

**Archaeological investigations at U14/2065 and U14/3269,
Balintoy Park, 166 Waikite Road, Welcome Bay**

**report to
The New Zealand Historic Places Trust
and
Hugh Green Ltd**

Jaden Harris and Matthew Campbell

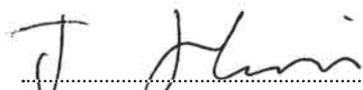
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Introduction

On 30 November to 15 December 2006 and 26 November to 10 December 2007 an archaeological mitigation investigation was undertaken at Balintoy Park, 166 Waikite Road, Welcome Bay (Lot 1 DPS 64053 and Pt Lot 1 DPS 75053) under the terms of authority 2007/60 issued by the New Zealand Historic Places Trust under Section 14 of the Historic Places Act 1993. Balintoy Park is being developed by Hugh Green Ltd as a residential subdivision.

The topography of the general area consists of reasonably steep stream valleys cut through layers of volcanic tephra leaving flattish terraces and ridgetops. Balintoy Park is located in the Waioraka Valley on the east side of the Waioraka Stream, off Waikite Road.

Background

No archaeological sites were previously recorded directly on the site of the proposed development. However the presence of several sites in the general area indicated that there was a high likelihood of archaeology being present. An archaeological survey of the property was undertaken by Matthew Campbell in March 2006. Two sites had previously been recorded close to the property boundary: U14/2065, a terrace site; and U14/3063, a midden. The survey did not detect any new archaeological features, nor did it relocate midden site U14/3063. Site U14/2065 was relocated and described as:

a clear terrace measuring about 12 x 10 m, with two possible terraces just below it (to the west), but these are rather ephemeral. Below this is a generally level

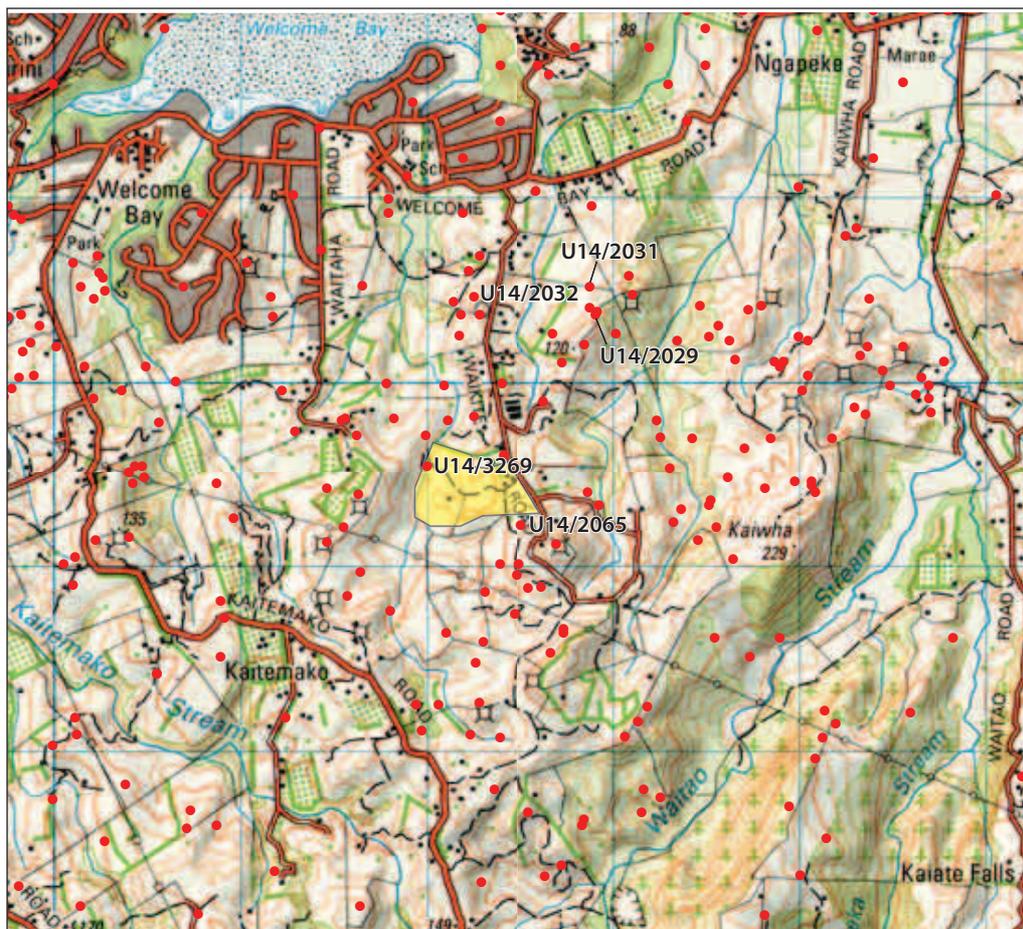


Figure 1. Approximate location of Balintoy Park, highlighted yellow, showing archaeological sites recorded in the general vicinity. Sites mentioned in the text are labelled.

area which would probably also be a focus of occupation. The whole site runs 50 m or so east to west. There may be some small terraces to the east of the site where the slope is steeper, but these are probably natural. A reading was taken with a hand held GPS (Garmin etrex) on the main terrace, and located the site at E 2792506 N 6379207 ± 6 m on the New Zealand map grid, essentially the same grid reference given to the site in 1984. The site is some 200 m from, and on the same hill as, a pa, U14/234. It may be related to that site. The visible features are only about 10 m outside the subdivision area and subsurface features associated with it could well be found during earthworks.

It was regarded as highly likely that archaeological features will exist beneath the surface across the property,

though none were visible. The property is surrounded by recorded sites and there are several ridgelines that would seem to be ideal places to locate prehistoric occupations.

Research design

Little archaeological survey or investigation has been reported in the Waioraka Valley or Waikite Road generally, but the nearby Waimapu Valley (Oropi and Ohauti) has been a focus of recent residential subdivision and development. Consequently, several sites have been investigated and reported. Most of these sites were not visible on the surface, and in every case their full extent was not known until the topsoil was stripped off them. Several extensive pit storage sites, including shell middens and oven scoops, houses and in one case a palisaded village have been dated

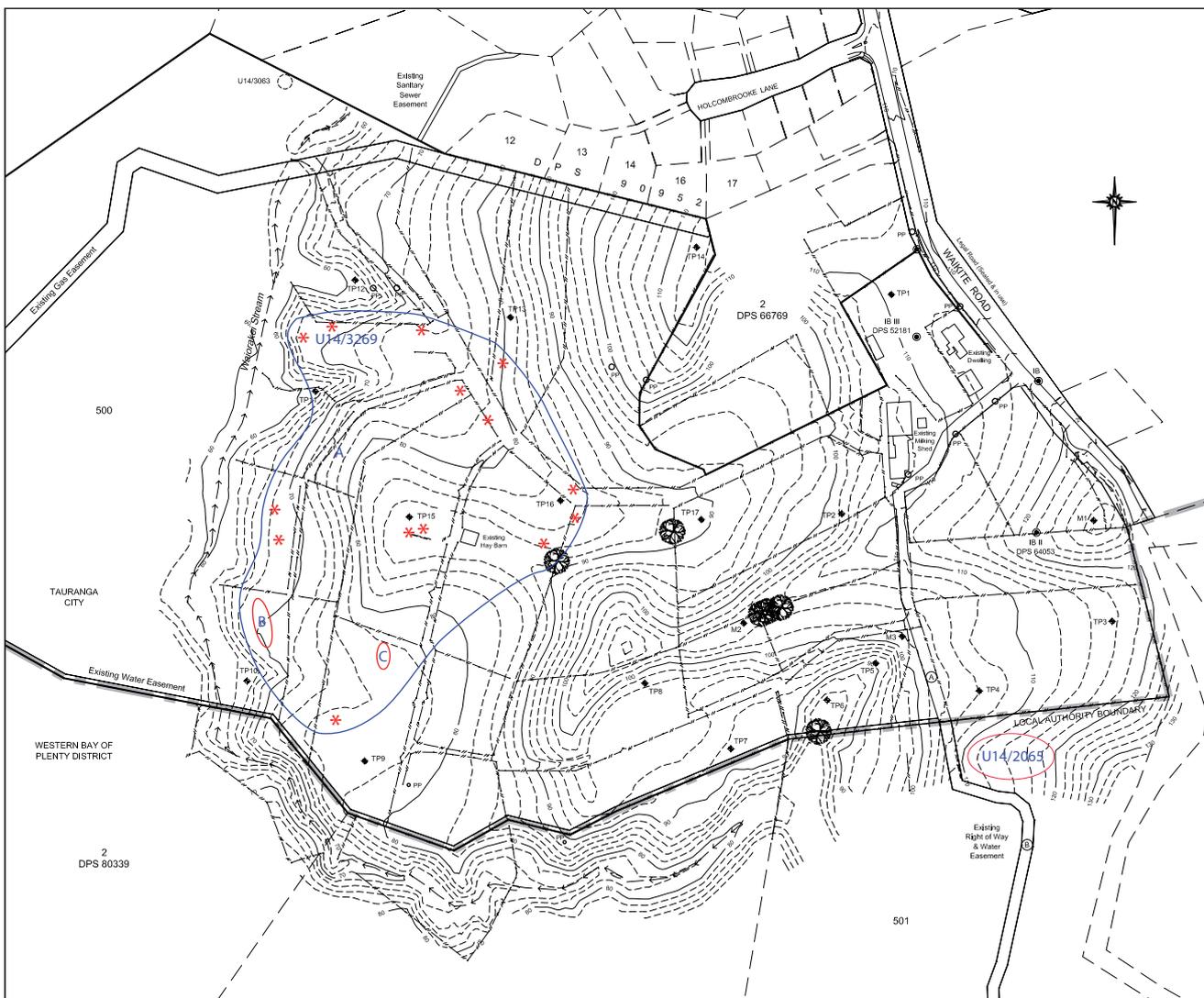


Figure 2. Site plan of Lot 1 DPS 64053 and Pt Lot 1 DPS 75053, showing the location of U14/2065 and U14/3269. Asterisks denote the location of isolated features recorded as part of U14/3269 by handheld GPS (accuracy ± 5 m).

to between AD 1450 and 1650. These show the full range of activities and occupations that would be expected in these situations, as well as strong circumstantial evidence of gardening, implied by the presence of kumara storage pits. A similar scenario might be expected at Waikite Road. The primary research focus was on comparison with the Waimapu: in what ways are the two valleys similar; in what ways do they differ; and, if there are differences, to what can they be attributed?

Site damage

Site damage occurred during earthworks at two places prior to archaeologists being present on site. These were notified to Matthew Campbell by Des Heke of the Ngati He Resource Management Unit on 6 November 2006. The Historic Places Trust Tauranga office was informed and site visits to assess the damage took place on 8 November. The assessment took the form of surface recording only.

U14/2065

Midden had been exposed by heavy machinery some 80 m to the west of the level area that itself ran 50 m west of the main terrace, at grid reference E 2792383 N 6379168, and probably associated with the recorded terrace site. The visible exposure measured 2.7 x 4.8 m, and consisted primarily of pipi (*Paphies australis*) and cockle (*Austrovenus stutchburyi*), the latter quite small, with some tuatua (*Paphies subtriangulata*) and ostrich foot (*Struthiolaria papulosa*). In the south east corner of the exposure there was a small oven scoop with a concentration of heat cracked rock and charcoal. About 5 m to the south west of this exposure of midden was another small exposure, all of which appeared to be pipi and cockle. Probing with a steel gum spear indicated that the midden was only about 50 mm thick and extended a few metres to the east of the exposure. The site had clearly undergone some damage, with previously sealed deposits now lying open and material redeposited in the bund immediately west of the midden and lying loose to the north of the midden. Parts of the midden continue to be protected beneath the current ground surface.

U14/3269

Midden was exposed on the edge of the drop down to the stream at grid reference E 2792008 N 6379532. The main part of the visible exposure measured 2.1 x 2.8 m, and consisted of pipi and cockle. Very little of the midden remained in situ, with just patches of midden in topsoil. It had been turned over by rabbits so it was difficult to say how intact it would have been prior to being exposed. Several heat-cracked oven stones could be seen on the surface in the general vicinity, which were no longer in situ. Some possible oven scoop bases could be seen, but these were uncertain.

The site had clearly undergone considerable damage, with previously sealed deposits now lying open and material redeposited downslope (to the west) and in the topsoil stockpile upslope (to the east). The extent to which this damage can be attributed to rabbits is uncertain. Probably none of the site remained undisturbed.

Method

During the first season in 2006 all earthworks were monitored by an archaeologist and any archaeological features exposed were investigated following the research design outlined above. During the second season in 2007 earthworks monitoring was targeted at areas of archaeological sensitivity which the first season of work had indicated would be most productive. All archaeological features investigated are included in site U14/3269, although they form clusters of features separated by up to 70 m.

Earthworks in the first season were largely confined to establishing sediment control and stripping the valley that runs east–west down the middle of the site. In the second season topsoil stripping occurred on the stream terrace to the west of the site and the spur running east–west to the south of the valley. The part of U14/3269 that was uncovered in November 2006 was investigated that year, and the remainder of the site was investigated as it was uncovered in 2007.

Results

Following the initial recording of U14/3269 the sediment control works in the Waioraka stream below the site were monitored. While some deposits of pipi and cockle were found in the stream it was not clear that they were in primary deposition. Also found were several modern timbers, probably fenceposts, indicating a history of deposition and disturbance in the stream bed.

Fourteen archaeological features were recorded in Season 1. The first feature was the midden recorded as U14/3269 which was investigated by digging a trench through to it to find its extent and sampled by collecting two bulk samples of midden. The midden was disturbed by rabbit burrows and other activity and had no intact stratigraphy or associated features. Another patch of midden was also uncovered by machinery and bulk sampled. Most of the other archaeological evidence consisted of isolated ovens and pits with no more than two features occurring in association (Figure 2).

Of the better preserved ovens, Feature 3 measured 750 mm in diameter by 80 mm deep and Feature 6 1100 mm in diameter, both with darkened soil, fire cracked rock, charcoal and shell fragments in their fill. Feature 4 was a rectangular pit 800 x 450 mm by 700 mm deep which had clearly defined edges. Features 11 to 14 were also most likely prehistoric rectangular storage pits, although upon excavation they proved shallow and difficult to define.

Other potential features upon investigation turned out to be amorphous in nature and were not clearly archaeological in origin.

In Season 2 a further 25 archaeological features were recorded including one small patch of midden (Area A) and two small groups of storage pits (Area B and C) (Figures 2 and 3). Fortunately these features were much better preserved and easier to define than those identified during Season 1. Of the first five features recorded in Season 2, Feature 1 was the most definite being a large circular oven 1300 mm in diameter filled with grey/brown ashy soil, charcoal and oven stones. It was located below Area C further down towards the stream. Between Areas B and A were a few other possible archaeological features including one possible oven and two post holes.

Area A was an irregular patch of midden exposed on the edge of a steep slope overlooking the stream which was exposed after the topsoil had been removed (Figure 3). Like the midden patches investigated in the first field season it appeared from the top to have been turned over by rabbits and possibly ploughing. To investigate the extent and condition of the midden, two trenches were dug through it on an east–west axis. No stratigraphy was obvious in the midden and the shell was not dense. One ten litre bulk sample of midden was retained for analysis. There were no other associated features in this area.

Area B consisted of a group of rectangular storage pits and one large oven further up the valley on gently sloping ground above the Waioraka Stream (Figure 4). Eight pits

were present in total, all rectangular with clearly defined edges and filled with clean grey/brown volcanic soil. Such pits are most likely associated with the cultivation and storage of kumara. The aim of the investigation was to determine size and depth of the features, so most pits were only partly excavated (the dimensions for all pits excavated in Season 2 are listed in Table 1). All features in Area B and C were mapped by hand off baselines between control points which were surveyed in using a differentially corrected GPS.

Although the outline of the pits could still be easily defined, many of them were found on excavation to be quite shallow. For example, Feature 11 which was a clear rectangular pit 3100 mm x 1150 mm on the surface proved to only have a maximum depth of 60 mm. Much of this truncation is likely the result of past land management practices, although the method of removing the topsoil with scrapers towed behind tractors would also have contributed in cutting down the features.

Features 8 and 9 intercut each other and it was not possible to determine which pit had been cut first, as they shared a common wall on the south side and were filled with the same brown/grey soil. Feature 14 had two post-holes dug into its floor down the centre line. Feature 13 was a small pit off the end of a much larger pit (Feature 12) with a sump 150 mm deep and extending 250 mm out from the south wall dug into its base. Feature 6 was a large oven 1010 mm in diameter and 130 mm deep which showed clear evidence of burning and contained charcoal and pieces of oven stone in its fill. This feature was slightly isolated from the group of pits and was one of the few cooking features found during Season 2.

Area C consisted of another group of nine pits approximately 60 m to the east of Area B (Figure 5). This group contained the largest and best preserved pits encountered during the two seasons of fieldwork, with Feature 22 measuring 5000 x 2100 mm by 710 mm deep. Again however many of the features appear to have been truncated with Features 18 and 21 just 100 and 50 mm deep respectively. How much the features have been truncated can not be determined but it is likely that other, adjacent features such as postholes and oven scoops have been lost.

Some reuse of the site is indicated by several instances of pits intercutting with one another. Features 23 and 24 are older pits which do not align with any of the others and have been cut by later pits orientated roughly east–west. Features 19 and 20 are on the same alignment and Feature 19 seems to have cut Feature 20, though this was not absolutely certain as the fill of the two pits was the same homogenous grey brown tephra. It must also be stated that pits may only have been used for a season or two, so even several instances of pits intercutting probably does not represent any significant time depth. Overall the low density of pits in this area and the general lack of evidence for

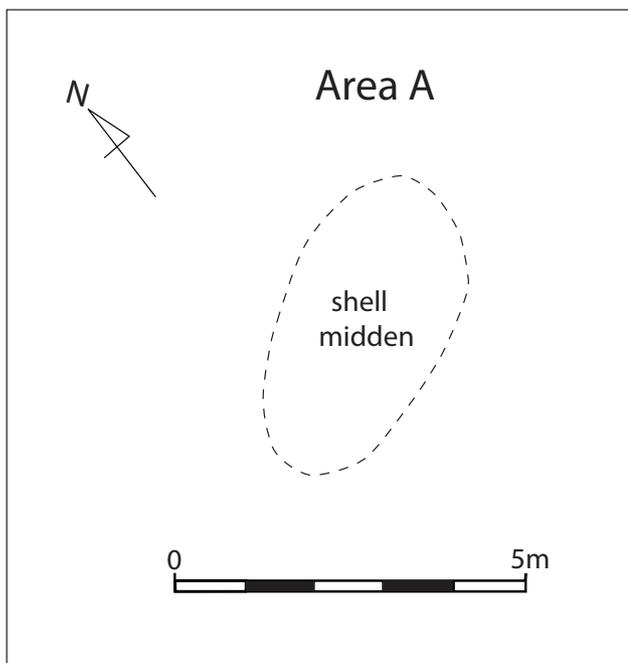


Figure 3. Area A.

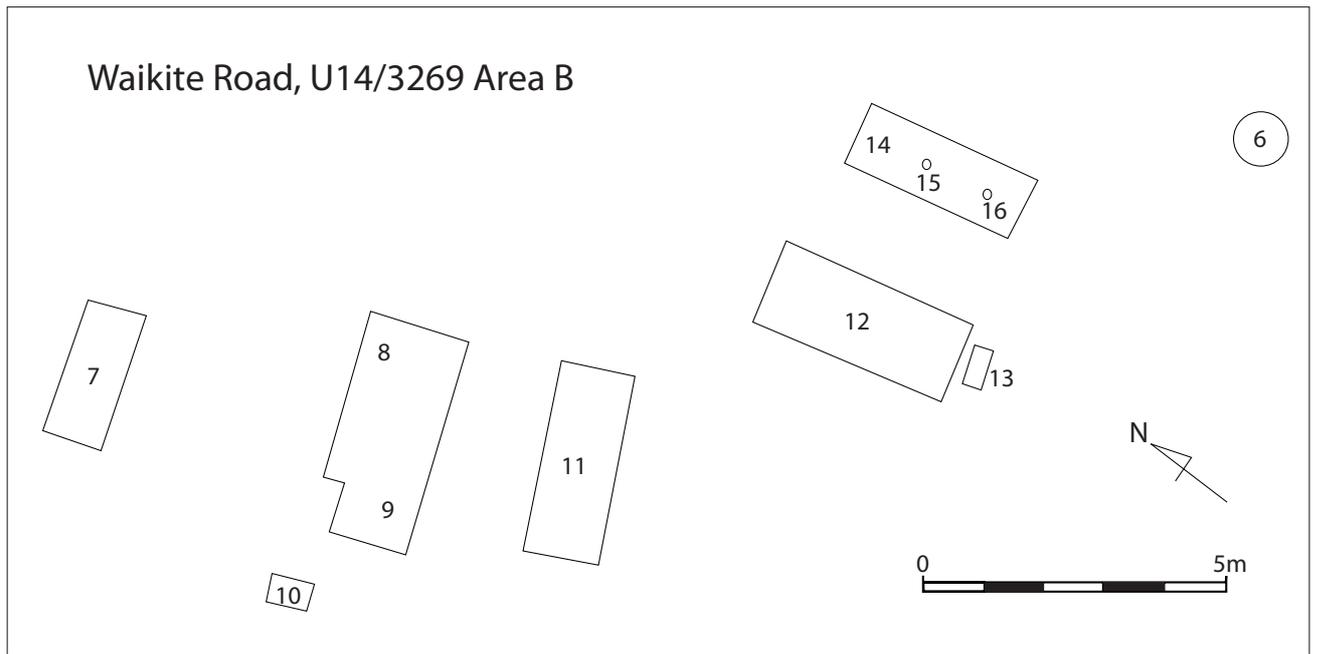


Figure 4. Area B.

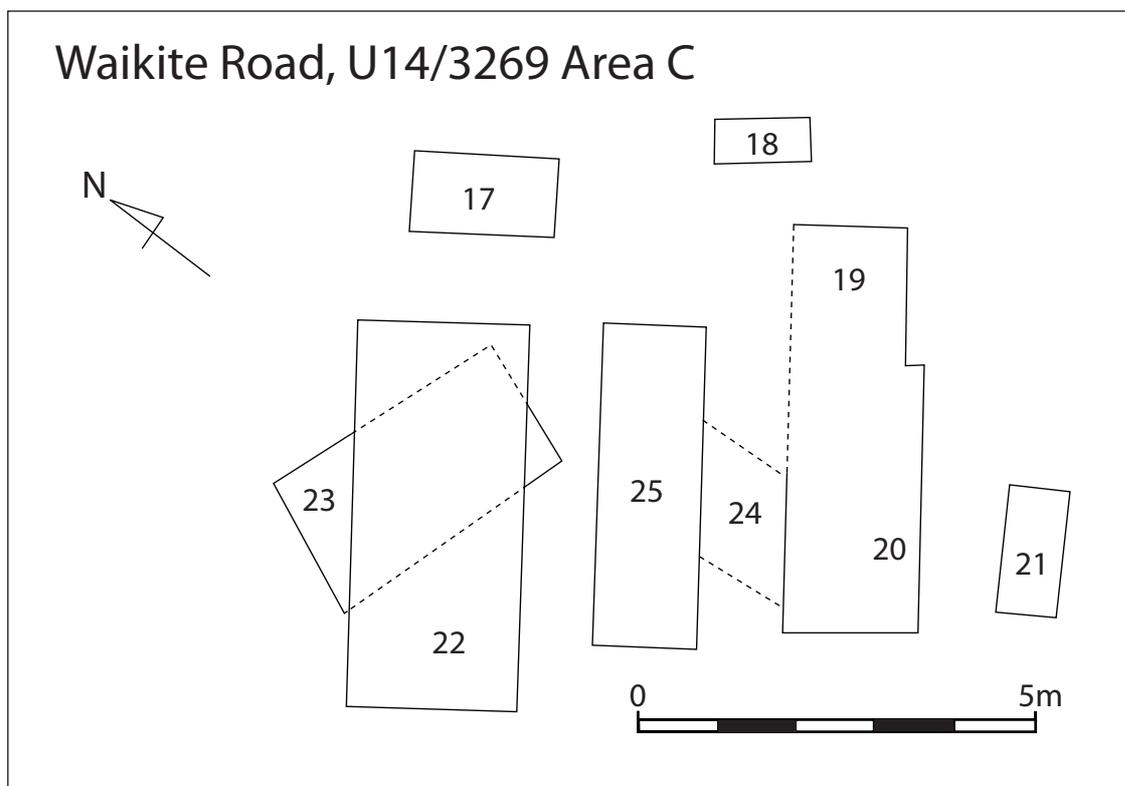


Figure 5. Area C.

Feature	length (mm)	width (mm)	max. depth (mm)
7	2340	830	230
8	3000	1700	400
9		1320	290
10	730	560	120
11	3100	1150	60
12	3370	1400	430
13	730	390	600
14	3000	1200	390
17	1800	900	270
18	1200	600	100
19		1600	470
20	3600	1800	940
21	1600	800	50
22	5000	2100	720
23	3500	2000	180
24		1400	230
25	4000	1330	320

Table 1. Dimensions for pits excavated in Season 2.

repeated use, indicates a relatively low level of prehistoric occupation.

Midden Analysis

Two ten litre midden samples were retained for analysis, all from general midden deposits except for Feature 6, a coven scoop. Each sample was air dried, weighed, wet sieved through a 2 mm mesh and redried. Weight loss through wet sieving (in other words, the amount of soil sieved out of the sample), as a percentage, is used to quantify the density of the midden, that is, how much material there is in the sample and how much of it is shell. These statistics are shown in Table 2. The density of the samples varies considerably, from half of Sample 3 being shell, while only 4% of Feature 6 is shell. In the latter case, the oven contents had been heavily burnt and most were washed through the sieve. Feature 6 also contained more stone than any other

Context	Type	Dry weight	Sieved weight	% weight loss
Trench 1 #1	midden	8130	1090	87
Trench 1 #2	midden	8350	1890	77
Area A Trench	midden	9680	3480	64
Sample #3	midden	9790	5030	49
Feature 6	oven	8430	300	96

Table 2. Weight data, in grams, for midden samples. Figures for Trench 1 have been adjusted to 10 litre equivalents.

feature (211 gm). In general, however, the middens were not dense.

The counts for shell by species for each sample are shown in Table 3. Pipi (*Paphies australis*) and cockle (*Austrovenus stutchburyi*) dominate the samples, which is typical of many midden sites in New Zealand. These shell fish are estuarine or sheltered beach species and would have been easily accessible anywhere around the margins of Tauranga Harbour. The nearest source of shell fish would have been Welcome Bay, approximately two kilometres down the valley from the site. The occasional exploitation of other marine environments such as open sandy beaches is shown by the presence of significant quantities of tuatua (*Paphies subtriangulata*) in two of the samples. The distribution of species is consistent with the data from other inland Tauranga sites, for example Oropi Downs (U14/1941, U14/3056, U14/3216) (Campbell and Hudson 2008) and Rowesdale (U14/1972, U14/3218) (Campbell 2005). In contrast, sites along the Papamoa dune plains are dominated by tuatua and ostrich foot (*Struthiolaria papulosa*) which are both open beach species (CFG Heritage reports in preparation). This clearly suggests that people were first and foremost exploiting the shell fish resources which were locally accessible.

Context	Cockle (<i>Austrovenus stutchburyi</i>)	Pipi (<i>Paphies australis</i>)	Oyster (<i>Saccostrea glomerata</i>)	Tuatua (<i>Paphies subtriangulata</i>)	Miscellaneous bivalves	Miscellaneous gastropods
Trench 1 #1	468	66	4		8	13
Trench 1 #2	1182	118	4		18	38
Area A Trench	871	172	2	140	8	39
Sample #3	1843	70	5	145	20	78
Feature 6	36	5			1	1

Table 3. Counts of shell by species (MNI). Counts for Trench 1 are adjusted to 10 litre equivalents.

Artefacts

The only artefact was a small core of Mayor Island obsidian recovered during monitoring in the first season of fieldwork. It was not found in relation to any archaeological feature.

Chronology

With no stratified deposits and no clearly distinct phases of features, there is little that can be said for relative chronological sequences for U14/3269. Radiocarbon dating on the other hand can be used to indicate the timeframe for the occupation of the site in calendar years. Charcoal from Feature 6 was analysed by Dr Rod Wallace who identified *Hebe* sp. *Coprosma* sp. and Mahoe (*Melicytus* sp.), all of which are suitable species for radiocarbon dating. A sample of this charcoal (Wk-24221) and a sample of pipi shell from the midden in Trench 1 (Wk-24220) were submitted for radiocarbon dating (Table 4).

Although there are is at present little data from the Waioraka Valley and Waikite Road area itself these dates compare well with the nearby Waimapu Valley (Campbell 2003, 2004a, 2004b, 2005b; Furey 2004). A series of radiocarbon dates has shown that the main occupation of the Waimapu lasted for around 200 years from AD 1450–1650. The dates from the other sites in the Waikite Road area would appear to be somewhat later. Dates were obtained from U14/2029 and U14/2031 (Figure 1) of cal AD 1670–1900 and cal AD 1580–1820 at 65% confidence interval respectively (Hooker 2005). One further date from U14/2032 gave a date of cal AD 1580–1710 at 65% confidence interval (Hooker 2000a).

Discussion and conclusions

At present archaeological data from the Waioraka Valley and Waikite Road area itself is very limited. However, the findings from U14/3269 are similar to previously excavated sites. U14/2032 and U14/2037 are located further down the valley on the west side of Waikite Road. Two other terrace sites U14/2029 and U14/2031 have been investigated on the east side of Waikite Road. All of these sites evidenced small groups of storage pits and a few oven scoops and scattered shell midden indicating relatively low levels of occupation (Hooker 2000a, 2005). Other terrace sites (U14/2027, U14/2028) have been investigated in

the general area but found to have no cultural association (Hooker 2000b, 2005).

More data is available from the nearby Waimapu Valley and provides a greater scope for comparison (Campbell 2003, 2004a, 2004b, 2005b; Furey 2004). A series of radiocarbon dates has shown that the main occupation of the Waimapu lasted for around 200 years from AD 1450–1650.

The current excavation has revealed a number of archaeological features relating to prehistoric Maori occupation of the Waioraka Valley dating to the period AD 1450–1650. While the sample is small and many of the features were not well preserved, the pattern of groups of storage pit features associated with the growing of kumara, interspersed with small midden and living sites is well documented from the nearby Waimapu Valley.

The investigation of U14/3269 has also shown that the lack of surface evidence does not denote a lack of archaeology below the surface. Clearly most of the stream valleys leading up from Tauranga Harbour were intensely occupied in the past and where there are suitable areas for habitation, unrecorded sub-surface archaeological features are likely to be present. While the features recorded for U14/3269 may not seem significant by themselves they are clearly related to the wider occupation of the Waioraka Valley and should be viewed in this context. From the present evidence the occupation of the Waioraka Valley seems very similar to the Waimapu and any differences or slight variations in settlement patterns will have to await future archaeological investigation.

Acknowledgements

The excavation team consisted of: Peter Caldwell and Jonathan Carpenter in 2006 and David Carley, Jaden Harris and Noel Hill in 2007. Des Heke of the Ngati He RMU and Max Heke facilitated tangata whenua involvement. Our thanks to Bob Waterhouse of HEB Contractors, and John Collie and Ross McDowell of Harrison Grierson for their assistance.

Lab no	context	CRA BP	$\delta^{13}\text{C}$	cal AD 68%	cal AD 95%
Wk - 24220	Trench 1	770 ± 35	1.5 ± 0.2	1470–1590	1440–1660
Wk - 24221	Feature 6	368 ± 35	-27.6 ± 0.2	1490–1600	1460–1640
				1610–1630	

Table 4. Radiocarbon results

References

- Campbell, M. 2003. Archaeological investigations at Oropi Downs, Tauranga, Part I: excavation of U14/1945, preliminary report. Unpublished report to Asco Trust Limited.
- Campbell, M. 2004a. Archaeological investigations of site U14/3207, Richmond Park, Hollister Lane, Tauranga. Unpublished report to Hollister Lane Developments Limited.
- Campbell, M. 2004b. Archaeological investigation of site U14/3197, Oropi Park, Tauranga. Unpublished report to Muldem Holdings Ltd and Wasley Knell Consultants Ltd.
- Campbell, M. 2005. Archaeological investigations of sites U14/1972, U14/3218 and U14/3235, Rowsdale, Tauranga: final report. Unpublished report to Connell Wagner Tauranga and Rowsdale Developments.
- Furey, L. 2004. Archaeological excavations U14/1920 and U14/3193, Cheyne Road, Tauranga. Unpublished report to Victoria Tauranga Ltd.
- Campbell, M. 2006 166 Waikite Road, Welcome Bay, Tauranga Lot 1 DPS 64053 and Pt Lot DPS 75053: Archaeological Assessment. Unpublished report to Harrison Grierson Tauranga.
- Campbell, M. & Hudson, B. 2008 Archaeological investigation of sites U14/3056, U14/3216, and U14/1941, Oropi Downs, Tauranga: final report. Unpublished report to Connell Wagner Tauranga.
- Hooker, R. 2000a Archaeological Investigation at Grandview Estate Subdivision, Waikite Road, Welcome Bay, Tauranga. Unpublished report to New Zealand Historic Places Trust.
- Hooker, R. 2000b Report on Investigation of Terrace Site U14/2027, Estates Terrace, Welcome Bay. Unpublished report to New Zealand Historic Places Trust.
- Hooker, R. 2005 Archaeological Investigation at Sites U14/2028(4), U14/2029, and U14/2031, Chong and Pittams Property, Waikite Road, Welcome Bay. Unpublished report to New Zealand Historic Places Trust.