



**TE APUNGA O TAINUI (R11/10):
RICHMOND 3C DEVELOPMENT,
11 AND 13 RYBURN ROAD, ŌTĀHUHU:**

(HPA HNZPTA AUTHORITY 2021/430)

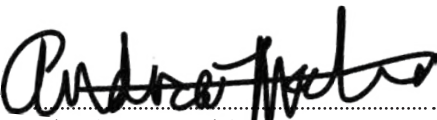
REPORT TO
HERITAGE NEW ZEALAND POUHERE TAONGA
AND
WILSHIRE RYBURN DEVELOPMENT LTD

ANDREW MCALISTER AND LEELA MOSES
CFG HERITAGE

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REPORT TO
HERITAGE NEW ZEALAND POUHERE TAONGA
AND
WILSHIRE RYBURN DEVELOPMENT LTD

Prepared by 
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Te Apunga o Tainui (R11/10), Richmond 3C Development, 11 and 13 Ryburn Road, Ōtāhuhu: final report (HNZPTA authority 2021/430)

Andrew McAlister and Leela Moses

Introduction

Wilshire Ryburn Development Ltd have undertaken earthworks at 11 and 13 Ryburn Road, Ōtāhuhu (Lot 4 DP 39188, Lot 1 LT 51977 and Lot 8005 DP 534744) as part of the Richmond Stage 3C residential development (Figure 1). These properties are located on the outer slopes of Te Apunga o Tainui / McLennan Hills, a significant volcanic cone pā recorded in the New Zealand Archaeological Association (NZAA) Site Recording Scheme (SRS) as archaeological site R11/10.

Most of the maunga has been quarried for scoria since the 1940s, but much of the lower slopes have remained largely intact and any archaeology located here potentially remains in situ, although damaged by housing since the mid-20th century. During 2019 works for a retaining wall at 11 Ryburn Road, archaeological features and deposits were identified and excavated (McAlister and Campbell 2021). The remaining earthworks were carried out from December 2021 to January 2022. Following the discovery and excavation of a large pit (Feature 20) with a dense midden fill in December 2021, it was thought that the area had been cleared as excavations had terminated at a clean soil. However, when works restarted in January 2022, earthworks at 11 Ryburn Road revealed this to be a clean fill, capping additional pits and middens across the site (Figure 12). 13 Ryburn Road had previously been cut down and, although redeposited midden was observed here during assessment (Campbell 2020), no in situ archaeological features or deposits remained.

Background

The following background sections are largely taken from Campbell and Ross-Shepherd (2013) and Walzl (2013, 2014).

The Volcanic System

Te Apunga o Tainui was part of the same volcanic system as nearby Ōtāhuhu / Mt Richmond¹, often referred to as the portage volcanic complex (Sandiford et al. 2002). Te Apunga o Tainui is thought to have been created in a series of eruptions that ceased prior to the eruption of Ōtāhuhu / Mt Richmond. The sequence began with an explosive eruption creating a crater and tuff ring, similar to that still visible at the nearby Ōtāhuhu / Mt Richmond. Lava vents then opened up and produced a series of basaltic lava flows that overlaid the tuff

¹ The full name of Ōtāhuhu is Te Tāhūtāhūtanga o te Waka Tainui “The Ridgepole of the Tainui Canoe” (Hayward et al. 2011: 187).

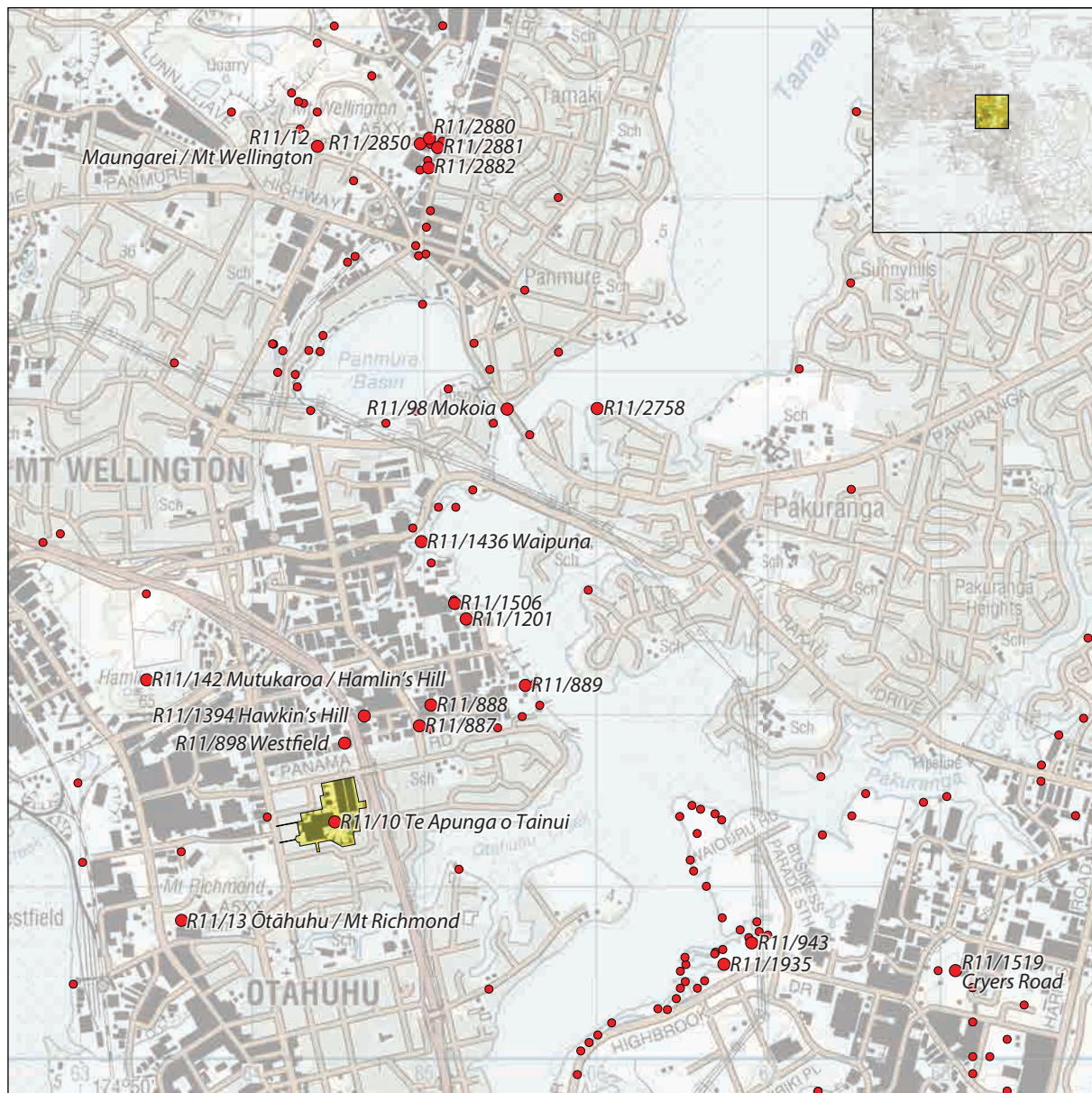


Figure 1. Location of the Richmond development, showing archaeological sites in the vicinity.

ring and crater and flowed out to the north and east, creating a lava field and shield volcano. During the eruption four scoria cones formed at the location of the vents (Figure 2 shows the former area and layout of the cones). The lava flows (which are still extant) extend north of Te Apunga o Tainui to Hamlin's Hill and the Panmure basin tuff ring, and to the east they underlie the area all the way to the margin of the Tāmaki River (Searle 1961, 1981; Hayward et al. 2011).

The eruption that created Te Apunga o Tainui has been dated by several different techniques but these have yielded inconsistent results leading to a rather large timeframe in which the volcano could have erupted. It certainly erupted prior to Ōtāhuhu / Mt Richmond as ash from Ōtāhuhu / Mt Richmond overlies basaltic flows from Te Apunga o Tainui (Hayward et al. 2011). Lindsay et al. (2011) provide a grouped age estimate from the more reliable dating techniques (Ar–Ar, K–Ar and thermoluminescence) at $42,600 \pm 3,800$ to $55,000 \pm 6,000$ and a best estimate of 39–41 thousand years ago based on the Ar–Ar and K–Ar techniques.



Figure 2. 1940 aerial photo showing the extensive lava flow to the north and east forming the Panama Peninsula, with Te Apunga o Tainui in the lower left (detail of SN139 E/10, NZAerial Mapping Ltd.).

Lindsay et al. consider that this date is relatively unreliable compared to many other dates for volcanic eruptions in the Tāmaki region.

Vegetation and land history

A series of studies have been carried out on the prehistoric environment and land history of the Ōtāhuhu region. Peats and silts found in boreholes near Ōtāhuhu / Mt Richmond indicate that the landscape prior to the eruption of the portage volcanic complex was potentially a floodplain or estuary (Searle 1961). It has also been suggested that volcanic activity created a lake in the region between volcanic deposits on the Tāmaki Isthmus and Panmure Basin (Searle 1981). Pollen studies by Sandiford et al. (2002) on sediment cores from near Ōtāhuhu / Mt Richmond indicate that the local environment during the onset and height of the Last Glacial Maximum, 25,000–16,500 years ago, changed from this lake or wetland environment to a beech (*Nothofagus* sp.) dominated semi-forested zone and then, as dryer conditions intensified, shifted to a more open grassy shrubland environment with some patches of forest which were dominated by both beech and conifer species.

Charcoal studies from the nearby Westfield, Fisher Road and Tāmaki River sites (whose archaeology is described in more detail below) also provide some insight into the local environment at the time of initial Māori occupation. These studies indicate that the environment was still mainly shrub land with remaining broadleaf / podocarp or coastal forested areas nearby (Furey 1986; Foster and Sewell 1988, 1993). Dominant species in the charcoal assemblages include pōhutukawa (*Metrosideros excelsa*), rātā (*Metrosideros robusta*), rewarewa (*Knightsia excelsa*), tawa (*Beilschmiedia tawa*), tōtara (*Podocarpus totara*) and pūriri (*Vitex lucens*).

Clearing of land for cultivation introduced scrub species like bracken (*Pteridium esculentum*) (Furey 1986).

The presence of land snails in the Westfield site also provides some indication of past environmental conditions. Species intolerant of scrub- or bracken fern-dominated environments were found in the assemblage indicating that areas close to the site were forested to some degree. Other species found in this same assemblage, however, can be found in open scrub land environments potentially indicating a mixed or disturbed bush environment close to the site (Furey 1983: Appendix XI, 1986: 13). The Fisher Road sites also have a large assemblage of land snail species commonly found in more open scrub land environments (Foster and Sewell 1988: 60). These remains indicate that at the time of these occupations open scrubland was present but forested areas were still to be found nearby.

Later historic accounts present a very different picture of the environment in the greater Ōtāhuhu region, one dominated by bracken and scrub land (Foster and Sewell 1988, 1993). The account of missionary James Hamlin (cited in Sullivan 1986), who passed along the Tāmaki River in 1834, noted an unforested landscape covered in bracken. Local histories suggest that when the area was purchased by W.T. Fairburn in 1836, Ōtāhuhu / Mt Richmond and Te Apunga o Tainui were covered in grass and used by Fairburn for grazing flocks of sheep (Ōtāhuhu Borough Council 1962). Aerial photographs from 1940 show several fence lines across the cones (Figures 3 and 4); like many other volcanic cones in the Auckland landscape Te Apunga o Tainui was used for farming well into the 20th century.

Soils

The soils surrounding Te Apunga o Tainui are reddish and brown loams derived from volcanic tuff and the underlying basalt flows in the region (Pohlen 1979). Such volcanic soils tend to be fertile and free-draining and were attractive to pre-European Māori (Foster and Sewell 1988; Sullivan 1986: 7). Oral histories note Ōtāhuhu in general as a place of intensive kūmara cultivation (Sullivan 1986: 6) and archaeological evidence from the lava fields to the east of Te Apunga o Tainui and the lower slopes of the hills themselves, are consistent with this area being a centre of gardening (Foster and Sewell 1988, 1993; Sullivan 1986: 6).

Pre-European Māori archaeology

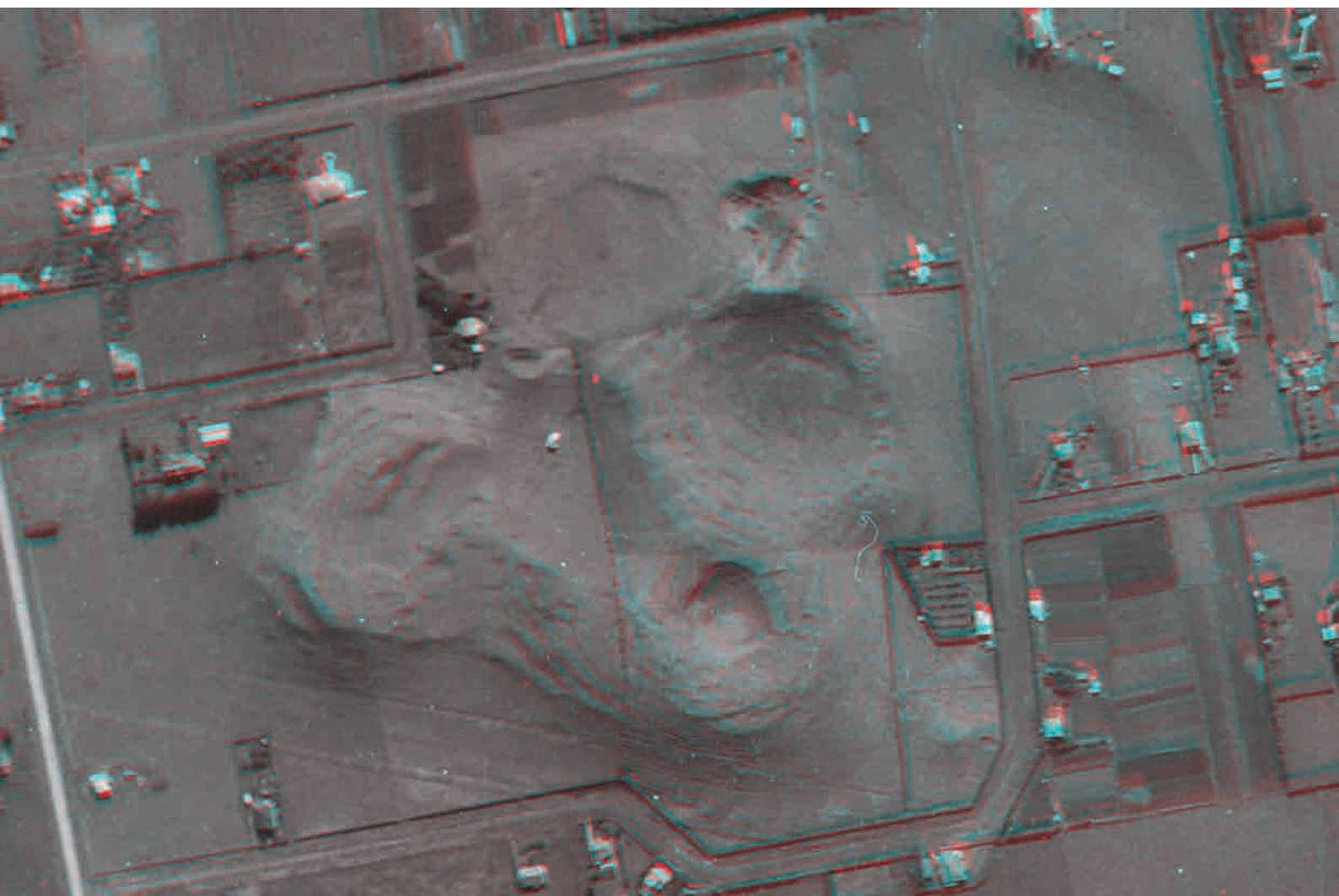
No archaeological research was carried out on of Te Apunga o Tainui prior to its destruction in the 20th century and there are no published accounts of oral histories regarding the pā on the maunga. However, some basic details of the site have been reported. The NZAA site record for Te Apunga o Tainui (R11/10) lists it as a hill pā and terraced fortification. The record gives an estimate of the area formerly occupied by the site at around 200,000 square yards (167,000 m²).

The primary source of information regarding the archaeology of Te Apunga o Tainui is aerial photographs taken prior to its destruction in the 1950s. Bulmer (1994) reports that she completed a sketch map of the site in the 1980s based on aerial photographs, however, this map has not been relocated. Sullivan (1986) also presents findings related to viewing aerial maps of the Te Apunga o Tainui site. She notes that, like Ōtāhuhu / Mt Richmond, Te Apunga o Tainui was extensively terraced. She suggests that two high points located on the rim of the larger crater were defensive positions, one of which may have been made more so by a defensive ditch on the north west side of the crater. Sullivan also mentions that a 'lower knob' (she does not identify which lower knob; however, the terraced area to the south west of the highest point is a likely candidate) could also be a defensive position. She provides a



Figure 3. Detail of 1940 aerial photograph of Te Apunga o Tainui (detail of SN139 E/9, NZ Aerial Mapping).

Figure 4. Anaglyph of 1940 aerial photographs of Te Apunga o Tainui (detail of SN139 E/9 and SN139 E/10, NZ Aerial Mapping). This image can be viewed in 3D with red (left) / cyan (right) stereo glasses.



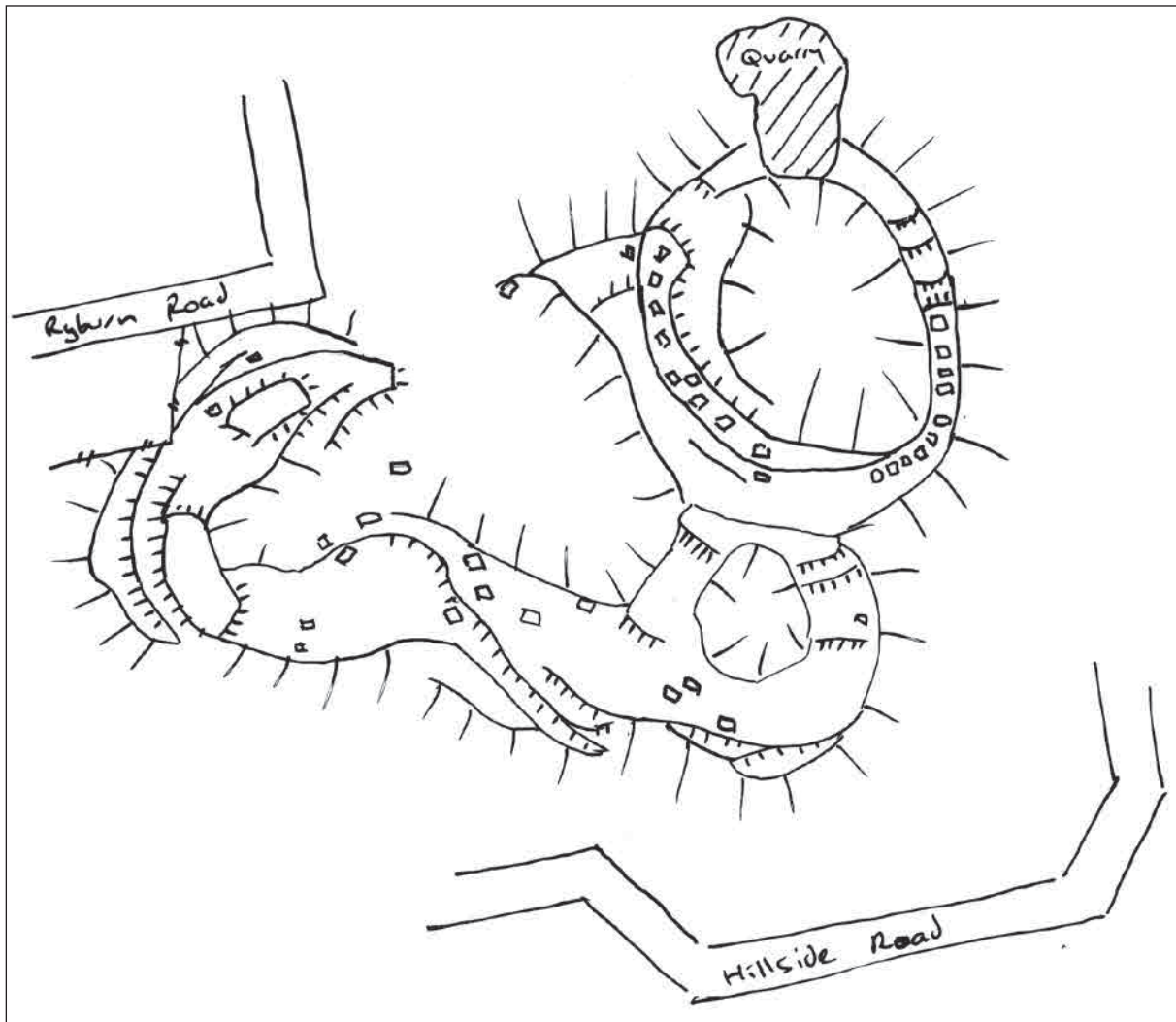


Figure 5. Sketch map of Te Apunga o Tainui from 1940 aerial photographs SN139 E/9 and SN139 E/10 viewed through a stereoscope.

count of ~50 kūmara pits on the terraces of the maunga and suggests that rock-walled kūmara gardens can be seen in the flatland area to the east of Te Apunga o Tainui.

Aerial photos were viewed under a stereoscope and used to construct a sketch map of the terraces and large scale features site in order to supplement and confirm the details provided by the earlier reports (Figure 5). The photographs were taken around midday on 14 April 1940 in good light. There is reasonable, but not ideal, definition of features. The defensive high points around the main crater rim described by Sullivan are easily located when viewed in stereo. The southernmost of these points appears to occupy a terrace on the highest point of the maunga. Terraces are arrayed around this high point down along the lip of the crater and also down into the crater. Further terracing is apparent on top and down the western side of the southernmost, and highest, scoria cone. The small western hill also appears to be heavily terraced on its north western side. Occupying many of these terraces, and particularly those terraces inside the large crater, are large rectangular features that are almost certainly pits. This is again consistent with Sullivan's observations and the estimate that there are ~50 of them visible seems to be plausible and there are likely many more obscured due to the angle of the photographs. The defensive ditches described by Sullivan are not visible.

Surprisingly, a single archaeological date has been previously reported for Te Apunga o Tainui. Sewell (1992: 47) reports a shell midden sample taken from a remnant terrace on the edge of the quarried area was submitted for radiocarbon date at the University of Waikato Radiocarbon Laboratory (WK1722). The date has been recalibrated to AD 1470–1810 at a 95% confidence level. The University of Waikato radiocarbon database entry notes that the sample was from tuangi (*Austrovenus stutchburyi*). This date range is essentially similar to dates for the surrounding sites (see below).

The archaeology of Ōtāhuhu and the Tāmaki River

Many of the archaeological sites located in the area surrounding Te Apunga o Tainui, and dated to a similar time period, are thought to be directly or indirectly associated with the occupation of the pā at Te Apunga o Tainui and thus can be used to shed further light on the archaeological landscape. Figure 1 shows the distribution of these sites.

To the north of Te Apunga o Tainui lies Mutukaroa / Hamlin's Hill, R11/142. It is a large, gently rolling clay hill without natural defences, and has a permanent freshwater spring that would have made it attractive for occupation (Davidson 1970). This large non-volcanic hill once held a large open undefended village on its southern end, that was excavated over several seasons (Davidson 1970; Pearce 1975; Irwin 1975; Nichol 1980; Walton 1979; Sims 1977; Foster 1984). Pearce and Walton (1983) reported a midden date in the 17th or early 18th centuries. They proposed that there were at least five phases of occupation visible in the archaeology.

To the south of Mutukaroa / Hamlin's Hill but north of Te Apunga o Tainui lies Hawkin's Hill (R11/1394). This site has been interpreted as a small undefended hamlet (Coates et al. 1996). Features found at the site included kūmara pits, evidence of a house, possibly with a porch and compressed shell floor, potential wind breaks or cooking sheds, earth ovens and midden. Although no physical evidence of gardening was found at this site, the presence of storage pits suggested to Coates et al. (1996) that the gardens must have been located nearby and on the Te Apunga o Tainui lava field. The site was not dated.

To the north east of Te Apunga o Tainui, in the flatrock lava field area near modern day Fisher Road, are three archaeological sites: R11/887, R11/888 and R11/889 (Foster and Sewell 1988). These sites, much like the Hawkin's Hill site, have been interpreted as the remains of an open undefended hamlet or hamlets. Again, the internal features of these sites included pits, house structures, hearths and earth ovens, storage sheds, windbreaks or cooking shelters and large storage pits. They dated to the 16th century AD. Between Hawkin's Hill and Te Apunga o Tainui is the Westfield Site R11/898, which is again interpreted as a small undefended settlement and which shows a similar range of structures and areas in the site to the other undefended sites already mentioned (Furey 1983, 1986; Sewell 1992). The site dates to the 16th–17th centuries AD.

To the north east of Te Apunga o Tainui are two sites located on the banks of the Tāmaki River, known as the Tāmaki River Sites R11/1201 and R11/1506 (Foster and Sewell 1993). The excavation of R11/1201 revealed similar features to the other undefended settlements already mentioned. However, R11/1506, unlike these other sites, was a defended settlement, or flatland pa, with a clear palisade uncovered at one end of the site; this was suggested to have extended around the rest of the site. Inside the palisade were cooking and stone working areas as well as several pits in an alignment and several house structures. The sites dated to the late 15th–16th centuries AD.

Undoubtedly the most striking archaeological site in the vicinity of Te Apunga o Tainui is the pā at Ōtāhuhu / Mt Richmond, R11/13. Although never excavated, some features of the site are clearly visible (Bulmer 1994). The site has been extensively terraced and there

appear to be several defensive features. Sullivan (1986) suggests five independent defensive strong points are located on the maunga and potentially over 60 kūmara storage pits are visible in aerial photographs.

Further afield, other pā further north along the Tāmaki River have also been investigated. Investigations were carried out on Maungarei / Mt Wellington (R11/12) in the 1960s and 70s and have recently been reported in full (Davidson 2011). Various types of kūmara pit were described, some stone lined, and ten radiocarbon dates indicated the main occupation was between the 15th and 17th centuries, with two main phases. Obsidian from as far afield as Taupō was found. One notable finding was that tuangi were always small but got smaller over time, as a result of a combination of overharvesting and siltation in the Tāmaki Estuary from land clearance. Recent investigations have included plant microfossil analysis, which found bracken fern spores dominant in all samples, indicating extensive forest clearance and abandonment of gardens (Foster et al. 2012).

Mokoia Pā, R11/98, was occupied by Ngāti Pāoa in the early 19th century and was sacked by Ngāpuhi in 1821. Investigations between 1978 and 1980 undertaken by the New Zealand Historic Place Trust have never been reported, but a preliminary examination of the excavation field notes and plans indicates that the 19th century defences overlie earlier defences (Matt Felgate pers. comm.). More recently, a large scale excavation was undertaken ahead of the construction of a new bus lane and bridge running parallel to Lagoon Drive and across the Tāmaki river. This excavation encompassed the properties at 19A, 21 and 16 Bridge Street, as well as parts of the Bridge Street road reserve. This excavation provided a large cross section of the defended pā from just south of the outer defensive ditch, right through to the Tāmaki River (Figure 2). The final report for this excavation is still pending; however, preliminary results indicate a complex assortment of intercutting archaeological material and features including storage pits, defensive ditches, postholes and burials (Felgate 2020).

Other undefended sites have also been excavated along the Tāmaki River. Excavations at the Waipuna site, R11/1436, revealed a series of complex intercutting pits demonstrating repeated use and reuse of the site in the 15th to 17th centuries. The pits had internal and external drains and the site was partly palisaded (Clough and Turner 1998). At R11/1935 lines of postholes were interpreted as a windbreaks for a cooking area and a possible house. Charcoal here and at R11/943 indicated that bracken and shrub species were dominant, with some remnant pūriri, while microfossil analysis showed that kūmara had been gardened (Bacquié et al. 2007). The Cryers Road site, R11/1519, was located on the Matanginui / Green Mount stone field. Evidence of houses and gardening was found and radiocarbon dates indicated a long period, probably intermittent, of occupation from the mid-15th century into the early historic period (Fredericksen and Visser 1989).

Several other small-scale mitigation excavations have taken place in the Tāmaki River / Ōtāhuhu area which give similar results to the excavations already described; R11/2850 (Plowman 2012); R11/2897, from which 23 radiocarbon dates indicated occupation from AD 1650–1710 (Felgate and Opus 2014); R11/2880, which included two burials, and R11/2881, which included scattered kōiwi (Felgate and Opus 2014); R11/2882, which gave an early 15th century date and contained artefacts in an early period style (Phillips 2014); and R11/2758 (Felgate and Foster 2013).

Local settlement pattern and economy

The lava field and area surrounding Te Apunga o Tainui was largely developed prior to the advent of archaeological site recording, so it is difficult to reconstruct settlement patterns. However, better recorded settlement patterns from similar environments can be projected onto Ōtāhuhu in conjunction with the results of the investigations described above.

The settlement pattern in the Tāmaki River / Ōtāhuhu area seems to have centred of undefended sites, possibly occupied seasonally, where gardening, stone working, cooking and other domestic and utilitarian activities were carried out, while also being part of the larger political units focused on the pā at Ōtāhuhu, Te Apunga o Tainui and Maungarei. Gardens were located along river edges and throughout the lava field, which was at this time lightly forested. Defended flatland sites indicate a degree of control of the Tāmaki River, though this control may have ebbed and flowed with the political fortunes of the inhabitants. Those wishing to use the portages would have to have sought permission from those living in the area, travelling up the defended Tāmaki River and across the defended Ōtāhuhu isthmus. The flatland and volcanic cone pā were strategic as much as defensive pā, controlling the portage route and providing a very visible focus for the groups living there.

Middens are dominated by tuangi (*Austrovenus stutchburyi*) along with pipi (*Paphies australis*) and mudsnail (*Amphibola crenata*), all of which are local harbour species. Snapper is the dominant fish taxon. The local volcanic soils would have been exploited for kūmara gardening, as the storage pits on Te Apunga o Tainui show (Figures 3–5) and gardening would have been the central focus of the economy.

History

The earliest historic account of Te Apunga o Tainui comes from oral traditions surrounding the arrival of the *Tainui* waka at the Ōtāhuhu portage and its movement over the portage to the Manukau (Sullivan 1986:6). Sullivan (1986: 5) gives the translation of Te Apunga o Tainui as “the landing place of Tainui”, while Hayward et al. (2011: 184) translate it as “The bow wave or prow of the Tainui”. Sullivan (1986: 6) suggests that, based on genealogical evidence and chronologies, the arrival of the waka and the naming of Te Apunga o Tainui may have occurred sometime in the 14th century.

The portage

One important aspect of the historic traditions regarding the area around Te Apunga o Tainui is its direct association with the portages in the region. Immediately to the south and following the course of today’s Portage Road was the Ōtāhuhu Portage. At about 1 km long this was the shortest portage between the Tāmaki River and the Manukau Harbour, or the east and west coasts of the North Island (Sullivan 1986: 12; Furey 1986: 3). Several other portages between the Tāmaki and Manukau were also located in the surrounding area. The Karetu portage was located north of Te Apunga o Tainui near Hamlin’s Hill, while the Pūkaki portage was located further south (Sullivan 1986). Many of the archaeological and historic texts consulted in the writing of this report make mention of the relationship of such important portages to the location of sites in the region and also the impact this may have had on the lifestyles of people living in the region (Sullivan 1986; Foster and Sewell 1993; Howard 1998; Sedal 1982). Historic traditions also state that the portages were occasionally used in times of war to move war fleets into the Manukau (Sullivan 1986: 16). In such times the pā would have been used as places of retreat (Furey 1986: 22).

The Fairburn purchase

Other than the story of its naming, Te Apunga o Tainui is largely unmentioned in historic or oral traditions until 1836 when Reverend Fairburn purchased 84,000 acres (340 km²) of land in the south and east of Auckland, including Ōtāhuhu, from Māori. This purchase was instigated by Henry Williams as part of peace-making efforts between Ngāti Pāoa and

Waikato. At the time the area of the purchase, including Ōtāhuhu where the hui to negotiate the purchase took place, was a no-man's land deserted due to the conflict – Williams thought it deserted because it was being fought over and so proposed the purchase so that the Church Missionary Society could hold it in trust as a buffer. The Deed of Purchase was signed by 32 chiefs of Ngāti Pāoa and Waikato, though Te Ākitai, Ngāi Tai, Ngāti Whātua and other Hauraki tribes also had legitimate claims to parts of the Fairburn Purchase, a fact recognised by later payments made by Fairburn. The Fairburn Purchase was disallowed by the Crown Commissioners in 1841, although Governor Fitzroy, believing this purchase to be a 'special case' allowed Fairburn a grant of 5500 acres (2226 ha) including Ōtāhuhu. This was reduced by Governor Grey in 1847 to 2560 acres (1036 ha) but, as the Crown soon after purchased Ōtāhuhu to establish the Fencible settlement, Fairburn (by this time a private settler) made a nice profit (Sedal 1982; Sullivan 1986; Stone 2001: 161–169).

Sometime prior to the 1860s Te Apunga o Tainui was renamed by Pākeha settling in the region as Road Hill (Howard 1998).

1860s military landscape

The next major chapter in the use of the land immediately surrounding Te Apunga o Tainui was its use as the site of one of the largest military encampments in New Zealand during the Land Wars. In late 1859 the British government acquired the land north of the fencible settlement at Ōtāhuhu and south of Te Apunga o Tainui (Lennard 1986). This parcel of land later called Camp Farm, and accessed by Camp Road, was transformed into one of the primary military camps for the Imperial forces at Auckland. Several sources (Howard 1998; Lennard 1986; Sedal 1982; Reed 1955) speculate that most of the 10,000 Imperial troops involved in the Land Wars of the 1860s would have spent some time at Ōtāhuhu in this camp. Along with the construction of the camp, a stockade and blockhouse were also erected at Ōtāhuhu by 28 July 1860 (Lennard 1986). These structures were located on the canal reserve, a section of land immediately south of Ōtāhuhu / Mt Richmond between today's Hokonui and Hauiti Roads (a road running through this land and was originally called Stockade Road (Howard 1998; Lennard 1986). Details regarding the construction of these buildings have survived, notably that they were constructed of kauri timber and corrugated iron with an initial estimated cost of £490 (Lennard 1986: 214).

Photos and paintings of the camp (Figures 6–9) reveal tent lines and rows of hutments (a collection of huts) up to the base of the maunga, but no large fortifications in the camp or defensive trench lines. Local histories confirm that in the camp were tents, barrack hutments, a large mess tent and a military hospital all constructed by local builder W. Philcox (Howard 1998; Lennard 1986; Sedal 1982). Accounts from the period suggest that the camp was unpleasant and not well looked after, the hutments having mud floors and sleeping twenty-four (Reed 1955; Lennard 1986). G. Tattler (quoted in Lennard 1986) of the 65th regiment wrote: "They are miserable huts. We have to lie on boards with three blankets, no bed and the huts are not lined. We have been here a month now and a wet dirty place it is." The tent lines are clearly visible in the 1940 aerial photograph (Figure 3) as two parallel lines crossing the south of the maunga – the larger marks in the northern line are probably hutment sites. This agrees well with the evidence from Cooper's painting (Figure 6) (this painting is labelled "Military encampment at Mount Richmond" and the topography depicted is Ōtāhuhu / Mt Richmond from the south, with Maungarei / Mt Wellington in the background. However, the tent lines were on Te Apunga o Tainui, not Ōtāhuhu / Mt Richmond, so Cooper has taken some licence with his depiction). After the end of the Land Wars the camp became superfluous and in 1866 the troops were withdrawn from Ōtāhuhu. In October 1866 the land on which the barracks was located was put up for sale (Howard 1998).



Figure 6. Military encampment at Mount Richmond, watercolour by G.H. Cooper. The tent lines indicate that this is more likely to be Te Apunga o Tainui. The tent lines can be seen south of the maunga in Figures 3 and 4. (Auckland Art Gallery Toi o Tāmaki, 1993/15/).



Figure 7. 12th and 40th Mess tents Otahuhu. N.Z.
(Urquhart Album, Alexander Turnbull Library, PA1-q-250-23).



*Figure 8. Military camp for Imperial forces at Otahuhu
(Urquhart Album, Alexander Turnbull Library, PA1-q-250-28).*



*Figure 9. Camp for Imperial forces at Otahuhu, Auckland
(Urquhart Album, Alexander Turnbull Library, PA1-q-250-22).*

The internment of Ihaka and his party

Ihaka Takaanini was the leading chief of Te Ākitai Waiohua at the beginning of the Waikato War. He was described at the time of being large in stature, with the Premier, William Fox, who met him in 1861, describing him as “a man of great natural humour, and much courtesy of manner, and held a high position among the tribes connected with Waikato” (*AJHR*, 1864(I): 51). Ihaka was known to the settlers as “old Isaac.” Before the war he was considered a great friend of the Pākehā (*Auckland Star*, 14 November 1928: 6). In August 1858 he was appointed as an Assessor, an official government position which he held over the next four years (*AJHR*, 1862(I); *Daily Southern Cross*, 31 August 1858: 3).

Ihaka was also a supporter of Kīngitanga. He tried to balance this support with his ongoing commitment to Pākehā settlers. As war in Taranaki broke out, it became more difficult to maintain this balance. Nevertheless, at a hui in Waikato in May 1860 he is recorded speaking in favour of “peace and amity with the white men” (*Otago Witness*, 23 June 1860: 6). When an incident occurred in Patumahoe which almost resulted in the killing of several government officials and local settlers, Ihaka is credited with soothing the angry feelings of others and averting calamity (*AJHR*, 1864(I): 51).

Despite this, Ihaka could not keep ahead of the events surrounding the invasion of the Waikato by Government troops which occurred in mid-1863. Having made the decision to launch the invasion, Governor Grey required that all Māori who lived north of the Waikato River swear an oath of allegiance and surrender all their guns and ammunition if they wished to stay at their villages in Manukau and Tāmaki. If they did not, they had to leave their homes and travel south of the Mangatāwhiri into the Waikato (Sewell 1864: 28). On 9 July 1863 Resident Magistrates were dispersed from Auckland to inform local Māori of the choice they had to make.

At this time Ihaka and several of his people, believing that the Governor’s proclamation was simply an order to leave their homes, had left their kāinga at Pūkaki and travelled south until they reached another of their kāinga at Kirikiri near Drury. As there were old people, sick people and women and children among the party, they rested at Kirikiri. On 12 July, the Government troops crossed the Mangatāwhiri River, located many miles to the south of Kirikiri. The Waikato War had begun and Ihaka and his people were behind the front lines.

The presence of Te Ākitai at Kirikiri soon led to rumours that a group of Māori were gathered there preparing to take a stand. The Native Minister Francis Dillon Bell travelled out from Auckland to find out what was happening at Kirikiri. On 14 July, he met Ihaka who was very ill, along with six elderly men and a few women and children. Fellow chief Mohi Te Ahi a Te Ngu and several young warriors arrived. Bell explained that the proclamation had not necessarily meant eviction. He promised that if oaths of allegiance were signed, any persons doing so could return to Pūkaki. Mohi explained that all the people may have considered signing the oath if it had meant they could remain in peace at their homes, but that now the war had begun it was too late. He would therefore lead his warriors south into Waikato: “The Pakehas had attacked Waikato. And he should therefore go to join his people, and live or die with them.” The possibility remained open, however, that for those too ill, old or vulnerable to make their way through the government’s military lines, that they might return home. When Dillon Bell and his officials left Kirikiri and returned to Auckland, several of those present believed he would return the following day. Ihaka and Mohi discussed matters and it was agreed that Ihaka would lead a party of the old and the women and children back home to Pūkaki while Mohi and his warriors would go south. Ihaka had determined, therefore, that when Dillon Bell returned, he would sign the oath of allegiance for the good of his people (Gorst 1959: 248; Sewell 1864: 33; *New Zealand Herald*, 26 April 1865: 6; *Daily Southern Cross*, 25 April 1865: 5).

Dillon Bell did not return. Instead, on 15 July 1863 Governor Grey ordered cavalry and soldiers out from Ōtāhuhu camp under Colonel Murray and the following day they arrested Ihaka, and 22 others including Ihaka's father Pepene, his wife Riria, children and cousins at Kirikiri (*Daily Southern Cross*, 1 August 1863: 7). Two government officials later recorded that there had been no reason for the arrests. Native Department official James Falloon, an eyewitness to events, later noted: "During my three days that I had constant communication with Ihaka I never understood him to refuse to take the Oath or [refuse to] deliver up his arms" (*New Zealand Herald*, 26 April 1865: 6). He added that he was waiting for Dillon Bell's return. John Gorst, a Resident Magistrate travelling with the Native Minister and therefore eyewitness to events, added his view: "On whatever ground Ihaka and the innocent women and children were taken, their capture, just after safe conduct had been promised to them by a high officer of Government, had the unfortunate appearance of a gross breach of faith" (Gorst 1959: 250).

Once arrested, Ihaka and his people were taken to the stockade in Drury, and were moved to Ōtāhuhu on 20 July, travelling in the company of Bishop Selwyn, who ensured the prisoners were not ill-treated. On arrival the Bishop, military escort and prisoners passed the Criterion Hotel where they were confronted by an angry crowd. The Bishop is reported to have addressed the people gathered there as to the injustice of the arrest of Ihaka and his group (*Daily Southern Cross* 22 July 1863: 3). The response of the crowd is reported to have been less than pleasant and the exchange became heated to the point where the militia was forced to intervene and the prisoners are reported to have been sent to the stockade south of Ōtāhuhu / Mt Richmond (*Daily Southern Cross*, 22 July 1863: 3; Pittman 1952). On 24 July a letter to the editor published in the *Daily Southern Cross* reports that they are under guard by volunteers in a house in the "unentrenched camp" at Ōtāhuhu and that Ihaka was requesting to be moved into Auckland (*Daily Southern Cross* 24 July 1863: 4). Shortly after this, it was reported that the prisoners have been allowed to receive visitors, possibly due to the influence of Bishop Selwyn (*Daily Southern Cross*, 25 July 1863: 3).

By 24 July, despite Ihaka's recorded request to be moved into Auckland, the prisoners were moved into the Ōtāhuhu camp where they occupied one of the huts under guard (*Daily Southern Cross*, 24 July 1863: 4).

Once in the camp, it appears that life in the first week of captivity may have been eased in several respects. Initial conditions at Ōtāhuhu appear to have been good. It was recorded that on the arrival the prisoners were given a hot supper and new bedding while, it was pointed out, the soldiers at the camp had not much to eat and shivered under just one blanket (*Daily Southern Cross*, 22 July 1863: 3). John Featon (1879: 23) recorded that four horses which were taken from Kirikiri along with the prisoners were sold for £20 each and the proceeds were given to Ihaka and his people "to the astonishment of everyone." He also noted that this action caused a measure of resentment from those who were guarding the prisoners: "they [the prisoners] also were allowed far better rations than the troops, who not unnaturally grumbled considerably." Another account also refers to the foods eaten by the prisoners as being better than prison fare and the guards' own rations (*Daily Southern Cross*, 24 July 1863: 4). The prisoners were initially allowed to receive visitors (*Daily Southern Cross*, 25 July 1863: 2). Along with the Bishop, there were other Pākehā who objected to the arrest and internment of Ihaka and his people as historian James Cowan later recorded: "Pakeha neighbours protested that he had always been a friend of the whites, and urged his release" (*Auckland Star*, 14 November 1936: 2).

Clearly this treatment of the prisoners was short lived. Later reports recorded how the diet of the prisoners affected their health indicating, presumably, that somewhere along the way they were put on prison rations (*Daily Southern Cross*, 5 October 1863: 3). The camp was a damp and muddy place. Aside from dealing with these environmental conditions, the treat-

ment that the prisoners received was later described by Minister of Defence William Fox as being “of a very stringent character.” By way of example he noted having heard “not even the women being allowed to leave the hut without a sentry standing over them while they performed those offices which even men perform in secret” (*AJHR*, 1864(I): 51).

After a month in the camp, several instances of serious ill-health were recorded among the prisoners. On 25 August 1863 the Camp’s Commanding Officer, Colonel George Carey, wrote to the Colonial Secretary to inform him that one of the female prisoners was of “unsound mind” and requesting instructions on how to handle the matter. Two days later, the Colonial Secretary responded noting that if two doctors could prove the woman’s ill-health before a Justice of the Peace, she would be committed to the Lunatic Asylum (27 August 1863, Seed to Carey, ACGO 8336 IA 4/244, 1863/249, ANZ-W). By 8 September, the unnamed women had been committed “for safer keeping and treatment” (*Daily Southern Cross*, 8 September 1863: 2).

On 31 August 1863 the Native Secretary wrote to the Commanding Officer of the camp noting that it had been reported, apparently not from the camp, that two of the Māori prisoners were ill. The identity or sex of the two who were ill is not recorded. Nevertheless, the Colonial Secretary informed the Commanding Officer that the Governor had directed that the two sick prisoners were to be sent into Auckland to the Colonial Hospital “at once” (31 August 1863, Shortland to Officer Commanding Ōtāhuhu Garrison, ACIH 16039 MA 4/6, Micro No.6543, Letter No.287, ANZ-W). Nothing further has been located about the fate of these two prisoners.

On 7 September 1863, George Will, the Staff Assistant Surgeon of Ōtāhuhu Camp, informed the Camp Adjutant that Pepene Te Tihi, Ihaka’s father, was suffering from an attack of bronchitis. The illness was sufficiently severe for Dr Will to request that the chief be removed to the Colonial Hospital in Auckland for treatment (7 September 1863, Carey to the Governor’s Private Secretary, ACHK 16569 G 13/2, Letter No.74, ANZ-W). There is no indication whether this occurred or not, but the Governor was informed by the Camp’s Commanding Officer of this event.

Pepene did not recover and died on 20 September in the camp. Colonel Carey informed the Governor of the death. He noted that the family of chief had requested that he be buried in the urupā at Pūkaki, and that a means of transport would be required. He therefore sought instructions on the matter be sent “with as little delay as possible.” In the meantime, funeral arrangements for Pepene were being made (20 September 1863, Carey to the Governor’s Private Secretary, ACHK 16569 G 13/2, Letter No.78, ANZ-W). A response to this request for instructions has not been located by research conducted to date. If the family’s wishes were adhered to, the remains of Pepene lie at Pūkaki but this has not been able to be confirmed. Two of Ihaka’s own children also died during the imprisonment at Ōtāhuhu (*AJHR*, 1864(I): 51).

Clearly these cases of severe illness and death were significant enough for the officials to record. The likelihood is, however, that given the conditions in the camp, sickness would have been prevalent among the prisoners. This certainly is indicated by a newspaper report that described all prisoners as “far from being healthy” and Ihaka as being in a very weak state and possibly dying. The widespread illness was put down to the state of confinement and the diet on which the prisoners had to exist (*Daily Southern Cross*, 5 October 1863: 3).

The effect of the deaths which had occurred on the other prisoners can only be imagined. As late as the beginning of November, Rogan reported that Ihaka felt “very much the loss of his father and two children” (*AJHR*, 1864(I)). These deaths also brought spiritual impacts as it appears that initially there was no catering for the customary sensibilities of those who still lived. This is shown in a telegram sent to the Native Minister on 30 October 1863 from Lieutenant Colonel Haultain, the Commander of the 2nd Waikato Regiment. Haultain

recorded that the Maori prisoners were “very anxious to be allowed to change their hut as two of their number have died in present one.” Without necessarily realising it, Haultain was recording the prisoners’ view that tapu was being breached by their continuing to stay in the hut. Haultain expressed his view that he thought it was “desirable” to accommodate the request but that the Barrack Master, a Mr. Hawley, “throws difficulties in the way.” This led Haultain to telegraph the Native Minister expressing again his view that he saw “no objection at all” (30 October 1863, Haultain to Native Minister, AAYS 8640 AD 3/1, 1863/1429, ANZ-W). Haultain’s action gained the desired result as a minute scrawled on the telegram by a Native Department official recorded “This has been done” referring, presumably, to the transfer of the prisoners to another hut.

Although Haultain had achieved a good result for the prisoners, the spiritual and cultural damage had been done. Presumably, Pepene was one of the two deaths referred to. If this was the case, he had died more than a month previous to Haultain’s telegram having been sent. The prisoners had lived with this breach of tikanga for all this time which was clearly exacerbated when the second unidentified person had died.

As the conditions in the camp remained bad and the health of the prisoners deteriorated, consideration was being given in Government circles as to how matters around the prisoners should be handled. Although arrested and detained, neither Ihaka or any of his party had been charged or given a hearing or even an arrest warrant. The Government needed to find a solution. This need probably increased as word of the illness and deaths began to spread.

It appears one early suggestion that may have been canvassed was escorting Ihaka and his people out of the Auckland area. There is little available information on this other than a single brief entry in a correspondence register of the Native Department. This records that the Native Department official Rogan wrote to the Native Secretary on 1 September 1863 “Relative to the removal of prisoners Ihaka Takaanini to Waikato” (1 Sept 1863, Rogan to Native Secretary, ACIH 16039 MA 2/5, 1863/1284, ANZ-W). As Native Department correspondence from 1840 to 1908 was destroyed in a historic fire, the actual letter is not extant but the register entry suggests that it was considered at one point to let Ihaka and his people join the rest of their iwi and find refuge amongst their Waikato relations.

It also appears that the possibility of placing the prisoners on Rakino Island, located in the Hauraki Gulf, was raised at this time (*AJHR*, 1864(I): 51). This possibility had been around for some time. As early as 15 July 1863, just days before Ihaka and his people were arrested, the Superintendent of Auckland wrote to the Colonial Secretary suggesting that any ‘friendly’ Māori who had taken the oath of allegiance and then found themselves behind the front lines, might pose a security risk and leak information to the rebels despite their profession of loyalty. The Superintendent suggested that Rakino, privately owned by Governor Grey, might be a ‘suitable’ location to place such Māori (15 July 1863, Graham to Colonial Secretary, ACGO 8335 IA 3/1/18, 1863/1957, ANZ-W). However, the government first sought to explore the possibility of charging Ihaka with a crime. During September 1863 the opinion of the Attorney General was twice sought as to whether it was possible to secure a successful prosecution against the chief. On both occasions the Attorney General expressed his view that a prosecution was unlikely to eventuate or succeed (*AJHR*, 1864(E)). In the aftermath of this result, it appears that the prisoners were somewhat forgotten about in the context of a General Election taking place. This particular General Election was of significance as from the time that the new government came into power, it would have responsibility for native affairs taking this over from the Governor.

While these events occurred on the national scene, the prisoners languished. Aside from the 30 October request to move huts, little further is recorded of their experiences. The only other evidence found for October in relation to Ihaka and his people comes from the corre-

spondence registers of the Native Department. Several entries of letters received are noted but, as indicated above, the letters are not available having been destroyed by fire.

One register entry is again from departmental official John Rogan on 3 October 1863 when he reported on his visit to Ihaka in the camp (3 Oct 1863, Rogan to Native Secretary, ACIH 16039 MA 2/5, 1863/1680A, ANZ-W). A second entry comes from the end of the month when the Ōtāhuhu Camp Adjutant forwarded to the department two “Native letters” (presumably letters in te reo) written by Ihaka. The subject of these letters is not recorded.

In the meantime, a new Government had taken office. The plight of the prisoners was again considered. The decision was made to release them from Ōtāhuhu and take them to Rakino. One final Native Department register entry reflects one aspect of the preparations being made for the transfer. The register records a 21 November letter from builders Harvey and Gilbert noting: “Will build a house at Rakino for Ihaka for £50” (21 Nov 1863, Harvey and Gilbert to Native Secretary, ACIH 16039 MA 2/5, 1863/1767, ANZ-W). A return letter from the Native Secretary to Harvey and Gilbert on 23 November 1863 informed the builders that their tender to build the house had been accepted (23 Nov 1863, Shortland to Harvey & Gilbert, ACIH 16039 MA 4/6, Micro No.6543, Letter No.363, ANZ-W). Nothing further is recorded in relation to the building of this house.

It appears that an exact date and time can be assigned for when the prisoners left Ōtāhuhu camp: 10 am on 26 November 1863. On the previous day, the Commanding Officer at Ōtāhuhu was informed of the date and time and asked to keep the prisoners in safe custody until then (25 November 1863, Russell to Officer Commanding Ōtāhuhu Garrison, AAYS 8640 AD 3/1, 1863/1655). On 27 November Rogan was sent out to Rakino. Presumably he was sent to see how Ihaka and his people had settled in. He was not to stay there long, however, as the captain taking him to the island was told not to wait on the island any longer than six hours (27 November 1863, Russell to Captain Chamberlain, AAYS 8640 AD 3/1, 1863/1680, ANZ-W). Nothing further is recorded in relation to the settling in of Ihaka and his people on the Island. Their experience on Rakino was not to be a happy one, however, as Ihaka died there. Although long recorded as being ill, commentators ascribed his death to being down to more than physical causes. On 18 January 1864, the *New Zealand Herald* reported of the death of Ihaka Takaanini noting that “...confinement and the loss of caste, which imprisonment entails on a Maori chief, so preyed upon him that he has, it appears, sunk under it” (*New Zealand Herald*, 18 January 1864: 3). The historian James Cowan agreed noting that while imprisoned Ihaka was “always grieving for his tribe and his home of the happy days before the war... The Maoris say he died of grief and love for the people – ‘aroha ki te iwi’” (*Auckland Star*, 14 November 1936: 2).

20th century

Sometime later Road Hill was renamed McLennan’s Hill, after Ewen Donald McLennan (1861–1948), a local farmer who owned the land and was an MP for the Reform Party from 1925, when he won the Franklin by-election following the death of Prime Minister William Massey, until his retirement in 1928 (Scholfield 1950: 124; Fowlds 1967; Howard 1998).

Later uses for the maunga included commercial wells (Hellaby’s and Thompson’s wells) in the crater (Howard 1998). Around 1910 South Canterbury Meats put a well through the basalt after a first well through the scoria 6 or so metres away had found no water. At one stage five abattoirs in Ōtāhuhu used up to 1,000,000 gallons (3750 m³) of water per day – the last abattoir closed in 1985 (Graham Windross pers. comm. 10 February 2014).

Quarrying and destruction

Eventually Te Apunga o Tainui, like many other maunga in Tāmaki, was used as a quarry. Initially a small quarry was operated by Walter McAnulty mining the northern face of the cone off Panama Road (visible towards the top of Figure 3) (Howard 1998). Ivan Whale bought the properties in the mid-late 1940s and quarrying was expanded from the 1950s (Howard 1998; Hayward et al. 2011). More than 2 million tonnes of scoria were removed in the period to the 1970s when the quarry closed (Hayward et al. 2011: 185) (Figure 10). Much of the quarried material was used as fill for the Southern Motorway.

Zealandia Nurseries

Zealandia Nurseries (at the time Mt Wellington Nurseries) bought the properties in 1985. It was at this time that the pōhutukawa surrounding much of the site were planted. Ivan Whale Ltd had left the central basalt core of the cone untouched and Zealandia drilled and dynamited this, removing around 10,000 m³ of basalt, much of which was used as fill to level the quarry. By 1989 about 8 ha had been levelled and paved with concrete pads, the sheds and greenhouses had been built and the nursery was fully established. Zealandia capped the 1910 well and put in another from which they drew up to a maximum of 200 m³ per day for their operation. The well was constantly replenished and the water remained potable. In 2013 the properties were purchased by Panama Road Developments Ltd and Zealandia progressively moved to a new site in Alfriston as development progressed (Graham Windross, managing director of Zealandia Nurseries, pers. comm. 10 February 2014).



Figure 10. Oblique aerial view of Te Apunga o Tainui in 1955, mid-quarrying (Whites Aviation Ltd. WA-39922-F, Alexander Turnbull Library).

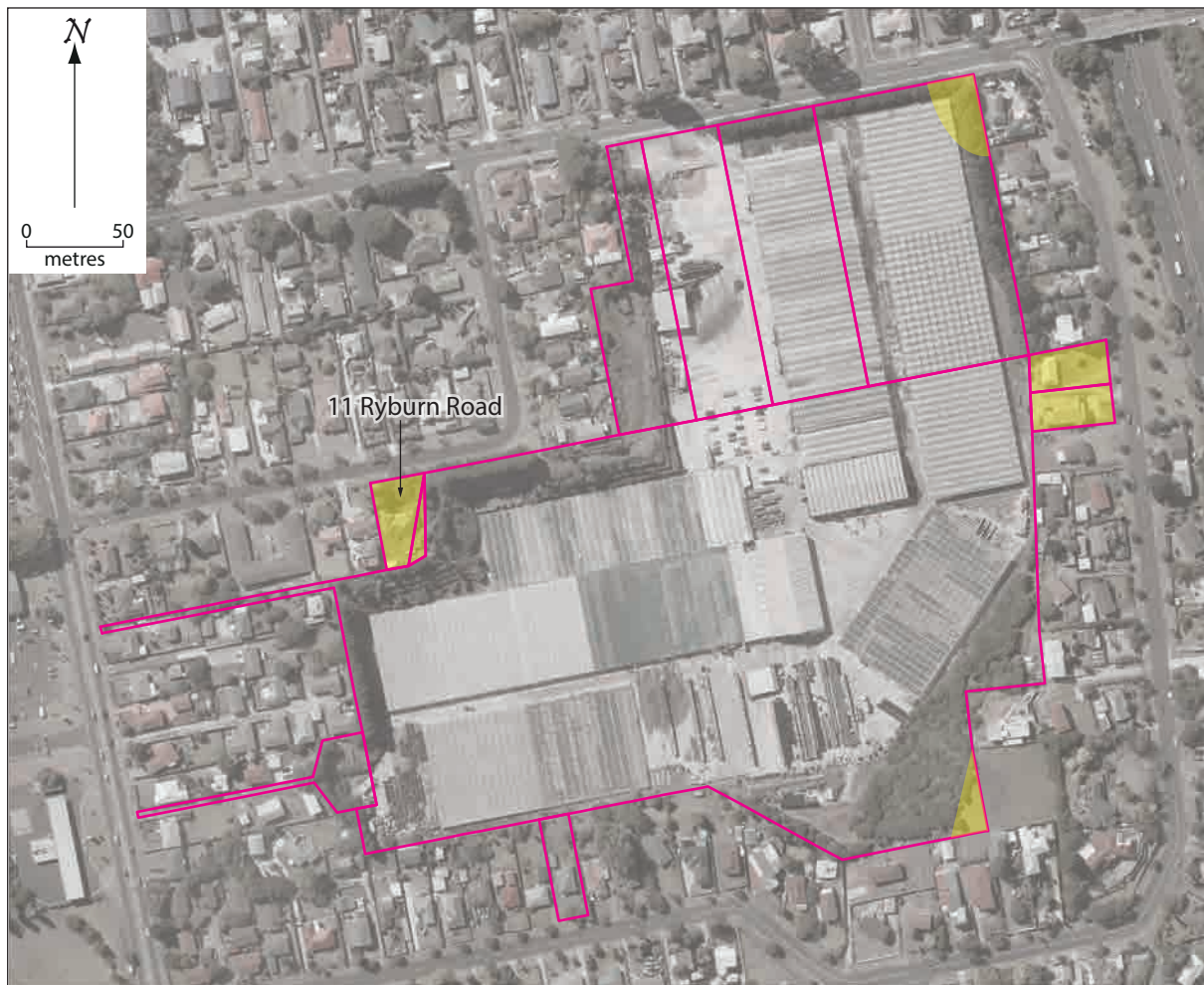


Figure 11. Pre-development aerial photograph of Te Apunga o Tainui showing the Zelandia nursery complex and possible surviving original ground surfaces.

Methodology

Overburden was removed by hydraulic excavator under archaeological supervision. After identification of archaeological deposits, excavation was carried out by hand, and all features were recorded and photographed (Figures 11-14). One pit (Feature 20) was approximately 80% excavated, while trenches were excavated across the three other mostly intact pits (Features 31, 32 and 34) to determine their profiles, and small test pits were dug into the four partial or disturbed features (Features 33, 40, 42 and 53) to confirm that they were pits. Following hand excavation, earthworks were monitored to record additional features, particularly postholes in the bases of pits. Archaeological material was sampled for later analysis, including midden and soil samples, with all culturally modified lithics retained. Feature numbering was continued from the 2019 investigation.

Results

Excavation results have been separated into pits with associated features, and isolated features. The layout of the site is shown in Figures 12–14. Overburden removal with the hydraulic excavator revealed a surface that had previously been cut down, whether during

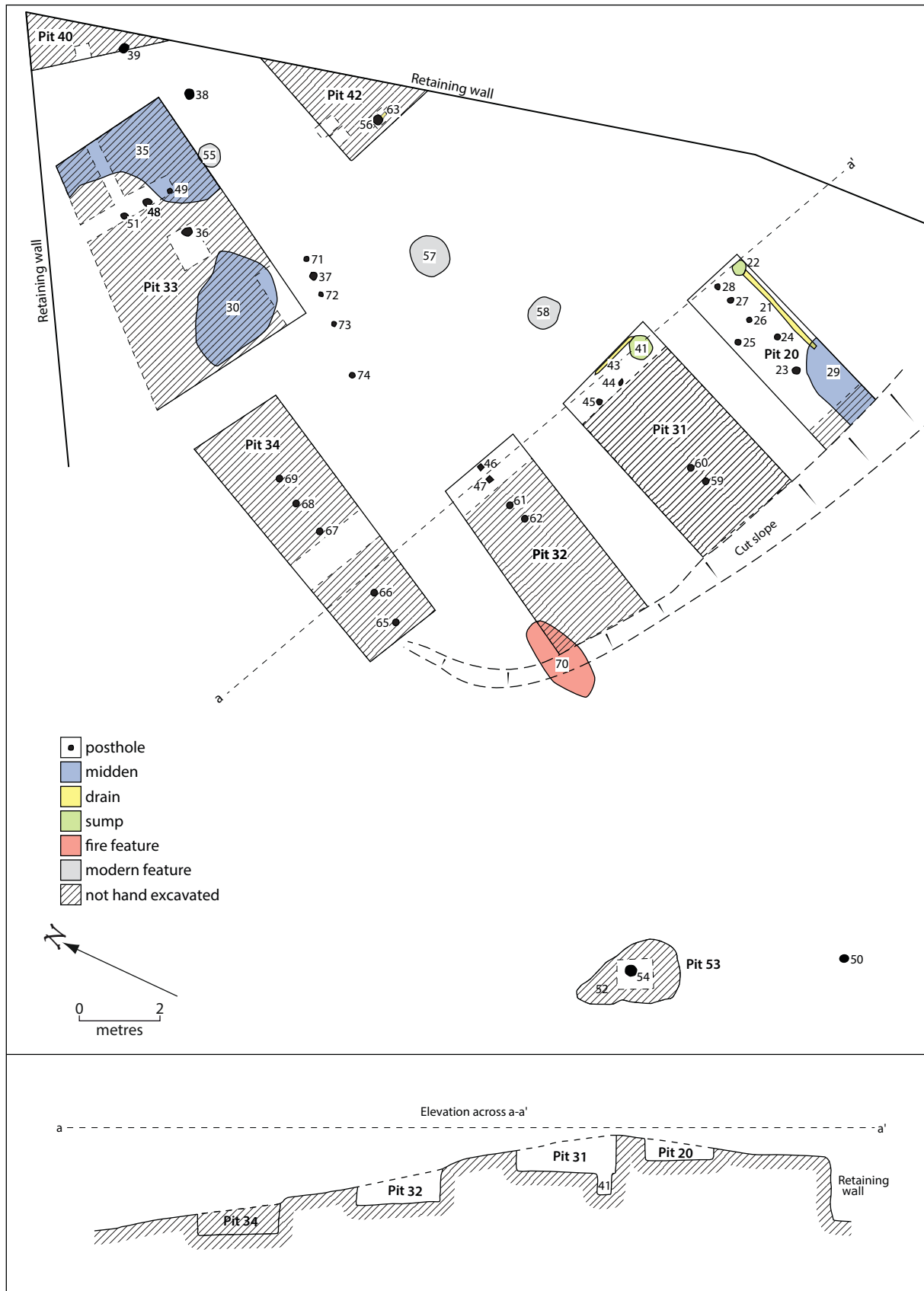


Figure 12. Plan and elevation of identified features.

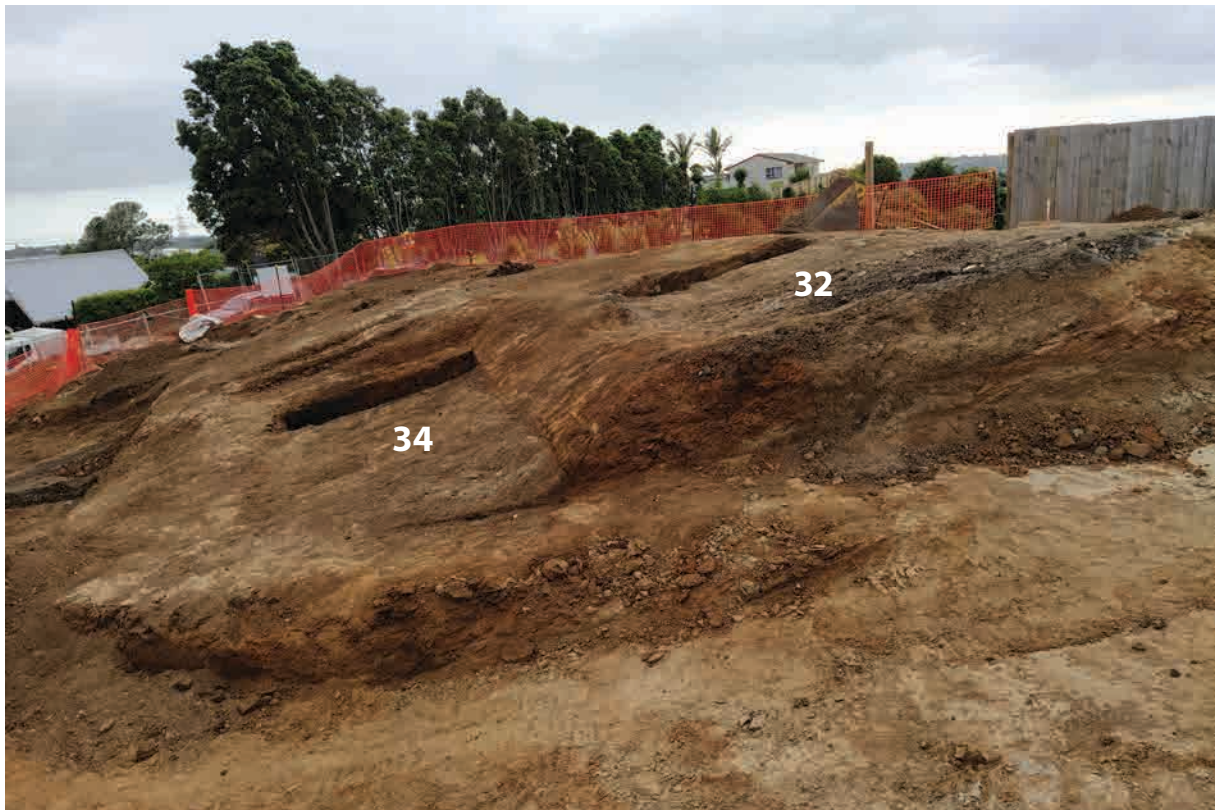


Figure 13. North-facing view of the site during the final stage of the excavation.



Figure 14. East-facing view of the site during excavation.

quarrying or house construction is unclear, with a clean fill then placed over it. All pits appeared to have been truncated by this. The only features overlying this cut surface, Features 30 and 35, were redeposited middens. Pits 20, 31 and 32 were truncated by a deeper cut at their southern end and their full extents could not be traced. All pits, where this could be determined, were on the same northeast–southwest orientation, although Pits 40 and 42 were truncated by retaining walls on the lot boundary.

Pit 20

This feature initially appeared to be an irregular, fragmented midden (Feature 29) in a charcoal-stained matrix. One obsidian and one basalt flake were recovered from this midden. Further digger scraping revealed a larger rectangular pit (Feature 20) with the midden in the south east corner (Figures 15 and 16). Approximately 80% of the pit was excavated. The pit measured 5060 x 1400 mm x 720 mm deep, with straight walls and a flat base, although the southern end had been truncated by a modern cut. The fill consisted of the shell midden, and a moderately compacted mid-brown, medium grained fill with frequent discrete clusters and lenses of shell, bone and scoria and rock. Several features were identified in the base of the pit, including six postholes (Features 23–28), and a drain (Feature 21) and associated sump (Feature 22).

Pit 31

This feature was capped with a hard grey clay up to 250 mm thick, which initially made excavation difficult. Fragments of brick, wood and glass showed that the clay cap had been deposited recently, but the underlying fill contained only charcoal, shell and a few fish bones. The pit measured 5200 x 2000 mm x 800 mm deep, although the southern end had been truncated by a modern cut. A 700 mm wide trench at the north end revealed straight walls with visible digging stick marks and a flat base (Figure 17). At the base of the trench a compacted layer approximately 30 mm thick was identified. This was distinct from the base cut and was probably formed by treading during the use of the pit. Two postholes (Features 44 and 45), a drain (Feature 43) and associated sump (Feature 41) were cut into the floor of this pit. Two additional postholes (Features 59 and 60) were identified in the centre of the floor during subsequent mechanical excavation.

Pit 32

This pit was similar in size and orientation to Feature 31, measuring 5400 x 2440 mm x 820 mm deep, although the southern end had been truncated by a modern cut, and also had straight walls with visible digging stick marks (Figure 18). An 800 mm wide trench was cut through the north end of the pit (Figure 19). The floor was flat and compacted near the margins but very uneven in the centre. Unlike Feature 31, there was no clearly defined treading layer across the floor, although the fill was quite damp and compacted in the lower 150 mm, which may have obscured this. Two postholes (Features 46 and 47) were identified in the base of the trench, and two more (Features 61 and 62) were identified during subsequent mechanical excavation.

Pit 33

This feature was difficult to identify initially because its upper and northern margins had been disturbed by the recent cut for a retaining wall and it was overlain by two irregular



Figure 15. North-facing view of Pit 20 after excavation, with midden (Feature 29) in the foreground.



Figure 16. South-facing view of Pit 20 after excavation, with midden (Feature 29) in profile.



Figure 17. Plan view of trench cut through Pit 31 showing postholes, drain and sump in its base.



Figure 18. Digging stick marks in the wall of Pit 32 during excavation.



Figure 19. Plan view of trench cut through Pit 32 showing postholes, drain, and sump in its base.



Figure 20. West-facing view of Pit 33 showing postholes in base and disturbed midden (Feature 35).

concentrations of disturbed midden (Features 30 and 35). Several test trenches were excavated to locate the pit walls and all but the disturbed north-western margin were identified (Figure 20). The pit measured 6450 x 3050 mm x 500 mm deep. Four postholes (Features 36, 48, 49 and 51) were identified in the base of this pit during subsequent mechanical excavation.

Pit 34

This feature initially appeared to be an irregular scatter of midden, but removal of around 100 mm of clay revealed it to be a rectangular pit measuring 6680 x 2200 mm x 780 mm deep. Due to the poor visibility of the edges, an 800 mm wide trench was excavated through the centre of the feature (Figure 21). The trench showed that this pit contained three distinct layers of fill under the clay cap – a dense layer of shell midden overlying a light brown fill, which in turn, was overlying a darker brown fill. A polished adze flake was recovered from this lower layer. No features were identified in the base of the trench, but five postholes (Features 65–6) were identified in the base during subsequent mechanical excavation.

Pit 40

A small wedge of distinct fill with shell and charcoal was identified at the junction of the two recent retaining wall cuts (Figure 22). A 300 x 300 mm test pit was placed along the edge of the feature, and this confirmed that it was a pit, with the remnant measuring 3540 x 1440 mm with straight walls and base. This is the only pit where we cannot be sure it is on the same northwest–southeast orientation as the others. The base was reached at 100 mm,



Figure 21. Plan view of trench cut through centre of Pit 34.



Figure 22. Surface of Pit 40, showing test pit to the left and Feature 39 (posthole) to the right.

indicating that the upper part of the pit had been truncated, possibly during the retaining wall earthworks. It was not excavated further.

Pit 42

A second area of fill mottled with shell and charcoal was identified next to the retaining wall about 3 m south of Feature 40. Test pits also confirmed that this was the remnant of a straight-sided pit measuring approximately 3400 x 2650 mm x 340 mm deep. A posthole (Feature 56) and a possible drain (Feature 63) were identified in the base (Figure 23). As with Feature 40, recent damage made it impossible to determine the original size or orientation of this pit and it was not excavated further.

Feature 53

A possible eighth pit was identified close to the western boundary of the property. This area had been heavily modified during the construction of the house driveway, boundary wall and subsequent earthworks. Initially, a patch of charcoal-stained midden (Feature 52) was identified, which was found to overlie a distinct cultural fill with smaller amounts of shell and charcoal, sitting on a flat cut base (Feature 53). A circular posthole with the same fill (Feature 54) was identified in this base, indicating that these features likely represented the truncated remnants of a pit (Figure 24).



Figure 23. Surface of Feature 42, showing test pits excavated at its margins.



Figure 24. Feature 53 and posthole (Feature 54) after removal of overlying midden (Feature 52).

Other features

Several features were not directly associated with any of the pits. Most are isolated and are probably associated with the same occupation as the pits. Some overlie the pits and so must postdate them, although it isn't clear by how much, while some are probably modern (Figure 25).

Feature 75

This feature was a subcircular depression with a charcoal stained fill densely packed with midden containing scoria and fire-cracked rock.

Feature 76

This feature was a subcircular depression containing a dense midden.

Features 37 and 71–74

This was a row of five small circular depressions running through the centre of the site. They were shallow, ranging between 90 and 150 mm deep, and were probably the truncated remnants of a line of post holes. Their fill consisted of reddish clay and fragmented shell.

Features 38 and 39

These were two circular postholes of similar dimensions, 250 x 230 mm, in the north-east corner of the site, filled with clean brown soil and pebbles. No shell, charcoal or modern materials were identified in the fill, making it difficult to determine their relative ages. However, Feature 39 is cut into the fill of Pit 40, indicating that it post-dates the filling of the pit.



Figure 25. Postholes, Features 37, 71, 72 and 73.

Feature 50

This was an isolated posthole in the south east corner of the site measuring 260 x 210 mm x 460 mm deep, the top 180 mm of which was filled with a densely packed midden. The lower portion of the fill was a soft brown/red soil with loose compaction and charcoal inclusions.

Feature 55

Feature 55 was a circular pit, measuring 700 x 700 mm x 700 mm deep, tapering to the base, near the southern edge of the site containing loosely packed scoria cobbles mixed with broken 20th century glass, indicating a recent date.

Feature 57 and 58

These were shallow oval depressions filled with compacted light grey clay. No cultural material was identified in the fills of either, and they are also probably modern.

Chronology

Two samples from Pit 20 were submitted to the Radiocarbon Dating Laboratory, University of Waikato for dating: a charcoal sample of *Hebe* sp., and a shell sample of pipi (*Paphies australis*) (Table 1). Currently accepted protocols for shell dates (Petchey and Schmid 2020) mean the date range for this sample is quite wide, from the mid-15th to mid-18th centuries AD, while the charcoal date is tighter and more reliable, from the late-15th to mid-17th centuries.

Table 1. Radiocarbon dates.

Lab number	Context	Material	CRA BP	Cal AD 68%	Cal AD 95%
Wk-55085	Pit 20	charcoal	372 ± 21	1500–1520 (11.1%) 1540–1600 (45.5%) 1610–1630 (11.7%)	1480–1640
Wk-55084	Pit 20	shell	736 ± 18	1520–1670	1450–1760

Summary

Most of the features identified during the excavation were pits and associated postholes, which were generally used to store kūmara over winter. The alignment of the pits, equally spaced with a northeast–southwest orientation, suggests they were all constructed and used during the same occupation. The midden deposits in the fill of several of the pits are probably related to the same occupation, with the pits deliberately filled after they ceased to be used.

Lithics

Eleven lithic artefacts, comprising nine fine-grained stone and two obsidian pieces, were recovered from the investigation. Sample 272 is the only formal tool recovered. It is the bevel and blade of what would have been a large, rectangular cross-sectioned Duff Type 1a or 2a type adze, hammer-dressed on all sides. It has snapped just above the bevel, most likely caused by shock impact (Figure 26). Extensive damage to the cutting-edge indicates that it



Figure 26. Broken adze bevel.

saw considerable use over its lifespan. The rest of the adze may have been reworked into a different tool after breaking, but this would have been difficult for the current piece and it was discarded.

The remainder of the assemblage consists of two obsidian flakes, an obsidian core and several pieces of greywacke. Greywacke was a common, locally available material used for making adzes in Tāmaki, and the greywacke pieces present, mainly flakes, are likely debitage from the manufacturing process. Repairing damaged or broken tools was also common practice and a polished flake in the assemblage (Sample 245-1) provides evidence of that activity also occurring here.

Obsidian was an important material used to create expedient sharp edges for cutting and scraping. Samples 279 and 280 are both flakes of a high-quality material with no inclu-

Table 2. Descriptions of the lithics.

Sample	Feature	Class	Material	Length (mm)	Width (mm)	Thickness (mm)	Weight (g)
272	surface	Adze	Greywacke	82	70	45	160.3
280	surface	Flake	Obsidian	21	18	8	1.7
279	surface	Flake	Obsidian	25	14	9	3.2
255		Debitage	Greywacke	32	5	2	0.6
277	20	Flake	Greywacke	40	30	4	12.3
273	surface	Flake	Greywacke	76	18	3	7.9
250	31	Flake	Greywacke	46	33	3	7.2
247-1	35	Flake	Greywacke	59	28	4	11.1
247-2	35	Flake	Greywacke	68	44	18	36.7
245-1	34	Adze flake	Greywacke	19	12	2	1.1
245-2	35	Flake	Greywacke	39	22	2	5.4

sions or crystals. They would have had a predictable fracture enabling a sharp cutting edge to be created easily. Both flakes show microchips along their sharp edges indicating use.

Geochemical analysis

The 11 lithic artefacts were geochemically analysed by Andrew McAlister to determine their raw materials and, if possible, their geographical origin. A Bruker Tracer 5i portable x-ray fluorescence (pXRF) instrument was used to carry out non-destructive geochemical analyses of these specimens, using the methods reported in McAlister (2019), McAlister and Allen (2017) and Kneebone and McAlister (2019).

Analysis assigned one obsidian flake one flake (Sample 279) to Tūhua / Mayor Island and the other (Sample 280) to Te Ahumata on Aotea / Great Barrier Island, the same two sources that were identified at this site previously (McAlister and Campbell 2021).

Fine-grained stone sources, used for manufacturing adzes, scrapers and other implements, have not been studied as extensively as obsidian sources in New Zealand to date. Although further work is required, studies have made inroads into the geochemical characterisation of New Zealand adze raw materials (e.g., Felgate et al. 2001; Kneebone and McAlister 2019). Analysis showed that eight of the fine-grained stone artefacts are made from greywacke. The remaining artefact, the polished adze flake (Sample 245-1), is basalt and its chemistry is a good match to samples from the quarry at Tahanga (Felgate et al. 2001).

Although greywacke is commonly attributed to Motutapu because of large-scale adze quarries on that island (Davidson 1981; Leach 1990), high-quality greywacke suitable for adze manufacture also occurs on neighbouring islands, such as Rakino and Motuihe, as well as some coastal locations on the Tāmaki mainland (Davidson 1981; Turner and Bonica 1994; D. Bonica, pers. comm. 2018). To determine whether the location of the eight greywacke artefacts could be refined any further, a second analysis was carried out, using reference samples from six locations, three islands in the Hauraki Gulf (Motutapu, Rakino and Motuihe) and three from east coast of the Tāmaki mainland (Anchor Bay, Orere Point and Kaiāua). This analysis separated the six sources well (95%) and grouped seven of the artefacts with Motutapu and one (Sample 255) with Rakino.

Fauna

Samples were floated to remove charcoal and light bone, and the remaining material was wet sieved through a 3 mm screen, air dried, and sorted into primary classes for specialist analysis: shell, bone, lithics and charcoal. Faunal counts are presented as NISP (Number of Identified Specimens) except for shell, which is presented as MNI (Minimum Number of Individuals). MNI for gastropods is equivalent to NISP, while for bivalves MNI is calculated by dividing NISP by two.

Shell

Shell was identified to the lowest possible taxonomic level by Leela Moses of CFG Heritage with identifications based on Morley (2004). The results are shown in Table 2. Tuangi (*Austrovenus stutchburyi*) is the most common shellfish species at the site (Table 2), dominating all samples except for Feature 50 which was almost entirely pipi (*Paphies australis*), which is the next most frequent species overall. The dominance of these two species is unsurprising, given the location of the site. Both these species prefer a muddy environment, and are commonly found in estuarine areas, such as from the nearby Tāmaki River and Māngere

Table 2. Identified shell by MNI.

	Feature 29	Feature 34	Feature 50	Feature 35
Bivalves				
Tuangi (<i>Austrovenus stutchburyi</i>)	824	1	53	388
Mussel (Mytilidae)				0
Pipi (<i>Paphies australis</i>)	118		437	10
Tuatua (<i>Paphies subtriangulata</i>)	1			0
Gastropods				
Limpet (<i>Cellana</i> sp.)	2			0
Cats eye				1
White rock shell (hopeta, <i>Dicathais orbita</i>)	1			0
Mudflat top shell (whēkito, <i>Diloma subrostratum</i>)	36			15
Miscellaneous gastropods	2	1		5
Total	984	2	490	419

Inlet. These are also species which commonly dominate midden deposits around the Auckland region.

The sample from Feature 29 has the greatest diversity, with taxa from open shore or rocky coast, which are not available in the immediate vicinity of the site, but only in small numbers.

Fish

A small assemblage of fishbone was recovered from three midden samples: Samples 260 and 262 from Pit 20, and Sample 242 from Pit 34 (Table 3). This was analysed by Matthew Campbell of CFG Heritage following the methodology outlined in Campbell (2016) and Campbell and Nims (2109). The assemblage is dominated by snapper (tāmure, *Chrysophrys auratus*) with small quantities of other species. Carangidae, probably mackerel (hauture, *Trachurus* sp.) but possibly trevally (arara, *Pseudocaranx georgianus*) were identified from scutes (modified scales) and pilchard (mohimohi, *Sardinops sagax*) from vertebrae. Snapper could have been caught with baited hooks, but mackerel and pilchard have small mouths and would

Table 3. Identified fish by NISP.

	Pit 20	Pit 34
Carangidae	1	
Pilchard (mohimohi, <i>Sardinops sagax</i>)	1	
Snapper (tāmure, <i>Chrysophrys auratus</i>)	14	1
Total	16	1

have been netted. All these fish would have been available in the nearby Waitematā and Manukau Harbours.

Other fauna

The pelvis of a dog (kurī, *Canis familiaris*) was found in Pit 34. This was a medium sized animal consistent with kurī Māori.

Charcoal

Charcoal from two deposits in Pits 20 and 34 was analysed by Ella Ussher of CFG Heritage following the methodology outlined in Chabal et al. (1999), Théry-Parisot et al. (2010) and Dotte-Sarout et al. (2015), although the sample sizes were lower (50 fragments or less) than recommended (200–400 fragments).

Flotation was used to extract light charcoal from the samples, and the remaining heavy fraction was then wet-sieved. Both the float and heavy fractions were then combined for analysis.

Both samples had very little conifer and were dominated by broad-leaved canopy species with smaller amounts of small trees and shrubs suggesting an environment with stands of primary forest surrounding the site, rather than one of secondary growth after vegetation clearance.

Table 4. Charcoal species.

Species	Type	Pit 34	Pit 20	%
Bracken (<i>Pteridium esculentum</i>)	monocot		2	2
Kanuka (<i>Kunzea ericoides</i>)			1	
Pukatea (<i>Laurelia novae-zelandiae</i>)	small trees and shrubs	12		
Hebe (<i>Veronica</i> sp.)			2	30
Pate (<i>Scheffleria digitata</i>)		3	7	
Kapuka (<i>Griselinia lucida</i>)			2	
Puriri (<i>Vitex lucens</i>)			2	
Northern rata (<i>Metrosideros robusta</i>)	broad leaf canopy trees	1	1	
Hinau (<i>Elaeocarpus dentatus</i>)			3	49
Rewarewa (<i>Knightia excelsa</i>)			1	
Tarairi (<i>Beilchmiedia tarairi</i>)		16	20	
Conifer (<i>Podocarpus</i> sp.)	conifer	2	2	4
Unidentified		5	7	13
Total		39	50	

Discussion and conclusion

Despite extensive ground modification for house construction, landscaping and laying of services, excavations at Ryburn Road revealed evidence of pre-European Māori occupation of Te Apunga o Tainui. In contrast to the previous investigation at this site (McAlister and Campbell 2021), a number of archaeological structures were identified, including five mostly intact and three damaged rectangular or sub-rectangular storage pits. These are a common feature across the maunga and elsewhere in Tāmaki Makaurau and were used for the storage of produce, principally kūmara, over the colder periods, and also to preserve seed stock for the following planting season. They are a local innovation, an important adaptation of tropical horticulture to the temperate environment of Aotearoa and were used in the Auckland region into the 20th century (Bellwood 1972: 278; Jones 1994). Pits are proxy evidence that horticulture was taking place in the surrounding area in addition to the marine resource exploitation indicated by the shell and fish bone midden. Although it was feasible to radiocarbon date only one of these pits (Feature 20), their similar northeast/southwest orientation and areal layout suggest that they were either constructed and used at the same time or within a relatively short period.

The shellfish recovered from this investigation were consistent with typical Tamaki midden, and dominated by tuangi (*Austrovenus stutchburyi*), followed by pipi (*Paphies australis*).

These species were readily available in nearby estuarine environments at the Tāmaki River and Māngere Inlet. Small numbers of open shore or rocky coast species also were present, which are not available in the immediate vicinity. Fish, although only present in low numbers, provide evidence of diverse fishing strategies being employed, including the use of both baited hooks and nets.

As noted in the previous excavations of the site, the occupants of Te Apunga o Tainui had access to lithic sources from outside the Tāmaki region, specifically obsidian from Tūhua / Mayor Island and Aotea / Great Barrier Island, as well as fine-grained greywacke resources from Motutapu and also other islands in the Hauraki Gulf. In addition to these lithic materials a single polished adze flake of Tahanga basalt from the Coromandel Peninsula was identified during this stage of the investigation.

The two radiocarbon samples taken from Feature 20 date to a century or more later than the two features reported by McAlister and Campbell, a lithic scatter (Feature 7) and a hearth (Feature 9), a difference that is significant ($t=21.63$, $p<0.05$). This suggests the construction of pits represents a later phase of occupation at Te Apunga o Tainui, contemporaneous with Sewell's (1992) dating of midden on a terrace elsewhere at the site (Figure 27).

The dating of this phase of occupation at Te Apunga o Tainui falls just within Schmidt's (1996) proposed AD 1500 date for the commencement of pā construction, and the presence of multiple food storage pits suggests some degree of local horticulture was being practised at this time. However, analysis of charcoal for this investigation shows that primary forest was still extant in the surrounding area when these pits were constructed. This contrasts other nearby sites of a similar date, such as Maungarei (Davidson 2011), where the vegetation had been heavily modified by human activity.

Overall, investigations at Te Apunga o Tainui indicate that the site was occupied very early in the Tāmaki sequence, perhaps initially because of its strategic location between the Tāmaki River and the Māngere Inlet. The construction of storage pits, approximately one hundred years after this initial occupation, suggests an expansion of occupation on the site, possibly with a more sedentary horticulture-based focus. The 16th century timing of this phase of occupation coincides with a general expansion of settlement in the Tāmaki region and marks the initial occupation of several other nearby sites, such as Westfield (R11/898; Sewell 1992) and Taylor's Hill (R11/96; Leahy 1991).

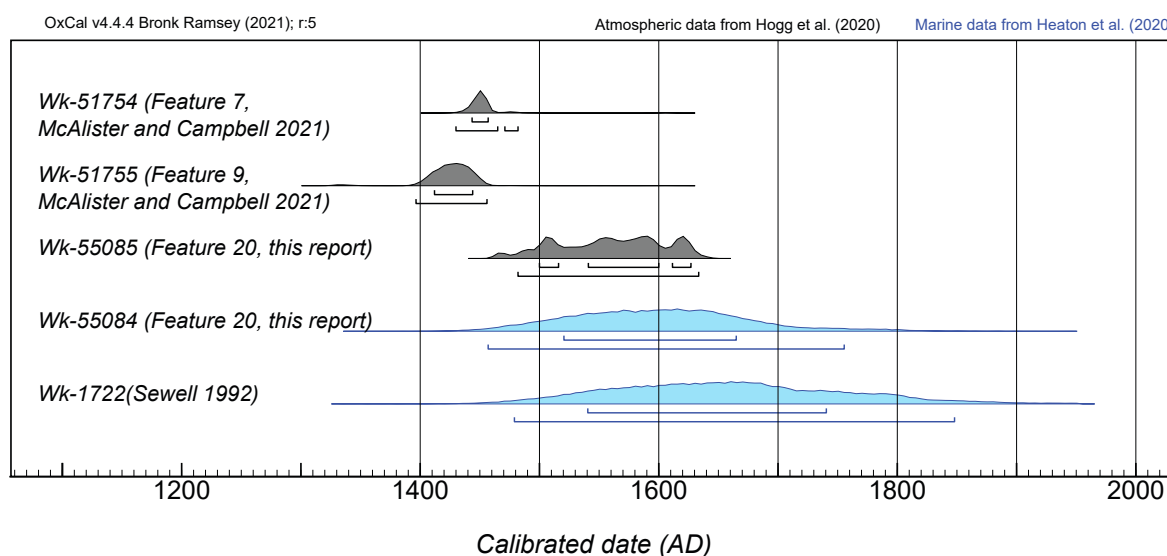


Figure 27. Comparison of radiocarbon dates to previous investigations at Te Apunga o Tainui.

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Appendix 1. List of features

<i>Pit 20 and associated features</i>		
Feature	Dimensions (mm)	Description
20	2800 x 1400 x 800	Rectangular pit with midden, rocky, and sedimentary fills
21	2760 x 80 x 90	Linear drain in base of pit
22	290 x 290 x 430	Circular sump in base of pit
23	190 x 170 x 295	Circular posthole in base of pit
24	170 x 95 x 115	Circular posthole in base of pit
25	180 x 165 x 110	Circular posthole in base of pit
26	130 x 140 x 120	Circular posthole in base of pit
27	160 x 110 x 540	Circular posthole in base of pit
28	150 x 130 x 120	Circular posthole in base of pit
29	1200 x 400 x 800	Irregular midden on top of and filling pit
<i>Pit 31 and associated features</i>		
31	5200 x 2900 x 800	Rectangular pit cut
41	400 x 400 x 450	Circular sump in base of pit
43	800 x 110 x 40	Linear drain in base of pit
44	110 x 100 x 180	Circular posthole in base of pit
45	220 x 170 x 250	Circular posthole in base of pit
59	180 x 170 x 210	Circular posthole in base of pit
60	160 x 150 x 250	Circular posthole in base of pit
<i>Pit 32 and associated features</i>		
32	5400 x 2440 x 820	Rectangular pit cut
46	140 x 130	Rectangular posthole in base of pit
47	150 x 150	Rectangular posthole in base of pit
61	160 x 140 x 270	Circular posthole in base of pit
62	160 x 150 x 320	Circular posthole in base of pit
<i>Pit 33 and associated features</i>		
33	6450 x 3050 x 500	Rectangular pit cut
36	160 x 160 x 200	Circular posthole in base of pit
48	Unexcavated	Circular posthole in base of pit
49	Unexcavated	Circular posthole in base of pit
51	Unexcavated	Circular posthole in base of pit
<i>Pit 34 and associated features</i>		
34	6680 x 2200 x 780	Rectangular pit cut
65	160 x 150 x 300	Circular posthole in base of pit
66	140 x 130 x 240	Circular posthole in base of pit
67	150 x 130 x 280	Circular posthole in base of pit
68	210 x 200 x 470	Rectangular posthole in base of pit
69	130 x 120 x 200	Circular posthole in base of pit
<i>Pit 42 and associated features</i>		
42	3400 x 2650 x 340	Heavily truncated rectangular pit cut
56	180 x 230 x	Circular posthole in base of pit
63	200 x 100 x 50	Linear drain in base of pit
<i>Pit 53 and associated features</i>		
52	2660 x 1540 x 150	Midden
53	unknown, 150mm deep	Truncated pit cut
54	260 x 250 x 330	Circular posthole in base of pit

<i>Isolated features</i>		
Feature	Dimensions (mm)	Description
30	2795 x 2000 x 240	Irregular, redeposited midden overlying Pit 33
35	3110 x 2750 x 150	Irregular, redeposited midden overlying Pit 33
40	3540 x 1440 x 100	Potential heavily truncated pit cut
37	200 x 200 x 150	Circular stakehole
38	250 x 230	Circular posthole
39	240 x 220	Circular posthole
50	260x210x460	Circular posthole filled with midden
55	700 x 700 x 700	Circular pit, loosely packed with scoria, possibly modern
57	980 x 1050 x 150	Oval depression
58	800 x 580 x 100	Oval depression
64	Unknown	Stakeholes
70	approx. 2100 x 1000	Sub-circular, highly disturbed fire feature
71	150 x 140 x 100	Circular stakehole
72	140 x 140 x 90	Circular stakehole
73	140 x 140 x 100	Circular stakehole
74	130 x 120 x 110	Circular stakehole