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## PRELIMINARY REPORT OF EXCAVATIONS AT SITE R11/1694 NEWMARKET, AUCKLAND

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### INTRODUCTION

Site R11/1694 consists of a single terrace situated on a north-east facing lava promontory of Mt. Eden (Maungawhau). The site is located in the outskirts of Newmarket, Auckland (Fig. 1). Central Newmarket is situated on a flatland below. Views over the whole of Newmarket and out over Mt Hobson would have been possible before urban construction. Hobson Bay and the Waitemata Harbour are about 1.7 km distant, while the Manukau Harbour is around 5.7 km, and the Tamaki estuary lies about 7.2 km to the south-east.

Recent construction at the site uncovered the foundations of a historic house constructed around the late 1850s and a prehistoric shell midden. This necessitated archaeological excavation before further residential modification could be made.

Two seasons of excavations have been carried out. The first field season, which will not be addressed here, investigated the historic house. This preliminary report describes the second field season excavation of the prehistoric occupation of the site.

### EXCAVATION

Excavations in the second field season were carried out over three weeks from late November in 1990. The aim of this investigation was to record information about the prehistoric occupation and to address some outstanding questions about the historic structures examined during the first season. It was decided that the area likely to have the least disturbance might be located within the confines of the house foundations where concentrated shell layers had been revealed.

Four areas (Areas 2-5) were opened and a series of test pits were excavated (Fig. 2). Area 5 was opened to examine the construction of stone retaining walls present on the site and to ascertain whether there was undisturbed stratigraphy behind them. In Area 4 a concentration of mixed shell, rock, ceramics, glass, and metals etc. was investigated. The aim of the excavation in Area 2 was to find the corner of a separate historic structure

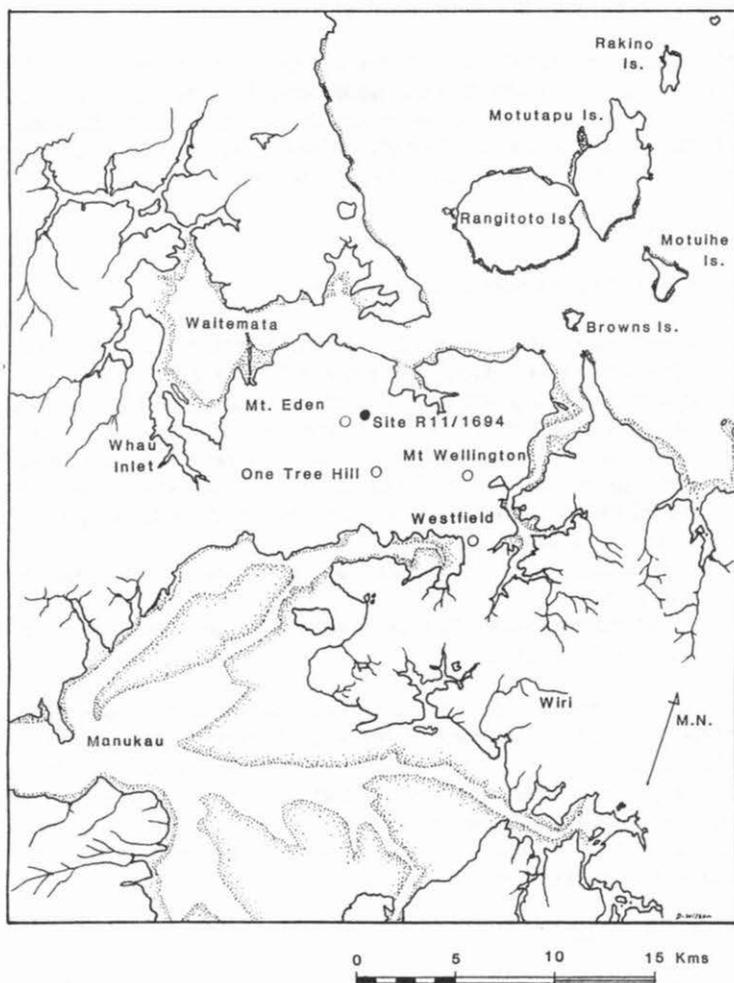


Fig. 1. The Auckland Isthmus, location of site R11/1694

believed to be a kitchen. The main excavation area was within the house foundations (Area 3). The aims of the investigation of this area were twofold: to establish to what extent the midden had been disturbed by the historic occupation; and to examine the nature of any prehistoric occupation. To achieve these aims excavation was carried out in horizontal 5 cm spits and bulk

samples of shell midden were taken from 50 by 50 cm columns from squares chosen at differing locations and from any features. Plans were drawn and photographs taken after the removal of each spit.

The excavators were all volunteers from the University of Auckland. Support and funds for analysis were generously provided by the University of Auckland. Further funds for radiocarbon dating have been allocated by the Skinner Fund through the Royal Society of New Zealand. The excavation costs were largely born by the generosity of the volunteers.

## STRATIGRAPHY

The main layers encountered in Area 3 were;

- Surface Mixed European rubble of concrete, basalt rocks, soil, steel, glass, ceramic, plastics. Generally around 1 m in depth.
- Layer 1 A chocolate coloured loam with intermixed basalt rocks and European material. The soil is fine and friable, although not well draining.
- Layer 2 A black concentrated shell midden layer. The soil matrix is a charcoal-stained loam. There is much fire-cracked rock, charcoal, basalt rocks, some bone and European material, with a predominance of cockle (*Chione stutchburyi*).
- Layer 3 A chocolate brown loam, with less shell, fire-cracked rock, but many basalt rocks.
- Layer 4 A khaki/orange coloured fine loam with large intermixed basalt rocks. No cultural material.

Excavation in the first season had removed the surface layer and layer 1. The surface layer was interpreted as the rubble formed after demolition of the historic house, and subsequent debris. Layer 1 was identified as a historic occupation layer with little prehistoric material. The layer 2 shell midden is argued to be a purely cultural deposit above a buried topsoil, layer 3. The sterile natural layer 4 probably overlies a basalt basement formed from a Mt. Eden (Maungawhau) lava flow.

## PLANS AND SECTIONS

Figure 3 shows the East baulk of Area three (for orientation see Fig. 2).

Two major features were recorded. Feature C is an infilled pit. Feature A5 is a disturbance through layer 3, which has intermixed this layer and the natural.

A lens of charcoal supports the interpretation that this may be an infilled hangi pit. The concentrated shell layer (Fig. 3) was revealed again at some depth in square B1 on the other side of the wall (Fig. 2).

Figure 4 is the section drawing showing the southern baulk of the northern extension of Area 3 (for orientation see Fig. 2). Lenses of ash, shell concentrations, and rock concentrations were evident. Two postholes were picked up in section, one of which appeared to be related to the hangi (Feature

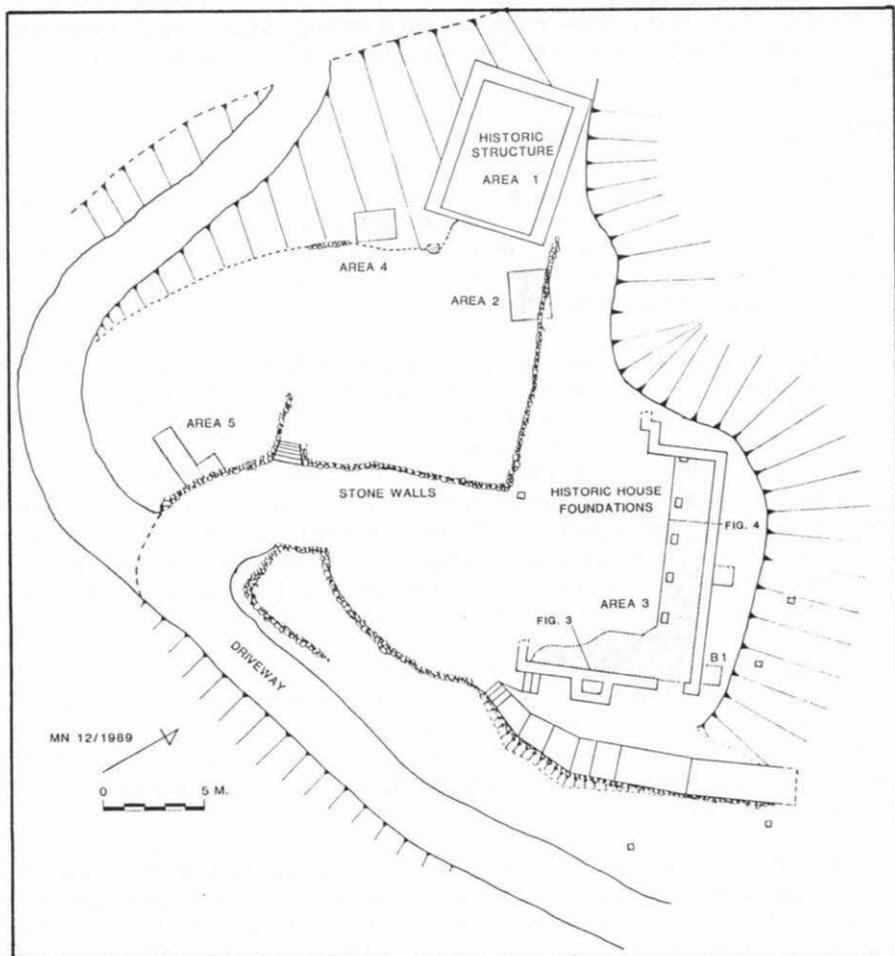


Fig.2. Plan of site R11/1694, with areas excavated in 1990 field season.

O). This feature was filled with medium-sized basalt rocks (20-40 cm diameter) which were surrounded by a dense greasy charcoal. Plant species identified from charcoal samples were small diameter kohekohe (*Dysoxylum spectabile*) branches and wood from a *Coprosma* species. Carbon sample A (see below) was taken from this feature. Posthole T appears in section and may be related to the infilled pit (Feature C). Figure 4 also shows one well-defined wall of Feature C. The north-western edge of Area 3 slopes rapidly down beneath the stone foundations and is marked by shell and basalt rock concentrations (Fig. 4).

## STRUCTURES AND FEATURES

The plan of Area 3 with features O, A5, and C (including cross-sections) and the location of a number of shallow postholes is illustrated in Figure 5. These postholes could not be found in the layers above, but were visible in the natural surface (Layer 4). Concentrations of shell leading beneath the wall could not be excavated to a greater depth.

The pit (Feature C) has been interpreted as a storage structure (Fig. 5). The roughness of its design may indicate that it was never actually functional. Alternatively, its form may be related to the nature of the substrate. Well-formed pit structures have often been excavated in New Zealand (Fox and Cassels 1983), but would have been almost impossible to create in this region, given the abundance of large basalt rocks embedded in the soil matrix. Similar features have been excavated at Westfield and these have been interpreted as functional and operative storage structures (Brenda Sewell, Department of Conservation, pers. comm. 1991). The cross-section of this feature shows how it was constructed, with a reasonably level floor.

Three shallow postholes visible in the natural layer (Postholes 1 to 3, Fig. 5) are equidistantly spaced in a line, but do not appear to be perpendicular to, or contemporaneous with, the pit. The shallow nature of the post holes, however, may be a further reflection of the soil and rock substrate which restricts the excavation of holes to great depth, and so their association with the pit can not be dismissed.

A further smaller posthole (Posthole 4, Fig. 5) was excavated beside the hangi (Feature O) and is believed to be contemporary. This posthole and the hangi feature are sealed from above by a small charcoal lens (Fig. 4). The association of the posthole and the hangi can be compared to similar features excavated by Shawcross at the Ngaroto site (Shawcross 1968: 18).

## SHELL MIDDEN

Analysis of the spits from layer 2, and also the concentrated midden layer 2a, has shown similar size ranges and species concentrations. This implies that

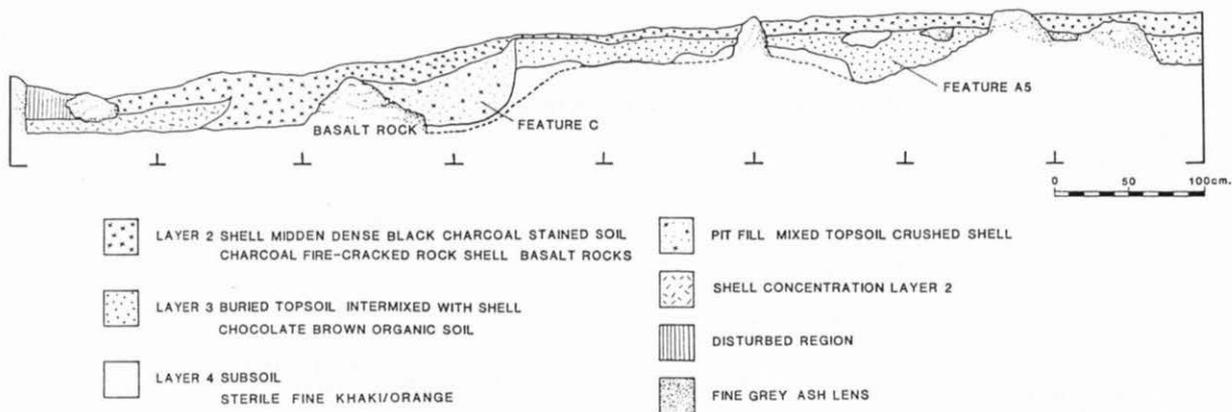


Fig 3. Section drawing of eastern baulk Area 3

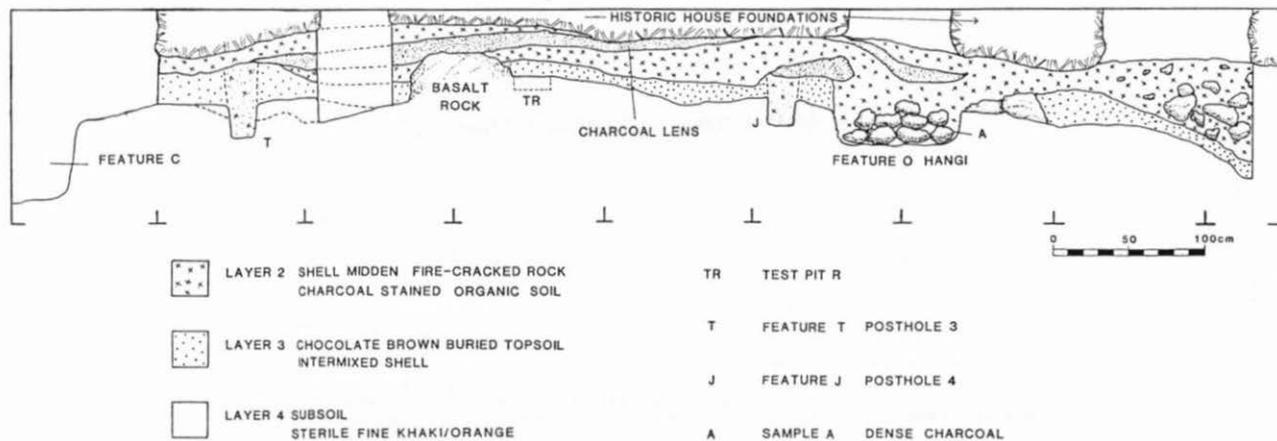


Fig 4. Section drawing of southern baulk Area 3

the material does not need to be distinguished by spit, but could all be grouped as Layer 2. There are, however, noticeable changes through the spits in terms of disturbance. A sharp decrease in the amounts of European material was noted through the spits by excavators and this was later vindicated by the results of midden analysis.

The high proportion of cockles (*Chione stutchburyi*), c.95% of the minimum numbers, probably reflects the availability of this species in the local Waitemata harbour environment. The sizes of the cockles were generally small, but all samples formed normal size distributions. Some of the shellfish are so small as to be unlikely candidates for hand selection (individual as against bulk collection) unless picked up attached to larger shells or within fish stomachs. Cockle hinge widths generally ranged between 1 and 4 mm, and lengths ranged between 12 and 30 mm. These measurements and the abundance of cockles seem to be comparable with other Auckland sites such as the Cryers Road middens (Fredericksen and Visser 1989: 100).

#### CHARCOAL ANALYSIS

The analysis of charcoal from the site was carried out by Dr R. Wallace of the University of Auckland. The charcoal was floated out of the midden and feature samples.

The small size of the samples and excavation areas has made interpretation highly speculative. In general, the species identified indicate a vegetation consistent with that recorded from other sites in the region, containing a mixture of podocarps and broadleaf forest species. There are some species present which highlight forest regeneration, such as the *hebe*, manuka (*Leptospermum scoparium*), *coprosma*, and bracken or rahurahu (*Pteridium aquilium* var. *esculentum*). Some pukatea (*Laurelia novae-zelandiae*) charcoal was recovered, and this is likely to have come from a swampy ill-drained habitat. All the species identified, except the bracken and pukatea, are present in small numbers around the site today.

#### RADIOCARBON DATING

A sample of charcoal from the hangi (Sample A, Fig. 4) was submitted to the Waikato University Radiocarbon Laboratory. The charcoal (15.35 gms.) was either a short-lived species (*Coprosma*) or of small branch diameter (Kohekohe).

It is argued that there would have been minimal in-built age. Sample A was taken from a greasy concentration of charcoal surrounding the stones at the base of the hangi (Feature O). The sample is therefore thought to derive from the actual use of the hangi. The filling and consequential sealing of this feature with an ash lens make it unlikely that there is any disturbance from upper layers. The depth of the stratigraphy indicates that the feature is early in the occupation of this part of the terrace.

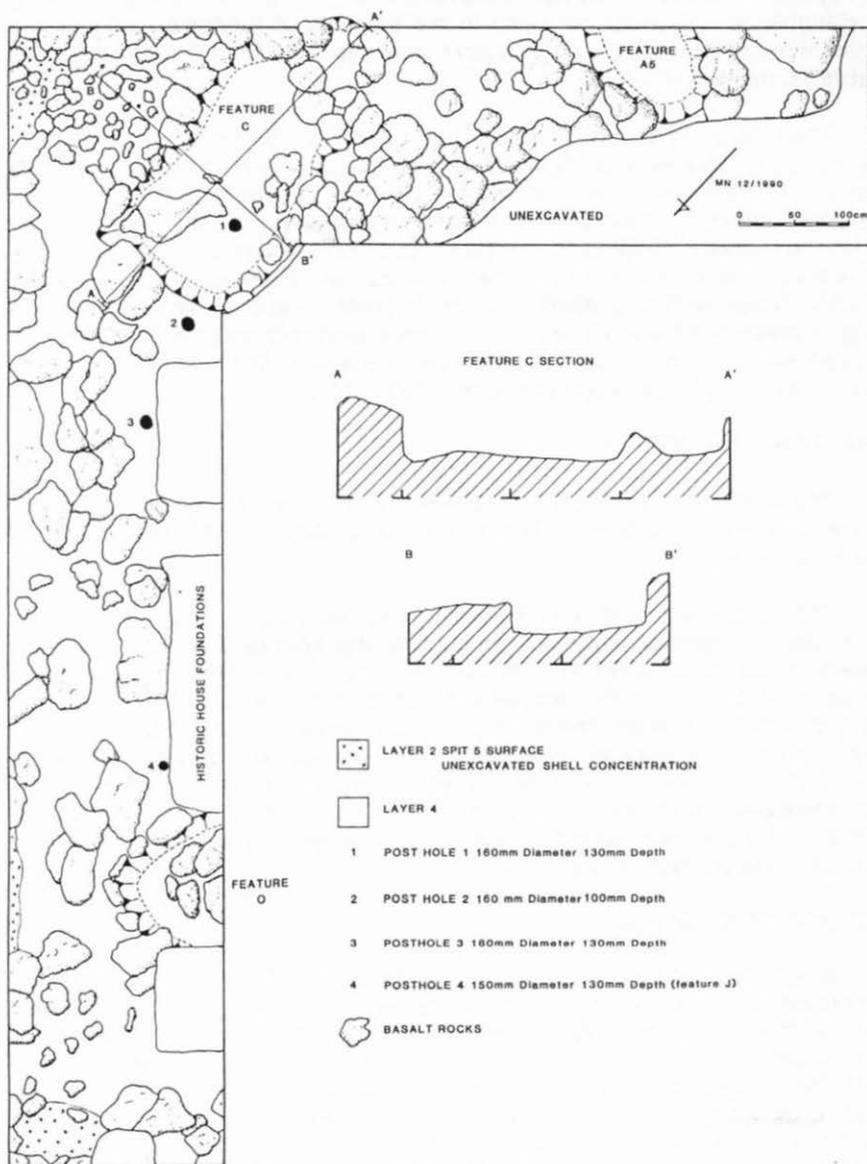


Fig. 5. Plan of surface of natural layer, Area 3.

The age of the sample, number Wk - 2051, is *modern*, indicating an occupation date close to AD 1950, but the associated error of about 200 years indicates possible occupation in late prehistory or perhaps during contact periods. The lack of any European artefacts in the midden and the presence of such artefacts as obsidian and adze flakes indicates a pre-contact Maori occupation. The radiocarbon date can be interpreted as indicating that the site was occupied in a late prehistoric or early contact period, sometime between AD 1750 and 1840.

## CONCLUSIONS

The construction of the stone house foundations appears to have caused minimal disturbance to the earlier stratigraphy, but there is some possibility that material was removed from the midden during construction. This excavation has shown that the stone walls were placed on top of the shell midden and that foundation height was probably changed to create a level surface for the historic house. It is not ruled out that midden may have been removed and levelled in certain areas. Indeed, shell can be seen in the cement used in the historic house foundations.

The occupation appears to have occurred in late prehistory. The interpretation of the excavation area (a very small area of the terrace) is that habitation began with food storage (perhaps kumara) and food preparation. A hangi, Feature O (see Fig. 4 and Fig. 5), excavated at the base of the occupation seems to have been filled with shells and other waste soon after use. Types of food remains found at the site include shellfish, fish, rats (kiore), and dog (kuri). Many other foods would not have survived to be represented in the middens, an exception being the charcoal remains of bracken (the roots of which were probably eaten at the site). Lenses of shell midden containing much fire-cracked rock, ash, bone, charcoal and soil were formed from the refuse of food preparation. Concentrations of shell noticed by excavators are probably the result of individual hangi in the vicinity. This midden, in turn, became a living surface where further cooking took place.

The formation of the shell midden at site R11/1694 appears to have begun at an early stage in the occupation, as evidenced in the excavations. The section drawing (Fig. 4) shows that rocks were concentrated along the northern and eastern edges of the excavation area. These accumulations arise at alternate ends of the terrace and suggest that the level living area may have originally been smaller. The rocks are interpreted to be fill. It is suggested that the terrace was widened, built up, and levelled over time using rocks, soil, and food waste and that this increased the utilised living area.

## ACKNOWLEDGEMENTS

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