

THE BELK ROAD SITE, U14/2343, OMANAWA



REPORT TO
THE NEW ZEALAND HISTORIC PLACES TRUST
AND
OMANAWA HOLDINGS

HPA AUTHORITY 2012/974

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Omanawa Holdings are developing a rural residential subdivision on land owned by them at Belk Road, Omanawa, Western Bay of Plenty District (Lot 3 DP 415597) (Figure 1). During initial earthworks for the creation of five house platforms and associated rights of way, contractors uncovered a small deposit of shell on 19 May 2011. The site was subsequently inspected by Matthew Campbell of CFG Heritage on 25 May and a site damage report and archaeological assessment of the remaining earthworks submitted to the New Zealand Historic Places Trust and Omanawa Holdings (Campbell 2011). Two earth ovens were also identified in the area of disturbed shell, one approximately 0.5 x 0.5 m with lightly charcoal stained soil, and the other approximately 1 x 1.5 m with dark charcoal stained soil but no shell. A pit was also noted exposed in section in the cut for the house platform for Lot 6 at the top of the hill. The assessment noted that other archaeological features were likely

1. The location of the Belk Road site, U14/2343, and other recorded archaeological sites in the area, with recently excavated and reported sites labelled.

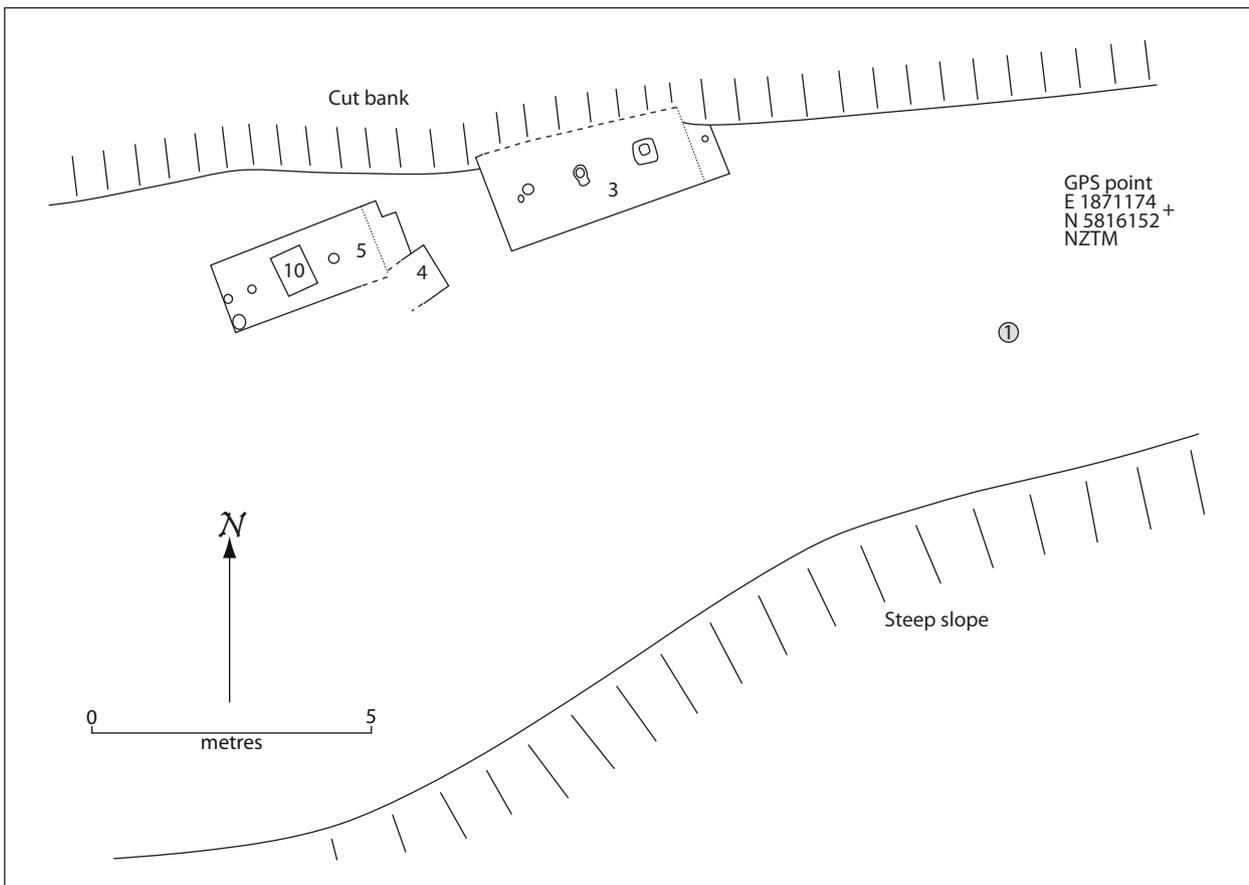


to be present on the ridge top around the pit. To complete the earthworks required for the subdivision and to investigate the features already exposed an authority was applied for and granted by the New Zealand Historic Places Trust. Archaeological investigations of the exposed ovens and pit and the remaining area of the ridge top were conducted by CFG Heritage Ltd between 27 and 29 August 2012 under authority 2012/874 issued by the New Zealand Historic Places Trust under section 14 of the Historic Place Act 1993.

U14/2343

Site U14/2343 was first recorded in 1984 as an exposure of pipi shell 4.5 m long and 5–7 cm thick on the east slope of the hill where the subdivision is taking place. The eastern slope of the hill was probed and closely inspected in May 2011 and again during the investigation, but the midden was not relocated. This midden may still be present and intact but the area has clearly been modified since it was recorded in 1984. The group of pine trees and the milking sheds used to reference the location of the midden are no longer present and other earthworks may have occurred in the past which could have obscured or buried the shell deposit. The original site record form also notes that the ridge top immediately above the midden was very flat and although there was no visible evidence that it may have been occupied. The features on the top of the hill and the ovens reported on here have been included as part of site U14/2343 – it is probable that this is the flat area referred to in the site record.

2. Site plan showing features investigated along the ridge top.



Method

Topsoil on the area on top of the ridge over an area of 80 m long x 6–12 m wide was stripped by a hydraulic excavator under archaeological supervision. On the south side the slope drops away sharply and the north side was defined by the bank left by previous earthworks to create a house platform. The surface was then cleaned down by hand to define the archaeological features, which were excavated by hand. Digital photographs were taken before, during and after excavation, and the site was mapped by tape and measured offset from a datum point that was surveyed by GPS. Samples were taken for analysis and radiocarbon dating.

Excavation was undertaken by Jaden Harris with the assistance of Peter Holmes. A representative from local iwi Ngati Kahu, Mita Rahiri, also assisted with the investigation on the Monday and Tuesday.

Results

After the topsoil had been stripped it was immediately apparent that the whole of the ridge top had been ploughed in the past right up to the edge of the steep slope on the south side. Archaeological features were observed in the area around the exposed pit (Pit 3) on the flat eastern end of the ridge top (Figure 2). To check for any further possible features this area was cleaned down by spade. A fire scoop was found at the east end of the ridge and a pit was visible just to the west of the Pit 3 (Figure 3).

The fire scoop, Feature 1, was visible on the surface as a circular feature containing dark charcoal stained soil and burnt and broken shell. On excavation it measured 370 mm in diameter x 120 mm deep (Figure 4). A total sample of the fill was retained for analysis. Feature 2 was visible on the surface as a dark patch of soil 360 mm in diameter but on excavation proved to be the remains of a small tree. The fill contained no charcoal or shell and the sides of the feature were irregular.

Pit 3, the pit that had been exposed in section, proved to be largely intact with only a small portion of the north-east corner having been shaved off by previous earthworks. Along the south side the pit measured 4150 mm long on the surface and at the base of the west wall, where both corners were pre-



3 (left). Pit 3, that had been exposed in section, after cleaning down showing plough lines along the top of the ridge, looking west. Scale = 1 m.



4 (below). Feature 1, the fire scoop on the right, and Feature 2, the tree root, after cleaning down, looking south. Scale = 1 m.

served, the pit measured 1800 mm wide. The base of the pit was not completely flat but in the centre it was 1400 mm, suggesting that the top of the ridge had not been greatly truncated by ploughing and other past activities. Along the east wall the pit had a step 450–500 wide and 550 mm deep.

The fill of the pit, as exposed in section (Figure 5), shows that the pit was left at least partly open when the site was abandoned. The bottom half of the fill comprised relatively clean mixed brown soil and is largely material that had blown into the pit once it had fallen out of use. Above this is a thin band of charcoal rich soil indicating a minor burning event across the site, with cleaner fill above this and then more evidence of burning in the top part of the fill and soil having been dragged into the depression by ploughing.

After the fill of the pit had been emptied out the internal layout of the structure

proved to be relatively simple and there was no evidence of any refurbishment or phasing. Three main postholes down the centre of the pit supported the roof structure, with the only other postholes being a small stakehole at the west end of the pit and a posthole in the surface of the step. The postholes were relatively deep with the one at the west end measuring 150 x 150 mm x 530 mm deep. The two other posts were visible as postmoulds in postholes and as only the moulds were excavated the base could not be reached but measured 420 and 470 mm deep respectively. The posthole at the east end was quite large and roughly square, measuring 420 x 400 mm. There was a small posthole in the top of the step measuring 90 x 100 mm x 160 mm deep and below this in the wall of the step a vertical slot approximately 40–50 mm wide extended 160–170 mm deep into the wall (Figure 7). The drop from the top of the step to the base of the pit is approximately 900 mm and so it is possible that the slot may have been for a board that supported a wooden step.

To the west of Pit 3 the only clear feature on the surface was one edge and two corners of a small pit in an area of mottled mixed fill. Upon excavation the east end of the

Pit 4 was located to the west of Pit 3. It had a flat base and measured 850 mm wide x 230 mm deep, but the west end was lost in an area disturbed by a former large tree root. Investigation of the area of



5 (above). Pit 3 exposed in section in the bank showing the step at the east end and the layering of the fill. Scales = 1 m.

6 (right). View of Pit 3 looking west showing the row of three postholes and moulds down the centre. The hole at the base of the west wall is a tree root or animal burrow. Scales = 1 m.



mottled fill immediately adjacent revealed a well preserved rectangular storage pit (Pit 5) which had not been apparent from the surface at all. This pit had been cut by Feature 4 and the south-east corner had also been destroyed by tree roots. Pit 5 measured 3450 x 1250–1300 mm wide x 850 mm deep, although it appeared to have been more truncated by historic farming activities than Pit 3. At the east end the pit had a step which was only partially preserved which dropped down 450 mm. The edge of the step was slightly sloping and irregular. Unlike Pit 3 the feature appears to have been filled in as a single event with the fill consisting of clean mixed brown soil. The floor of the pit contained three centrally aligned postholes, measuring east to west 100 x 100 mm x 180 mm deep, 140 x 130 mm x 220 mm deep and along the west wall in the centre, 150 x 130 mm x 170 mm deep. In the south west corner a small shallow sump measured 250 x 200 mm x 80 mm deep. A more unusual feature was a small rectangular bin pit dug into the floor of the pit (Pit 10). This pit measured 750 x 600 mm by 440 mm deep and had vertical sides and a flat base. The fill was a mixed yellow/brown soil with numerous flecks of charcoal and differed from the fill of the main pit, suggesting either that it was an earlier feature, or had been filled in while the main pit continued in use.

The area of shell that had been exposed in the access driveway to the site in May (E 1871090 N 5816214 ± 5 m NZTM) 2011 was also briefly investigated, but this had deteriorated in the intervening period and all that was visible was a surface scatter of shell, charcoal and fire cracked rock, over an area approximately 6 x 3 m.

A small spade dug trench was excavated across the driveway through the centre of the scatter to determine if any in situ deposits remained. The trench revealed a hollow feature 600 mm wide x 350 mm deep which contained mixed soil with some shell, charcoal and oven stone fragments (Figure 9. Test trench through the shell scatter exposed on the access track showing probable fire scoop. Scales = 1 m and 0.5 m.). The edges and fill of the feature showed no evidence of in situ burning but the most likely function of the feature would appear to be a fire scoop. The shell included pipi (*Paphies australis*), cockle (*Austrovenus stutchburyi*) and an unidentified gastropod species.



7 (left). View of Pit 3 looking east showing the step and the vertical board slot in the wall of the step. Scales = 1 m and 0.5 m.

8 (below). Pits 4, 5 and 10 after excavation, looking west. Scale = 1 m. The amorphous feature in the left mid-ground behind Pit 4 is the tree root that has damaged the pits.





9. Test trench through the shell scatter exposed on the access track showing probable fire scoop. Scales = 1 m and 0.5 m.

and then dried before being sorted. The two main shell species present are pipi (*Paphies australis*) and cockle (*Austrovenus stutchburyi*) with a minor component of small gastropod species (Table 1). The same range of species was represented in the small sample collected from the trench though the shell scatter on the access track where two fire scoops had been recorded. Most of the shell from Feature 1 was heavily burnt and fragmented with only a few whole valves present. The oven also contained 35 g of fire cracked rock and 64 g of charcoal. No bone or other material was present but a fragment of fish scale indicates that fish were consumed on the site as well.

Site U14/2343 is approximately 9 km from Tauranga Harbour, where the shellfish were most likely collected, but it is only 500 m from the Wairoa River which would have been a major communication route between the coast and inland areas for Maori in prehistory. Shell middens are recorded as components of archaeological sites right up the Omanawa River valley into the foothills of the Kaimai ranges and so distance from the coast does not seem to have been a major limiting factor in the transportation of shellfish. The few miscellaneous gastropods present, which are all very small specimens, indicate that cockle and pipi were scooped up in bulk with the gastropods collected incidentally.

Species	MNI
Pipi (<i>Paphies australis</i>)	92
Cockle (<i>Austrovenus stutchburyi</i>)	60
Miscellaneous gastropod	8
Total	160

Table 1. Count of shell from Feature 1 (MNI).

Chronology

A sample of pipi shell from the Feature 1 fire scoop was submitted to the Waikato Radiocarbon Laboratory for radiocarbon dating (Table 2). The result which indicates probable occupation of the site in the 15th century falls into the early end of the range of dated archaeological sites in the Tauriko and Omanawa area. Dates

Towards the outer edge of the track only sterile soil was present and so the shell midden appears to only have ever been a small localised deposit associated with one or two firescoops. On the surface of the track one small piece of Mayor Island obsidian measuring 27 x 15 mm was collected. A small fragment of obsidian from the same source measuring 18 x 15 mm was collected from this area by in May 2011.

Midden analysis

The total sample of fill from the oven, Feature 1, measuring 11.5 litres, was wet sieved through a 6 mm screen

Lab no.	Radiocarbon age	cal AD 68%	cal AD 95%
Wk-34951	897 ± 30	1396–1482 (68%)	1330–1513 (95%)

Table 2. Radiocarbon result.

in the AD 1450–1650 range are typical of sites in the valleys leading south from Tauranga Harbour (Campbell 2005; Campbell and Harris 2007; Campbell and Hudson 2008). Recent results from excavations of the Wintrebre Lane sites on the north side of Belk Road indicated occupation of site U14/3404 in the late 16th or early 17th century (Wk-34905) and for site U14/3405 possibly as late as the 18th century (Wk-34906) (Harris 2012).

Discussion

The investigation of the Belk Road site and the recent investigation of the nearby Wintrebre Lane sites (U14/3404 and U14/3405) on the north side of Belk Road (Harris 2012) shows that the majority of hilltops and areas of elevated land have been occupied to some degree in the past across the wider landscape. While U14/2343 was originally recorded as a small exposure of shell midden, alerting to the possibility of other occupation evidence in the vicinity, neither the pits on the ridge top or the ovens on the access track were visible at that time (1984). This was also the case with site U14/3404 (pits and ovens) and U14/3405 (midden) which were located on hilltops and had not previously been recorded prior to archaeological monitoring of earthworks. While a relatively high number of archaeological sites are recorded in the wider area, the record underrepresents the actual scale of prehistoric occupation of the area. Even during the course of the present investigations an unrecorded pit and midden site that had been exposed in a minor cutting to create a motor cross track was pointed out by the digger operator just to the south-west of the Belk Road site (this site was recorded as site U14/3406).

The presence of kumara storage pits at Belk Road and Wintrebre Lane is a clear indication that gardening activity centred on the growing of kumara played a major role in the prehistoric Maori economy. Small sites such as Belk Road were probably occupied for no more than a few seasons. More permanent occupation is likely to have occurred around Tauranga Harbour and along major waterways such as the Wairoa River, but substantial sites have been excavated in the inland valleys, for instance at Rowsdale in Ohauti (Campbell 2005; Campbell and Harris 2007). While Belk Road is the only site to date to be archaeologically investigated in the Omanawa Valley the 15th century date of occupation indicates that these inland areas were widely utilised during the early part of the prehistoric period.

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The University of Waikato
Radiocarbon Dating Laboratory



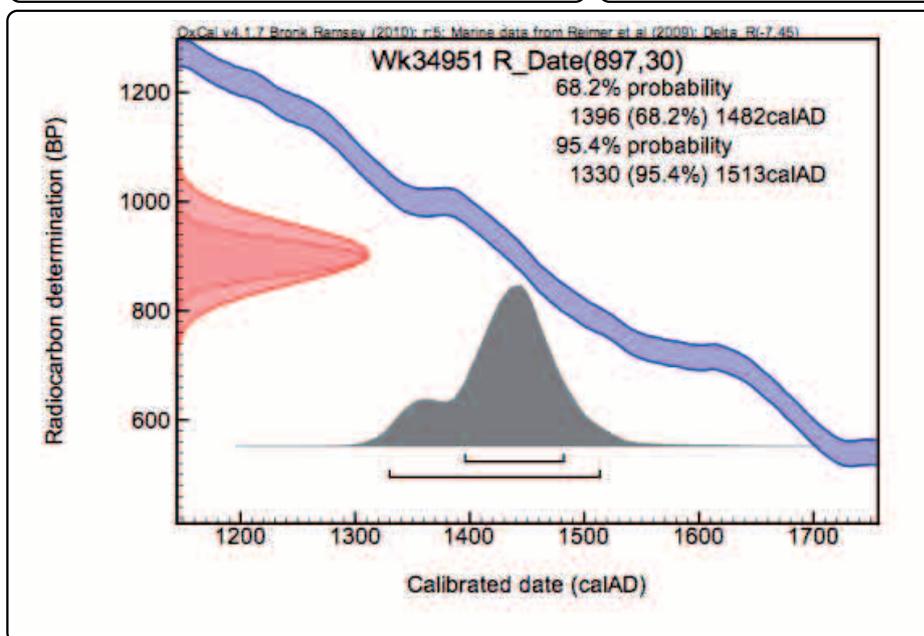
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Report on Radiocarbon Age Determination for Wk- 34951

Submitter	M Campbell
Submitter's Code	Belk Road_001
Site & Location	Omanawa, Western Bay of Plenty, New Zealand
Sample Material	pipi
Physical Pretreatment	Surfaces cleaned. Washed in an ultrasonic bath. Tested for recrystallization: aragonite.
Chemical Pretreatment	Sample acid washed using 2 M dil. HCl for 120 seconds, rinsed and dried.

$\delta^{13}\text{C}$	$1.3 \pm 0.2 \text{ ‰}$
D ¹⁴ C	$-105.6 \pm 3.3 \text{ ‰}$
F ¹⁴ C%	$89.4 \pm 0.3 \%$
Result	897 ± 30 BP

Comments



Alan Hogg
29/10/12

- Result is *Conventional Age or Percent Modern Carbon (pMC)* following Stuiver and Polach, 1977, Radiocarbon 19, 355-363. This is based on the Libby half-life of 5568 yr with correction for isotopic fractionation applied. This age is normally quoted in publications and must include the appropriate error term and Wk number.
- Quoted errors are 1 standard deviation due to counting statistics multiplied by an experimentally determined Laboratory Error Multiplier.
- The isotopic fractionation, $\delta^{13}\text{C}$, is expressed as ‰ wrt PDB.
- F¹⁴C% is also known as *Percent Modern Carbon (pMC)*