using the nearest neighbour analysis extension version 1.0 (Sarafat 2000). The results of the nearest neighbour analysis are presented in Table 4.

Table 4. Results of nearest neighbour analysis

Feature 1			
	number*	R-value	tending towards
core	78	0.83	clustered
burin-like tool	6	0.91	clustered
endblade	73	1.00	random
scraper	79	1.00	random
microblade	291	1.10	dispersed
tip flute spall	122	1.20	dispersed
biface	35	1.20	dispersed
utilised flake	78	1.22	dispersed
preform	39	1.27	dispersed

House F8			
endblade	60	0.89	clustered
core	242	0.93	clustered
preform	21	0.92	clustered
utilised flake	158	0.95	clustered
slate tool	62	0.98	clustered
scraper	73	1.00	random
burin like tool	5	1.10	dispersed
microblade	292	1.10	dispersed
tip flute spall	41	1.13	dispersed
biface	25	1.15	dispersed
House F30			
pumice	32	0.47	clustered
scraper	5	0.59	clustered
microblades	27	0.78	clustered
tip flute spall	38	0.83	clustered
endblade	23	0.84	clustered
preform	14	1.16	regular
utilised flake	8	1.24	regular
core	24	1.22	regular
Midden F14			
preform	9	0.79	clustered
core	48	0.81	clustered
slate tool	11	0.92	clustered
biface	3	1.00	random
microblade	71	1.08	dispersed
scraper	16	1.08	dispersed
tip flute spall	15	1.08	dispersed
endblade	25	1.30	dispersed
utilised flake	28	1.47	dispersed

*numbers may vary from artefact assemblage totals (Table 5) as not all artefacts had their provenience recorded (e.g. those retrieved from the screen)

The results of the nearest neighbour analysis show that there are differences between the general distribution patterns of the four assemblages. Most of the artefact categories from Feature 1 and the midden Feature 14 have a tendency towards dispersion whereas more of the artefacts from House Features 8 and 30 have a tendency towards clustering.

This might be interpreted in a number of ways. It has been demonstrated that as the duration of a site's occupation increases, the spatial discreteness of activity areas on the site becomes more blurred (Chatters 1987:361). This is because as more and more activities take place in an area, the boundaries between the activities become smeared. Additionally, as new activities take place, old features, including discrete artefact distributions, will become disturbed and dispersed (Chatters 1987:346). If this is so, we might then interpret Feature 1 as a dwelling that had been occupied more extensively than either of the other two dwellings. Feature 1 certainly has more artefacts than either of the other two dwellings (Table 5), which would indicate an increase in the duration of occupation (Chatters 1987:345). However, I do not believe this is the case. House Feature 8 has five times the density of artefacts as House Feature 30 (Table 5), yet a perusal of the distribution maps from the two dwellings (Figures 33 and 35) indicates that there are more, not fewer, discrete clusters of artefacts associated with it. This suggests that an increase in the number of activities is not leading to the dispersion of artefacts that we see in Feature 1. Rather, I would suggest that we are seeing differences between the horizontal structure of a secondary deposit (midden) and a primary deposit (occupation floor).

The results of the nearest neighbour analysis are not conclusive as all features have a tendency towards clustering and regular artefact distributions. This is partly a function of the way that nearest neighbour analysis analyzes the data, as it looks at the average distance between *all* the artefacts in the study area. A "dispersed" result may be obtained, despite the presence of a clearly definable cluster, if there are numerous outliers away from the main cluster. It is, therefore, important to view the results in conjunction with a visual inspection of the distribution maps. Additionally, there are many other cultural processes, apart from activity areas, that might result in clustered artefact distributions. For example artefact clusters in middens is most likely the result of discrete dumping episodes. This might explain why the cores (including core fragments) both show clustering in the midden Feature 14 and Feature 1. Having exhausted the cores during tool manufacture, the larger pieces of waste material were collected and dumped in a single episode. Alternatively, if many of the cores had not been exhausted they might have been cached for future use.

More work on a greater variety of feature types is needed before nearest neighbour analysis can be used as a reliable technique to differentiate deposits types. However I would suggest that to some degree, the composite affect of differences in the formation processes of midden and occupation deposits is resulting in recognisable differences in the horizontal distribution of their artefact assemblages. The results of the nearest neighbour analysis show that Feature 1 has a horizontal artefact distribution more similar to midden Feature 14 than House Features 8 and 30, which is taken to indicate that Feature 1 is a midden deposit. This confirms observations made from the visual

inspection of the artefact distribution maps, which at present provide a better guide to the level of clustering in assemblages.

The second statistical approach that was used to try and differentiate between occupation and midden deposits was hierarchical cluster analysis. Although the results showed that the composition of tool types in midden Features 1 and 14 were more similar to each other than to either House Feature 8 or 30, when additional middens[6] from other sites were included in the analysis there was no overall similarity in the artefact frequencies of all the middens. Middens, as a generic feature type, did not therefore appear to be distinguishable on the basis of their artefact assemblage composition. However, the composition of tool types in an assemblage did appear to relate to a number of other variables including duration of occupation and economic adaptation. The discussion of the hierarchical cluster analysis is therefore included along with the investigation of site function in Chapter 7.

The statistical analysis of the artefact assemblages, whilst not conclusive, went some way towards the identification of midden material. When viewed with other lines of evidence, including the visual inspection of distribution maps and house architecture, they provide a useful aid in the classification of deposits. The results of the statistical analysis in conjunction with the lack of convincing architectural features associated with Feature 1 suggest that it is a natural depression filled with dispersed midden material. Feature 1 is therefore not included in further discussions on the identification of activity areas.

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[6] Additional middens were not used to test the results of the nearest neighbour analysis, as artefact locations had not been recorded.

6.3 Activity area analysis

The following section investigates patterns in the artefact distributions that might reflect distinct activity areas within and around House Features 8 and 30 and their associated features. Each house is examined separately. It should be noted, however, that not all the clusters of artefacts relate to cultural processes. For example the apparent prevalence of bone fragments and bone artefacts inside House Feature 30 (Figure 35) is merely a result of the favourable preservation conditions provided by the limestone gravel fills inside the dwelling. Additionally, some of the artefacts in the house depressions are likely to have moved from their original depositional location during the erosion and silting events that took place after the dwelling's abandonment. However, it is not believed that these artefacts have moved a great distance. Most appear to have eroded only a short distance off the edge of the house platforms down the inside slopes of the depressions.

There also arises the question of whether the floor of the dwelling would have been covered to any degree by skins. If so, then it is likely that the location of artefacts would have shifted to a large degree when the occupants dismantled the dwelling. Without the preservation conditions necessary to preserve the skins on the house floor (even if they had been left behind by the occupants) it is difficult to demonstrate their presence directly and one can only rely on the distribution of artefacts themselves to provide clues. Examination of the artefact distributions inside the dwellings, which in a number of instances show distinct clusters of individual artefact classes, strongly suggests that the distributions are representative of activities and not the random collection of

artefacts after the floor skins had been removed and shaken clean. In addition, there is also a clear relationship between the extent of some artefact distributions and structural features. For example the flakes associated with the stone bench (Feature 40) of House Feature 30. It is possible that the blank, or apparently clean areas inside the dwelling indicate those areas that had been covered. If this were so then the areas relatively devoid of artefacts at the back of each house (eastern side) look the most likely areas to have been covered and therefore may denote sleeping areas. However, for the purpose of this analysis, it is assumed that much of the floor was uncovered or floored in such a way as to allow artefacts to permeate to the base of the dwelling and that most artefacts are therefore located in their primary depositional context. Such an arrangement is reminiscent of the ethnographic descriptions of a typical Nunamuit Itchelik (tent) where the floor was covered with willow boughs and only the inner most third was covered by skins (Ingstad 1954:39) and the ground plan of the Pâdliumiut tent (Birket-Smith 1929: Figure 16) where only the back of the tent is covered with skins, the rest of the floor being bare gravel.

6.3.1 House Feature 30

The investigation of activity areas associated with House Feature 30 makes no attempt to assign them to either of the two phases identified during the excavation. Only one stratigraphic horizon (Level 2) was found outside the dwelling making it impossible to ascertain to which phase/s of occupation the different artefacts relate. Additionally, although separate deposits were defined inside the dwelling, many related to the gradual

silting up of the central depression after its abandonment. The artefacts from these deposits are likely, therefore, to have eroded from the living platform and probably represent a mixing of the two occupations.

Figure 34 shows differences in the relative proportions of artefact types found inside and outside House Feature 30.

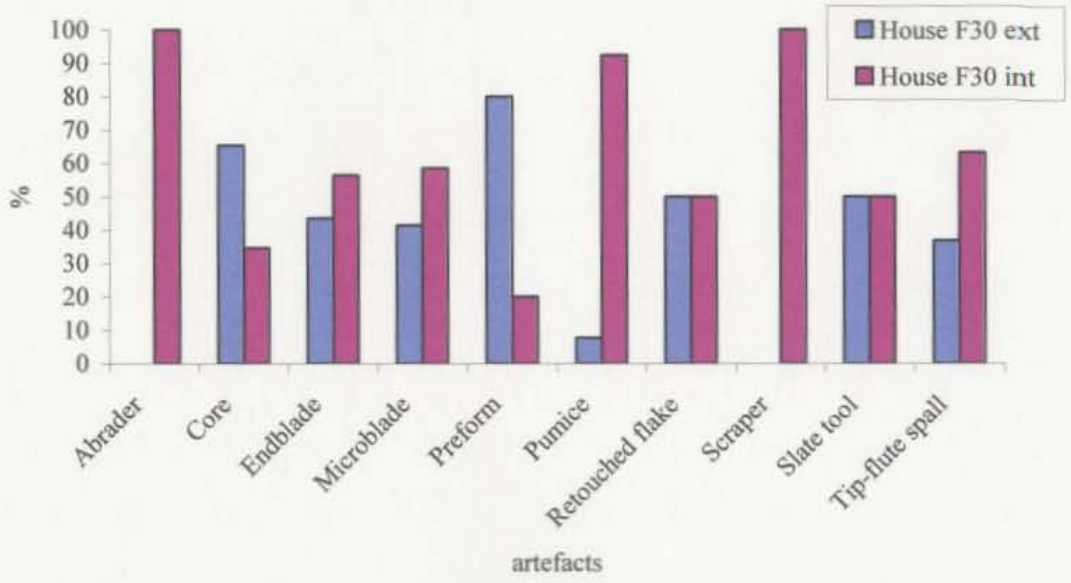

Figure 34. Graph showing the proportions of artefacts from the interior and exterior of House Feature 30.

Some notable differences can be seen between the two areas. The majority of cores (65% n=17) and preforms (80% n=16) were found outside the dwelling. Conversely, all of the scrapers (n=5), abraders (n=2), the vast majority of the pumice abraders (92% n=36) and slightly more tip flute spalls (63% n=24), microblades (59% n=17) and endblades (57% n=13) came from inside the dwelling. In addition, examination of the reduction stages of

the flake debitage[7] demonstrated that although secondary and tertiary flakes were found in equal proportions both inside and outside the dwelling, the vast majority (84 % n=31) of the primary flakes were found outside.

Differences in the relative proportions of artefacts found inside and outside House Feature 30 indicate that different activities were taking place in the two areas. The presence of most of the preforms, cores and primary flakes outside the dwelling suggests that most of the primary stages in chipped stone tool manufacture took place outside the house. This contrasts with the interior of the dwelling where the artefact types point more toward the latter stages of tool production including the maintenance and final fluting of endblades and particularly activities associated with grinding indicated by the dominant number of abraders. Although the precise nature of the grinding activities is unknown, rounded linear grooves present on many of the pumice abraders suggested that they might have been used for working bone or wood into narrow shafts. The higher proportion of scrapers and microblades in the dwelling is also notable. These tools might indicate that more processing activities were also taking place inside the dwelling, for example the preparation of animal skins, although both tool types could be used for a variety of functions.

Examination of the artefact distribution maps (Figures 35 and 36) provides a more detailed picture of the location of different activities and shows that many activities have

[7] The reduction stages were classified using a number of morphological traits based on a simplified and modified version of characteristics presented by Kooyman (2000:49-55). The morphological traits and their relative reduction stages are summarized in Appendix 2.

a marked correspondence to the external features, particularly those associated with heat including the two hearths (Features 35 and 38) and the "pot-stand" (Feature 39).

The most notable feature in the artefact distribution is a dense cluster of flakes and tools (Feature 41) approximately one meter northeast of the house. This included hundreds of flakes, two microblades, three cores, six endblade preforms, five tip-flute spalls and five endblades. It is possible that this group of artefacts represents a small dump of material resulting from activities conducted elsewhere. One can imagine a situation where debitage produced inside the dwelling could have accumulated on the skin flooring of the house. This could then be easily lifted and discarded outside. However, the distribution (particularly indicated by the flake debitage) does conform to Binford's (1983: Figure 87) observation of the debitage pattern resulting from tool manufacture by an Alyawara Aborigine of Australia. In this instance a slight arc was produced in the debitage distribution around the legs of the flint-knapper. The distribution of Feature 41 does to some extent form a slight arc. This in conjunction with its association with the hearth (Feature 35) (assuming the two are contemporary) strongly suggests that it is a primary manufacturing area. The artefact classes found in Feature 41 suggest the main activity was endblade manufacture. This spot would certainly have been one of the more comfortable places to work outside, as it would have been sheltered from the prevailing wind by the dwelling as well as taking advantage of any heat and light from the hearth (Feature 35).

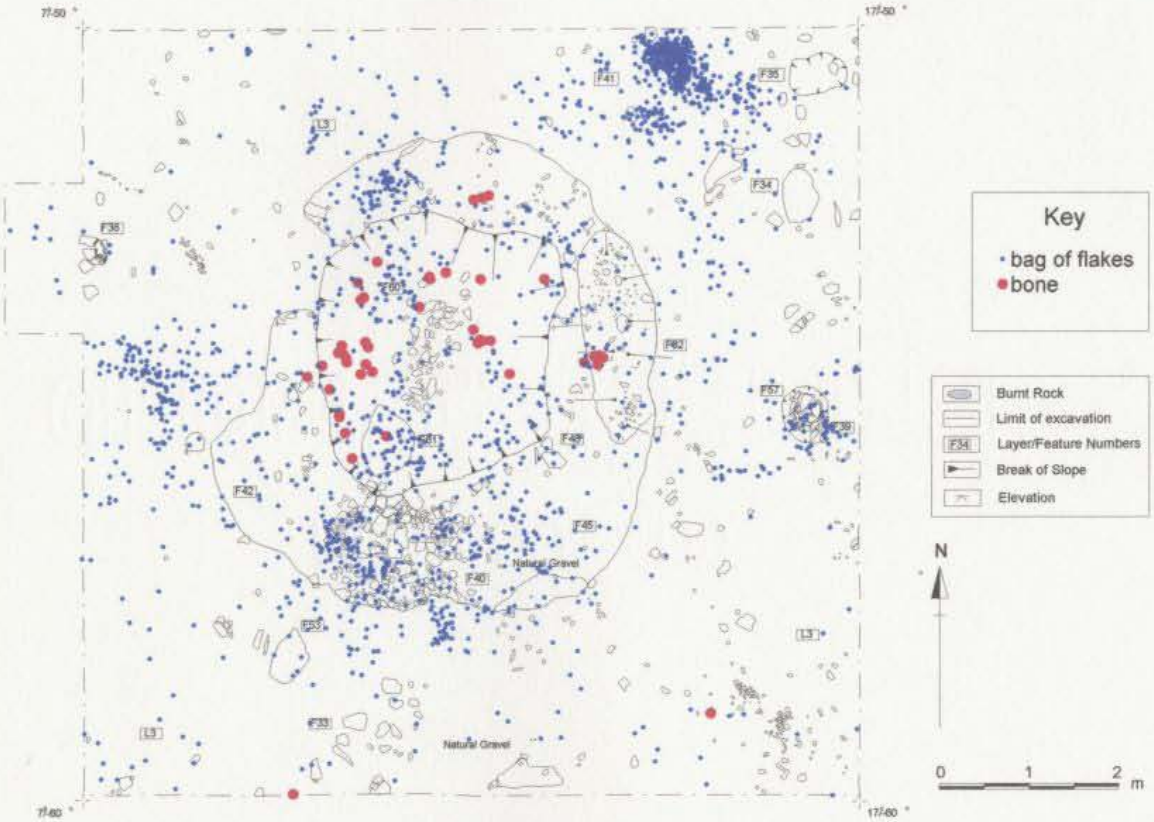

Figure 35. House Feature 30 bone and flake distribution
Note: Distribution shown come from both phases of Dorset occupation

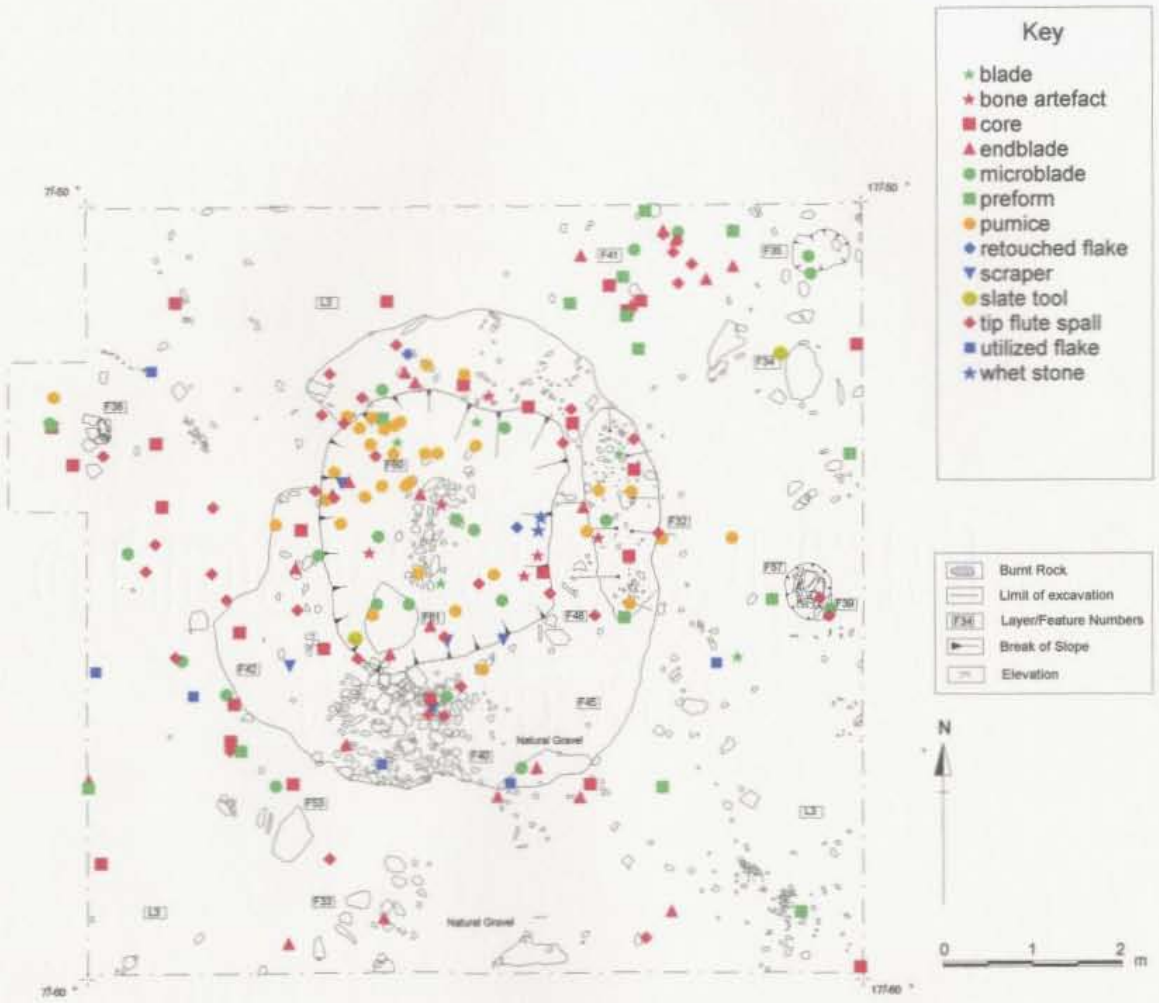

Figure 36. House Feature 30 artefact distribution
Note: Distribution shown comes from both phases of Dorset occupation

Similarly situated is a smaller yet distinct cluster of flakes and other artefacts including a single microblade, two tip-flute spalls, and a preform immediately around the "pot stand" (Feature 39). Although the precise nature of the activity is unclear, the location chosen for it appears to have been deliberately positioned out of the prevailing wind, near a feature that could provide heat or light.

Immediately west of the house, just outside what is believed to be a doorway, is another concentration of finds. Here we see a cluster of flakes and artefacts including three microblades, four cores, seven tip-flute spalls and a single piece of pumice. The presence of material immediately outside and/or either side of an entranceway is often associated with the build up of household refuse as the occupants discard their waste either side of the entrance (Morrison 1983:53; Newell 1988:203, Fogt 1998:16). If this cluster of artefacts does represent the remnants of a midden then we could assume that House Feature 30 was occupied for a relatively short period of time given the relatively low number of artefacts. However, it is noteworthy that again we see artefacts in the vicinity of another area of heat, in this case the heating platform (Feature 38). It is probable therefore that this artefact distribution represents another activity area. In this instance the high number of tip-flute spalls indicates the maintenance of an harpoon endblade. This location may have been favoured as it has an excellent vantage point out to sea.

There are also a number of distinct artefact clusters in the interior of the house that suggest that either there was some degree of formal organization of space inside the dwelling or that some areas were more conducive to particular activities than others. The

most distinctive of these is the cluster of pumice abraders immediately inside the entranceway of House Feature 30. It appears that pumice was almost exclusively used in this location as 29 of the 39 examples were found in this area alone. This position was likely favoured, as it would have had the benefit of any light coming through the doorway, while still being sheltered by the dwelling. A concentration of eight tip-flute spalls and eight endblades scattered around the same general area indicates that this was also a favoured spot for the final sharpening and maintenance of endblades. One other possible activity area inside the dwelling is situated near the stone bench (Feature 40). Four out of the five scrapers were found within 75 cm of this feature. This may indicate that the processing of animal hides or some other scraping activity was associated with this area of the dwelling.

6.3.2 House Feature 8

Figure 37 shows differences in the relative proportions of artefact types found inside and outside House Feature 8. Like House Feature 30, there is a notable difference between the ratio of artefact types found inside and outside the dwelling. In all but two instances the majority of tools are found outside the house. The only exceptions to this are the cores and the retouched/utilized flakes and of these only the cores show any major difference. This difference is also probably exaggerated as 58% (n=80) of the cores (Feature 20), from inside the dwelling came from a single dump (Renouf 1992:56). This suggests that most of the activities were taking place outside the dwelling.

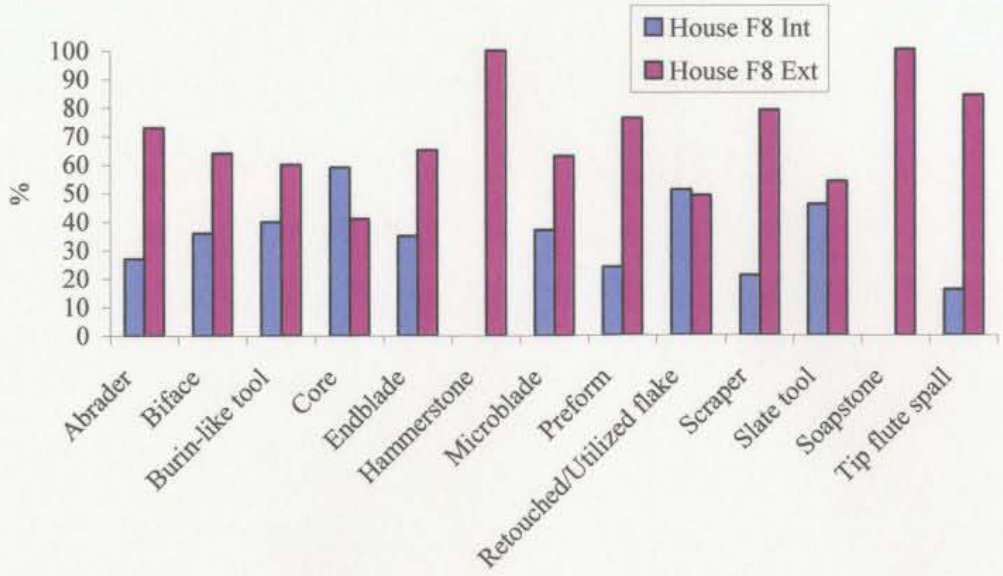

Figure 37. Graph showing the proportions of artefacts from the interior and exterior of House Feature 8.

Figures 38-41 show the distribution of artefacts for House Feature 8. As there is a much higher density of artefacts from House Feature 8 compared to House Feature 30 the distributions are presented on four separate maps to facilitate their visual inspection. These include artefacts associated with 1) tool production, 2) hunting, 3) processing and 4) other (mostly processing). Flake and bone distributions are not provided for House Feature 8 as coordinate data was not available.

Figure 38 shows the distribution of artefacts from House Feature 8 that are associated with tool production: cores, preforms, hammerstones and tip-flute spalls. A number of distinct clusters can be seen. The cores cluster into three distinct groups, one associated with the external axial feature (Feature 12), one in the entranceway to the dwelling and one outside the southeastern corner of the dwelling. The preforms do not

show such marked concentrations although most appear to follow a similar distribution to the cores. The only hammerstone to come from the area was found in association with the axial feature (Feature 12). As large quantities of flakes were also recorded from these three areas (Renouf 1992: 56-60), it seems likely that they were favored spots for the production of stone tools. The tip-flute spalls do not appear to show any patterning, which suggests the final sharpening and maintenance of endblades was happening haphazardly across the area.

Figure 39 shows the distribution of artefacts from House Feature 8 that are associated with hunting: endblades and unifaces. Although the unifaces show no clustering, most of the endblades are either directly or closely associated with the axial feature (Feature 12).

Figure 40 shows the distribution of artefacts from House Feature 8 that are associated with processing and fabrication: bifaces, burin-like tools, microblades and scrapers. Although the artefacts are more dispersed than those associated with either tool production or hunting, there still appear to be notable patterns in their distributions. The bifaces tend to concentrate around either the entranceway to the dwelling or the axial feature (Feature 12). Most of the scrapers and microblades are located to the west (in front) of the dwelling, although there is a small group of both immediately southeast of the house. As only four burin-like tools were found it is difficult to say much about their distribution, although it is notable that two are again associated with the axial feature (Feature 12). These distributions suggest that most processing activities were generally taking place in front of the dwelling, particularly around the axial feature (Feature 12).

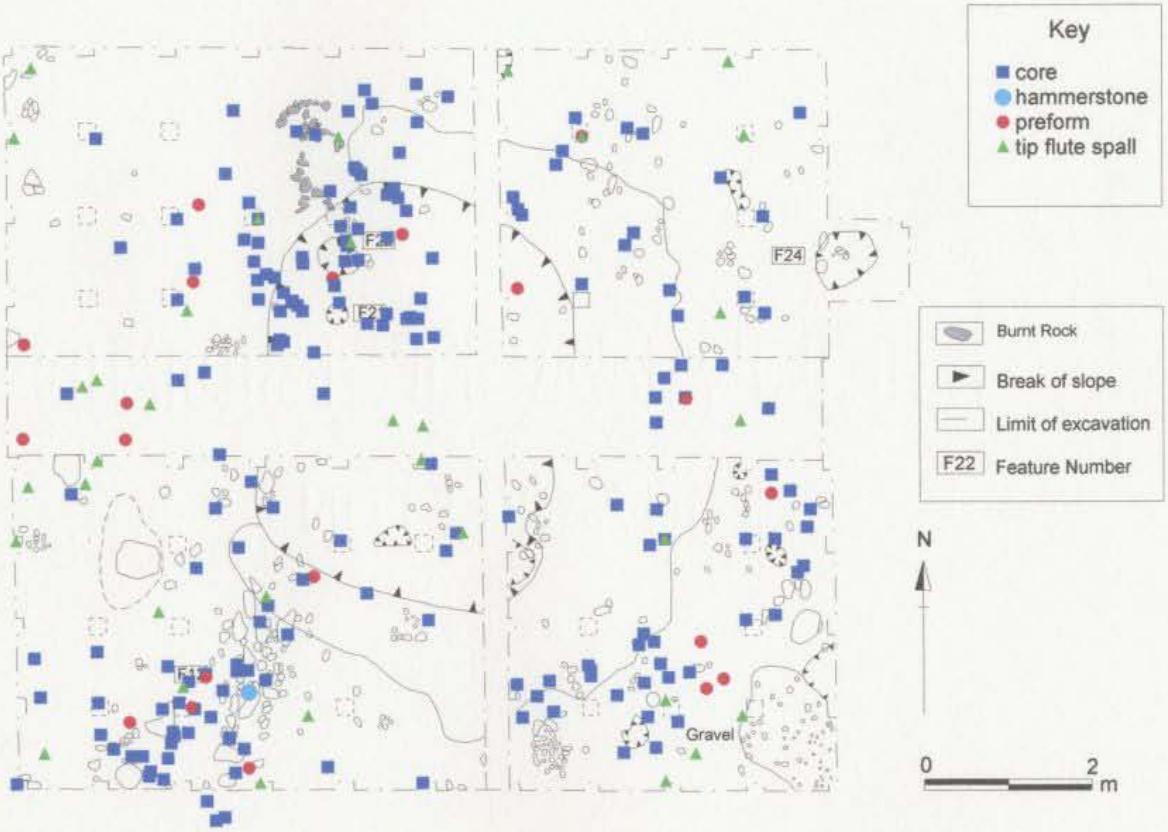

Figure 38. House Feature 8: artefacts associated with tool production

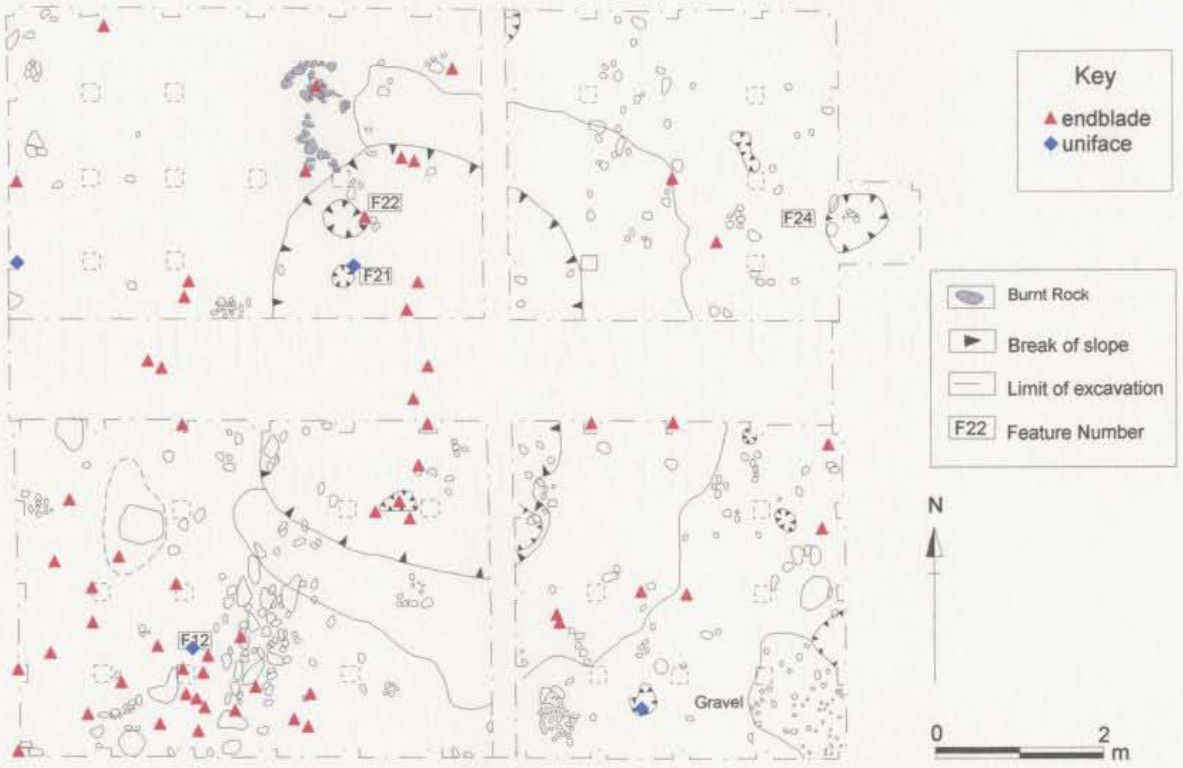

Figure 39. House Feature 8: artefacts associated with hunting

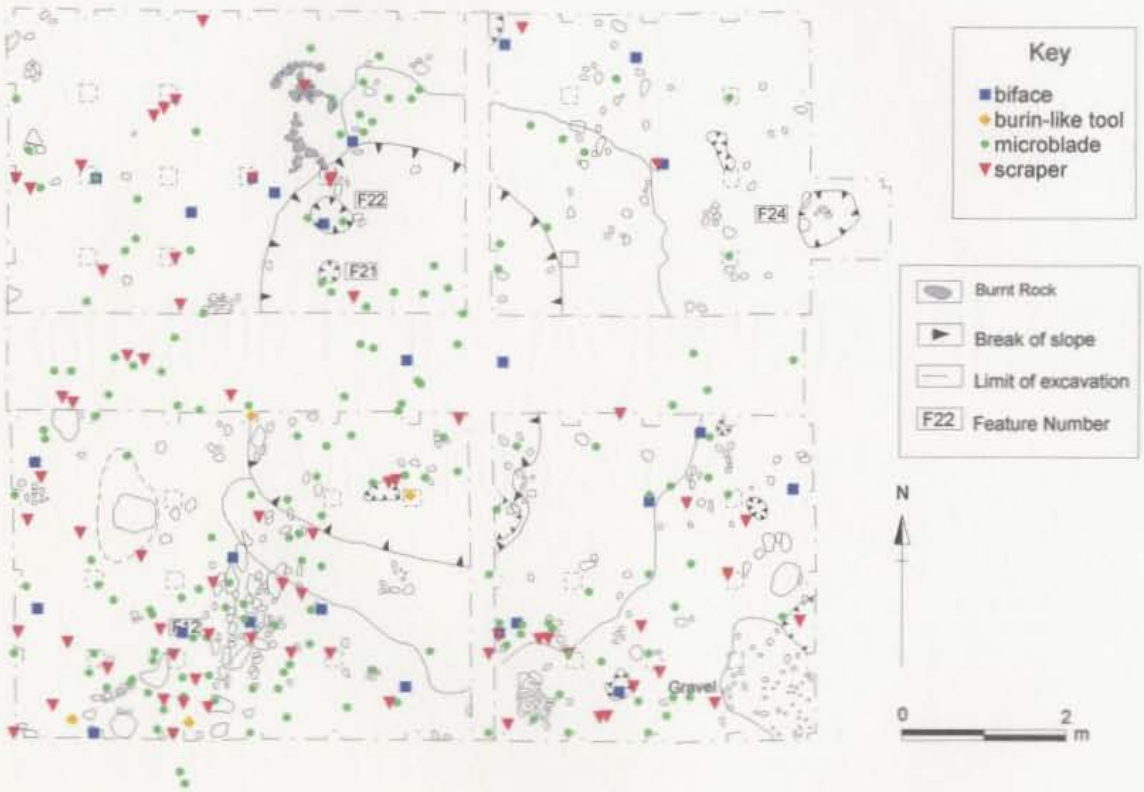

Figure 40. House Feature 8: artefacts associated with processing and fabrication

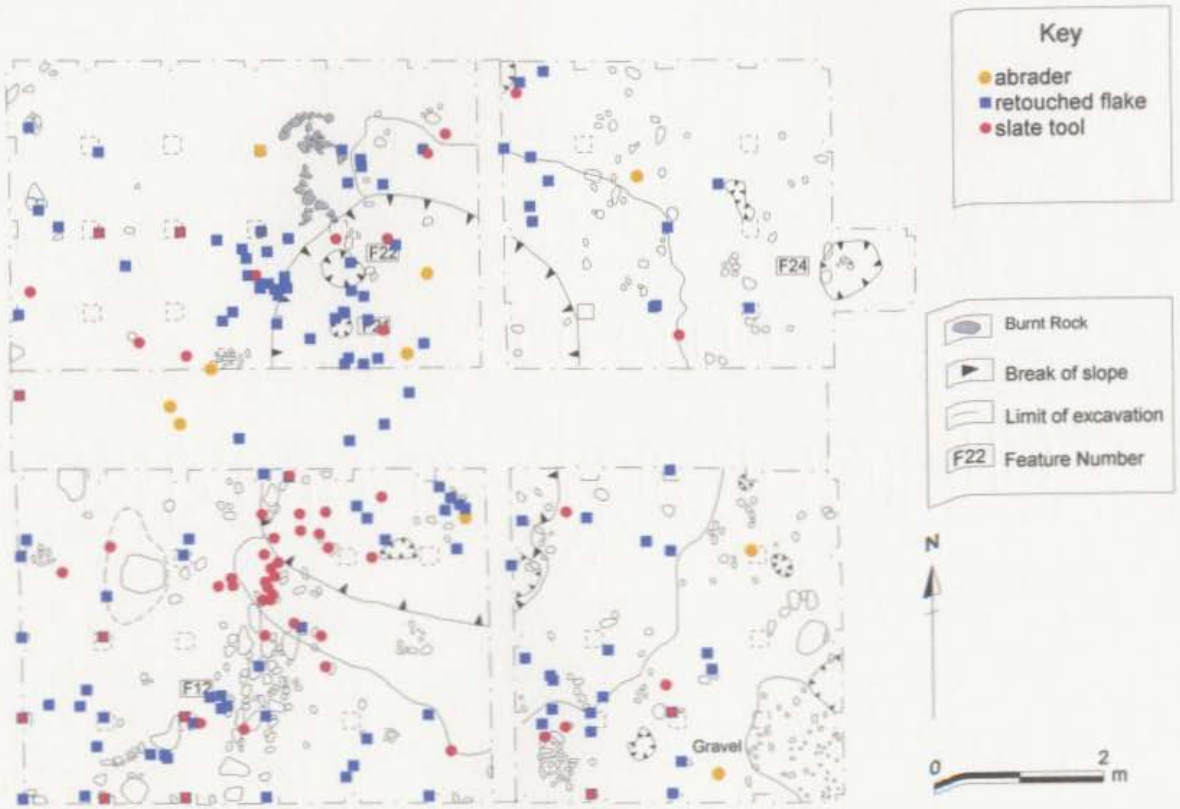

Figure 41. House Feature 8: other artefacts

In the discussion of House Feature 30 it was noted that middens often accumulate in front of a dwelling's entranceway. Although in the case of House Feature 30 it was argued that the artefacts outside the entrance were more likely to be an activity area as they were, like all the other clusters of artefacts found outside House Feature 30, associated with an external feature, the same cannot be said for the artefacts outside House Feature 8. Apart from the artefacts associated with axial feature (Feature 12) there are many that are broadly dispersed in front of the dwelling. It is possible, therefore, that many of these represent material discarded from inside the dwelling.

Figure 41 shows the remainder of the main artefact categories associated with House Feature 8, many of which might also be associated with processing, including abraders, retouched flakes and slate tools. The most distinct distribution within this group are the slate tools that cluster towards the inside southwestern corner of the dwelling. Many are also found around the entranceway although they are more dispersed. Establishing the type/s of activity that this might represent is difficult as, unlike most of the other artefact types (e.g. scraper, endblade etc), slate tools are classified by their material and not their function. A perusal of the artefacts indicates that most are broken fragments of schist that have been suggested to have acted as pot trivets (Renouf pers comm.). One might therefore associate them with cooking. What is notable is that they are the only major concentration of artefacts inside the dwelling, which indicates that whatever activity they are associated with was deliberately separated from most others. The utilized flakes and abraders appear more randomly distributed

although many of the utilized flakes, like the scrapers and endblades, are located in front of the dwelling.

6.3.3 Comparison of House Feature 8 and House Feature 30

There are a number of similarities and differences between the artefact distributions of House Feature 8 and House Feature 30. One of the main differences, apart from the number of artefacts found at the two houses, is the different ratio of artefact densities found inside and outside the dwellings (Table 5). The density of artefacts within House Feature 30 at 3.56/m^2 is over three times higher than the density of artefacts found outside the dwelling at 1.04/m^2, whereas the density of artefacts found inside and outside House Feature 8 is almost equal at 9.81/m^2 and 9.80/m^2 respectively. It is also notable that of the activities taking place outside House Feature 30, most concentrate around features associated with heat. This is in complete contrast to House Feature 8, where there is a distinct lack of artefacts anywhere near the external hearth (Feature 24). These two observations might indicate seasonal differences between the two dwellings' occupations as one might expect more activities to take place inside the house or near sources of heat during cold weather. This is explored in greater detail in Chapter 7 during the discussion of the seasonality of the site.

Another clear difference between the two dwellings is the level of association of activities with the axial features. Many of the activities taking place at House Feature 8 are on or near the axial feature (Feature 12). Conversely, very little activity is associated with the axial feature (Feature 60) identified inside House Feature 30. As axial features

are believed to have acted as the focus of domestic and possibly social activities of the household (Renouf 1992:60), it is surprising that there is very little activity associated with Feature 60. This might indicate that Feature 60 was incorrectly interpreted and was in fact a natural feature (see appendix 1:Feature 60). Alternatively, it is possible that Feature 60 merely did not function as an axial feature or that Renouf is incorrect and not all axial features acted as the focus of activities.

One area in which the two dwellings do show similarities is in the preference of the doorway as a location to perform a variety of tasks. As noted above, this location would have been ideal, as it would have been sheltered by the dwelling as well as having the benefit of any light coming through the doorway. However, although this location was clearly favoured, the nature of the tasks appears to differ between at the two dwellings. In House Feature 8 clusters of retouched flakes and cores were immediately inside the entrance, whereas pumice abraders and tip flute spalls were the most common finds in this area of House Feature 30.

The front of both dwellings also appears to be a popular location to carry out many activities, although in the case of House Feature 8 it is unclear to what degree the artefacts outside the entrance resulted from refuse discard from the dwelling. However, the artefacts associated with the axial feature (Feature 12) outside House Feature 8 are believed to be in primary context. It is notable, that most of the preforms (76%) and many cores (41%) were found outside House Feature 8, particularly near the external axial feature (Feature 12). This is similar to House Feature 30 where the vast majority of primary flakes (84%), preforms (80%) and most cores (65%) were found outside the

house. This suggests that most primary tool production was taking place outside both dwellings. However, the distribution of scrapers is very different between the two dwellings. The majority (79%) of scrapers from House Feature 8 were situated outside the dwelling, whereas all the scrapers from House Feature 30 were found inside the dwelling. The distribution of endblades is similar, as most (65%) from House Feature 8 came from outside the dwelling whereas most (56%) come from inside House Feature 30.

The analysis of artefact distributions from House Features 8 and 30 has demonstrated that there are clearly definable activity areas associated with both. Generally speaking, the most favoured working area appears to be in the vicinity of the entranceway. There is also a notable relationship between external features and activity areas. For House Feature 30 this included all the features associated with heat, whereas the axial feature proved to be the main focus of tasks at House Feature 8.

Interestingly, this relationship between the activity areas and particular feature types is one of the areas where the dwellings differ most. Although pit hearth features were found in almost exactly the same locations behind both dwellings, very little activity appears to have been taking place near the hearth (Feature 24) associated with House Feature 8, compared to the hearth (Feature 35) associated with House Feature 30. There are also notable differences in the amount of activity that is associated with the dwellings respective axial features. Very little activity is associated with the axial feature of House Feature 30, the opposite of House Feature 8. These differences are most likely explained as a result of differences in the function of the dwellings and/or in the season of occupation. Both of these possibilities are explored in Chapter 7.

CHAPTER 7

Explaining Artefact Assemblage Variability at Point Riche

7.1 Introduction

Following the excavation of Feature 1 and House Feature 30, Renouf (1992:70) noted that there were some significant differences in the number and range of functional tool types between the two features' artefact assemblages. At the time, this was thought to relate to differences in activities that were carried out at the two dwellings. Although subsequent analysis (Chapter 6) now indicates that these differences are more likely the result of Feature 1 being a midden rather than a dwelling, the excavation of a third depression in 2001 (House Feature 30) produced an artefact assemblage that was different again (Table 5). This chapter therefore addresses the issue of differences in the number and frequency of tools in the artefact assemblages at Point Riche. A number of alternative variables are explored, including feature type, length of occupation, house function, seasonality and site function, to evaluate the most likely cause(s) of this variability. Having established the most likely cause(s) of variability, the results are then reviewed against the other lines of archaeological evidence from the site including faunal data, house architecture and artefact distributions to obtain a fuller understanding of the site as a whole.

Table 5. Artefacts from Point Riche

Artefact	Feature 1	House Feature 8	Midden Feature 14	House Feature 30
Abrader	10	14	3	41
Biface	36	30	13	0
Burin like tool	6	10	3	0
Core	82	255	74	26
Endblade	74	63	50	23
Hammerstone	1	1	1	0
Microblade	308	188	161	29
Preform	44	22	27	15
Retouched/utilized flake	82	161	68	8
Scraper	87	74	36	5
Slate tool	26	67	17	2
Soapstone	56	4	6	0
Tip flute spall	130	43	61	38
Uniface	1	4	0	0
Total	**943**	**936**	**520**	**187**
Excavated area (m^2)	71	91	3	102
Density/m^2	13.3	10.2	173.3	1.8
Interior density/m^2	18.3	9.8	173.3	3.6

7.2 Comparison of tool type frequencies

Table 5 presents the main stone tools categories from the four principle features excavated at Point Riche. It does not include bone tools, as these are likely to have been affected by preservation differences amongst the four assemblages. Faunal preservation at Point Riche was dictated by the depth that features were cut into the limestone gravel substrate and the amount of limestone gravel in their fills. The deeper the feature was cut and the more limestone that was in the fill, the better the preservation. As these conditions differed for the four assemblages, it is probable that differences in the number

of bone tools from each assemblage resulted, in part, from the different preservation conditions of the four features.

Some of the artefact categories in Table 5 were lumped together to make comparison between the assemblages simpler. For example, the 39 pieces of pumice that were identified from House Feature 30 have been included with the abraders, as it is believed that this is their most likely function. Blades and microblades have also been added together, as have retouched and utilized flakes, as the distinction between these classes is often affected by subjective perceptions of individual excavators.

The most striking difference among the four assemblages is the relative lack of artefacts from House Feature 30 (Table 5). This difference is slightly exaggerated, as the excavated area around House Feature 30 was slightly larger than the other areas, which artificially depresses the artefact density for House Feature 30. This is because there is a drop-off of artefact density as one moves away from a house depression. A comparison of the artefact densities to come from inside the depressions gives a slightly more balanced picture, although House 8 (the second lowest feature density) still has three times the density of artefacts at 9.8/m^2 compared to House Feature 30, at 3.6/m2. As one would expect, the midden Feature 14 has the highest density of artefacts, at 173.3/m^2.

Another notable difference between the artefact assemblages is in the relative frequency of their tool types (Figure 42). Of the four assemblages, the two dwellings show the most variation. House Feature 30 has no bifaces or burin-like tools, a relatively small proportion of scrapers, microblades, retouched flakes and slate tools but a very large proportion of abraders and tip-flute spalls, and a slightly higher proportion of

endblades and preforms. On the other hand, House Feature 8 has a high proportion cores and retouched flakes but a low proportion of tip-flute spalls.

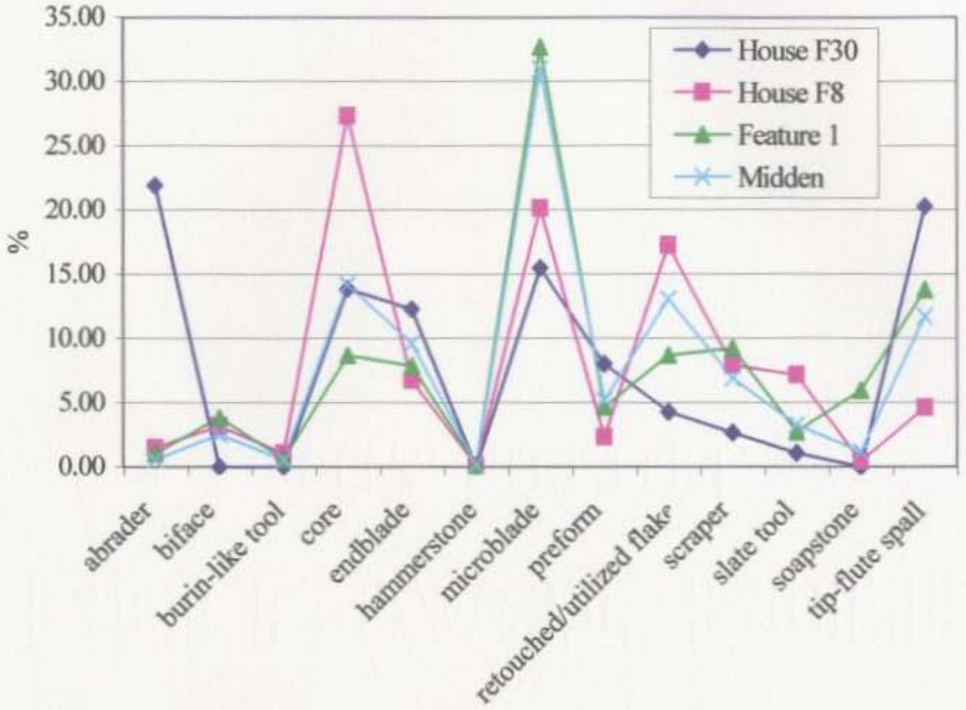

Figure 42. Artefact frequencies from Feature 1, House feature 8 and 30 and midden Feature 14

This simple comparison of the artefact assemblages demonstrates a number of clear differences between the four features at Point Riche. Of particular note are the differences between House Features 8 and 30. The following section, therefore, explores the possible cause(s) behind these differences, with particular emphasis on the two house features. This is achieved through a hierarchical cluster analysis of the artefact

assemblages at Point Riche and 14 other Dorset Palaeoeskimo habitation sites on the island of Newfoundland (Table 6, Figure 43, appendix 3). It is anticipated that the cluster analysis will group together assemblages that have been influenced by similar variables. By comparing the groups generated in the cluster analysis against what we already know about the sites from where the assemblages came (e.g. the feature type, season of

Table 6. Sites used in comparative analysis

Assemblage	Feature Type	Dates	Reference
Beaches	General spread	1650+/95 (SI-1383)	Carignan 1985
Bird Cove	?Midden	not available	Penny 2001
Broom Point	General spread	1650+/-90 (beta-4471) 420+/-70 (I-11375) 370+/-100 (I-11376	Krol 1987, Tuck 1978
Cape Ray House	House	1830+/-105 (GaK-1906)* 1565+/-95 (GX-1198)*	Fogt 1999
Cape Ray Midden	Midden	1830+/-105 (GaK-1906)* 1565+/-95 (GX-1198)*	Fogt 1999
Dildo House 1	House	not available	LeBlanc 1997, 1999
Dildo House 2	House	not available	LeBlanc 1997, 1999
Peat Garden North	House	1570+/-60 (beta-113160)*	Hartery & Rast 2001
Phillip's Garden F1	House	1850+/-100 (beta-15379)	Renouf & Murray 1999
Phillip's Garden H2	House	1593+/-49 (P-683)	Renouf & Murray 1999
Phillip's Garden F73	Midden	1490+/-40 (beta-160976)	Hodgetts 2002a
Phillip's Garden F77	Midden	1640+/-70 (beta-160975)	Hodgetts 2002a
Pitman	General spread	1340+/-1904 (GaK-1904)	Linnamae 1975
Stock Cove	General spread	1560+/-60 (beta-4064) 1280+/-60 (beta-4062)	Robbins 1985

* Dates not directly associated with artefact assemblage

occupation, site function), we can establish which variable has the greatest influence on assemblage variability. To achieve this, the comparative assemblages included

assemblages from a variety of feature types (e.g. middens, house depressions) and from sites occupied during different seasons, thus allowing different variables to be explored. The variables investigated in this analysis include feature type, length of occupation, house function, seasonality and site function. Each is discussed in turn.

Figure 43. Location of sites used in the artefact assemblage analysis

7.3 Hierarchical cluster analysis

There are a variety of statistical tests that allow the comparison of artefact variability. One such technique is hierarchical cluster analysis. Hierarchical methods can be subdivided into two groups, agglomerative and divisive. Those used in this analysis are agglomerative. Agglomerative techniques are concerned with forming groups within a data set based on the notion that members of a group will be more similar to each other than non-members. They start with all the examples within the data set as separate and then build up groups, starting with those that are most similar. These most similar groups are then linked together at increasingly low levels of similarity until all the items are linked together in one large group (Shennan 1997:221). The relationships between the groups may then be presented as a dendrogram. However, as all cluster analyses impose their own patterning on a set of data (Shennan 1997:222) it is important to use a variety of approaches to validate the results. If different approaches give similar results in terms of their cluster structure, it is likely that there is a real clustering within the data (Shennan 1997:257). Two approaches are presented here: The Wards Method (Figure 44) and the Average-Link cluster analysis (Figure 45). These approaches were chosen as they are the most widely used in archaeology and are generally agreed to be the most satisfactory (Shennan 1997:240).

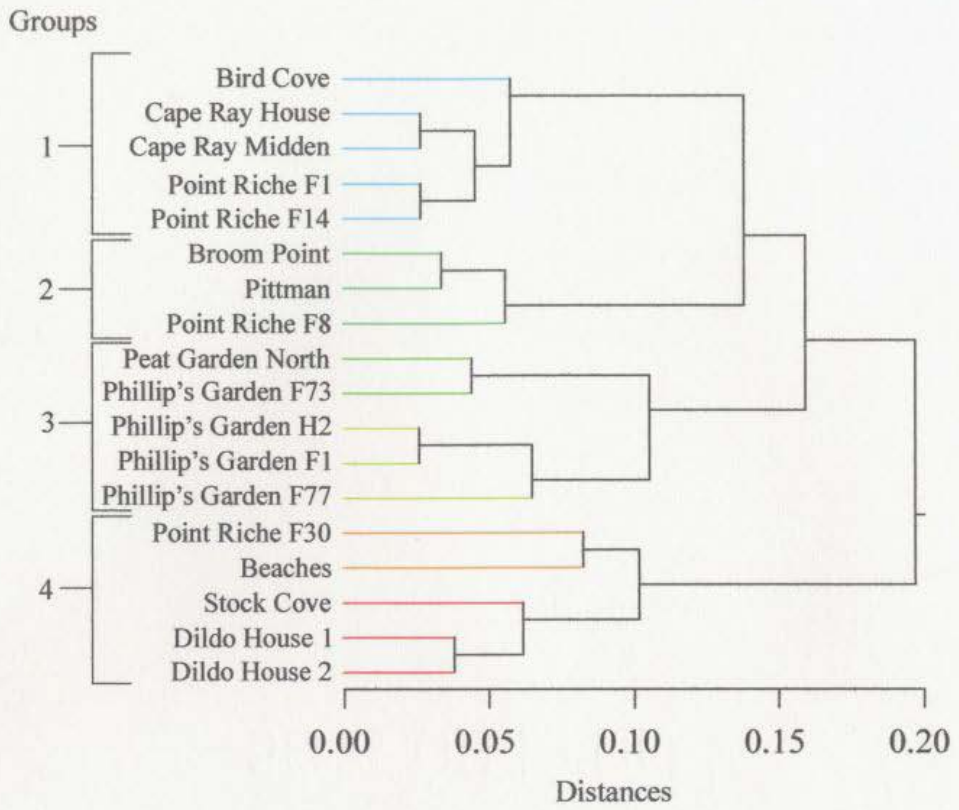

Figure 44. Dendrogram of the results of the Wards Method cluster analysis[8].

In the Wards Method defines similarity in terms of the distance of individual members of a cluster from the mean of that cluster. This distance is calculated as the sum of the squared deviations of all points from the means of the clusters to which they

[8] The relative similarity between assemblages is read along the X-axis. The distance at which assemblages join along this axis indicates their relative similarity, the shorter the distance the more similar they are. For example, of the assemblages in Group 1, those from Cape Ray are more similar to Point Riche than they are to Bird Cove. This is because Cape Ray and Point Riche join at approximately 0.04, whereas Bird Cove joins the cluster at 0.06.

belong (Shennan 1997:241). In Average-Link the similarity or dissimilarity between groups is defined as an arithmetic average of similarities between pairs of members (Shennan 1997:240). A more detailed description of the techniques can be found in Shennen (1997: Chapter 11).

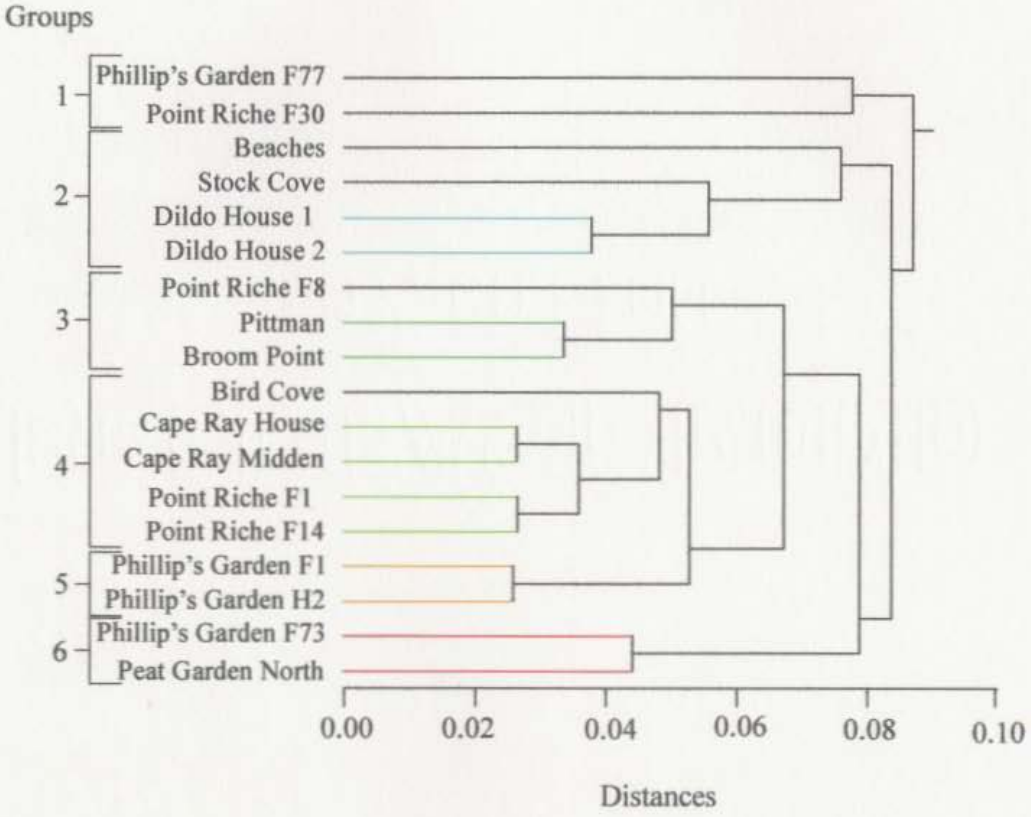

Figure 45. Dendrogram of the results of the Average-Link cluster analysis.

The results of the cluster analysis (Figures 44 and 45) show that both approaches produce similar structure in the clustering of the data, although the Wards Method

produces slightly more homogeneous groupings. The only assemblage that deviates substantially between the two methods is Phillip's Garden F77. This suggests that the clustering in the data is real and not an artefact of the techniques used. The following discussion of the cluster analysis is primarily based on the results of the Wards test, which produced fewer groups and is therefore simpler to present.

7.3.1 Feature type

The first variable investigated to explain variability in the composition of tools in an artefact assemblage was feature type. In chapter 6, it was demonstrated that there were some notable differences in the horizontal distribution of artefacts between different feature types: midden assemblages and occupation deposits. It was therefore possible that differences would also be noted between the relative frequencies of artefacts in their respective assemblages.

The results of the Wards Test (Figure 44) suggest that feature types are not distinguishable on the basis of the relative frequency of artefacts in their assemblages. It is notable that most, if not all, of the assemblages in the Group 1 cluster are the same feature type (middens)[9]. However, if feature types were distinguishable on the basis of their artefact frequencies we would expect to see the middens from Phillip's Garden (F73 and F77) also grouped within this cluster as well, which they are not.

[9] Whist Cape Ray House was not classified as a midden, the immediate proximity of the midden to the dwelling at the site makes it likely that midden material spilled into the house during its occupation and/or after its abandonment. The classification of the Bird Cove assemblage is more open to debate. However, Reader (1998) who first identified the site, classified it as a midden.

7.3.2 Length of occupation

An alternative explanation for the variation in the artefact frequencies might be differences in the length of occupation. Unfortunately, it was not possible to test this hypothesis against the comparative site data, as the length of occupation had not been inferred for the individual sites in the analysis. It was, therefore, impossible to establish if sites were clustering on the basis of their total use life. However, notable differences in the density of artefacts between the four features at Point Riche may suggest that they were used for different lengths of time, as more debris tends to accumulate at sites that are occupied for longer periods of time (Chatters 1987:345).

When comparing artefact densities it is important only to compare similar types of feature, as differences in artefact densities between different feature types (e.g. a house and a midden) are more likely to reflect differences in their formation processes than their respective use life. Therefore, the middens and the houses are dealt with separately.

The midden Feature 14 has by far the highest density of artefacts (173.3/m^2), as we would expect. However, the artefact density of Feature 1, which is also a midden, is much lower (13.3/m^2). It is probable, therefore, that midden Feature 14 was used over a longer period of time than Feature 1. Additionally, differences between the features' artefact densities may also have arisen through differences in their formation. Midden Feature 14 was a formalised refuse dump where waste material was deliberately discarded. Conversely, Feature 1 appears to have functioned merely as a convenient location, used less frequently than a formal midden, to discard rubbish, thus resulting in a more diffuse artefact assemblage.

There is also a notable difference in the density of artefacts between the two houses. House Feature 8 has five times the density of artefacts (10.2/m^2) of House Feature 30 (1.8/m^2), which again probably reflects differences in both the length and intensity of use. However, it should be noted that the number of artefacts in House Feature 30 is unusually low. The mean density of artefacts from dwellings used in the comparative analysis was 18.40m^2. It is, therefore, probable that some other variable is influencing the density of artefacts inside the dwelling. One possible explanation is that House Feature 30 was cleaned shortly before it was abandoned.

The presence of middens on the site clearly attests to the formal collection and discard of refuse, much of which is likely to have come from the inside of houses. Additionally, similarities in the architecture suggest that the builders of the two dwellings (re)used both for similar periods of time[10]. It is, therefore, possible that the lack of artefacts in House Feature 30 is, in part, a result of it being cleaned out by the inhabitants. However, as there is no reason to suppose that this cleaning activity was not also taking place in House Feature 8, differences in artefact densities between the two houses probably do indicate differences in their respective use life albeit subsequent to their last cleaning episode.

It is also notable that there is a slightly greater range of tool types in House Feature 8 compared to House Feature 30. This may also indicate that House Feature 30 was occupied for longer, as assemblage diversity tends to increase as the occupation span

[10] Although Kent (1991:42) has demonstrated that the degree of investment in house construction reflects *anticipated* rather than *actual* length of occupation, the presence of two phases of occupation in House Feature 30 suggests that it was used for a relatively long period of time.

of a site increases (Schiffer 1987:281) or if a site is reused many times (Binford 1982:17). The small sample size may be partly responsible for the apparent low diversity of tools from House Feature 30, as small samples are less likely to include tools that are usually only present in small numbers, such as the burin-like tools. However, this does not explain the lack of scrapers (2.7%), which on average accounted for 10% of the tools in the assemblages used in the comparative analysis.

7.3.3 House function

An alternative explanation for differences in the houses' artefact composition is differences in their social function. Boismier (1991:202) has demonstrated that the two main functional types of architectural structure, the winter house (domestic residence) and the kashim (men's "clubhouse"), at the residential bases of the *Kusquqvagmiut* Eskimo in central Alaska, can be distinguished on the basis of their artefact assemblages. The midden associated with the kashim contained a greater number and diversity of artefacts reflecting the greater range and type of activities that took place within the structure. These tended to include tools and by-products associated with manufacturing and repair activities carried out by men. The artefacts in the winter house tended to be those associated with domestic activities carried out by women.

It is notable that the assemblage in House Feature 30 has a lack of tools associated with processing activities including bifaces, burin-like tools, and a relatively small number of scrapers. Instead, the assemblage is dominated with artefacts associated with hunting, including endblades, preforms and tip-flute spalls. House Feature 8, on the other

hand, has a broader range of functional classes of artefact suggesting that there was a greater range of activities taking place in and around House Feature 8. It is, therefore, tempting to view these differences as a reflection of social variation between the dwellings, perhaps similar to those observed by Boismier. However, while it is certainly worth considering that variation in the dwellings' tool type frequencies is a product of differences in their social function, the lack of comparative data on dwelling function for Dorset houses on the island of Newfoundland makes this type of analysis difficult. The dwellings on the island are, in all instances, assumed to be domestic spaces. More research is needed on the potential differences of dwellings' social function before the influence of this variable on artefact frequencies can be explored in any detail. Therefore, on the available evidence, social differences between the dwellings cannot be taken as a variable influencing artefact assemblage variability.

7.3.4 Season of occupation

Another possible explanation for variation in the frequency of tool type in an assemblage is season of occupation. If different activities were taking place at different times of year, we might expect to see this reflected in the artefact assemblages. However, the results of the Wards test (Figure 44) suggest that the season of occupation is not influencing the tool type frequencies in an assemblage. Of the assemblages in the comparative analysis, Broom Point (Krol 1987:196), Point Riche House Feature 8 (Renouf 1992:70), Bird Cove (Penney 2001:56), Peat Garden North (Hartery and Rast 2001) and possibly the Pittman site (Linnamae 1975:54) have all been interpreted as

spring and summer sites. As these assemblages do not fall into a single cluster we can assume that there is no relationship between the season of occupation and artefact assemblage composition.

7.3.5 Site function

Another alternative is to view variations in the dwellings' tool type frequencies of as a product of changes in the sites' function. *Site function* is differentiated from *house function*, which was explored in a previous research question, and is taken to represent the use of the site as a whole, rather than the function of the smaller elements within it (e.g. a single dwelling). More particularly, site function is taken as the role that Point Riche played within the Dorset settlement and subsistence adaptive system. Variability in hunter-gatherer adaptive systems has been shown to manifest itself in the structure of the features and artefact assemblages of archaeological sites (Chatters 1987, Binford 1980). It is possible, therefore, that some or all of the differences that are observed in the frequency of artefacts in the assemblages is better explained as a manifestation of differences in site function.

The results of the cluster analysis, particularly the Wards Test (Figure 44), make a good deal of intuitive sense when viewed in relation to the distribution of the sites on the Island of Newfoundland (Figure 43). At a distance of 0.20, the assemblages split off to form two groups. The first includes the sub-groups 1 to 3 and the second includes group 4. It is notable that all the sites in the first cluster (Groups 1 to 3) are situated on the

western side of the island and all those in the second cluster (Group 1), apart from Point Riche F30, are situated on the eastern side (Figure 43).

In his reappraisal of the Dorset Palaeoeskimo on the island of Newfoundland, Robbins (1985:118, 1986:122) identified three regions based on distinct artefact styles and, to some extent, differing economic adaptations: the west coast, the northeast coast and the south coast. He suggested that the different economic strategies had come about as a result of differences in the range, abundance and predictability of resources in the three areas.

The main difference between these three regions, and more generally between the western and eastern sides of the island, is the abundance and predictability of harp seal. The main areas of harp seal abundance on the island of Newfoundland are on the west coast and northeastern coast (Sergeant 1991:32-33). People living on the west coast of the island, particularly the inhabitants of Phillip's Garden, could access these harp seal, which could have potentially provided sufficient meat and oil to support the population for much of the year (Tuck nd: 121). In the southeastern area, harp seal are less abundant and cannot be counted on to the same degree. The distribution of nineteenth-century communities involved in the landsman hunt (a local hunt where the presence of pack-ice allowed access to seals by foot) indicates that harp seals were only locally accessible from Notre-Dame Bay northwards (Sergeant 1991:Figures 73 and 98). Instead, more readily available resources in the southeast include fish, birds and small mammals, with harbour seal and caribou being the most abundant species.

Robbins (1995:125) suggested that on the west coast, the economy was based principally on the exploitation of seal, particularly harp seal. The abundance of harp seal allowed for relatively large and permanent settlements to develop with little or no need to move from the outer coastal zone. In the northeastern and southern regions of the island, where harp seal are less abundant, the Dorset Palaeoeskimo broadened their diet (Robbins 1985:140). More emphasis was placed on hunting other species including hooded, ringed, grey and harbour seals, caribou and salmon (depending on local availability). More mobility and smaller group size were required in response to the dispersed nature of these resources. This resulted in a settlement pattern of smaller, more temporary sites distributed over a wider area than in the west (Robbins 1985:129). Rast (1999), in a survey of Dorset settlement patterns around Burgeo, confirmed this more generally dispersed subsistence and settlement pattern for the south coast region.

The results of the Wards test suggests that artefact assemblages are, at the broadest level of grouping (distance 0.20), reflecting the greatest extremes in the settlement and subsistence strategies employed by the Dorset Palaeoeskimo on the island of Newfoundland, separating those sites that fall within Robbins' western region (Groups 1 to 3) from those that fall within the southern and eastern regions (Group 4). This appears to be the result of differences in the range and types of activities taking place, and differences in the length of residency and frequency of reoccupation between sites on the west and east coasts.

This appears to be confirmed when we view the clusters generated by the Wards Test in a Box and Whisker plot. This helps establish on what basis the cluster analysis is

grouping the different assemblages. In the Box and Whisker plot, each artefact type within the four main groups recognised in the Wards test are presented graphically as an individual batch of data (Figure 46). The middle of each batch of data, from hinge[11] to hinge, is shown as a box with a line through it at the median. "Whiskers" extend out of each end of the box to the extreme maximum and minimum values (Velleman and Hoaglin 1981:66).

The value on the Y-axis corresponds to the frequency of an individual tool type from a site's total assemblage. For example, the mean value of bifaces from Group 1 sites is given as approximately 0.03. This tells us that the mean frequency of bifaces in Group 1 assemblages is 3%. However, looking at the extremes, as indicated by the whiskers, we can see that the highest frequency of bifaces in one assemblage from Group 1 was approximately 7% (0.07) and the lowest frequency from a Group 1 assemblage was nearer 2% (0.02).

The advantage of presenting the data in this way is that it allows the relative frequency of individual tool types to be compared between the different groups. It also allows the overall range and symmetry of the data to be viewed at a glance (Velleman and Hoaglin 1981:66). For example, we can see that sites in Group 1 tend to have a higher proportion of microblades in their assemblages than the other three groups. However, sites in Group 1 also display a higher degree of variation in the ratio of microblades in their assemblages than the other three groups.

[11] Hinges are the summary values in the middle of each half of the data, either side of the median. Hinges are similar to quartiles, which are calculated so that one quarter of the data lies below the lower quartile and one quarter lies above the upper quartile. The main difference between hinges and quartiles is that the depth of the hinge is calculated from the depth of the median, whereas a quartile is calculated from the number of cases (Velleman & Hoaglin 1981:43).

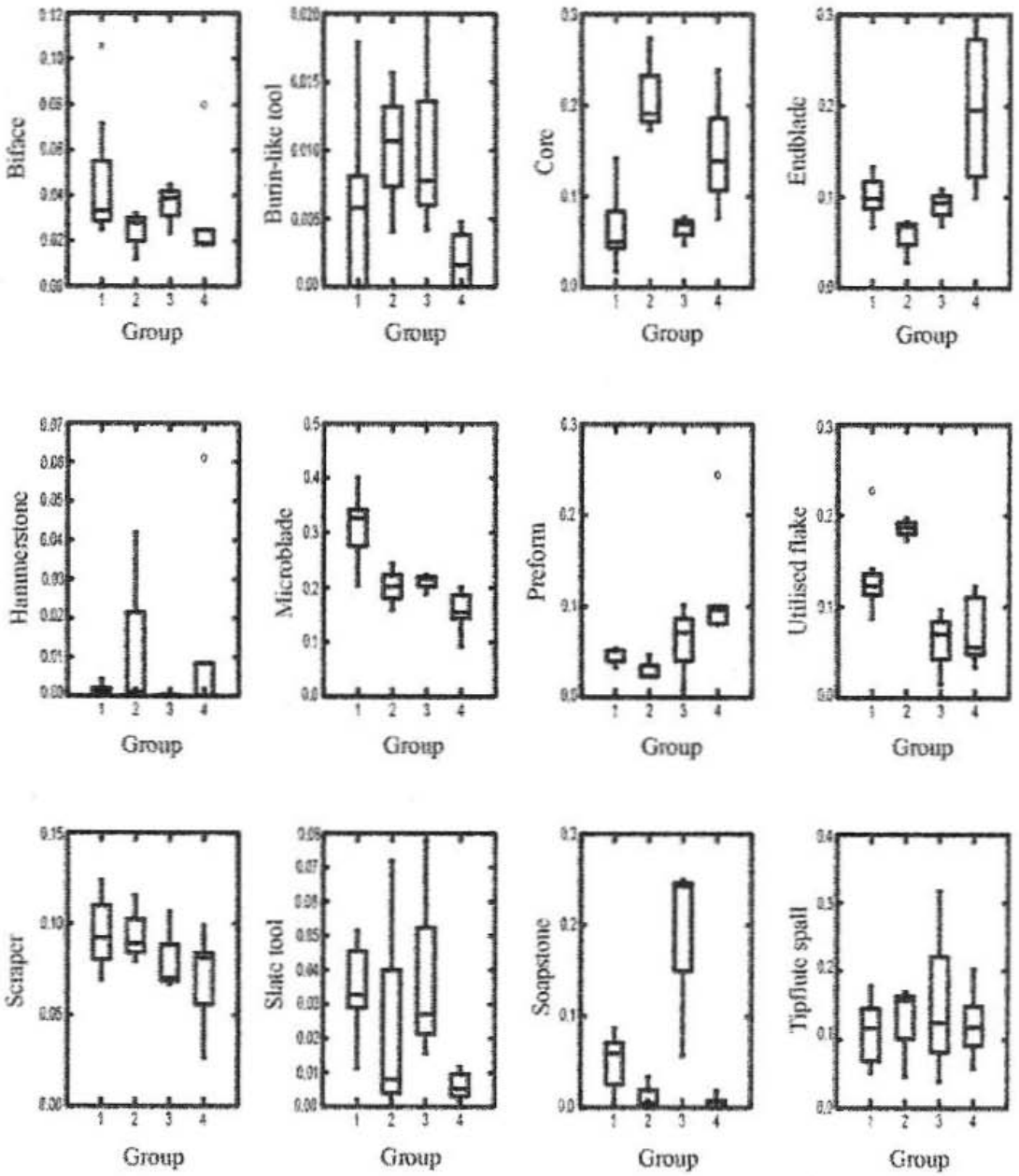

Figure 46. Box and Whisker plots

Analysis of the Box and Whisker plots shows that Point Riche House Feature 30 and the sites from the eastern side of the island (Group 4) have more endblades and preforms and fewer bifaces, burin-like tools and microblades than the sites on the western side of the island. This suggests that there was a narrower range of activities taking place at single site locations on the east coast compared to the west. The emphasis at sites in Group 4 was more towards hunting, with less emphasis on processing/fabrication activities than in the other groups. We can only assume that processing activities were taking place elsewhere. This is not to say that the sites in Group 4 are specialised hunting camps. All the sites in the analysis have been interpreted as habitation sites to certain degrees. Rather, the data suggests that there is more *emphasis* on certain activities at some sites than others.

Similarly, when we look at the Group 1 assemblages we see that the sites have substantially more microblades, generally more scrapers and bifaces, and generally less cores than the other groups. The emphasis on these sites, therefore, appears to be towards processing activities. Site function, therefore, does appear to be the dominant factor in separating the sites, based on their artefact assemblages.

This relationship between site function and artefact frequency is possibly further demonstrated at a more refined level of clustering in the Wards Test (Figure 44) and may indicate differences in settlement and subsistence orientation. At a Distance of 0.10 we see the assemblages in Group 3 divided into two sub-groups with Peat Garden North and Phillip's Garden Feature 73 in one cluster and all the other assemblages from Phillip's Garden in another. Hodgetts (2002b) has demonstrated that the faunal material from

Feature 73 is unusual in that it has a marked increase in fish and bird compared to earlier assemblages, which are all dominated by harp seal. She suggests that this may indicate a broadening of the subsistence base by the inhabitants of Phillip's Garden towards the end of the site's history (Feature 73 is late in the sequence of occupation at the site). Likewise, the faunal assemblage from Peat Garden North also indicates that the inhabitants had a broad subsistence base, including several species of seal, caribou, beaver and a range of birds (Hodgetts citing Murray 1998, 2000).

It is noteworthy, therefore, that of the assemblages in Group 3, those that have been demonstrated to have more similar faunal assemblages, also have more similar artefact assemblages. This may suggest that differences in the frequency of tool type of an artefact assemblage are, in part, reflecting differences in economic adaptive strategies. Phillip's Garden F73 and Peat Garden North having a broader diet breadth, whereas all the other assemblages in group 3, which form their own sub-group, come from deposits at Phillip's Garden that date to the period when the function of the site remained relatively focused, acting as a winter base camp where families aggregated for the March harp seal hunt (Harp 1976:137, Renouf and Murray 1999:130). However, it should be noted that of the assemblages in Group 3, both Phillip's Garden F73 and Peat Garden North have a very high soapstone count (Appendix 3), which may be why they are distinguishable from the other sites.

7.4 Discussion

The results of the cluster analysis suggest that there are two dominant variables affecting the frequency of tool types in artefact assemblages: length of occupation, and economic adaptive strategy. These two variables are likely to be interrelated, as the length of stay and subsequent re-use of a site is likely to be influenced by the availability and predictability of resources (Kelly 1995:90-97). The inhabitants of the west coast of the island, being ideally situated in relation to the highly predictable and abundant harp seal resource, could perform a greater variety of their day-to-day subsistence tasks at a single location. Additionally, the presence of a highly predictable and abundant resource may have facilitated more permanent residency and/or greater occurrence of re-occupation of sites. Conversely, the inhabitants of the southern and eastern coasts needed to be more mobile and hunt to a broader range of species in response to a more dispersed resource base. This may have resulted in sites being occupied for shorter periods of time, with activities being more site specific. The archaeological manifestation of these different settlement and subsistence adaptations is seen in the artefact assemblages.

If this hypothesis is correct then it is possible that some or all the variability that is observed between the artefact assemblages of the two dwellings at Point Riche is due to differences in the settlement and subsistence orientation of their inhabitants. If this were so, one has to question why Point Riche shows variability when all the other sites/regions appear to demonstrate consistent strategies? It is possible that the reason that we see variability at Point Riche is merely the result of the site being examined at a greater detail, at a house-by-house level, compared to most of the other sites, which are

examined at the site level (e.g. Stock Cove and Beaches). If we were to examine the other sites at the same detail we might also observe similar variability. However, at other sites where we do have multiple houses, such as Dildo Island and Phillip's Garden we do see the houses clustering together. It does therefore suggest that something unusual is happening at Point Riche. Additionally, if subsistence orientation is not influencing the clustering of the artefact assemblages in the Wards Test, then we need to come to some other conclusion as to why sites on the western side of the island are being separated from those on the east. At our current state of knowledge of the Dorset Palaeoeskimo on the island, the most logical explanation is to see the clustering as a reflection of the variation in the regional adaptations that have long been recognised among different areas of the island.

The notable exception to the separation of east and west coast sites observed in the Wards Test is House Feature 30 at Point Riche, which falls within the east coast cluster. More particularly, House Feature 30 shows greatest similarity to the Beaches site (Figure 45). Renouf and Bell (in press) have demonstrated that the Beaches site is ideally situated to take advantage of a variety of resources, particularly harbour seal. This would suggest that the settlement and subsistence adaptation of the inhabitants of House Feature 30 was more similar to those Dorset Palaeoeskimo groups living on the eastern side of the island, particularly the Beaches site, with a shorter residency, an economy based on a wider range of resources (but still focusing on seal) and a number of activities, particularly processing activities, taking place at alternative locations.

Conversely, House Feature 8 is clustered with sites that fall on the western side of the island (Group 2). The greater number and range of artefacts from House 8 suggests that more activities were taking place within the dwelling and that it was (re)occupied for a longer period of time. Unfortunately, establishing the precise nature of House Feature 8 is difficult, as at it is not clear why the Group 2 cluster differs from the other west coast groups (Groups 1 and 3).

Examination of the Box and Whisker plots (Figure 46) shows that Group 2 assemblages have a relatively high ratio of cores and utilized flakes and a relatively low ratio of endblades. However, the archaeological significance of this is difficult to establish. A high number of cores in an assemblage is often taken to indicate that a site functioned as a lithic procurement locale (Kooyman 2000:130). This interpretation would certainly fit well with Broom Point, which is situated very close to a high quality chert source at Cow Head. However, it does not provide an adequate explanation for the high ratio of cores associated Point Riche House Feature 8. The main lithic raw material used by Dorset Palaeoeskimo in the Port au Choix region was also Cow Head chert (LeBlanc 2000) and Point Riche is clearly not the procurement locale for Cow Head chert. The high ratio of cores from House Feature 8 is more likely the result of a cache being left behind in House Feature 8 after it was vacated. Interestingly, a cache of cores also appears to have been placed in the midden Feature 14, which is associated with House Feature 8 (based on the horizontal distribution: see Chapter 6). This at least indicates that reoccupation of House Feature 8 was anticipated, which corresponds to the observation that House Feature 8 was more likely used for a longer period of time.

One aspect that was not resolved from the investigation into artefact diversity was the site's season of occupation. There are, however, alternative lines of evidence available that allow us to explore this question, including the faunal data, house architecture and artefact distributions. Table 7 presents the faunal data from each of the four main features at Point Riche. Variation between the four assemblages is most likely because of preservation differences and is not thought to be significant. This is unfortunate, as it does not allow us to explore potential shifts in the economic adaptation of the site that were tentatively suggested from the analysis of tool type frequencies. The discussion of the faunal material therefore treats the assemblage as a whole. However, despite problems associated with differential preservation, the dominance of seal in the assemblage indicates that despite the hypothesised changes in subsistence practices, the main economic focus at Point Riche was always harp seal.

The faunal material at Point Riche is heavily dominated by seal, which accounts for 92.6% of the bone identified to at least the family level. Ninety-eight percent of the seal that could be identified to species was harp seal. It is likely, therefore, that most of the bones identified to Phocidae are harp seal. Other resources include fish (9.2%), a variety of birds (2.3%) and the odd mammal including beaver and caribou (0.3%). The faunal assemblage indicates that the economic emphasis at Point Riche was hunting seal, most of which was probably harp seal. Harp seals are available off the coast of Point Riche in December during their annual southward migration to their winter breeding grounds in the Gulf of St. Lawrence. They are available again between March and May, when they return north along with the retreating pack ice to their summer feeding

grounds in the arctic (LeBlanc 1996:24-27). However, the seals would have been most abundant and accessible during the March-May migration as they are only rarely found off the coast of Newfoundland during December (LeBlanc 1996:26). The faunal data therefore indicates that Point Riche must have been occupied somewhere between March and May.

Table 7. Faunal assemblage from Point Riche
*values record number of identified specimens

Taxon	**Feature 1**	**House Feature 8**	**Midden Feature 14**	**House Feature 30**	**Total**
Unid mammal	4339*	1761	726	0	6826
Unid phocidae	969	667	144	11	1791
Harp seal	49	38	2	3	92
Bearded seal	1	0	0	0	1
Harbour seal	1	0	0	0	1
Beaver	6	7	0	0	13
Caribou	4	0	0	0	4
Unid fish	9	153	2	19	183
Cod	1	11	0	0	12
Sculpins	2	0	0	0	2
Mollusca	0	1	0	0	1
Unid bird	21	11	0	0	32
Duck/goose/swan	0	4	0	0	4
Eider/Scoter	2	2	0	0	4
Gulls	6	2	0	0	8
Murres	1	0	0	0	1
Total	**5411**	**2657**	**874**	**34**	**8975**
Densisty/m^2	76.2	32.5	291.3	0.33	

The dwelling architecture also gives us a few clues to the season of occupation. Many of the features associated with the dwellings are located outside. There is no doubt that these could only have been constructed and used when there was no snow cover.

Analysis of the artefact distributions attests to this, with many activities taking place outside the dwellings, particularly around House Feature 8. Likewise, the semi-subterranean dwellings would most likely have been dug out when the ground was not frozen. Today snow cover in the region is continuous from January until the end of March (Damman 1983:196) but more often than not continues through April. This snow cover may have extended further during the Dorset Palaeoeskimo occupation of Point Riche, as climatic data suggests that the temperature would have been slightly colder (Bell et al 2000). This suggests that the ground would still have been snow-covered at the beginning of the seal hunt and possibly well into it. The architectural features and artefact distributions therefore indicate that the site was occupied more towards the end of the seal hunt, possibly extending into the summer months. Occupation into the summer months would be facilitated by the storage of dried seal meat. Park (1998) has argued that dried seal meat probably constituted a significant part of the diet of the Thule inhabitants of Porden Point, Devon Island. A similar practice was probable amongst the Dorset Inhabitants at Point Riche.

The differences observed between House Features 8 and 30 indicate that the use of Point Riche varied within the Dorset Palaeoeskimo settlement and subsistence system. While the available faunal evidence indicates that the subsistence focus at Point Riche was always harp seal, analysis of the artefact assemblages indicates that there may have been some degree of variability in subsistence patterns. The differences in artefact density, and to some extent diversity, provide evidence for the variability in the period of time that the occupants inhabited the site at any given time. Whether this variability took

place on an annual basis, depending on the circumstances of a given year, or was a gradual shift from one system to another over time is difficult to establish, as only two houses have been excavated at the site. However, the radiocarbon dates from the dwellings (Table 3) indicate that House feature 30 was occupied up to 200 years later than House Feature 8, which may indicate that there was a shift towards less permanent residency and possibly a broader diet breadth towards the end of the site's history.

Erwin (1996:129), and more recently Renouf and Murray (1999:130) have argued just such a scenario for the nearby Dorset Palaeoeskimo site at Phillip's Garden. Erwin noted that differences between the houses' tool inventories were greatest at the beginning and the end of the site's occupation, suggesting that there was a greater degree of functional variability during these periods. He recognised three phases in the residency pattern and function of the site. First, there was an initial phase of slow growth and varied function. Second, there was a rapid growth in the site, with an increase in house contemporaneity and narrowing in the range of functions, with a specific focus on the spring harp seal hunt. The third phase saw a decrease in site size and house contemporaneity with a return to a broader range of functions. This interpretation has recently been strengthened during preliminary investigations into the faunal material from the site. As noted above (section 7.3.5), Hodgetts (2002b) has demonstrated that there was a broadening of the subsistence base at the site towards the end of its occupation.

Given the spatial proximity of Point Riche to Phillip's Garden it is possible that we are seeing a similar shift in site function and residency patterns towards the end of the

Dorset Palaeoeskimo occupation on the peninsula, as any local variable that may have precipitated changes at Phillip's Garden, are likely to have affected Point Riche as well.

CHAPTER 8

Conclusion

This thesis sought to answer a number of research questions about the Dorset Palaeoeskimo occupation of Point Riche. The excavation of two depressions at the site by Renouf had considerably advanced our understanding of the site. However, a number of questions remained unresolved and it was these that this thesis sought to address. These related to the number, distribution and architectural variability of houses at the site, and to the type, location and variability of activities associated with the dwellings. The excavation of a third dwelling, in conjunction with an integrated survey, provided sufficient additional data to allow these questions to be answered.

The results of the geophysical survey demonstrated that the Dorset Palaeoeskimo site at Point Riche consisted of at least 15 dwellings that ran north-south, parallel to and approximately 200 m west of the present coastline. The spatial distribution of houses shows remarkable regularity, with most spaced along the terrace edge approximately 10 m apart from one another. The inhabitants of the site were clearly taking full advantage of the terrace, as placement of the houses on the downward slope that runs behind the ridge provided protection from the prevailing onshore wind. Results from the resistivity survey also demonstrated that it would have been the driest part of the site. The terrace also provided a clear vantage point out to sea and is conveniently located for fresh water that runs as a stream 10 m to the east. The active shoreline at the time of the Dorset

Palaeoeskimo occupation would have been approximately 50 m from the terrace's base, considerably closer than today.

The geophysical survey also indicated a number of additional small archaeological features that clustered along the outer edge of the terrace towards the centre of the site. Whilst the precise nature of these remains unclear, it is believed that they may be small refuse pits. Their spatial segregation from the dwellings is taken to indicate that the site was, to a certain degree, organised into distinct zones. A similar pattern obtained from the geophysical survey at Phillip's Garden supports this hypothesis.

The excavation of a third depression at Point Riche has demonstrated that much of the variation observed from previous field seasons was most likely the result of the original misidentification of Feature 1 as a dwelling. Instead, it appears that there was a high degree of architectural conformity not only in house design but also in the spatial arrangement of their associated features. Most notable was the placement of an informal hearth immediately behind each dwelling, with a more formal hearth arrangement situated near the dwelling entrance. Although this regularity in house design can only be positively demonstrated for the two excavated dwellings, the results of the magnetometer survey indicate that it was common to a number of other houses at the site.

Analysis of the artefact distributions indicated that there were distinct patterns of activity associated with the houses. The most favoured working area appears to have been in the vicinity of the entranceway and immediately in front of the dwellings. There is also a notable relationship between external features and activity areas. For House Feature 30, this included all the features associated with heat, whereas the axial feature

proved to be the main focus of tasks at House Feature 8. The absence of any spatial patterning associated with Feature 1 was taken as additional evidence of its original misidentification as a dwelling. The visual and statistical analysis of the horizontal distribution of Feature 1's artefacts demonstrated that it had more in common with a midden than a dwelling.

Analysis of the tool type frequencies from the dwellings demonstrated that although there was a high degree of similarity in house architecture and location of activities, the types of activity varied considerably. Establishing the determinants of this variability proved to be complex and was not fully resolved. A number of alternative explanations for these differences were explored, including feature type (e.g. midden vs. occupation deposit), levels of cleaning activity, house function and site function. The artefact assemblages from Point Riche were compared through hierarchical cluster analysis to 14 other assemblages from middens and dwellings from a number for habitation sites on the island of Newfoundland. The clusters generated from this analysis were then reviewed against the alternative variables to see which made the most intuitive sense.

At its broadest level, the cluster analysis assembled sites into groups that reflected regional adaptations in the Dorset Palaeoeskimo settlement and subsistence system on the island. At a finer level, sites appeared to cluster into groups that tended to reflect differences in particular economic strategies. Differences in the density, and to a lesser extent the range of artefacts between the dwellings was taken to indicate differences in their respective use life. It was, therefore, suggested that one of the strongest

determinants on artefact assemblage composition was site function, particularly residency patterns (length of occupation) and economic adaptation. However, it was also felt that the removal of artefacts during cleaning episodes could influence the assemblages' diversity. Although not proven directly, the presence of middens on the site was taken to indicate this activity. The density of artefacts within a dwelling was, therefore, taken to reflect activities and length of occupation subsequent to the last cleaning episode.

Analysis of the faunal material indicated that the primary economic focus of the inhabitants at Point Riche was hunting harp seal. This could have taken place anywhere between March and May when the seals migrated close by the site on their way to their summer feeding grounds in the Arctic. However, evidence from the dwelling architecture and artefact distributions suggested that the focus of activities was outside the dwellings when there was no snow cover. This is believed to indicate that the occupation of the site extended past the end of the harp seal migration into early summer. It is speculated that this was achieved through the storage of dried seal meat, obtained during the productive hunting months of March through May.

It appeared then, that much of the variation observed in the artefact assemblages was attributable to the inhabitants variable use of the site. Some years may have seen the Dorset Palaeoeskimo at the site for much of the early winter through to early summer, whereas other years may have seen a more periodic short term occupancy. This hypothesis is also supported by variability between some elements of the dwellings' architecture. The location of the axial feature outside House Feature 8, in conjunction with the higher ratio of artefacts outside the house, suggests that it was more likely

occupied during the warmer months, towards the end of the harp seal migration and possibly into the summer. The wide range of artefacts found in association with House 8 indicates that it was occupied for a relatively long period of time, encompassing many aspects of the daily lives of the inhabitants. Conversely, the focus of activity around House Feature 30 was inside and near sources of heat. This may indicate that the dwelling was occupied more toward the beginning of the seal hunt. The relatively low number and range of artefacts suggests that it was occupied for a relatively shorter period of time, with a more specific focus on hunting. However, in each instance the primary reason for moving to the site was to hunt the abundant herds of harp seal.

Radiocarbon dates from the two dwellings may indicate that these changes in the use took place over the course of the site's history, with a more temporary residency pattern, as indicated by House Feature 30, towards the end. This shift in settlement and subsistence pattern at the end of the Dorset Palaeoeskimo occupation of the Port au Choix region has been highlighted elsewhere in recent years (Erwin 1995; Hodgetts 2002b; Renouf and Murray 1999). Evidence from Phillip's Garden suggests that the Dorset Palaeoeskimo broadened their subsistence base towards the end of the site's history in response to fluctuations in harp seal availability (Hodgetts 2002b). No doubt such shifts in subsistence practices were complemented by shifts in settlement patterns. While it is speculated that the proximity of Phillip's Garden to Point Riche makes it likely that similar changes were taking place at the two sites, further evidence would be needed to demonstrate this conclusively at Point Riche, as evidence to date comes from only two excavated dwellings.

The results from Point Riche are part of a growing body of evidence that indicates changes in the Dorset Palaeoeskimo settlement and subsistence system towards the end of their occupation of the Port au Choix region. This period is becoming an increasingly interesting and complex time in the island's history. The climate appears to have ameliorated somewhat at this time (Bell et al. 2000). It has been suggested that this might have influenced the abundance and predictability of harp seal populations on which the Dorset Palaeoeskimo inhabitants of the area relied (Hodgetts 2002b). This no doubt impacted on the lifeways of the Dorset inhabitants of the Peninsula. While we appear to be observing part of this impact at Point Riche, further research is required to better establish the nature of these changes in the Port au Choix region and to determine whether similar changes took place island-wide.

BIBLIOGRAPHY

Allen, R. E.
1990 *The Concise Oxford English Dictionary of Current English.* 8th edition Oxford: Clarendon Press

Andrefsky, W.
1997 Thought on Stone Tool Shape and Inferred Function. *Journal of Middle Atlantic Archaeology 13:125-143*

1998 *Lithics: Macroscopic Approaches to Analysis*. Cambridge: Cambridge University Press

Anton, E
2002 St. John's Harbour 5 and an Examination of Groswater and Labrador Early Dorset Relationships in Labrador. Paper Presented at the 35th Annual Meeting of the Canadian Archaeological Association, Ottawa.

Bell, T., J. B. MacPherson and M. A. P. Renouf.
2000 "Wish you Were Here..." a Thumbnail Portrait of the Great Northern Peninsula 1000 AD. Paper presented at the Viking International Symposium, Great Northern Peninsula, September 10-20, 2000.

Binford, L.
1980 Willow Smoke and Dogs Tails: Hunter-Gatherer Settlement Systems and Archaeological Site Formation. *American Antiquity 45* (1): 4-20.

1982 The Archaeology of Place. *Journal of Anthropological Archaeology* 1, 5-31.

1983 *In Pursuit of the Past: Decoding the Archaeological Record.* New York: Thames and Hudson.

Birket-Smith, K. A. J.
1929 *The Caribou Eskimos. Material and Social Life and their Cultural Position. 1 Descriptive Part.* Copenhagen: Gyldeddalske Boghandel, Nordisk Forlag. Reprint of the Fith Thule Expedition 1921-24. The Danish Expedition of Arctic North America in Charge of Knuth Rasmussen, PhD. Vol 5. Translated by W.E. Calvert.

Boismier, W. A.
1991 Site Formation among Sub-Arctic Peoples: An Ethnohistorical Approach. In C. S. Gamble and W. A. Boismier (eds) Ethnoarchaeological Approaches to Mobile Campsites. Hunter Gatherer and Pastoralist Case Studies. International Monographs in Prehistory: Ethnoarchaeological Series 1 p189-214.

Brown, S.
1988 *Archaeological Investigations at Crow Head Cave and the Gargamelle Rockshelter in the Port au Choix National Historic Park, Newfoundland: Report of 1986 Field Activities*. Unpublished report on file at the Archaeology Division, Atlantic Region, Canadian Parks Service, Halifax.

Carignan, P.
1975 The Beeches: A Multiple-Component Habitation Site in Bonavista Bay. *Mercury Series No.39, Archaeological Survey of Canada.* Ottawa.

Chatters, J. C.
1987 Hunter-Gatherer Adaptations and Assemblage Structure. *Journal of Anthropological Archaeology* 6 (4): 336-375

Clark, A.
1990 *Seeing Beneath the Soil.* London: Batsford Press.

Damman, A. W. H.
1983 An ecological subdivision of the Island of Newfoundland. In G. Robin South ed. *Biogeography and Ecology of the Island of Newfoundland* p163-206. The Hague, Boston and London: Dr W. Junk Publishers

Department of Mines and Energy
1992 *Port Sunders/Torrent River (western margin), Newfoundland Map 91-174. 1:50,000.* Geological Survey Branch, Department of Mines and Energy, Government of Newfoundland and Labrador.

Erwin, J. C.
1995 *An Intrasite Analysis of Phillip's garden: A Middle Dorset Palaeo-Eskimo Site at Port au Choix, Newfoundland.* Unpublished Masters Thesis, Department of Anthropology, Memorial University of Newfoundland, St. John's.

Fogt, L.
1998 *The Excavation and Analysis of a Dorset Palaeoeskimo Dwelling at Cape Ray, Newfoundland.* Unpublished Masters Thesis, Department of Anthropology, Memorial University of Newfoundland, St. John's.

Harp, E.
1964 The Cultural Affinities of the Newfoundland Dorset Eskimo. *Ottawa: National Museum of Canada Bulletin 2000,* Anthropological Series No 67.

1976 Dorset Settlement Patterns in Newfoundland and Southeastern Hudson Bay. In Maxwell, M. ed. *Eastern Arctic Prehistory: Palaeoeskimo Problems.* Memoirs of the Society for American Archaeology, Washington, D.C. p.119-138.

Harp, E. and D. R. Hughes.
1968 Five Prehistoric Burials from Port au Choix. *Polar Notes* 8:1-47.

Harris, E.
1989 *Principles of Archaeological Stratigraphy*. 2nd edition. London: Academic Press

Hartery, L. and T. Rast.
2001 *Bird Cove Archaeology Project 2000 Field Season: Final Report*. Unpublished Site Report on File at Provincial Archaeology Office, Culture and Heritage Division, Department of Tourism, Culture and Recreation, Government of Newfoundland and Labrador, St. John's, Newfoundland.

Henshaw, A. S.
2000 *Central Inuit Household Economies. Zooarchaeological, Environmental, and Historical Evidence from Outer Frobisher Bay, Baffin Island, Canada*. British Archaeological Report International Series 871. Oxford: Archaeopress

Hodgetts, L.
2002a *Report on the Excavations at Phillip's Garden, Port au Choix National Historic Site*. Unpublished Site Report on File at Provincial Archaeology Office, Culture and Heritage Division, Department of Tourism, Culture and Recreation, Government of Newfoundland and Labrador, St. John's, Newfoundland.

2002b Varying Levels of Resource Specialization at the Dorset Palaeoeskimo Site of Phillip's Garden, Newfoundland. Paper Presented at the 35th Annual Meeting of the Canadian Archaeological Association, Ottawa.

Ingstad, H.
1954 *Nunamuit*. New York: W. W. Norton and Company, Inc.

Kelly, R. L.
1995 *The Foraging Spectrum. Diversity in Hunter-Gatherer Lifeways*. Washington: Smithsonian Institution Press.

Kent, S
1991 The Relationship between Mobility Strategies and Site Structure. In E. Kroll and T. Douglas Price eds. *The Interpretation of Archaeological Spatial Patterning* p33-59

Kooyman, B. P.
2000 *Understanding Stone Tools and Archaeological Sites*. Calgary: University of Calgary Press and Albuquerque: University of New Mexico Press.

Krol, C. F.
1987 *Middle Dorset Settlement and Subsistence Patterns in Western Newfoundland: A View from Broom Point*. Unpublished Masters Thesis, Memorial University of Newfoundland, St. John's, Newfoundland.

LeBlanc, S.
1996 *A Place with a View: Groswater Subsistence-Settlement Patterns in the Gulf of St. Lawrence*. Unpublished Masters Thesis, Department of Anthropology, Memorial University of Newfoundland, St. John's.

1997 *Dildo Island Archaeological Project. The Dorset Occupation of Dildo Island Preliminary Report 1996*. Unpublished Site Report on File at Provincial Archaeology Office, Culture and Heritage Division, Department of Tourism, Culture and Recreation, Government of Newfoundland and Labrador, St. John's, Newfoundland.

1999 *Dildo island 1998: Summary of Field Activities*. Unpublished Site Report on File at Provincial Archaeology Office, Culture and Heritage Division, Department of Tourism, Culture and Recreation, Government of Newfoundland and Labrador, St. John's, Newfoundland.

2000 Middle Dorset (1900-1100) Regional Variability on the Island of Newfoundland and in Saint-Pierre at Miquelon. In Appelt, M., Berglund, J., Gulløv, H-C eds. *Identities and Cultural Contacts in the Arctic*. Proceedings from a conference at the Danish National Museum, Copenhagen, Nov 30 to Dec 1999. Danish polar Centre Publications.

Linnamae, U.
1975 *The Dorset Culture: A comparative Study in Newfoundland and the Arctic*. Technical Papers of the Newfoundland Museum No. 1.

Maxwell, M. S.
1985 *Prehistory of the Eastern Arctic*. New York: Academic Press.

McGhee, R.
1979 Paleoeskimo Occupations at Port Refuge, High Arctic Canada. National Museum of Man Mercury Series, Archaeological Survey of Canada Paper 92. Ottawa: National Museums of Canada.

1990 *Canadian Arctic Prehistory*. Ottawa: Canadian Museum of Civilization.

McGrew, J. C. and Munroe, C. B.
2000 *An Introduction to Statistical Problem Solving in Geograophy*. Second Edition. New York: McGraw-Hill Higher Education

MOLAS
1996 *Archaeological Site Manual*. Museum of London Archaeology Service 3rd Edition. Hampshire: Bas Printers Ltd

Morrison, D. A.
1983 *Thule Culture in Western Coronation Gulf, N. W. T.* Merury Series Paper No. 116. Canadian Museum of Civilization, Archaeological Survey of Canada, Ottawa.

Murray, M. S.
1998 *Faunal Report: Dorset Palaeoeskimo Component at Peat Garden North Site (EgBf-18), Bird Cove, Newfoundland, 1997 Field Season.* Unpublished Report on File at Provincial Archaeology Office, Culture and Heritage Division, Department of Tourism, Culture and Recreation, Government of Newfoundland and Labrador, St. John's, Newfoundland.

2000 *Report on the Archaeofauna from Peat Garden 1999 Excavations.* Unpublished Report on File at Provincial Archaeology Office, Culture and Heritage Division, Department of Tourism, Culture and Recreation, Government of Newfoundland and Labrador, St. John's, Newfoundland.

Newell, R. R.
1984 The Intermound and Extramound Tests. In E. S. Hall and L. Fullerton (eds.) *The 1981 Excavations at Utqiagvik Archaeological Site, Barrow, Alaska.* North Slope Borough Commission on Inupiat History, Language and Culture, Barrow pp. 174-262.

Odell, G. H.
1981 The Morphological Express at Function Junction: Searching for Meaning in Lithic Tool Types. *Journal of Anthropological Study* 37:319-42.

Ovenden-Wilson, S.
1997 Grange Park, Northamptonshire. Report on the Geophysical Survey. Unpublished Site Report on File. Geophsical Surveys of Bradford, The Old Sunday School, Kipping Lane, Thorton, Bradford, England.

Park, R.
1998 Seal: The Other Dried Meat. Paper Presented at the 31st Annual Meeting of the Canadian Archaeological Association, Victoria, Ma6 6-10.

Penney, M.
2001 *The Bird Cove Site and Dorset Palaeoeskimo Settlement/Subsistence Strategies on Newfoundland's Great Northern Peninsula.* Unpublished Honours Thesis, Department of Anthropology, Memorial University of Newfoundland, St. John's, NF.

Plumet, P. and S. Lebel.
1997 Dorset Tip Fluting: A Second American Invention. *Arctic Anthropology* 34 (2): 132-162.

Rast, T. L.
1999 *Investigating Palaeo-Eskimo and Indian Settlement Patterns Along A Submerging Coast at Burgeo, Newfoundland.* Unpublished Masters Thesis, Memorial University of Newfoundland, St. John's, Newfoundland

Reader, D.
1998 *The 1997 Archaeological Survey of the Bird Cove Area, Northern Peninsula, Newfoundland.* Unpublished Site Report on File at Provincial Archaeology Office, Culture and Heritage Division, Department of Tourism, Culture and Recreation, Government of Newfoundland and Labrador, St. John's, Newfoundland.

Renouf, M.A.P
1985 *Archaeology of the Port au Choix National Historic Park: Report of 1984 Field Activities*. Unpublished Report on File at the Archaeology Division, Atlantic Region, Canadian Parks Service, Halifax.

1986 *Report of 1985 Excavations at the Point Riche and Phillip's Garden Sites, Port au Choix national Historic Park.* Unpublished Report on File at the Archaeology Division, Atlantic Region, Canadian Parks Service, Halifax.

1987 *Archaeological Investigations at the Port au Choix National Historic Park: report on the 1986 field activities*. Unpublished Report on File at the Archaeology Division, Atlantic Region, Canadian Parks Service, Halifax.

1991 *Archaeological Investigations at the Port au Choix National Historic Park: Report of the 1990 Activities*. Unpublished Report on File at the Archaeology Division, Atlantic Region, Canadian Parks Service, Halifax.

1992 *The 1991 Field Season at Port au Choix National Historic Park.* Unpublished Report on File at the Archaeology Division, Atlantic Region, Canadian Parks Service, Halifax.

1993a *The 1992 Field Season at Port au Choix National Historic Park.* Unpublished Report on File at the Archaeology Division, Atlantic Region, Canadian Parks Service, Halifax.

1993b Palaeoeskimo Seal Hunters at Port au Choix, Northwestern Newfoundland. *Newfoundland Studies 9(2): 185-212.*

1999 Prehistory of Newfoundland Hunter-Gatherers: Extinctions or Adaptations? *World Archaeology* 30 (3): 403-420.

In Press Phillip's Garden West: A Newfoundland Groswater Variant. In P. Sutherland (ed) *The Dorset Culture. 75 Years After Jenness.* Archaeological Survey of Canada Murcury Series. Hull: CMS Publications.

Renouf, M. A. P. and T. Bell,
2000 Integrating Sea Level History and Geomorphology in Targeted Archaeological Site Survey: The Gould Site (EeBi-42), Port au Choix, Newfoundland. *Northeast Anthropology 59:47-46*

In Press Maritime Archaic Site Locations on the Island of Newfoundland. In D. Sanger and M. A. P. Renouf (eds) *Archaic of the Far Northeast*. Orono: University of Maine Press.

Renouf, M. A. P., T. Bell, and M. Teal,
2000 Making contact: Recent Indians and Palaeo-eskimos on the Island of Newfoundland. In Appelt, M., Berglund, J., Gulløv, H-C eds. *Identities and Cultural Contacts in the Arctic*. Proceedings from a conference at the Danish National Museum, Copenhagen, Nov 30 to Dec 1999. Danish polar Centre Publications.

Renouf, M.A.P. and M. S. Murray,
1999 Two Winter Dwellings at Phillip's Garden, a Dorset Site in Northwestern Newfoundland. *Arctic Anthropology* 36:118-132.

Robbins, D. T.
1985 *Stock Cove, Trinity Bay: the Dorset Eskimo Occupation of Newfoundland from a Southeastern Perspective*. Unpublished Masters Thesis, Department of Anthropology, Memorial University of Newfoundland, St. John's

1986 "Newfoundland Dorset" Culture. In *Palaeo-Eskimo Cultures in Newfoundland, Labrador and Ungava*. Reports in Archaeology, 1. Memorial University of Newfoundland, St. John's. pp. 119-124.

Sarraf, A. K.
2000 Nearest Neighbour Extension Version 1.0. *Http://www.esri.com/detail.asp?dbid=11427*

Schiffer, M.
1987 *Formation Processes of the Archaeological Record*. Alberquerque: University of New Mexico Press

Sergeant, D. E.
1991 *Harp Seals Man and Ice*. Canadian Special Publications of Fisheries and Aquatic Sciences 114. Ottawa: Department of Fisheries and Oceans.

Shennan, S.
1997 *Quantifying Archaeology*. Second Edition. Edinburgh: Edinburgh University Press.

Spencer, R. F.
1959 *The North Alaskan Eskimo: A Study in Ecology and Society*. Bureau of American Ethnology Bulletin 171.

Stuiver, M. and Becker, B.
1986 High Precision Decadel Calibration of the Radiocarbon Time Scale, AD 1950-2500 BC *Radiocarbon* 28 (2B): 863-910.

Tuck, J.
1978 Excavations at Cow Head, Newfoundland: An Interim Report. *Etudes/Inuit/Studies 2 (1):138-141.*

n.d. Prehistory of Atlantic Canada. Unpublished manuscript.

Velleman, P. F. and Hoaglin, D. C.
1981 *Applications, Basics, and Computing of Exploratory Data Analysis*. Boston: Duxbury Press.

Yellen, J. E.
1997 *Ethnoarchaeology: Archaeological Approaches to the Present*. New York, Academic Press.

APPENDIX 1

Layer and feature descriptions

Area 1: Level Descriptions

Level 1: Turf/topsoil

Level 1 was a turf and topsoil layer up to 5 cm in depth that covered the whole of Area 1. It consisted of a mid brown silty clay with occasional small angular pea-sized grit inclusions. It was very dry and crumbly due to the lack of rain in the weeks prior to the excavation and had abundant roots throughout. This deposit was very thin in places particularly around the area of the house depression and contained flakes immediately below ground surface. It corresponded to Level 1 identified in previous seasons (Renouf 1986:24; 1992:46).

Level 2: Occupation deposit

Level 2 consisted of a slightly greasy silty clay that ranged from mid grey-brown to almost black with occasional angular pea-sized grit and small angular stones. Its depth varied between 5-7 cm. It covered most of Area 1 including the walls of the House Feature 30 but was not identified within the depression (Feature 63) itself, which contained a thick dark grey silty deposit instead, Level 4. Level 2 contained many flakes and artefacts and was most likely the remnants of the cultural horizon that relates to the occupation of House Feature 30. Although many areas appeared very black, no charcoal

was observed in this deposit. Levels 2 and 4 correspond to Level 2 identified during the 1991 field season (Renouf 1992:46).

Level 3: Natural soil (construction horizon)

Level 3 was a mottled mid to light yellow-brown leached silty clay up to 7 cm in depth with moderate to frequent angular and sub-angular pea-sized grit. Level 3 lay directly above the natural limestone gravel (Level 5) throughout Area 1 and was the soil horizon upon which House Feature 30 and associated features were constructed. Level 3 was essentially a sterile deposit, containing no finds apart from the interface between it and deposits immediately above. Level 3 does not correspond to any level identified in previous seasons.

Level 4: Silt fill of house depression

Level 4 (Plate 1) was a sticky dark, grey black, well sorted silty clay 12 cm in depth with occasional pea-sized grit and the occasional small angular stones. Towards the base of the deposit there were an increasing number of flat angular limestone rocks ranging in size from 9-26 cm^2. Many of these flat rocks appear to have originated from the stone platform F40, eroding down the face of the depression Feature 63. The top 5 cm of Level 4 was disturbed and contained some modern plastic and metal finds. Level 4 is thought to represent a post-abandonment deposit within the house depression, consisting of a relatively rapid initial erosion of platform Feature 40 into the house depression (Feature 63) followed by a gradual silting episode. Therefore, all finds within

Level 4 probably originate from the platform within House Feature 30. Level 4 corresponds to Level 2 from the 1991 field season (Renouf 1992:46).

Level 5: Natural gravel

Level 5 (Plate 1) was an undulating yellow-white rounded limestone gravel 75 cm in depth. At the top of this deposit there were frequent irregular hollows, sinkholes and depressions filled with a light yellow-grey silt most likely resulting from some natural process such as root activity or frost wedging. No artefacts were found in association with Level 5. Level 5 was identified in both Area 1 and Area 2. Level 5 corresponds to Level 4 from previous seasons (Renouf 1986:24; 1992:46).

Area 1: Feature Descriptions

Feature 30: House depression (Figures 28 and 30)

Feature 30 (Plate 1) is an arbitrary number assigned to all architectural features and deposits that comprise the house depression "House Feature 30". It consists of a compacted earth floor (Feature 42), an earth bank/platform (Feature 45), a stone platform (Feature 40), turf platforms (Feature 31 and Feature 36), a gravel spread (Feature 32), stone slabs (Feature 46 and Feature 61), two pits (Feature 37 and Feature 47), two post/stake holes Feature (55 and Feature 56), a central depression (Feature 63), an occupation deposit (Feature 59) and an axial feature (Feature 60).

Feature 31: Turf platform

Feature 31 (Plate 1) was a mid red-brown silty clay deposit with a spongy matted texture containing occasional small sub-angular stones up to 9 cm^2 and moderate angular grit inclusions. It was discontiguous and amorphous in shape, covering an area around the northern, southern and eastern sides of the depression (Feature 63) up to 1.65 m in width. To the north and south it extended further to disappear under the northern and southern section walls respectively. Its matrix was similar to that of another turf deposit (Feature 36) although Feature 36 was of a denser more matted texture and contained many flat limestone rocks. Feature 31 was thought to represent the remnants of a turf/earth platform that surrounded the central depression Feature 63 and acted as a sitting and sleeping area within the house.

Feature 32: Gravel spread

Feature 32 (Plate 1) was a thin silty gravel spread with occasional sub-angular stones up to 22 cm^2 situated along the eastern side of the depression Feature 63. It measured 1.64 m in length 0.94 m in width and 6 cm in depth. This deposit may have been an attempt by the occupants of the house to repair or modify the earth bank (Feature 45) that was constructed to build up the eastern side of House Feature 30 that sits at a lower level due to the natural break of slope of the ground surface.

Feature 33: Stone arrangement

Feature 33 (Plate 2) was an irregular arrangement of flat sub-angular limestones distributed over an area at least 1.5 m in length and 1.60 m in width 1 m south of House Feature 30. The stones ranged in size between 8 cm^2 to 26 cm^2 and averaged 5 cm thick. All the stones appear to have been weathered to a powdery white finish and one had evidence of burning. It was not clear if either of these processes had taken place *in situ*. No clear structural function for the stones could be discerned. A single Groswater endblade was found in association with the stones, which may indicate that Feature 33 predates House Feature 30. If this is the case it is possible that much of this feature was robbed out by the occupants of House Feature 30 in order to construct their dwelling. Alternatively it may have been the badly disturbed remains of an external axial feature, similar to that identified with House Feature 8 (Renouf 1992:60).

Feature 34: Stone arrangement

Feature 34 (Plate 2) consisted of an irregular arrangement of flat angular limestones distributed over an area 2.10 m in length and 1.80 m in width approximately 1.40 m north east of House Feature 30 and 1 m south of hearth Feature 35. The stones ranged in size between 20 cm^2 and 70 cm^2 and averaged 4 cm thick. All the stones had been weathered to a white powdery finish. Two of the stones consisted of large flat limestone slabs identical to one found within House Feature 30 and one slab (Feature 53) just outside the southern limits of the dwelling. It is unclear what the function of these slabs might be as there were no closely associated artefact or flake distributions found

with them. It is possible that they were used as convenient work surfaces, although the surfaces were too badly eroded to identify any work mark. Alternatively they may have acted as tent skin anchors or similar fixing.

Feature 35: Hearth pit

Feature 35 (Plate 2) was a sub-rectangular U-profile depression with irregular base 0.70 m in length, 0.52 m in width and 8 cm in depth situated 3m north east of House Feature 30. It was filled with a dark grey-black silty-clay with frequent angular grit inclusions. Charcoal was found throughout the deposit as well as small pieces of baked clay/soil. This feature was most likely an informal hearth, given the presence of the charcoal and the baked clay throughout its fill.

Feature 36: Turf platform

Feature 36 (Plate 2) was a mid red-brown silty clay deposit with a spongy matted texture containing a moderate number of small flat limestone rocks up to 10 cm^2 and occasional angular grit inclusions. It covered an area approximately 1.80 m wide around the southeastern and eastern edges of depression (Feature 63). Its matrix was similar to Feature 31 although Feature 36 was denser and more matted in texture and contained frequent flat limestone rocks. Along with Feature 31, Feature 36 forms what is thought to represent the modification or repair of the interior platform of House Feature 30. Although the structure of individual turfs could not be seen within either Feature 31 or Feature 36 it is thought that these deposits were deliberately laid down to form a

comfortable turf flooring around the central depression Feature 63. It is not thought that they represent a natural turf development after the dwelling had gone out of use. This conclusion is based on the presence of a distinct artefact horizon that lay on top of Feature 36, suggesting that it was once a surface.

Feature 37: Pit

Feature 37 (Plate 2) was first identified after the removal of turf deposit (Feature 31) as a clearly defined round, flat-bottomed pit with 50 degree walls approximately 50 cm in diameter cut into the eastern bank of House Feature 30 through the gravel spread (Feature 32). It was filled with dark grey brown silty clay with occasional angular grit inclusions. When first identified, half of Feature 37 appeared to be hidden under the east-west section wall that ran through the centre of Area 1. However, upon removal of the section wall no evidence of the pit could be seen. It is probable, therefore, that this was not a pit at all but merely a small local change within the soil matrix of earth bank (Feature 45).

Feature 38: Hearth/Heating Platform

Feature 38 (Plate 2 and Figure 31) was a formal arrangement of three sub-rectangular limestone rocks that formed a structure 39 cm in length, 35 cm in width and 10 cm in height, which was situated 2m west of House Feature 30 directly outside what is thought to be the entranceway to the dwelling. The stones ranged in size from 15 cm by 8 cm to 30 cm by 20 cm. The stones showed signs of severe heating with blackened red

discoloration. They had also cracked and crumbled in many places to a pinkish-white grit, particularly in the centre of the feature. Immediately to the south of these stones were two white, sub-angular igneous rocks which may have been part of this feature. Despite the clear signs of intense heating no evidence of charcoal was observed in association with this feature. A similar feature (Feature 10) was found in the vicinity of House Feature 8 by Renouf (1992:56). She likened it to the heating platforms found in northern Norway during the Younger Stone Age, which acted as a form of stovetop.

Feature 39: Pot-stand

Feature 39 (Plate 3 and Figure 32) was an arrangement of flat irregular shaped limestone rocks piled into two stacks 12 cm apart to form a structure approximately 50 cm square and 13 cm in height. The western stack was constructed from four stones; the eastern stack although having tipped over could easily be reconstructed to form a pile five stones high. The stones ranged in size from 15 cm to 38 cm in length and 9 cm to 17 cm in width and averaged 3cm thick. A single long sub-rounded stone 23 cm in length and 5 cm in diameter lay at 90° to these two piles to form the southwestern side of the feature. At the base of the two piles were a number of small flat limestone rocks averaging $8cm^2$ that formed a foundation to the structure. The stone stacks had been constructed in a shallow round pit, Feature 57, that had subsequently filled with a dark greasy soil, Feature 44. Although the function of this feature remained unclear it has tentatively been interpreted as a pot stand, used to support a soapstone cooking vessel, on the basis of the greasy soil surrounding it.

Feature 40: Stone "Bench"

Feature 40 (Plate 3) consisted of an arrangement of flat angular limestone rocks set closely together to form a "bench" 2.16 m in length by 1.64 m in width, situated to the immediate south of depression Feature 63. The stones varied in size between 10 cm^2 to 22 cm^2 and averaged 2-3 cm thick. Most of the stones were weathered white. Many of the gaps between the larger stones had been filled with small fire-cracked rocks with reddish-black discoloration. It is likely that the platform was originally larger, extending around the central depression, particularly to the west, as many similar sized flat stones (Feature 43 and Level 4) had eroded down the western slope of the depression. However, it is unclear whether Feature 40 would have extended around the whole of the depression. If so, many of the stones must have been robbed out, perhaps used by the builders of subsequent houses at Point Riche. Evidence to suggest that the platform was not significantly larger comes from looking at the artefact distribution (Figure 31). Feature 40 coincides with a denser distribution of flakes within the house suggesting that this area was often used for manufacturing stone tools. It is possible that Feature 40 was constructed to counter the additional wear that this area of the dwelling may have undergone or to demark a formalized working area within the dwelling. The southern limit of Feature 40 stopped abruptly to form a gentle semi-circle that mirrored the curvature of the central depression F63. It is probable that this line marks the position of the outer tent wall of House Feature 30. This would give a living surface of approximately 1.6 m around the central depression leading to a dwelling just over 6 m in diameter.

Feature 41: Artefact cluster

Feature 41 was a dense distribution of flakes, cores and artefacts within Level 2 that was situated 1.70 m to the north east of House Feature 30. This distribution and size of the flakes, most of which were tertiary, suggesting that this was a primary working area rather than a secondary refuse deposit.

Feature 42: Compacted earth floor

Feature 42 (Plate 3) was an area of highly compact mid-light grey-brown silty clay with frequent angular grit that formed a platform 1.54 m in width by 3.60 m in length around the southeastern side of depression Feature 63. Feature 43 was not a deliberately laid deposit but rather represented an area of Level 3 that had undergone a high degree of compaction, most likely through trampling. The outer limit of Feature 42, like the stone platform Feature 40, ran in a semi-circle around the central depression to mark what is thought to be the outer wall of House Feature 30. If this were the case it would explain why the area had undergone so much compaction. To the east was a similar deposit, Feature 45, that was essentially identical to Feature 42 although it appeared to have been enhanced through the addition of extra soil to counter the natural break of slope of the ground and thus produce a level living surface around the central depression, Feature 63. No interface between Feature 42 and Feature 45 was observed as both consisted of identical soil matrix. A 90 cm gap between Feature 42 and Feature 45 on the western edge of the central depression (Feature 63) marks a possible entrance to the dwelling.

Feature 43: Stone and soil fill of house depression

Feature 43 (Plate 3) was a mid grey-brown silty clay with frequent angular grit and small (>1 cm) rounded limestone pebble inclusions that filled the central depression (Feature 63) to a depth of 12 cm below Level 4. Throughout the deposit were many angular, flat limestone rocks ranging in size from 9 cm^2 to 15 cm^2 and averaging 4 cm thick. The stones were most abundant on the southern slope of the depression immediately below stone platform Feature 40 suggesting that most of the stones were originally part of that structure, having subsequently eroded into the depression after the abandonment of the dwelling.

Feature 44: Fill of small pit

Feature 44 was a dark grey-brown silty clay with occasional angular grit inclusions that filled pit Feature 57 around stones Feature 39. It had a greasy texture that gave a slightly polished finish when troweled. The dark greasy texture of the soil is thought to be the possible result of staining from seal fat. If so this staining may support the interpretation of Feature 39 as a pot stand. Feature 44 also contained a relatively large concentration of flakes compared to the surrounding area suggesting that it was a focus of activity.

Feature 45: Clay bank

Feature 45 (Plate 3) was a mid grey-brown silty clay with occasional small rounded limestone gravel and frequent angular grit inclusions that formed a low bank

3.20 m in length, 1.72 m in width and 0.13 m in depth immediately east of depression (Feature 63). This bank appears to have been deliberately built up in order to level the ground surface that naturally slopes downwards towards the east. It forms, along with Feature 42, a platform around the central depression Feature 63.

Feature 46: Large stone (work surface)

Feature 46 (Plate 3) was a large flat weathered limestone rock 0.92 m in length, 0.62 m in width and 0.10 m thick, laid horizontally towards the southeastern corner of depression (Feature 63). Immediately to the south and partially underlying Feature 46 was a large pit Feature 47. This pit may originally have supported the stone vertically although no packing stones were observed in or close by the pit. The function of the stone was unclear, although its placement in the centre of the dwelling suggested that it was used as some form of surface or bench.

Feature 47: Pit

Feature 47 (Plate 4) was a sub-rectangular, almost vertical sided, flat bottomed pit 1.18 m in length, 0.70 m in width and 0.21 m in depth cut into the centre of the southern face of the central depression Feature 63. It was filled with a mid red-brown silty clay with occasional small angular stone inclusions less than 2 cm^3.

Feature 48: Small stone arrangement

Feature 48 was a collection of four irregular limestone rocks forming a sub-rectangular feature 0.65 m in length, 0.40 m in width and 0.08 m in height situated just outside the southeastern corner of the central depression (Feature 63) on top of the platform (Feature 42). The stones varied in shape and size, the largest measuring 0.33 m in length, 0.20 m in width and 0.08 m thick. This feature had no clear function. It was noticeable that the type of limestone used to construct Feature 48 was unweathered, unlike most of the other limestone features on site, and was identical to the limestones used to construct Feature 38. It may have been intended to serve a similar function although no evidence of burning was found on or around Feature 48. Alternatively it may have acted a pot stand or post pad for a roof support.

Feature 53: Stone slab

Feature 53 was a sub-rectangular eroded flat limestone slab 0.75 m in length, 0.44 m in width and 5 cm thick situated 2 m south west of House Feature 30. Feature 53 is one of a number of stone slabs, including Feature 33, Feature 34, Feature 46 and Feature 61 that are thought to be possible work surfaces.

Feature 54: Gravel fill of house depression

Feature 54 was white, rounded limestone gravel mixed with a small amount of light grey brown silty clay up to 17 cm thick, deposited in the centre of depression Feature 63. When first identified it was thought to be natural gravel that formed the floor

of the house depression, the matrix being almost identical to natural gravel Level 5. However, upon excavation it turned out to be redeposited natural gravel that had eroded into the centre of the house to bury the original floor surface. The surface of Feature 54 does however appear to have been used as a floor during the second phase of occupation as a large stone slab Feature 46 was placed on it, and postholes Feature 55 and Feature 56 were cut into it.

Feature 55: Stakehole

Feature 55 (Plate 4) was a sub-rounded, vertical sided, irregular bottomed stakehole 0.22 m in length, 0.23 m in width and 0.27 m in depth cut through the gravel Feature 54 in the centre of the depression Feature 63. It was filled with a mid to dark brown sterile silty clay. Feature 55 was one of a number of holes and depressions within the depression of the house that were also filled with an identical soil matrix. Most of these were thought to be natural features. Feature 55 was only considered to be a stake-hole due to its relatively uniform shape and greater depth.

Feature 56: Posthole

Feature 56 (Plate 4) was a shallow, round, U-profile cut 0.24 m in diameter and 0.08 m in depth cut into the base of the northern face of the central depression (Feature 63) through gravel Feature 54. It was filled with a mid-grey brown sterile silty clay. This feature was originally thought to be a post-hole, its shape being very regular in plan. However, its very shallow depth would clearly not support a post on its own. It may

mark the position of a roof support that was held in place by the roof itself or just be a regular shaped natural depression, one of a number observed in the centre of the depression.

Feature 57: Pit

Feature 57 (Plate 4) was a shallow, sub-rounded pit with flatish base and gently sloping sides ca. 60°, 0.70 m in length, 0.66 m in width and 0.09 m in depth cut into Level 3, 1.20 m east of House Feature 30. It contained the pot stand (Feature 39) and greasy soil deposit (Feature 44).

Feature 58: Natural soil

Feature 58 was a sterile, orange-brown silty clay subsoil mottled with dark red brown peaty patches and abundant angular grit inclusions situated in the northeastern corner of Area 1. It is probably the same as Level 3, and merely reflects a greater depth of natural deposits in this part of the site.

Feature 59: Occupation deposit

Feature 59 (Plate 4) was a discontinuous spread of highly crushed bone 0.85 m in length, 0.60 m in width and 0.02 m thick covering the floor on the eastern side of the central depression (Feature 63). The bone had been trampled into and partially mixed with the natural gravel (Level 5) and represents the occupation horizon belonging to the first phase of activity to House Feature 30. Associated with the bone were a whetstone, a

small section of sled runner, and a piece of worked whalebone, lying abandoned on the house floor.

Feature 60: Cobble axial feature

Feature 60 (Plate 4) was a linear arrangement of sub-rounded limestone cobbles and rocks measuring 1.44 m in length, 0.78 m in width and 0.14 m in depth aligned north-south through the centre of the house depression Feature 63. The majority of the rocks were water worn limestone cobbles ranging in size from 0.08 m to 0.16 m in diameter. Distributed between these were occasional flat limestone rocks ranging in size from 0.07 m^2 to 0.18 m^2 and averaging 0.04 m thick. This feature terminated at its southern end in a large flat eroded limestone slab (Feature 61). It is possible that these two features were associated to form a central axial feature to House Feature 30. However, it should be noted that directly below the natural gravel Level 5, was another natural deposit (Feature 62) that consisted of large sub-angular limestone rocks. Feature 60 was located at the deepest part of the house depression and may therefore be a small exposed section of the underlying gravel/boulder deposit (Feature 62). However, comparison of Feature 60 and Feature 62 suggests that they are two different deposits. The stones that make up Feature 60 were mostly sub-rounded cobbles under 0.16 m in diameter. The stone that made up the natural boulder deposit (Feature 62) were predominantly sub-angular and tended to be larger.

Feature 61: Stone slab

Feature 61 (Plate 4) was a large flat sub-rectangular eroded limestone slab 0.82 m in length, 0.69 m in width and 0.03 m thick laid horizontally at the southern end of central depression Feature 63. It was aligned with stone arrangement Feature 60.

Feature 62: Natural boulders

Feature 62 (Plate 5) was a natural deposit of large irregular shaped limestone rocks exposed in the northeastern corner of central depression Feature 63 below Level 5. The stones ranged in size from 0.12 m^2 to 0.22 m^2.

Feature 63: Cut of house depression

Feature 63 (Plate 5) was a sub-rounded, U-profile pit 3.60 m in length, 3.10 m in width and 0.60 m in depth cut into the natural gravel deposit Level 5 to form the central depression to House Feature 30. The slope of the walls was more abrupt on the western and southern sides of the depression averaging 45° compared to 20° to the east and north. It is probable that this difference was due to natural erosion of the gravel rather than a deliberate architectural feature. It is also probable that the original dimensions of the central depression Feature 63 were smaller, becoming wider with the continual erosion of the loose gravel into the centre of the depression.

Area 2: Level Descriptions

Level 5: Natural gravel

Level 5 was an undulating deposit of yellow-white rounded limestone gravel of unknown depth. It is the only deposit identified in Area 2 that was present in Area 1.

Level 6: Natural silt deposit

Level 6 (Plate 5) was a fine ginger-brown silty clay that filled a large hollow in the natural gravel Level 5 that emanated out of the west facing section of Area 2. It contained no artefacts and is most likely a natural feature.

Level 7: Peat

Level 7 was a loose mottled dark red/orange brown peat 10 cm in depth directly under the turf in Area 2. It is stratigraphically identical to Level 1 of Area 1 but clearly not the same deposit. Towards the base of Level 7 the peat became more compact and spongy and the distinction between it and the deposit below (Feature 50), also a peat, was somewhat arbitrary, the interface only being discernable by the occurrence of abundant flakes within Feature 50 rather than changes in the peat matrix itself.

Area 2: Feature Descriptions

Feature 49: Stone arrangement

Feature 49 (Plate 5) consisted of a spread of predominantly angular flat limestone rocks ranging in size from 5 cm^2 to15 cm^2 and averaging 4 cm thick, concentrated at the northern and southern ends of Area 2. Many of the stones at the northern end of Feature 49 were small angular fire-cracked rocks with red-black discoloration. The stones sat in a silty peat matrix up to 12 cm thick with frequent grey black "ashy" lenses. The entire limit of this feature was not defined as it continued under all the section walls. However, the results from the geophysical survey (Figure 11) suggested that it is probably rectangular in shape measuring approximately 5 m in length by 4 m in width. The lack of stones in the centre of Area 2 corresponded to a gap in the artefact distribution that directly overlay Feature 49.

Feature 50: Peat

Feature 50 consisted of a mottled ginger to dark red-brown peat deposit up to 10 cm in depth with abundant roots directly below the turf. It covered the whole of Area 2. The structure of the peat was loose at the surface, becoming increasingly dense and spongy at depth. Most of the artefacts from Area 2 were found within this deposit.

Feature 51: Burnt seal fat

Feature 51 (Plate 5) was a sub-rounded conglomerate of burnt seal fat measuring 0.23 m in diameter and 6 cm in depth within peat deposit Feature 50. Immediately

around this conglomerate were many other individual pieces concentrated at the northern end of Area 2. Immediately below the seal fat (Feature 51) was a bifacially worked Groswater knife. Associated with the seal fat were a large number of flakes and artefacts.

Feature 52: White sand

Feature 52 (Plate 5) was a crescent shaped lens of fine white sand 1.55 m in length, 0.35 m in width and 1 mm in depth sandwiched between the peat Feature 50 and the stone spread Feature 49 situated in the south of Area 2.

APPENDIX 2

Debitage analysis

Debitage was classified as all unused detached pieces of material produced from the reduction of an objective piece (Andrefsky 1998:81). It was divided into two categories: flakes and flake shatter. Flakes consisted of artefacts that had a discernible striking platform. Flake shatter to all pieces that had no morphological characteristics. Flake shatter was not included in the analysis. Once the flake shatter was removed the flakes were further divided into three categories: primary flakes, secondary flakes and tertiary flakes, which relate to reduction stages in the production of stone tools. They were kept deliberately broad in order to maintain consistency with previous seasons of analysis at Point Riche. Tip flute spalls, a flake diagnostic of the manufacture and maintenance of Dorset harpoon endblades, were identified (based on diagnostic attributes described by Plumet and Lebel 1997: 48-154) in addition to flakes from the three reduction stages. These were recorded as artefacts and their location recorded separately. They are not included in the debitage analysis.

The morphological traits used to distinguish the three reduction stages were based on a simplified version of characteristics presented by Kooyman (2000:49-55) and from personal advice from Tim Rast, an expert flint knapper (Table 8).

Table 8: Reduction Stages and morphological traits used in debitage analysis

	Primary	Secondary	Tertiary
Morphological characteristic	Relatively large size	Flatter and wider than primary flake	Very thin
	Cortex common	Bulb diffuse or absent	Bulb diffuse or absent
	Pronounced bulb	Angular platform	Acute Platform
	Platform near 90° Errailure scars, fissures and compression rings on ventral surface	Errailure scars, fissures and compression rings on ventral surface	No Errailures Fissures and compression rings on ventral surface
	Single facet platform	Less pronounced multi-facet platform often lipped	Less pronounced multi-facet platform often lipped
	Simple dorsal surface	Complex dorsal surface (more than 3 flake scars)	Complex dorsal surface (more than 3 flake scars)
Reduction stage	Core reduction	Shaping Thinning Bifacial reduction	Finishing Re/sharpening Notching

APPENDIX 3

Artefact Counts from Sites Used in Comparative Analysis

Table 9 lists the artefact counts for each of the sites used in the comparative analysis with the Point Riche dwellings. Artefact classes were kept deliberately broad in an attempt to make the data recorded by individual excavators as compatible as possible. The counts were obtained from site reports rather than from a re-examination of the artefacts themselves. In some instances, where information on particular artefacts types had not been recorded, the artefact counts were estimated by calculating the mean value for the given artefact type from all assemblages. For example, the number of cores had not been recorded at the Beeches site. The mean percentage of cores from all sites was 15.03%. The number of artefacts from Beeches was recalculated on the basis that 15.03 % of its assemblage was comprised of cores. While this was clearly not desirable, given that the study intended on highlight differences/similarities between the assemblages, it was the only way of including such sites in the analysis.

	abrader	biface	BLT	core	endblade	hammerst'	microblade	preform	ret'/util flake	scraper	slate tool	soapstone	T-F spall
Point Riche F1	10	36	6	82	74	1	308	44	82	87	26	56	130
Point Riche F8	14	30	10	255	63	1	188	22	161	74	67	4	43
Point Riche F30	3	0	0	26	23	0	29	15	8	5	2	0	38
Point Riche Midden	3	13	3	74	50	1	161	27	68	36	17	6	61
Phillip's Garden F1	0	32	8	21	44	1	91	24	55	36	23	32	80
Phillip's Garden H2	25	85	25	44	338	11	613	84	265	315	129	221	388
Phillip's Garden F77	0	53	5	82	129	1	256	84	18	79	32	67	374
Phillip's Garden F73	1	3	1	6	12	0	24	13	9	9	2	32	16
Stock Cove	7	103	2	98	379	11	185	129	158	72	15	10	118
Cape Ray House	0	27	0	39	121	0	396	51	121	113	30	38	51
Cape Ray Midden	0	27	0	72	100	0	299	46	127	72	36	63	54
Peat Garden	0	4	2	8	7	0	23	1	10	11	8	25	4
Bird Cove	0	19	0	9	12	0	63	1	41	19	2	0	14
Beaches	17	13	2	56	52	32	48	128	58	52	1	3	62
Broom Point	0	16	9	99	16	24	140	13	107	51	0	0	97
Dildo House 1	2	6	0	60	63	0	60	31	18	27	1	6	48
Dildo House 2	0	4	1	50	57	0	42	17	7	17	2	0	12
Pittman	1	9	3	142	54	0	118	35	147	86	6	25	117