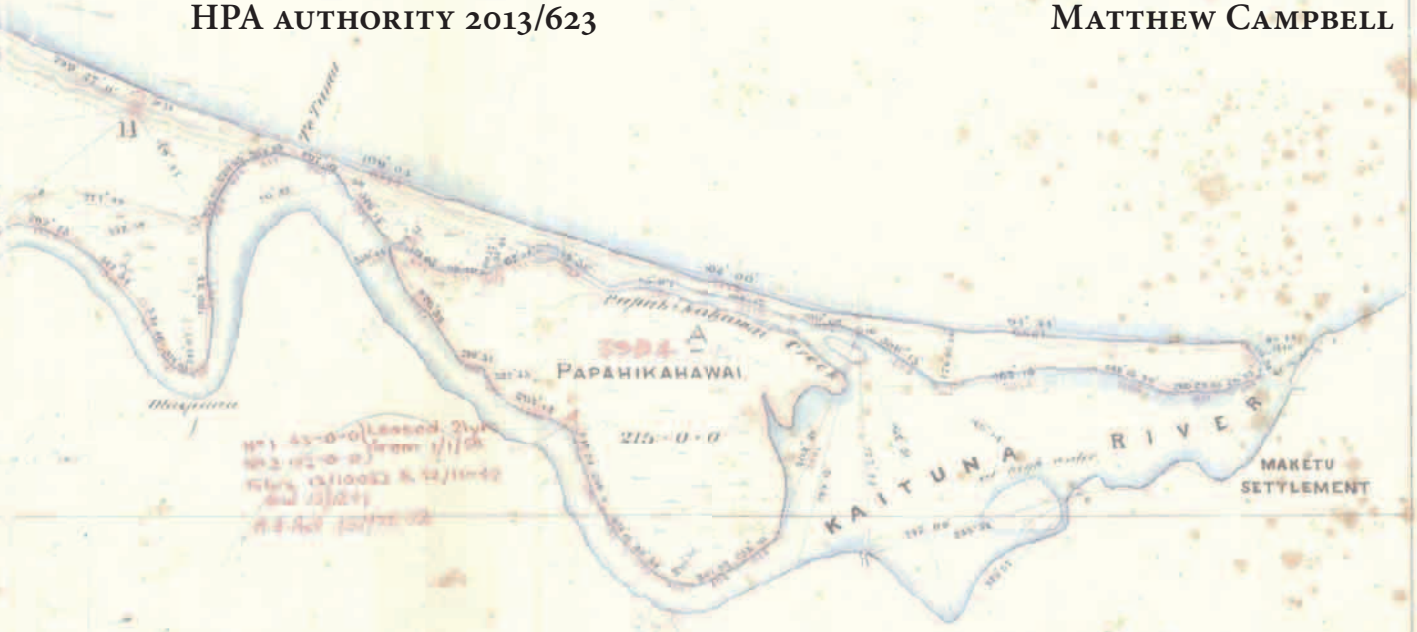
Section 18 investigation of site V14/40, Te Tumu, Bay of Plenty

report to
The New Zealand Historic Places Trust

HPA authority 2013/623

Matthew Campbell



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The New Zealand Historic Places Trust

Prepared by: .....
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Date: 15 October 2013
Reference: 2012/10

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Site V14/40 was first recorded in the New Zealand Archaeological Association site file by Ces Watt in 1970 as Te Tumu Pa (the site record form is given in Appendix F). His site description at the time was "Few signs of earthworks." During a subsequent visit in 1999 by Warren Gumbley and Ken Phillips for the *Papamoa Lowlands archaeological survey and heritage assessment* (2000), undertaken for Tauranga District Council, they recorded "Midden visible in river bank" on the site record.

Te Tumu Pa was the site of a significant battle between Ngati Whakaue and Ngapotiki in 1836 and has considerable cultural, archaeological and historic significance (the next section outlines the historical background of Te Tumu). While V14/40 is recorded as Te Tumu Pa there is no certainty that this identification is correct:

- previous archaeological investigations were a record of surface evidence only, which identified shell middens but no defensive features that could be associated with a pa;

1. Location of V14/40, showing other archaeological sites recorded in the area

- there has, until now, been no comprehensive historical research on the location of Te Tumu Pa;
- the construction of the Te Tumu Cut (the current Kaituna River mouth) in 1955–56 is likely to have damaged or destroyed the Te Tumu Pa.

The property on which V14/40 is located (Part Section 3 Block VI Te Tumu SD) is owned by Ford Land Holdings Pty Ltd. On the basis of its identification as Te Tumu the site has been scheduled on the Tauranga City Plan as a Significant Maori Area (SMA) in decisions released in October 2010 (other than the Te Tumu Pa issue, the Plan became operative on 9 September 2013). The spatial identification of the Te Tumu Pa SMA in the Tauranga City Plan decisions was based on the Gumbley and Phillips report (2000: Figure 3).

The Te Tumu area (essentially the area bounded by the current built up area of Papamoa to the west, the Kaituna River to south and east and the coast to the north) has been identified in the Western Bay of Plenty SmartGrowth Strategy and the Bay of Plenty Regional Policy Statement (Operative and Proposed) as a future Urban Growth Area and is zoned 'Future Urban' in the Tauranga City Plan.

The Te Tumu Pa SMA was appealed by both the Te Tumu Landowners Group and Ford Land Holdings Pty Ltd who disputed that it was located on their land and by Ngapotiki who also disputed its location, claiming is was further to the south and much larger. The New Zealand Historic Places Trust also filed an appeal seeking that the Te Tumu Pa SMA be identified as a Significant Archaeological Area (SAA) based on the report by Gumbley and Phillips (2000).

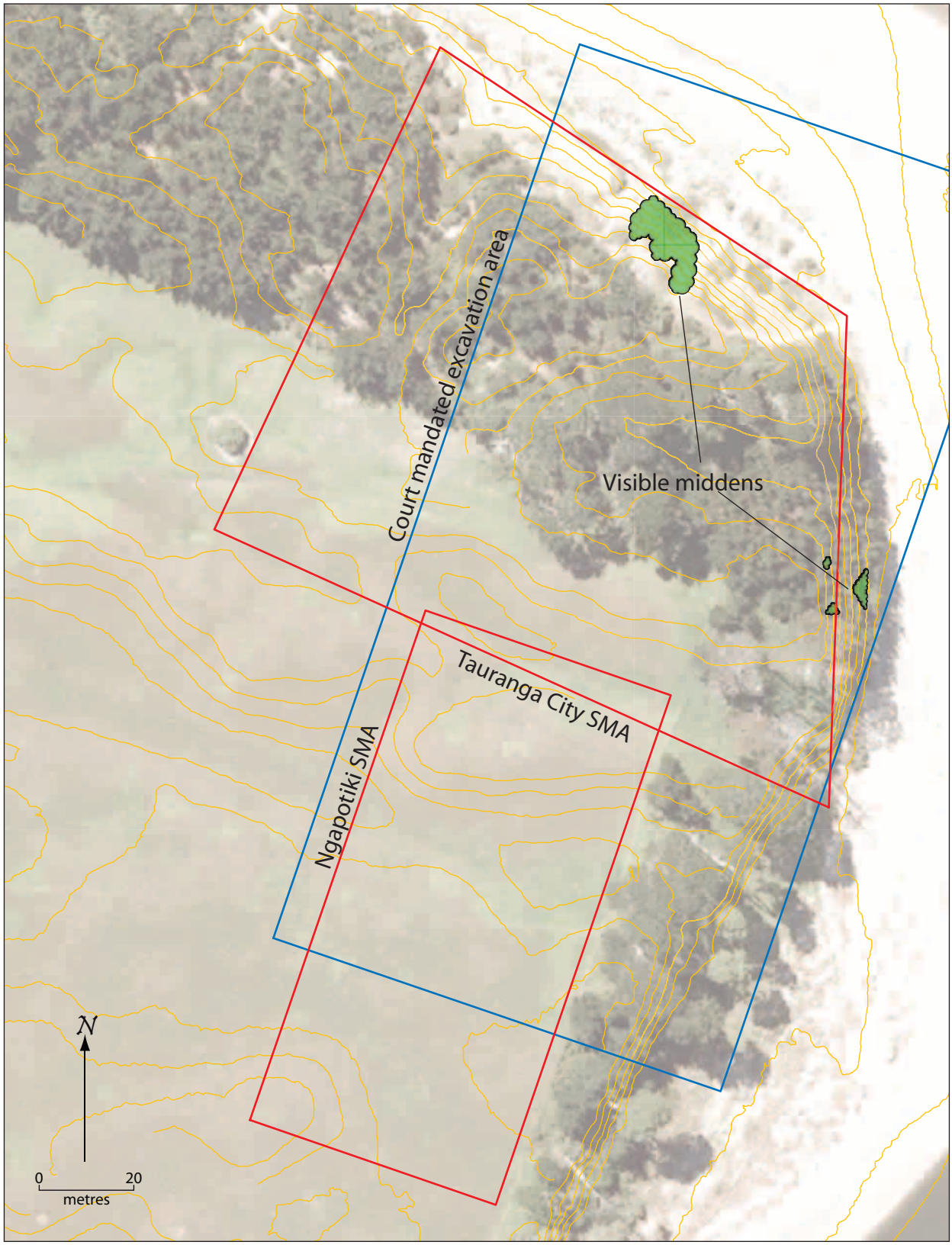
Following a number of unsuccessful mediations during 2011 and 2012 on the Te Tumu Pa SMA and SAA appeals, in October 2012 the Environment Court set down the appeals for a hearing in early 2013.

The Te Tumu Landowners Group (Ford Land Holdings Pty Ltd and the Te Tumu Kaituna 14 Trust) subsequently commissioned archaeological evidence from Matthew Campbell from CFG Heritage Ltd.

The Ngapotiki evidence was received on 16 January 2013 and identified an alternative location for the SMA, placing Te Tumu Pa immediately south of the Tauranga City SMA and approximately 125 x 50 m in size (Figure 2). Subsequently, a site visit with the parties to the appeal was held on 11 February 2013. At this meeting the archaeologists collectively agreed that a very useful way to move the process forward and attempt to resolve the issue of the location of Te Tumu Pa on Part Section 3 Block VI Te Tumu SD would be to carry out an archaeological investigation under section 18 of the Historic Places Act 1993. This was agreed to by the parties to the appeal and subsequently agreed to by the Environment Court.

An application for an archaeological authority to carry out an exploratory investigation of V14/40 under section 18 of the Historic Places Act 1993 was made to the New Zealand Historic Places Trust (NZHPT) by Matthew Campbell, and authority 2013/623 was subsequently granted (the application and authority are given in Appendices G and H).

Following a blessing and karakia carried out by Rereamanu Wihape, Tonty Te Amo and Dean Flavell from Tapuika, the investigation was carried out on 24–26 June 2013 under the direction of Matthew Campbell. Present during the investigation, at various times, were archaeologists Rachel Darmody (NZHPT), Ken Phillips (Tauranga City Council) and Des Kahotea (Ngapotiki); cultural monitors Manu Pene and Maria Horne (Ngati Whakaue); Mark Johnson (digger driver, Active Earthworx); Kane Ericksen (surveyor, Stratum Consultants); Geoff Ford, Dianne Ford and Jeff Fletcher (Fordland); James Danby and Dean Flavell (Tauranga City Council); Anthony Olsen (TTLG Cultural Advisor); and Colin Reeder (Ngapotiki). Rachel Darmody, Ken Phillips and Des Kahotea were empowered to provide advice (and labour), but the final responsibility for the excavation rested with Matthew Campbell as holder of authority 2013/613 and section 18(2) archaeologist.



2. Location of the SMA, the proposed Ngapotiki Te Tumu site location and the area mandated by the court for the investigation. Contour interval = 0.5 m.

Limitations

The investigation had a narrow focus: to determine whether or not there was any evidence that site V14/40 was Te Tumu Pa. The methodology of machine test trenching is rather heavy-handed and causes damage to the archaeology of the site, but was considered the best way to answer the question. As a result, the extent of the investigation was limited in order to limit unnecessary site damage, and once it was clear that the nature and extent of the site were understood the trenching was halted. The potential to undertake close recording of stratigraphy were subsequently limited, and opportunities for sampling and analysis are equally limited, but the bulk of the site remains intact and could potentially be investigated using conventional archaeological methods.

This report makes no statement regarding the significance of the site and makes no recommendations for its future management.

Matthew Campbell
CFG Heritage Ltd

History of Te Tumu

The history surrounding Te Tumu is part of a much wider story involving tribes of the Waikato, Matamata, Coromandel, Bay of Plenty and further afield. The story of Te Tumu is but one episode in this history, which is given in simplified form here to provide some historical context to the site. Fuller versions of this history can be found in, for instance, Stokes 1980, Stafford 1986 and particularly Ballara 2003.

During the early 18th century, following a series of migrations around the eastern North Island, Ngaiterangi under their chief Rangihouri, from whom they take their name, took Maketu from Te Arawa. Some years later, following a series of murders, they attacked and conquered Waitaha at Mauao Mt Maunganui, completing their 'invasion' of the Western Bay of Plenty. This is evident archaeologically where the occupation of the Papamoa dune plain effectively ceases from around AD 1750. Archaeologists have proposed that this change in occupation patterns is a direct result of the Ngaiterangi invasion as the newcomers controlled but did not occupy Papamoa (e.g., Campbell 2008).

Te Tumu was built by Tupaea, a leader of Ngaiterangi, soon after Phillip Tapsell began trading at Maketu in 1830 (Matheson and Oliver n.d.).

On 25 December 1835 Harehuka of Ngati Whakaue killed Te Hunga of Ngati Haua (who was living among Te Arawa, his wife's people) in return for an insult to the body of his deceased daughter. Te Waharoa of Ngati Haua (based at Matamata), allied at that time also to Ngaiterangi, settled on the conquest of Maketu as suitable utu for the death of Te Hunga. On 27 March 1836 Te Waharoa and his Ngaiterangi allies took Maketu, which was defended by perhaps only 40 men (other accounts say 100), though it contained a large number of women and children. The men were all killed while the women and children that survived were taken captive. Although the main inhabitants were Ngati Pukenga, among the defenders were probably some members of Ngati Whakaue of Te Arawa, and two of their chiefs, Te Ngahuru and Te Haupapa, were among the dead. Having obtained utu for the death of Te Hunga, Te Waharoa and his allies withdrew. In the meantime, in response to the sack of Maketu, Te Amohau of Ngati Whakaue raised a taua in Rotorua and decided to take Te Tumu. The pa had a relatively small garrison, but included the important chiefs Kiharaoa, Tupaea and Hikareia. On 7 May, or thereabouts, the Te Arawa taua with their Ngati Raukawa allies rushed Te Tumu, which fell with the loss of between 70 and 200 Ngaiterangi men and perhaps as many as 200 women and children. Tupaea escaped but Hikareia was caught and killed on Papamoa Beach as he tried to evade his pursuers.

Although war continued until 1845, and Te Arawa at one stage withdrew to Rotorua, they eventually reoccupied Maketu on a permanent basis from 1838. The fall of Te Tumu marks Te Arawa reclaiming the lands they lost to Ngaiterangi some 100 years before.

Historical evidence for the make-up and location of Te Tumu

Two main types of historical evidence are discussed here. Firstly, there is the historical evidence of either published European eye witness accounts or traditional Maori accounts. The European accounts are generally derived from missionary journals and / or letters. These historical accounts give some idea of the physical location and appearance of Te Tumu but cannot, in themselves, locate the pa with

any accuracy. The descriptions can, however, be used to rule out other locations that do not accord with the historic data.

Traditional Maori accounts are largely derived from the records of the Native Land Court Minute Books, which are one of the primary sources for the published histories summarised above.

The other main type of evidence comes from old survey plans of the area, mostly large-scale plans of the Te Tumu land block. These show the changing form of the Kaituna River and several of them label Te Tumu without, however, giving any exact location.

Published accounts

The contemporary and first-hand accounts of Te Tumu that describe aspects of its physical location and appearance are worth quoting.

Wilson's *Story of Te Waharoa* was originally published in 1866, although the version quoted here is an online version of the 1907 edition (http://www.enzb.auckland.ac.nz/document?wid=827&page=1&action=null):

> The Tumu pa belonged to Ngaiterangi—Waharoa's allies—and was situated on the left bank of the Kaituna river, about two miles from Maketu, at the place where the river, descending from the interior, flows to within about one hundred yards of the sea, and then by a sudden freak of nature turns sharply off to the eastward; from whence it pursues a course parallel to the coastline, until it reaches Maketu. At the Tumu, the narrow neck of sand that divided the river from the sea, was not obstructed by growing sandhills, as it is now; but was so low that high tides in heavy gales swept over the river.
>
> Te Tumu was, doubtless, a convenient enough place for Maoris in times of peace—commanding the sea as it did, as well as the river navigation; but for war it was quite the reverse. Unlike Maketu, it had neither natural nor artificial strength; yet the inmates of the pa were as infatuated as the Maketu people had been. Numbering only one hundred men and two hundred women and children, their garrison was too weak to hold the position against the large odds to be opposed to them, and too proud to desert it (Wilson 1907: 92–93).

Wilson's description places the pa at a poorly defended location, on a narrow neck of sand that was so low the sea could sweep over it. While this may seem an odd place for a defended position, such a situation would have been able to control the track along Papamoa Beach between Maketu and Tauranga as well as river traffic along the Kaituna. Te Tumu was a strategic pa rather than a major defensive or fighting pa. Such a strategy of control by Ngaiterangi agrees with the archaeological evidence that occupation on the Papamoa dune plain had ceased by this time. Certainly, Wilson's description does not fit with location of V14/40.

Percy Smith's paper in the *Journal of the Polynesian Society* is a translation of an account dictated to him by Tarakawa in 1900. Ballara (2003: 254) describes Tarawaka as a learned man of Waitaha and Ngati Rangiwewehi descent:

> The Kaituna River, which carries off the surplus waters of Lake Rotoiti, after a northerly course of some twenty-five miles comes within a short distance of the coast of the Bay of Plenty, and then turns abruptly to the east for another five miles and falls into the sea at Maketu. A short distance within its mouth, on the eastern side, is where the "Arawa" canoe landed after its long voyage from Tahiti in the fourteenth century; and here she was burnt by Raumati of the West Coast tribes. The eastward bend of the Kaituna runs parallel with the coast, leaving a long peninsula about a mile or less wide,

> which is low and with sand-hills on the coast itself. Not far from the commencement of the easterly bend the Papamoa hills come down to the flat land, and within a mile or so to the east was situated Te Tumu *pa*, built on the flat, not on a hill as Maori *pas* usually are, and which was fortified with palisades and ditches…
> A model of Te Tumu was now made in the earth, when it was seen that there were three entrances, the outer, or seaward one of which was held by Werohia of Ngai-Te-Rangi; Tareha of the same tribe guarded the middle one; Hikareia and Tupaea were on guard at the inland one at Te Paiaka, facing the Kaituna River. The *pa* was a *tuwhatawhata* (palisaded) with double lines of posts, with ditch and bank, and within the *pa* were 300 of Ngai-Te-Rangi as defenders (Smith 1923: 121, 123).

Tarakawa's description shows that Te Tumu was built on the flat, not on a hill. Also, it had three entrances: an outer one facing the sea, an inner one facing the Kaituna, and a middle one. The inland entrance faced the Kaituna River – if seaward and inland entrances were opposite each other, then this description does not agree with the location of V14/40, where the seaward and river-ward entrances could not be opposite each other.

An extract from the Journals of Henry Williams reinforces Wilson's evidence, cited above, that Te Tumu was not strongly defended:

> When abreast of the Tumu a great gun was fired. The fence appeared of a temporary nature, and the canoes lay carelessly about… Te Tumu, a *pa* two miles to the West of Maketu, was held by the Ngai-te-Rangi of Tauranga under Tupaea and Kiharoa. Maketu was held by the Arawa confederation of tribes of Rotorua, but this confederation was divided by quarrels so that the Ngati-Whakaue of Rotorua under Korokai assisted Ngapuhi, and the Ngati-Rangiwewehi of Ngongotaha were assisting Ngai-te-Rangi (Rogers 1961: 286).

Te Tumu is placed two miles from Maketu, although such distances can only be considered approximate, i.e., closer to two miles than to one, or three.

Other European visitors to Te Tumu included Bishop G.A. Selwyn (1847: 86) and Ensign Best (Taylor 1966: 382), but neither provide descriptions of the pa.

Evidence from the Native Land Court Minute Books

The battle at Te Tumu and the pa are frequently mentioned in the Minute Books, but none of the evidence given describes the location of the pa. Some of the evidence gives valuable insights into the possible archaeology of the pa – such as unfinished defences, whare, rifle pits, the burning of the pa after the battle and its later brief reoccupation – and so is summarised briefly here. Only preliminary research was undertaken into the Minute Books as this is both time consuming and best undertaken in detail by a specialist. The Minute Books accessed were microfilm copies of the hand-written originals, and are not always easy to read. The names of witnesses given here are the best I can make out in the circumstances.

Wi Matene Tahikaraparua (Maketu MB 1: 242–244, 22 December 1870) gave evidence confirming the three entrances:

> … a model of the Pa was made and it was decided to attack it on three different sides there were three gateways to the pa one looking towards Maketu and the other two in the direction of Tauranga … the fence not being finished … [after the attack] the Pah was burnt …

This confirms the three entrances, but the description of these differs from Williams' description given above.

Hori Karaka (Maketu MB 5: 86–88, April 1883) describes the building of whares at Te Tumu both before and after the battle, when it was briefly reoccupied:

> N. Terangi … came in great strength to Tumu where they built whares, & a fighting pa they got possession of all the lands up to Otangi… [after the battle] we returned to the pa at Tumu. N. [Rangiwewehi] then built whares in Te Tumu Pa and then planted.

Toi (Maketu MB 5: 163, April 1883) describes manning the rifle pits:

> the pa was alarmed; and had manned the rifle pits; the three attacking parties charged and got in.

Evidence of the three entrances, whare and rifle pits is repeated often in the Minute Books and so may be considered a reliable indication of the types of archaeological feature that would be found at Te Tumu Pa.

Map data

There are several sources of map data used here. These include old maps and plans held by Land Information New Zealand (LINZ) and accessed through QuickMap software; Maps and plans held at Archives New Zealand; and a map held in the Alexander Turnbull Library.

The relevant LINZ plans are all Maori Land (ML) plans, which were usually prepared for Native Land Court hearings.

The oldest of these is ML 2046, dated to around 1870, which appears to show "Te Tumu" well to the south of either the current SMA or the proposed Ngapotiki SMA (Figure 3). This implies that Te Tumu may have been located in the swamp. It is clear, however, that the Kaituna is not accurately mapped and the main meander of the river east of the Ford lands has been sketched on later in pencil. This cannot be regarded as accurate.

ML 3994 dates from 1877 (Figure 4). It labels "Te Tumu" at the head of the main meander. The survey was undertaken by F.H Edgecumbe and the field book for this survey was relocated in the LINZ office, Hamilton.

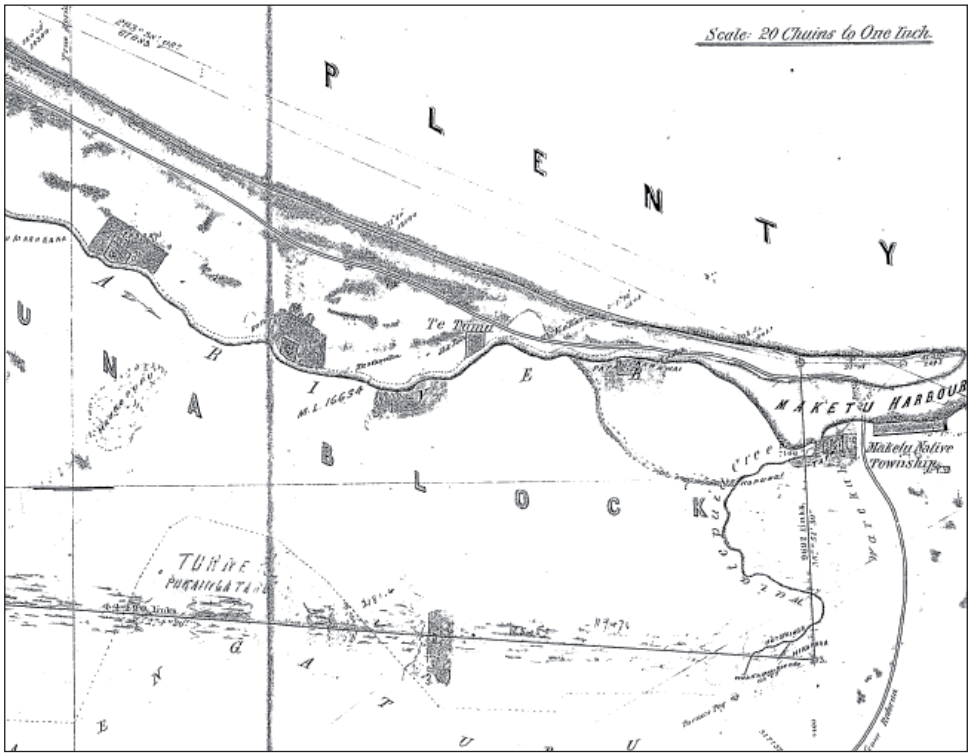
The relevant pages from Edgecumbe's field book (South Auckland 366: 65–66) are shown in Figure 5. These clearly show "Te Tumu" east of the main meander. Stratum Consultants plotted this data out and scaled it on to ML 3994 (Figure 6). This shows the point labelled Te Tumu by Edgecumbe well to the east of V14/40.

ML 3995 is undated but is probably also from the late 1870s. It is not labelled and has no subsequent annotations (Figure 6). This is the only plan that shows "Te Tumu" in the location of the current SMA. This appears to be a compilation plan showing the places marked on the inaccurate ML 2046 re-plotted onto Edgecumbe's survey plan ML 3994, for instance, the patch of bush labelled Haukopupu. The location of "Te Tumu" on this plan is, therefore, not reliable.

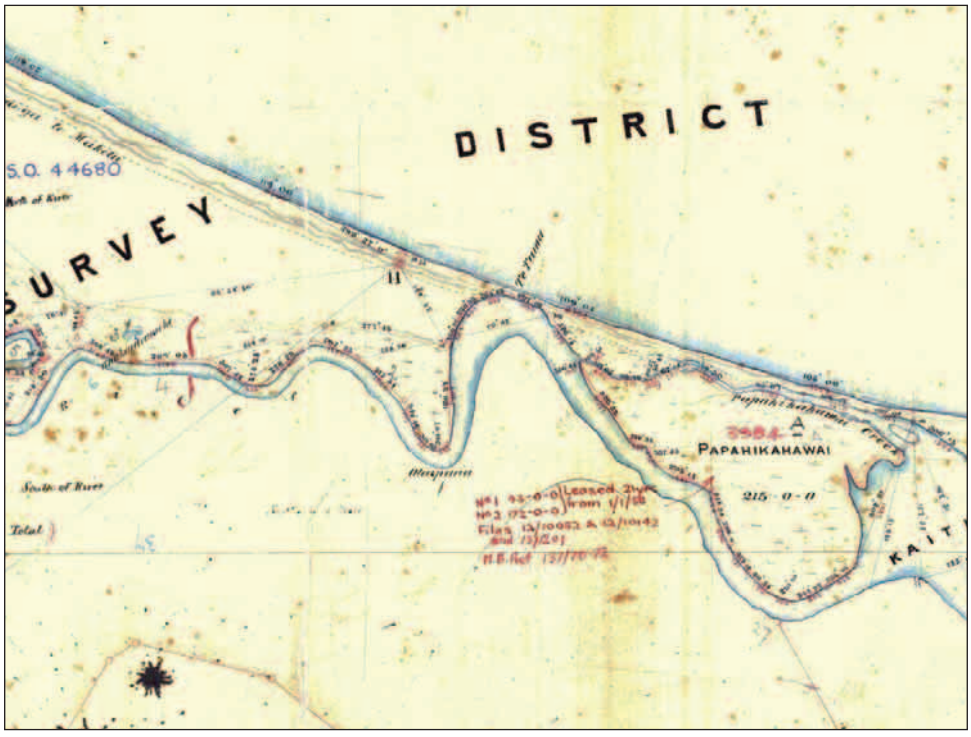
ML 1916 A-1B, Sheet 2, dated 1900, (Figure 8) shows "Te Tumu" at the head of the meander in the same position that ML 3994 does (Figure 4). This was surveyed James Baber and, while Traverse Book BN and Field Book 1064A are listed on the plan (Sheet 1) these could not be relocated. Although Baber would have resurveyed the base data for this map it isn't clear whether the position at which he shows Te Tumu was newly surveyed or derived from ML 3994.

A sketch map held at the Alexander Turnbull Library shows "Palisaded Fighting Pa of Ngatierangi [sic] on Sandhills at Te Tumu" (Figure 9) This map is dated to the 1870s, but the level of detail of Tapsell's store, mission buildings, fortifications, etc., suggests it has a much earlier date of origin. It is probable that the underlying pencil sketch was made in the 1840s or 50s, while the ink annotations were added later.

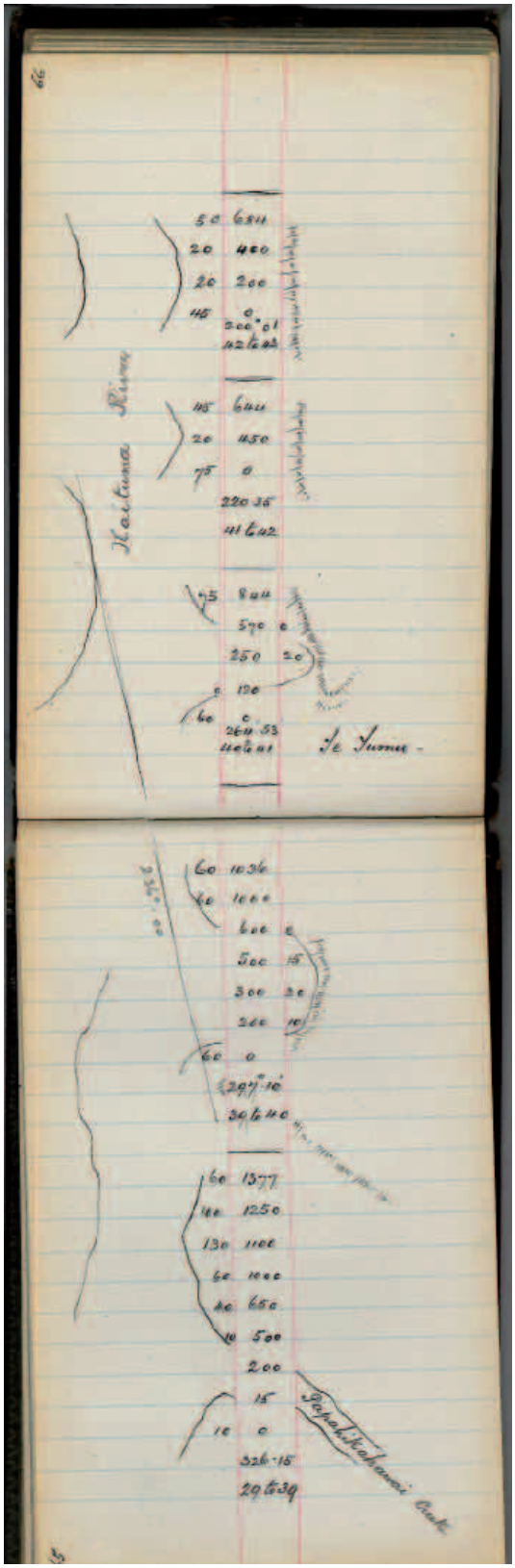
This map shows the eastern palisade of Te Tumu well to the east of the main meander although it does not show the western palisade. It certainly implies that



3. Detail of ML 2046, dated to around 1870.



4. Detail of ML 3994, dated to 1877.



5. Page from F.H. Edgecumbe's survey field book. Field book, South Auckland, 366: 65–66. Date issued July 1877, returned July 1879.

Te Tumu is not at either the current SMA or the proposed Ngapotiki SMA.

Environmental changes

The environment at Te Tumu has changed markedly between 1836 and today, through both natural and artificial activities. This can be seen by comparing the images in Figure 10, showing two 19th century images of the Kaituna mouth and a modern Google Earth image.

In 1907 a flood broke through the low sand dunes of the river bank at the main meander and the river then flowed directly into the sea at Te Tumu. Figure 11 shows a map of the new outlet made by the Department of Lands and Survey at some time between 1907 and 1917.

In 1925 the *Auckland Star* reported:

> The [Kaituna] river, which is the outlet of Lakes Rotorua and Rotoiti, formerly entered the sea at Maketu. A heavy flood in 1907 formed a new mouth at Te Tumu, two miles distant. Since then the channel has been steadily silting up, and difficulty is experienced in getting a proper outfall (*Auckland Star* 24 July 1925: 11).

The river over time returned to its former course although various works by Government and the Te Tumu Kaituna Drainage Board straightened numerous meanders and drained the surrounding plain.

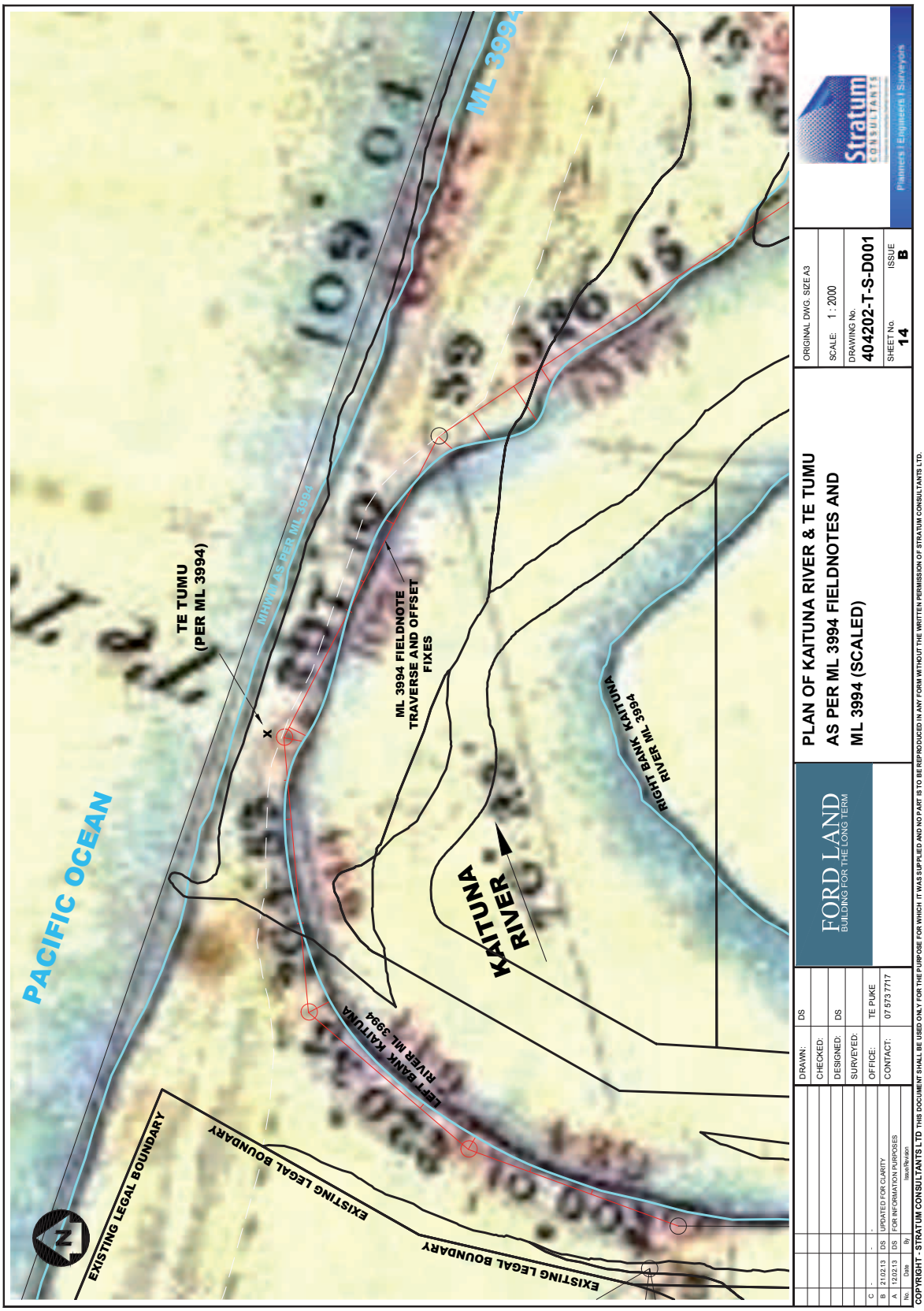
In 1955–56 the present outlet of the river was cut at Te Tumu, a little to the west of the 1907 outlet. Figure 12 shows the Department of Public Works design for the cut from the 1954 tender documents. This is referred to as the Te Tumu Cut.

As a consequence, and through general erosion and accretion of the dunes, the low lying land at Te Tumu bears very little resemblance to its 1836 layout.

Archaeological evidence for Te Tumu

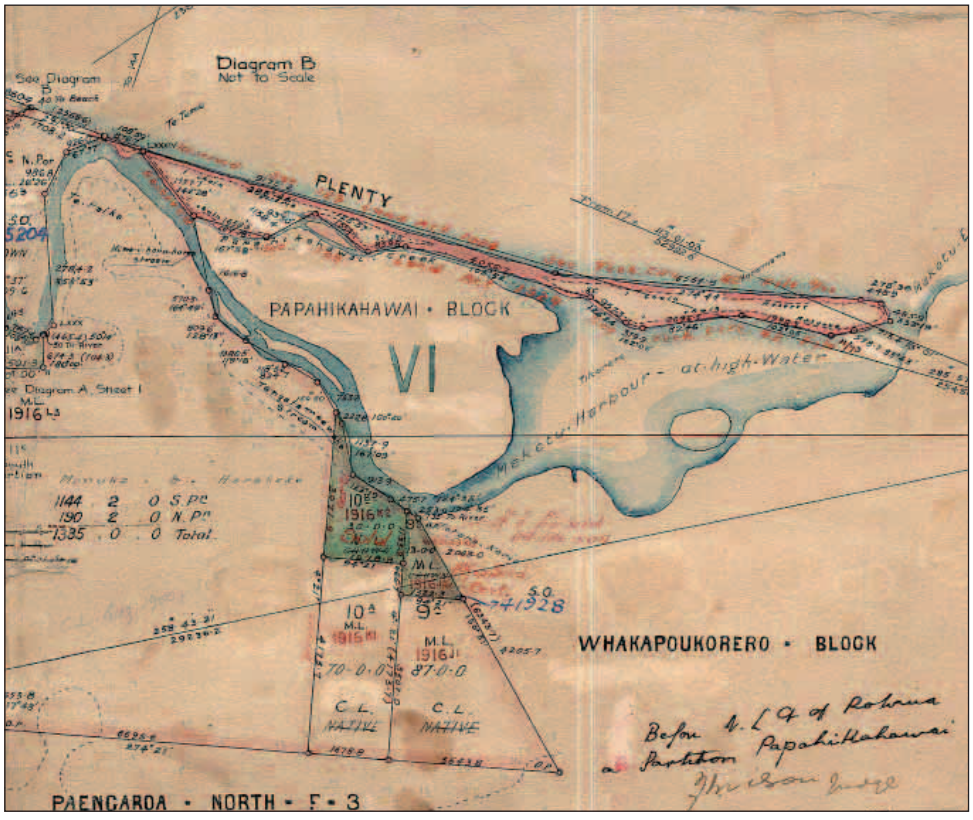
An archaeological site was first recorded by the late Cecil Watt "On sand dune at mouth of the Kaituna river and on left bank" as Te Tumu pa in 1970. His description of the site was limited to "Few signs of earthworks."

The next record of the site is from a visit by Warren Gumbley and Ken Phillips in 1999. This was undertaken as part of a wider project assessing the archaeology and heritage of the Papamoa lowlands undertaken for Tauranga District Council. This project sought, in part, to extend a 1996 archaeological survey (Fredericksen et al. 1996) to the east, to take in the area between the end of Papamoa Beach Road the Kaituna River mouth.



6. F.H. Edgecumbe's survey data from Field book, South Auckland, 366: 65–66, plotted on to ML 3994 (Stratum Consultants).

7. Detail of ML 3995, undated.



8. Detail of ML 1916 A-1B, Sheet 2, dated 1900.

9. Plan held by the Alexander Turnbull library, dated to the 1870s, MapColl-832.16a/[187-/]/ Acc.1848.

10a. Painting by Horatio Robley of Maketu in 1865, showing the Kaituna mouth.

10b (top). Photo by Burton Brothers of Maketu in 1886, showing the Kaituna Mouth.

10c (bottom). Modern Google Earth image of Te Tumu, the Kaituna Mouth and Maketu.

They concluded that "further intensive archaeological investigations are required and should be focussed on addressing problems identified in this report" (Gumbley and Phillips 2000: 7). Among the problems identified were a lack of baseline data from archaeological excavation, a lack of understanding of domestic contexts at Papamoa, little understanding of site function or variability in site function, the relationship between the dune plain and the Papamoa hills and the role of human settlement in environmental changes. While some of these problems have been addressed to some degree in the intervening period (and new problems proposed, see, for instance a more recent summary in Campbell et al. 2009) it is clear that the Gumbley and Phillips project was more of a preliminary survey and assessment of the known record than an intensive survey aimed to record and assess new and known sites.

Their update to the site record from only described: "Midden visible in river bank." The text of their report, however, states:

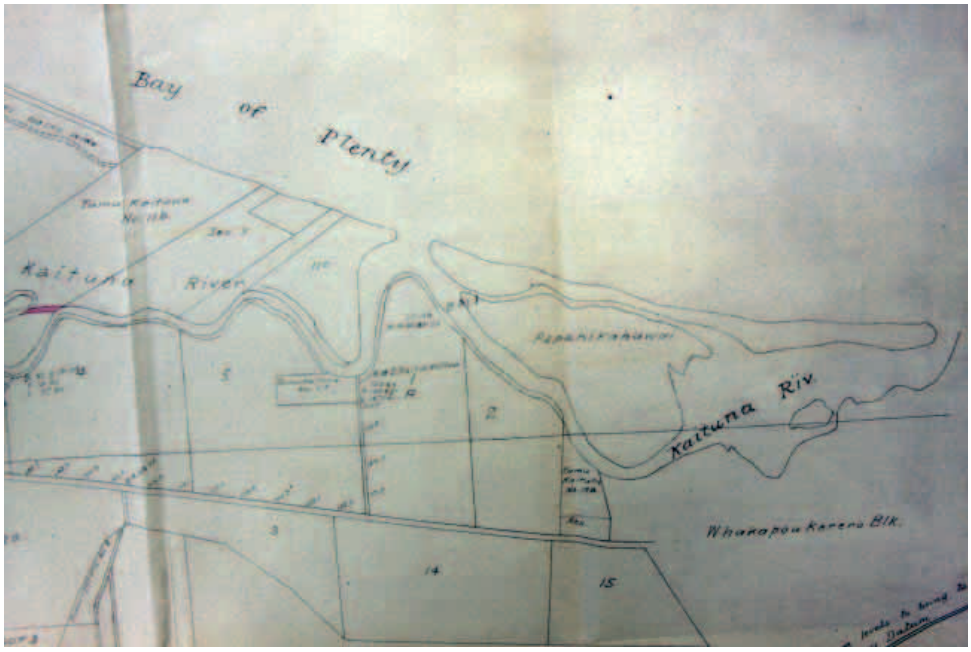
> Today there is no sign of earthworks at the site although a swale marks what is probably the west end of the site and would have functioned as natural defensive feature. A dense shell midden is clearly visible in the eastern end of the consolidated dune ridge immediately behind the foredune. It is likely that the river works that redirected the river and reformed the mouth adjacent to the site have affected the site, either directly or indirectly because the shell midden appears to be actively eroding (2000: 35).

I visited the site on 1 February 2013 and again on 11 February. I observed no visible surface evidence of a pa site. There are some dune swales but in my estimation these are neither deep enough nor steep enough to form part of any defences. It would be expected that some evidence of ditch and bank earthworks would still be visible if a pa had been constructed here, but none could be seen at that time.

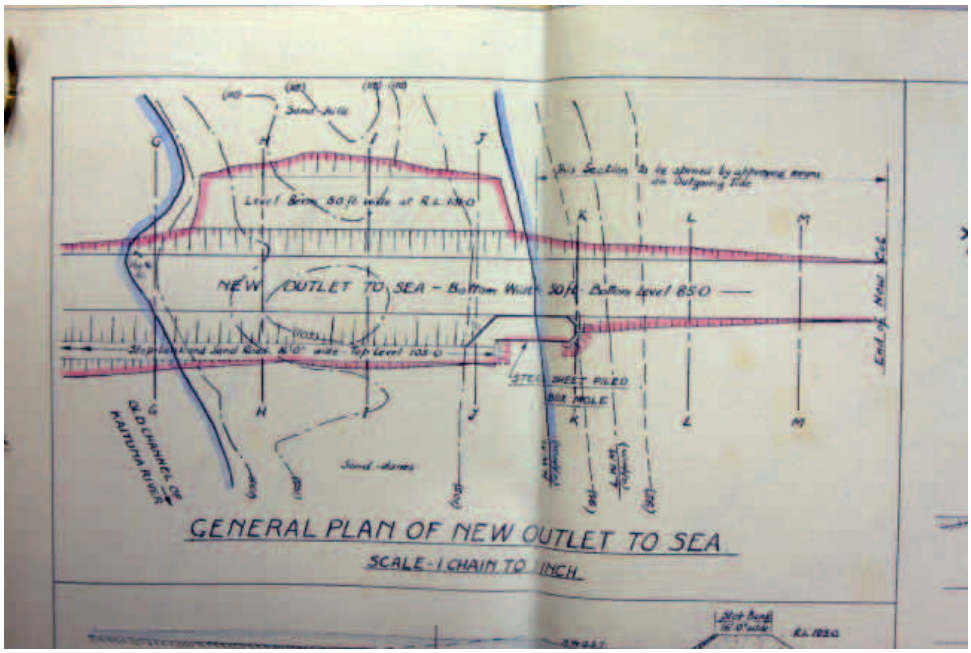
In the pines over the fence along the river margin some concrete steps were visible that were part of the flax mill manager's house. 10 m north of this, in the exposed top of the dune facing over the river, is a roughly 5 m exposure of a dense shell midden, 200–300 mm below the surface and 150–200 mm thick (Figure 13). All the visible shell was tuatua (*Paphies subtriangulata*). Some rusty metal fragments could also be seen at a level about 100 mm higher than the midden layer – these are probably associated with the historic period house.

The midden extends intermittently for about 10 m south of the steps, which are themselves built directly on it, and incorporate some shell into their matrix.

On the north, seaward facing slope of the foredune around the corner and to the west of this midden, is a further midden exposure at the top of the exposed dune, probably an extension of the same midden. This begins about 30 m west of



11. Detail of map made between 1907 and 1917 showing the outlet for the Kaituna at Te Tumu formed by the flood of 1907 (Archives New Zealand, Plan of River Mouth, Department of Land and Survey, Kaituna River Diversion. AADS W3562 Box 197).



12. Detail of Public Works Department design drawing of the cut at Te Tumu (Archives New Zealand, Kaituna River Board River Development Works Construction of Outlet to the Sea at Te Tumu Tender Documents, December 1954. W32 130).

the corner of the dune, and extends for about 25 m. It also consists almost entirely of tuatua, with very occasional *Mactra* and *Dosinia*.

No European material was observed in either of these midden exposures. If the midden were related to the occupation of Te Tumu in the 1830s it would be expected that material such as nails, bottle glass or Staffordshire ceramics might be incorporated into it, particularly with Phillip Tapsell trading out of nearby Maketu from 1830. Tapsell traded mostly for flax and one of the activities recorded as carried out at Te Tumu was flax preparation (Cecil Watt, quoted in Gumbley and Phillips 2000).

13. The midden visible in the dune facing the river cut, 1 February 2013

The visible elements of this midden were accurately surveyed by Stratum Consultants (these are mapped in Figure 14).

It is possible that earthwork defences would have been destroyed or obscured in the shifting dune landscape, but given the good survival of the shell midden, it seems unlikely that such substantial features could have been completely filled in or eroded away.

In summary, at the time of my visit there was no archaeological evidence placing Te Tumu pa in either the current SMA or the revised SMA proposed by Ngapotiki.

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Physical landscape

Generally the terrain consists of sand dunes running parallel to the beach, truncated at their eastern end by the Te Tumu Cut. As outlined above, the course of the river has been altered by natural and artificial means. To the south, on either bank of the river, the ground remains swampy although such swamps would have been more extensive prior to 20th century drainage (see, for instance, Figure 4). Analysis of charcoals recovered from the excavation, discussed below, indicates that the area would originally have been forested and was then cleared by pre-European Maori for gardening. The notice for lease reproduced in the Ford family history (Ford and Ford 2008: 6) indicates that when the family first took over the land in 1911 the land was "covered with fern and mankua… indifferently watered by swamp", indicating some regeneration to bush. An aerial photo dated to 1948 (Ford family collection, presumably originally from New Zealand Aerial Mapping) shows the dunes to be largely bare sand, while another photo dated 1959 shows grass with some scrub on the foredune and the bank of the Kaituna Cut. At the time of excavation the dunes were in pasture, regularly grazed by cattle. Protecting the foredune and the bank of the Te Tumu Cut is a post and batten wire fence with pines planted outside the fence. Most of these pines are fairly young trees but some are mature.

As exposed in the excavations, the general soil profile consist of around 150–250 mm of developed sand topsoil overlying grey/yellow clean sand with pale Kahaora tephra below this. This tephra was only exposed in trenches in the dune swales, which indicated that it could be 3 m or more below the level of the dune crests.

While the site extends to the foredune the investigation was limited to the second and third dunes: the foredune was largely inaccessible due to the presence of a pine plantation and any excavation undertaken there risked unnecessary damage to the coastal environment. The two dunes where the excavation took place were not particularly consolidated but were well grassed and less mobile than the foredune. The elevation difference between the dune crests and dune swales was as much as 3 m.

The Te Tumu Cut was engineered in 1955–56. Previously, as detailed above, it flowed to the sea at Maketu; although it had broken through to the sea near its current mouth in a flood in 1907 but soon returned to its former outlet. Site V14/40 extends to the bank of the Te Tumu Cut and part of it has clearly been destroyed by the cut, the original extent of the site and the extent of this damage are not clear.

Also on this bank is a concrete foundation, formerly part of the flax mill manager's house. While this is a 20th century structure and so is not an archaeological site, it will have affected the pre-European site. Other activities associated with flax milling may also have affected the site.

Methodology

The methodology of the investigation was approved by NZHPT as part of the authority application (see Appendix G). The basis of this methodology was:

- shovel test pits will be dug every 10 m or so along the proposed trench line to ensure that no clearly obvious archaeology is present;
- followed by carefully controlled excavation of 1 metre wide trenches with a hydraulic excavator equipped with a 1 metre wide weed bucket;
- this will only strip off the topsoil down to the level where archaeological features become apparent, and will do minimal or no damage to them.

Although the methodology described two approximately 130 m trenches running north–south and three approximately 60 m trenches intersecting these running east–west, this scheme was regarded as indicative only and the trench locations were adapted to the terrain, including accessibility for the machine and the presence of tree roots, while the results of each trench informed the location of subsequent trenches.

Trenches

Five trenches were excavated by a 12 tonne hydraulic excavator equipped with a 2.3 m weed bucket under the direction of the archaeologist. These trenches were all contained within the 200 x 100 m area mandated by the Court as the area appropriate for investigation. The methodology called for shovel test pits (around 250 x 250 mm in plan, dug to a depth where clean, natural sand became apparent) to be dug at approximately 10 m intervals along the lines of the trenches prior to their excavation, but test pits along the lines of Trenches 1 and 2 demonstrated that this method did not fully show the subsurface stratigraphy, which was often quite subtle, and so test pits were not dug for Trenches 3–5.

Trench 1 was excavated on 24 June about 5 m west of the eastern fence, staring just south of the northern fence, for 101 m.

Trench 2 was excavated on 24 June from Trench 1 west along the crest of the northern dune for 26 m up to the 1950s road cut.

Trench 3 was dug on 24 June to the east of the fence in a gap between the pines for 31 m. This was the only area over the fence that was accessible to the digger and where it was judged that pine root intrusion would be minimal.

While it was clear that these three trenches were sufficient to define the nature of the site, following consultation with the other archaeologists on site, two further trenches were dug to determine the extent of the site.

Trench 4 was excavated on June 25 about 5 m east of the excavation area boundary, starting just south of the northern fence, for 97 m to just north of the southern fence.

Trench 5 was excavated on June 25 along the crest of the southern dune from Trench 1 towards Trench 4 for 44 m.

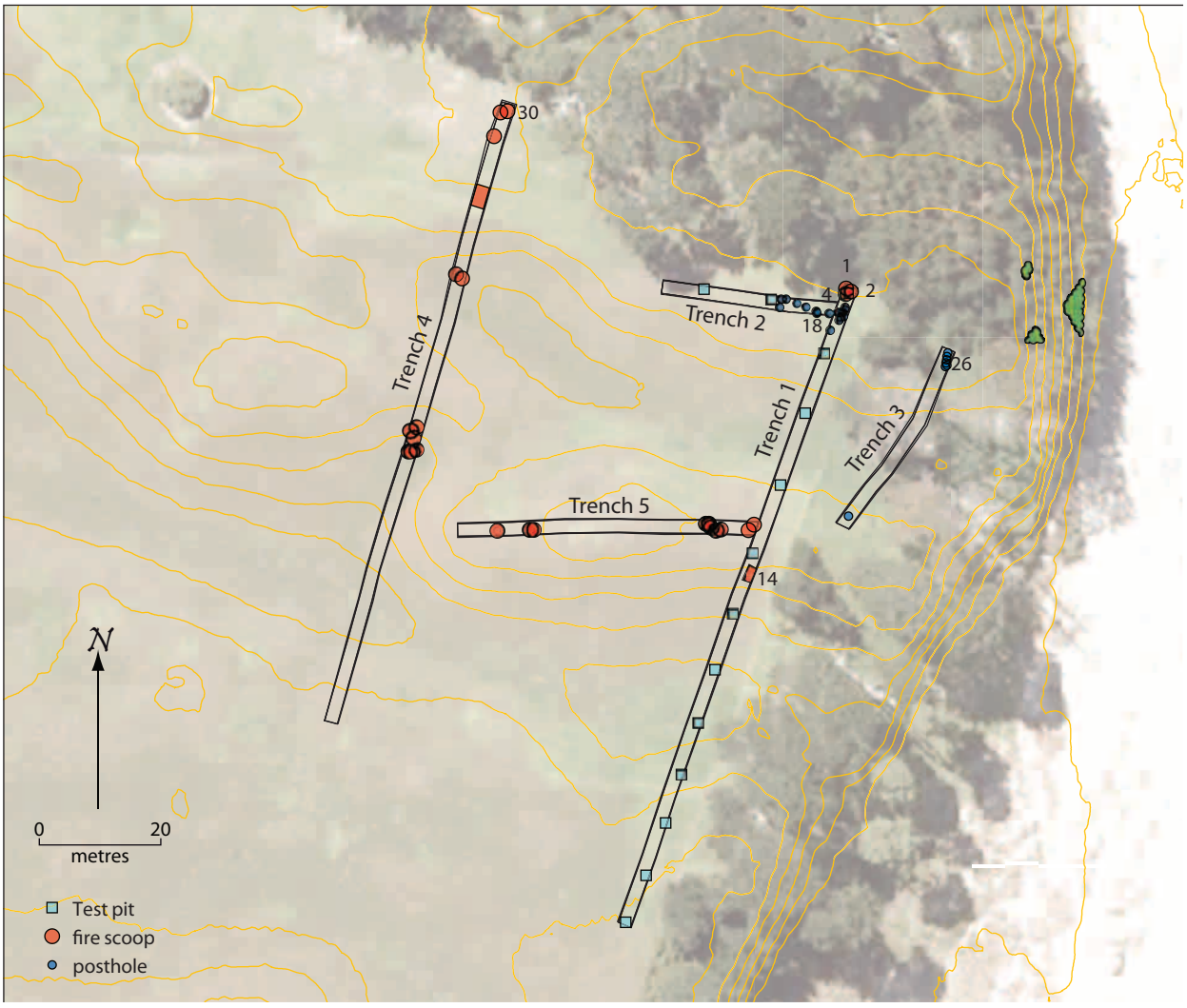
The trenches were excavated until archaeological features were encountered. Most features were present on a single level at the interface of the topsoil and subsoil. In the dune swales it was apparent that topsoil and cultural material had built up to some depth, including gardened soils, and in places features were visible at different levels in this build up of soil. Along the bulk of this build up the trenches were excavated to the base of the garden soil but some deeper soils were left in situ to record the features in them.

All test pits, trenches and features were mapped by a professional surveyor. Each feature was measured and described. A selection of features was excavated either fully or in half section, and samples taken. Features were digitally photographed. Part of the section of Trench 1, where probable garden soils were present, was cleaned down by trowel, photographed and sampled.

Results

The result of the excavation are first described by trench before being summarised. The test pits, trenches and features excavated are shown in Figure 14.

The methodology of using a mechanical digger to do the excavation is rather crude and precluded excavating in fine detail – the purpose of the excavation was to find evidence, or otherwise, of Te Tumu Pa and there was little opportunity for detailed recording of stratigraphy and excavation of features. Some features were excavated in half section and sampled. The bulk of the site survives in situ and could potentially be subject to conventional archaeological excavation in the future. The limited methodology means that the analysis is equally limited, but sufficient investigation was undertaken to be able to characterise the site and address the central question of the possible location of Te Tumu Pa.



14. Site plan showing test pits, trenches and features excavated. Features mentioned in the text are numbered. Contour interval = 0.5 m.

Trench 1

Twelve test pits were dug along the line of Trench 1 prior to its excavation. These are described in Table 1.

Test Pit 1	500 mm black sand topsoil with sparse fragmented midden at the base, overlying clean sand
Test Pit 2	300 mm black sand topsoil overlying clean sand
Test Pit 3	650 mm black sand topsoil containing sparse tuatua midden at 200–300 mm, overlying clean sand
Test Pit 4	500 mm black sand topsoil over clean sand
Test Pit 5	450 black sand topsoil containing very sparse midden at 100–150 mm, overlying clean sand
Test Pit 6	750 mm black sand topsoil containing sparse tuatua midden at 100–200 mm, over clean sand
Test Pit 7	900 mm black sand topsoil with very occasional shell overlying clean sand and possible Kaharoa tephra
Test Pit 8	650 mm black sand topsoil over clean sand
Test Pit 9	600 mm black sand topsoil over clean sand
Test Pit 10	350 mm black sand topsoil over clean sand, with tree roots making digging difficult
Test Pit 11	350 mm black sand topsoil over clean sand
Test Pit 12	250 mm black sand topsoil over clean sand

Table 1. Test pits along the line of Trench 1.

Feature	Type	Length (mm)	Width (mm)	Depth (mm)	Description
1	fire scoop	450	350	160	ashy and compact
2	fire scoop	500	600	140	ashy, loose, runs into baulk
3	obsidian				
4	fire scoop	450	450	350	oven stone cache, little in situ burning
5	obsidian				
6	posthole	150	150		yellow brown sand/Kaharoa tephra
7	posthole	150	150		yellow brown sand/Kaharoa tephra
8	posthole	150	150		yellow brown sand/Kaharoa tephra
9	posthole	100	100		yellow brown sand/Kaharoa tephra
10	posthole	100	100		yellow brown sand/Kaharoa tephra
11	posthole	200	200		yellow brown sand/Kaharoa tephra
12	posthole	100	100		yellow brown sand/Kaharoa tephra
13	posthole	150	150		yellow brown sand/Kaharoa tephra
14	pit	2490	1270	200	loose shell, some charcoal and fire-cracked rock, very little soil, runs into baulk

Table 2. Features in Trench 1.

15 (top). Baulk of Trench 1 showing the laid floor of Kaharoa tephra in profile, scale = 1 m.

16 (centre). Features 1 (left), 2 (right) and 4 (rear) after excavation, scale = 1 m.

17 (bottom). Cleaned profile of the garden soils in Trench 1, scale = 1 m.

Fourteen features were located in the base of Trench 1 (Table 2). Features 1 and 2 were large, straight sided, fairly deep fire scoops located at the northern end of the trench. Features 4 was a relatively deep fire scoop or pit containing several large, intact oven stones. They seem to have been cached in this feature which was probably originally a fire scoop before being used to cache the oven stones. Two of these stones were retained as a sample. They were cut into what appeared to be a laid floor of Kaharoa tephra. This floor was mixed into the sand subsoil and contained numerous obsidian flakes, some very small, indicating that the area was used for both cooking and obsidian flaking. This floor ended as the slope began to drop away into the swale to the south but further postholes filled with a similar fill to the floor were observed beyond this (Features 6–13). On excavation these proved to be very shallow and are quite probably the incidental result of activities taking place on the site. The baulk of the trench was cleaned down in this area and the floor excavated to its base to provide a profile (Figure 15). The floor was about 150 mm deep, but was well mixed at the surface with sands and charcoal as a result of activities taking place on it.

Features 1 and 4 were excavated in half section and Feature 2 was fully excavated (Figure 16). Samples were taken from these features for analysis.

In the swale between the dunes the topsoil was clearly very much deeper and as the trench continued to be excavated to the base of this topsoil it became apparent that this was a mixed soil indicative of gardening. Shell midden was mixed into this soil, probably deliberately – it may have originally functioned as a mulch. This garden soil overlay the Kaharoa tephra at this level.

A 1.3 m length of the baulk of the trench was cleaned down by trowel to expose the garden soil in profile, and photographed (Figure 17). Soil samples were taken from the Kaharoa tephra layer, the garden soil layer, the visible interface with the overlying sand and the overlying sand itself for potential microfossil analysis (pollen and starch grain).

Just below the crest of Dune 2 was a shell filled pit, Feature 14. This feature was probably partially truncated by the digger and had not been recognised at a higher level during excavation, as the shell was only encountered at the base. HThe charcoal and dating analysis (see below) indicated that it was evidence of an earlier occupation of the site but our ability to determine this stratigraphically during excavation was hampered by the methodology of using heavy machinery. Only a 200 mm depth remained, with the base consisting of natural grey sand. The shell in here was almost all pipi and was very loosely packed, with charcoal and some fire cracked rock as well as one large piece of obsidian – there was very little sand in the midden indicating that the shell had been mass processed.

Trench 2

Two test pits were dug along the line of Trench 2 prior to its excavation. These are described in Table 3.

Test Pit 13	150 mm black sand topsoil over clean sand
Test Pit 14	250 mm black sand topsoil over clean sand

Table 3. Test pits along the line of Trench 2.

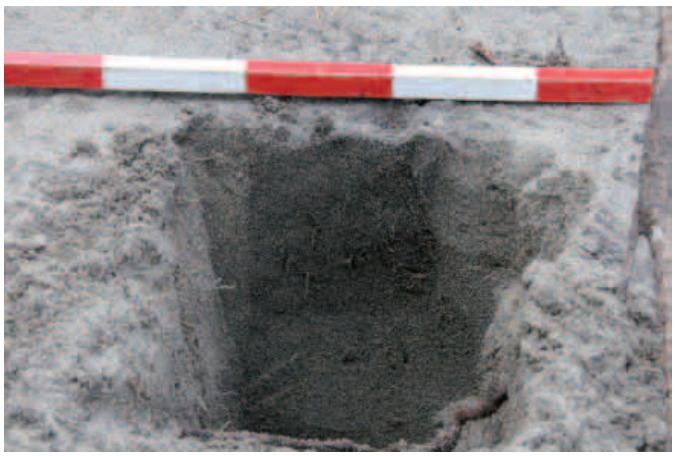
Feature	Type	Length (mm)	Width (mm)	Depth (mm)	Description
15	posthole	150	150		grey sand
16	posthole	150	150		grey sand
17	posthole	300	300	230	grey sand, excavated in 1/2 section, square base
18	posthole	350	300	290	grey sand, excavated in 1/2 section, square base
19	posthole	200	200	90	grey sand, excavated in 1/2 section, dished base
20	posthole	200	200	50	grey sand, excavated in 1/2 section, dished base
21	posthole	300	300	130	grey sand, excavated in 1/2 section, dished base
22	posthole	500	500	150	grey sand, excavated in 1/2 section, irregular base

Table 4. Features in Trench 2.

Eight postholes were located in Trench 2 (Table 4). Several of these postholes were relatively large and formed a clear alignment, but on excavation proved to be quite shallow. The clearest of these was Feature 18, which was sub-rectangular in plan, measuring about 350 x 300 mm. It was 290 mm deep and had a square base, with white sand visible in the profile representing the rotted out post (Figure 18). These features are not deep enough or robust enough to represent a palisade, even taking into consideration the historic evidence that it was weakly defended – more probably they are a wind break for the cooking that took place adjacent to them, or some similar structure. Clear evidence of ploughing or discing was visible in the soil in Trench 2 and the topsoil was very thin in places.

Trench 3

Seven features, all postholes, were located in Trench 3 (Table 5). Five of these, all relatively small, formed a clear alignment (Figure 19). On excavation in half section, Feature 26 was 150 mm deep with a square base. It isn't clear what these post-



18. Feature 18 excavated in half section, scale divisions = 100 mm.

19. Alignment of Features 23–26 and 28 in Trench 3, with Feature 27 just to the left, scale = 1 m.

20. Feature 26 excavated in half section, scale divisions = 100 mm.

holes represent – they may be pre-European Maori features or they may be associated with the nearby flax mill manager's house or other flax mill related activities. They are not robust enough or deep enough to represent a palisade.

Trench 4

Twelve features were located in Trench 4 (Table 6); some features were recorded that proved not be features on closer inspection (two were rabbit burrows). These recorded features were all fire scoops, though some had only minimal evidence of burning. They were all located on the dune crests. As in Trench 1, the crest of Dune 1 had a laid floor of Kaharoa tephra and the three fire scoops here were the largest and most burnt. Feature 30 was excavated in half section and sampled. This feature had a dished base as opposed to the deep, straight-sided features in Trench 1. The swales also contained evidence of gardening in Trench 4. Dune 2 had two crests, with fire scoops on both crests – as the southern crest dropped away fire scoops were evident at different levels as the topsoil and garden soil built up to a greater depth, but these were only recorded at a single level.

The road that was constructed for machinery access to the Te Tumu Cut works in the 1950s was also excavated. This was a paving of red, clayey soil with gravel laid directly on the natural sand in a bench cut for the purpose. At the north end of the trench there was a buildup of up to 500 mm of very lightly mottled but essentially clean grey sand. This was naturally wind-deposited and it is not clear what its origin may have been. It post-dated the road and may have originated from disturbance by heavy machinery.

Trench 5

Eleven features were located in Trench 5 (Table 7). These were all fire scoops, or the bases of fire scoops. None were excavated.

Feature	Type	Length (mm)	Width (mm)	Depth (mm)	Description
23	posthole	150	150		grey sand
24	posthole	100	100		grey sand
25	posthole	100	100		grey sand
26	posthole	100	100	150	grey sand, square base
27	posthole	250	250	100	grey sand, dished base
28	posthole	100	100		grey sand
29	posthole				

Table 5. Features in Trench 3.

Feature	Type	Length (mm)	Width (mm)	Depth (mm)	Description
30	fire scoop	650	650	150	burnt ashy grey, crushed shell, charcoal
31	fire scoop	400	400		burnt ashy grey, crushed shell, charcoal
32	fire scoop	350	350		burnt ashy grey, little shell, charcoal
33	road	3260	1970		red road material, stones and clay
36	fire scoop	300	300		clean, black, charcoal, fire cracked rock
37	fire scoop	650	500		clean, black, charcoal, fire cracked rock
39	fire scoop	200	200		some shell
40	fire scoop	400	400		clean, black
41	fire scoop	400	400		clean, black, some shell
42	fire scoop	250	250		clean, black
43	fire scoop	300	300		burnt ashy grey, crushed shell, charcoal
44	fire scoop	350	350		burnt ashy grey, crushed shell, charcoal

Table 6. Features in Trench 4.

Feature	Type	Length	Width	Description
45	fire scoop	250	250	dark grey, charcoal and shell
46	fire scoop	150	150	dark grey, charcoal and shell
47	fire scoop	350	300	burnt ashy grey, crushed shell, charcoal, fire cracked rock
48	fire scoop	150	150	dark grey
49	fire scoop	300	300	dark grey
50	fire scoop	200	200	dark grey
51	fire scoop	200	200	dark grey
52	fire scoop	400	400	dark grey
55	fire scoop	250	200	dark grey, charcoal and shell
56	fire scoop	300	300	dark grey, charcoal and shell
57	fire scoop	450	400	dark grey, charcoal and shell

Table 7. Features in Trench 5.

Discussion

Trenches 1 and 4 showed that most activity was taking place on the crest of Dune 1 in the north of the excavated part of the site. Here there was evidence of laid floors of Kaharoa tephra, intensive cooking and obsidian flaking. This dune crest seems to have been the main focus of occupation. The swale between Dunes 1 and 2, to the south, was most probably used for gardening as the mixed sands and tephras demonstrate. This area probably stayed moister during the growing season when the dune crests would have been in danger of drying out. Some occupation, smaller in scale, took place on the crest of Dune 2 and there was further gardening, though less intensive, in the swale south of this. No clear evidence of occupation was found south of this swale although the soil contained fine charcoal indicating either that there had been cooking here or, less likely, that intensive occupation of the two dune crests had resulted in charcoal distribution over a wider area.

None of the lines of postholes were indicative of palisades and no ditches or rifle pits, which are historically described for Te Tumu, were found. No evidence of reoccupation of the site, which is also described historically, was found. The only artefactual material was obsidian.

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Sampling and analysis

Opportunities for sampling and analysis were limited. Samples were taken from four fire scoops, Features 1, 2 and 4 in Trench 1 and Feature 30 in Trench 4; and a midden, Feature 14 in Trench 1. These samples were sieved through nested screens (½, ¼ and 1/8 inch mesh) and sorted into classes: charcoal, stone, fishbone, and shellfish.

Five further samples were taken from the clean face of Trench 1 for potential microfossil (pollen and starch) analysis but this has not been undertaken as part of the current analysis.

Additionally, oven stones were sampled. Although these have not been analysed they are of two clearly different types. Stone is not native to the dune plain and so they must have been imported, but it is not clear where from or how far away these sources may have been.

Charcoal

Charcoal can be identified to genus and often species level and can be used to characterise the vegetation growing on or near the site at the time of occupation. Firewood would generally have been collected from close to the site and some of this remains in fire scoops as incompletely burnt pieces of charcoal. Samples from Features 1, 2, 4, 14 and 30 were submitted to Dr Rod Wallace, University of Auckland, for analysis. Potential radiocarbon dating samples were also extracted. The full charcoal analysis report is given in Appendix A and is summarised here.

The Feature 1 charcoal sample contained short lived shrubby species such as hebe and coprosma and was suitable for radiocarbon dating. The Feature 2 sample was similar, with some matai, while the Feature 4 sample contained predominantly wetland trees, which was not suitable for dating. Feature 30 contained short lived

Species	# pieces	Plant type (%)
Hebe	2	shrubs and small trees (53%)
Coprosma	9	
Pate	1	
Dracophyllum	2	
Manuka	18	
Ribbonwood	4	small trees (23%)
Putaputaweta	6	
Maire Tawake	4	
Towai	3	large broadleaf trees (12%)
Pukatea	4	
Matai	5	conifers (12%)
Kahikatea	1	
Totara	1	
Total	60	

Table 8. Summary of charcoal analysis.

shrubs and conifers (kahikatea and probably totara). The sample from the midden, Feature 14, contained only matai.

Discussion

The assemblage comprises a mixture of wetland forest and manuka dominated scrubby regrowth species. This indicates the site was in manuka scrubland adjacent to a stand of wetland forest – which is in agreement with the general environmental setting of the site. The presence of manuka and regrowth species suggests that the general area had been cleared earlier and, following a fairly short hiatus, reoccupied as represented by the four firescoops that were sampled.

The presence of only matai in the Feature 14 midden is unusual, but this feature is unusual in other ways, as is the dating (discussed below) shows.

Obsidian

The only lithic material recovered was obsidian, which was analysed by Alex Jorgenson of Archaeological Material Analysis Limited. Twenty-eight obsidian artefacts were analysed, 16 of which weighed less than one gram (12 further micro-flakes – one from Feature 1, five from Feature 2 and six from Feature 4– were found during midden analysis but not analysed by Jorgenson). Full descriptions and statistics are given in Appendix B. All were olive green though transmitted light and hence were probably sourced from Tuhua Mayor Island, although XRF analysis has not been undertaken to confirm this. There were two cores and 18 complete flakes of varying sizes. The largest and heaviest flakes came from Features 14 and 5 respectively. The high percentage of complete flakes, including two complete micro-flakes, suggests little artefact breakage due to taphonomic processes. Only six of the artefacts showed any sign of edge modification due to use or re-touch, and only one of these showed evidence of deliberate edge modification, a distal flake from Trench 1 showing denticulate notching. Only one flake had any cortical material, and this flake also displayed multiple small flake scars on the dorsal surface, suggesting some reworking.

The very small size of some of the flakes suggests that obsidian was being worked in situ, although the sample is too small to say that this was a formal flaking floor. It is just as likely that flaking was limited to the area excavated and represents expedient tool working. The sample size is too small to make any robust observations about reduction intensity or economy of use.

Fish

Fishbone was found in the four firescoops, Features 1, 2, 4 and 30, band in the midden, Feature 14. Fishbone was also found in the fill of Trench 1 near Features 1, 2 and 4. In the past, fishbone analysis has followed the method outlined by Leach (1986, 1997): five standard mouth bones (dentary, articular, quadrate, premaxilla and maxilla) along with some 'special' bones are identified to the lowest taxonomic level and minimum numbers (MNI) calculated. Leach's five bones are chosen because they are: firstly, distinctive to a low taxonomic, usually species, level; and secondly because they are relatively robust and survive well where other fragile elements do not. More recently, it has become more common to identify a wider range of elements, including vertebrae (e.g., Brooks et. al. 2012). The elements potentially identified from V14/40, in addition to the five 'standard' elements, were: the paired subcranial elements, palatine, hyomandibular, opercular, preopercular, posttemporal, supracliethrum, cliethrum, scapula, epihyal and ceratohyal; the unpaired

Species	F 1	F 2	F 4	F14	F 30	Trench 1
Mackerel (*Trachurus* sp.)	21/3	7/1	18/2			1/1
Snapper (*Pagrus auratus*)	2/1	1/1		1/1		
Kahawai (*Arripis trutta*)	5/2	1/1				
Gurnard (*Chelidonichthys kumu*)	1/1					
Yellow-eyed mullet (*Aldrichetta forsteri*)	1/1					
Fish sp.*	2/1	V	V		V	
Shark/ray (Condricthyes sp.)*			V			

* fish bone not identified to taxa, V = vertebrae

Table 9. Fishbone NISPs/MNIs (not counting vertebrae).

cranial elements, vomer, parasphenoid and basioccipital; and postcranial elements (vertebrae). The sample was small and not all of these elements were identified.

Fishbone identification is summarised in Table 9. Mackerel is the most common species, as it usually is throughout Papmaoa (Felgate 2005; Gumbley and Phillips 2004; Campbell et al 2009; Gumbley 2011) (an exception is at Papamoa Coast Village, Gumbley 2010), with snapper, kahawai, gurnard and yellow-eyed mullet also identified. Fish sp. refers to an unidentified opercular and hyomandibular and unidentified small vertebrae, probably representing more than one species. Unidentified bones were generally small. The sample is small and no significant patterns can be distinguished other than the usual dominance of mackerel. Full fishbone identifications are given in Appendix C.

Shellfish

Shellfish was found in all five samples. Summary statistics for of shellfish are given in Table 10, while the full data set is given in Appendix D.

In general, the shell from the fire scoops, Features 1, 2 and 4, was almost all tuatua, with occasional other species, and from Feature 30 mostly pipi with some tuatua, though there was much less shell in this feature. Conversely, the shell from the midden, Feature 14, was almost all pipi, but with a greater species range than the fire scoops. Tuatua is an open beach species and would be readily gathered from the beach below the site. Interestingly, no ostrich foot (*Struthiolaria papulosa*) was recovered with the tuatua – this is another open shore species and is usually found in Papamoa middens (e.g., Felgate 2005; Campbell et al. 2009; Gumbley 2010, 2011; Gumbley and Phillips 2004). The pipi from Feature 14 is a harbour/estuarine species, indicating that a different environment was being targeted.

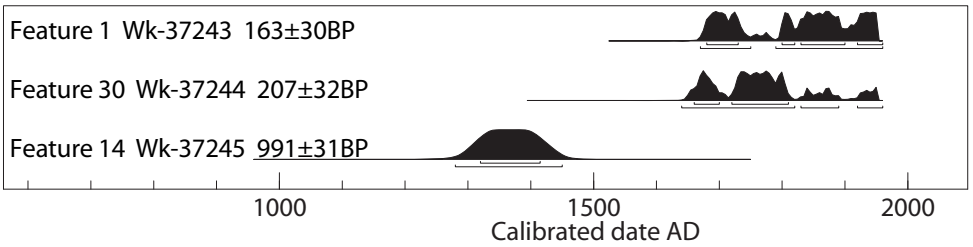
Species	F1	F2	F4	F14	F30
Tuatua (*Paphies subtriangulata*)	89	34	90	10	17
Pipi (*Paphies australis*)				662	47
Mudsnail (*Amphibola crenata*)				3	
Tuangi cockle (*Austrovenus stutchburyi*)	1			1	2
Mussel (P*erna canaliculus*)				2	
Miscellaneous gastropod		1		1	

Table 10. Shellfish MNIs.

Chronology

Three samples were submitted to the University of Waikato Radiocarbon Dating Laboratory for dating. Suitable charcoal species for dating were extracted by Dr Wallace from the samples from fires scoops Features 1 and 30 from Trenches 1 and 4 respectively. Although shell, which is another datable material, was present in all samples, it is not thought to be suitable for dating when it has been burnt. This is because it has the potential to take up environmental carbon, which may have an inbuilt age, and so give an anomalously older date than the true date. For this reason shell was not selected from the fire scoops – the shell in Feature 30 in particular was visibly burnt and fragmented. Shell from the midden, Feature 14, was also selected for dating as it appeared to be related to the gardening in the swales. These three were selected in order to give a representative spread of areas and activities on the site. The results are summarised in Figure 21 and Table 11 (see also Appendix E).

This set of dates cannot be used to address the central question of whether or not V14/40 is Te Tumu Pa. The charcoal dates have a very wide spread that could indicate either a late pre-European Maori occupation or a historic one. This is due to the technical difficulties of obtaining dates on recent carbon: as the amount of carbon 14 in the atmosphere is variable the raw result (conventional radiocarbon age, or CRA) has to be calibrated against the known variation. The calibration curve for terrestrial carbon (the blue line in the graphs in Appendix E) is particularly flat after about AD 1700 and so the calibrated age becomes very widespread. The results are, at best, ambiguous.



21. Radiocarbon results.

Feature	Lab no.	Material	CRA BP	Cal AD 68%	Cal AD 95%
1	Wk-37243	charcoal	163 ± 30	1683–1712 (14.8%) 1718–1730 (5.9%) 1803–1813 (5%) 1836–1891 (27.6%) 1923–1951 (14.8%)	1673–1742 (29%) 1773–1777 (0.6%) 1797–1954 (65.8%)
30	Wk-37245	charcoal	207 ± 32	1665–1696 (17.3%) 1725–1807 (50.9%)	1651–1712 (24%) 1718–1813 (52.7%) 1836–1890 (11.3%) 1922–1953 (7.4%)
14	Wk-37244	shell	991 ± 31	1319–1408	1286–1446

Table 11. Radiocarbon results.

The date from Feature 14 is unexpectedly early but there is no reason not accept this date. The charcoal from this feature was exclusively matai, which is a forest species and could indicate occupation in an undisturbed environment. The crudeness of the excavation methodology meant that any stratigraphic relationship between Feature 14 and the surrounding garden soils was not observed during excavation.

Discussion and conclusion

The archaeology of V14/40 is comparable to the numerous pre-European Maori sites excavated a few miles to the west on the Papamoa dune plain. There are some differences in the landscape between the two areas: Papamoa sites are located with respect to the Wairakei Stream while V14/40 would seem to be oriented to the Kaituna River and the coast; and Papamoa sites are not normally located on dune ridges so close behind the foredune; the Papamoa dune plain is narrower than the Kaituna flood plain and Papamoa sites are consequently closer to the pa sites of the costal escarpment. These differences imply that the archaeology of the Te Tumu area may differ from that of Papamoa but the excavation of V14/40 is the first reported in this area and so no patterns can yet be discerned. The Papamoa excavations remain the point of reference for V14/40 and, in general, the archaeology of V14/40 is very similar to Papamoa sites (which are, of course, themselves quite variable).

Of some interest is the contrast between the Feature 14 midden and the other archaeology on site. Feature 14 has a 14th century date and a different shellfish and fish assemblage. The charcoal form the feature was exclusively matai, a forest species, indicating occupation in a relatively undisturbed environment. All other samples contained mostly manuka and other regrowth species, indicating that the occupation being excavated and dated was a reoccupation of the area, with an earlier occupation or occupations clearing the forest. Features 1 and 30 date to 350 years or more after the occupation represented by Feature 14. This is likely to represent one of the first occupations along this part of the Kaituna and, while it may have been accompanied with forest clearance, this forest would have largely grown back in 350 years if left undisturbed. Dates at Papamoa generally fall between AD 1450 and 1750, while the occasional site with later dates representing continued use of the dune plain but not intensive occupation. It is highly probable that this occupation sequence extends as far as the Kaituna River mouth (and much further), but the proximity of the Kaituna to Maketu, which continued to be occupied after its conquest, first by Ngaiterangi and then by Ngati Pukenga, probably meant that this eastern end of the dune plain may not have been abandoned in the same way as Papamoa. The occupation of V14/40 represents a single episode late in this series of continual occupations and reoccupations of the Te Tumu dune plain.

The central research question for the excavation was whether there was archaeological evidence that V14/40 was Te Tumu Pa. The short answer is no. There was no evidence of ditches, palisades or rifle pits, all of which are described in the historic record. There are no European artefacts, which would be expected in a site dating to 1836, especially considering that Philip Tapsell was trading out of nearby Maketu from 1830. The site is typical of a late pre-European Maori occupation. The radiocarbon dating evidence is ambiguous thanks to the flatness of the terrestrial calibration curve in late in the pre-European period.

The main reason archaeologists have placed Te Tumu Pa at V14/40 is a misidentification by Cecil watt in 1970. The historic evidence for the pa places it further to the east, past the Te Tumu cut. While it is probable that the flood of 1907 and the construction of the cut have destroyed Te Tumu Pa it remains possible that some evidence of itsurvives in the dunes.

V14/40 represents what is in most ways a typical pre-European Bay of Plenty costal site, with shell midden containing fish bone, cooking, limited gardening (in what are poor soils), and stone tools. This is the first excavation so far east on

the dune plain and it is too early to say in what ways the archaeology of Te Tumu differs from that of Papamoa, but the proximity of the site to Kaituna and Maketu suggests a somewhat different pre-European history.

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Appendix A Charcoal analysis

Charcoal Identification, Site V14/40, Kaituna River, Bay of Plenty

Report to Mat Campbell – mat.c@cfgheritage.com
CFG Heritage, 132 Symonds St, Eden Terrace
PO Box 10 015, Dominion Road, Auckland 1024

Rod Wallace 2 July 2013

Introduction

Five charcoal samples from archaeological site V14/40, Kaituna River mouth, Bay of Plenty was submitted for identification, C14 dating sample selection and report. All samples from ovens except Feature 14 which was a midden. The results are given below.

V14/40, Feature 1, Oven

Hebe	1
Coprosma	5
Manuka	8
Dracophyllum	1

Comments
This sample contains only short lived shrubby species and is suitable as a C14 dating sample.

V14/40, Feature 2, Oven

Hebe	1
Coprosma	4
Manuka	6
Dracophyllum	1
Matai	1

Comments
This sample contains short lived shrubby species plus matai. The short lived species were separated out as a C14 dating sample.

V14/40, Feature 4, Oven

Putaputaweta	2
Towai	3
Pukatea	4
Maire Tawake	4

Comments
This sample contains tree species with a wetland aspect. Not suitable as a C14 dating sample.

V14/40, Feature 14, Midden

Matai	4

Comments
This sample contains only a long lived conifer and is not suitable as a C14 dating sample.

V14/40, Feature 30, Oven

Manuka	4
Pate	1
Putaputaweta	4
Ribbonwood	4
Kahikatea	1
Totara?	1

Comments

This sample contains both short lived species plus conifers. The short lived species were separated out as a C14 dating sample.

Discussion

The assemblage comprises a mixture of wetland forest and manuka dominated scrubby regrowth species. It might be suggested the site was in manuka scrubland adjacent to a stand of wetland forest.

Summary of Site V14/40 Charcoal Results

Species	# pieces	Plant type (%)
Hebe	2	Shrubs and small trees (53%)
Coprosma	9	
Pate	1	
Dracophyllum	2	
Manuka	18	
Ribbonwood	4	Small trees (53%)
Putaputaweta	6	
Maire Tawake	4	
Towai	3	Large Broadleaf trees (12%)
Pukatea	4	
Matai	5	Conifers (12%)
Kahikatea	1	
Totara	1	
Total	60	

Species Names

Hebe	A *Hebe* species
Coprosma	A *Coprosma* species
Manuka	*Leptospermum scoparium*
Dracophyllum	A *Dracophyllum* species
Pate	*Schefflera digitata*
Ribbonwood	*Hoheria* or *Plagianthus* species
Putaputaweta	*Carpodetus serratus*
Towai	*Weinmannia silvicola*
Pukatea	*Laurelia novae-zelandiae*
Maire Tawake	*Syzygium maire*
Matai	*Prumnopitys taxifolia*
Kahikatea	*Dacrycarpus dacrydioides*
Totara?	*Podocarpus totara*

Appendix B Obsidian analysis

Bag Details	Artefact Description	Length (mr	Width (mm	Thickness (	Weight (g)
F3	Complete flake of olive green obsidian. Hinge termination. No evidence of use-wear or retouch	25.21	18.95	4.92	3
F14	Complete flake of olive green obsidian. Feather termination. No evidence of use-wear or retouch	48.66	33.53	14.22	16
F5	Complete flake of olive green obsidian. Feather termination. Cortex present on dorsal surface. Multiple small flake scars on dorsal surface suggest possible retouch or cor preparation. No use-wear present.	53.14	38.47	11.39	17
Trench 1	Chip of olive green obsidian	10.89	5.45	4.92	<1
Trench 1	Chip of olive green obsidian	11.68	7.67	4.22	<1
Trench 1	Chip of olive green obsidian	12.04	6.57	1.39	<1
Trench 1	Complete micro-flake of olive green obsidian. Feather termination. No evidence of use-wear or retouch	15.01	6.54	1.13	<1
Trench 1	Complete flake of olive green obsidian. Feather termination. No evidence of use-wear or retouch	18.94	11.61	3.93	<1
Trench 1	Complete flake of olive green obsidian. Feather termination. Possible use-wear on distal margin	13.09	11.47	1.79	1
Trench 1	Complete flake of olive green obsidian. Feather termination. No evidence of use-wear or retouch	18.80	9.80	1.82	<1
Trench 1	Complete flake of olive green obsidian. Hinge termination. No evidence of use-wear or retouch	21.25	16.56	2.91	<1
Trench 1	Complete flake of olive green obsidian. Feather termination. No evidence of use-wear or retouch	21.45	13.58	4.08	<1
Trench 1	Complete flake of olive green obsidian. Feather termination. Possible use-wear on right lateral margin	29.2	18.68	1.82	<1
Trench 1	Complete flake of olive green obsidian. Feather termination. Notch on distal edge possible evidence of use-wer	35.50	4.54	2.95	3
Trench 1	Distal flake of olive green obsidian. Denticulate notching on distal edge - probable use-wear or deliberate retouch	49.69	22.97	4.88	5
Trench 1	Core of olive green obsidian. Multiple flake scars, multidirectional	29.88	5.93	13.18	9
Trench 1	Core of olive green obsidian. Multiple flake scars, multidirectional	39.86	26.14	13.29	13
Trench 1	Complete flake of olive green obsidian. Hinge termination. Possible use-wear on distal edge	38.21	31.14	5.28	6
F4	Complete flake of olive green obsidian. Feather termination. No evidence of use-wear or retouch	22.1	18.73	3.18	1
F4	Complete flake of olive green obsidian. Feather termination. No evidence of use-wear or retouch	18.51	14.53	3.29	1
F4	Complete flake of olive green obsidian. Feather termination. No evidence of use-wear or retouch	20.52	12.29	5.49	<1
F4	Complete flake of olive green obsidian. Feather termination. No evidence of use-wear or retouch	16.39	9.98	4.37	<1
F4	Complete flake of olive green obsidian. Hinge termination. Possible use-wear on distal edge	13.38	10.14	3.89	<1
F4	Chip of olive green obsidian	11.55	8.13	3.25	<1
F4	Complete micro-flake of olive green obsidian. Feather termination. No evidence of use-wear or retouch	13.94	6.92	2.01	<1
F1	Complete flake of olive green obsidian. Feather termination. No evidence of use-wear or retouch	33.29	23.86	3.45	3
F1	Chip of olive green obsidian	12.29	5.77	5.21	<1
F1	Distal flake of olive green obsidian. No evidence of use-wear or retouch	17.66	9.76	1.51	<1

Appendix C Fishbone identifications

sample	taxon	common name	element	side	NISP	MNE	notes
Feature 1	*Trachurus* sp.	mackerel	dentary	R	1	1	
			dentary	L	3	2	
			quadrate	L	1	1	
			maxilla	R	2	2	
			maxilla	L	2	2	
			premaxilla	R	1	1	
			premaxilla	L	1	1	
			hyomandibular	R	1	1	
			hyomandibular	L	3	3	
			opercular	R	1	1	
			preopercular	R	1	1	
			cliethrum	R	1	1	
			cliethrum	L	1	1	
			scapula	R	1	1	
			scapula	L	1	1	
			ceratohyal	R	1	1	
			axis	-	1	1	
			thoracic vertebra	-	5	5	
			thoracic vertebra	-	1	1	calcined
			caudal vertebra	-	19	19	
			caudal vertebra	-	1	1	burnt
			scute	-		36	
	Arripis trutta	kahawai	quadrate	R	1	1	small
			maxilla	L	1	1	small
			premaxilla	R	1	1	small
			premaxilla	L	3	2	small
	Pagrus auratus	snapper	palatine	R	1	1	
			opercular	L	1	1	
			thoracic vertebra	-	1	1	small
			caudal vertebra	-	1	1	large
	Chelidonichthys kumu	gurnard	dentary	R	1	1	
	Aldrichetta forsteri	yellow-eyed mullet	maxilla	L	1	1	
	Fish sp.		opercular	L	1	1	small
			atlas	-	1	1	burnt
			caudal vertebra	-	2	2	preurals 1 and 2
Feature 2	*Trachurus* sp.	mackerel	dentary	L	4	1	
			articular	L	1	1	
			maxilla	L	1	1	
			premaxilla	L	1	1	
			hyomandibular	L	1	1	
			supracliethrum	R	1	1	
			ceratohyal	R	1	1	
			caudal vertebra	-	2	2	
			caudal vertebra	-	2	2	burnt
			scute	-	6	6	

sample	taxon	common name	element	side	NISP	MNE	notes
Feature 2	*Arripis trutta*	kahawai	premaxilla	L	1	1	burnt
	Pagrus auratus	snapper	opercular	L	1	1	
	Fish sp.		thoracic vertebra	-	1	1	small
Feature 4	*Trachurus* sp.	mackerel	dentary	R	1	1	
			dentary	L	2	2	
			quadrate	L	1	1	
			premaxilla	L	1	1	
			hyomandibular	L	1	1	
			hyomandibular	R	2	2	
			opercular	L	2	2	
			opercular	R	2	2	
			scapula	R	1	1	
			ceratohyal	L	2	2	
			ceratohyal	R	2	2	
			epihyal	R	1	1	
			scute	-	65	65	
			scute	-	2	2	burnt
			atlas	-	1	1	
			thoracic vertebra	-	3	3	
			caudal vertebra	-	11	11	
	Fish sp.		vertebra	-	4	4	small
	Condricthyes sp.	shark/ray	vertebra	-	1	1	small
Feature 14	*Pagrus auratus*	snapper	articular	R	1	1	
	Muglidae?	mullet	caudal vertebra	-	1	1	
Feature 30	*Trachurus* sp.	mackerel	thoracic vertebra	-	1	1	burnt
			caudal vertebra	-	2	2	burnt
	Chelidonichthys kumu	gurnard	caudal vertebra	-	1	1	burnt
	Fish sp.		hyomandibular	L	1	1	
Tench 1	*Trachurus* sp.	mackerel	preopercular	L	1	1	

Appendix D Shellfish identifications

Screen Size	Common Name	Species	NISP	MNI	Notes
) half inch	Tuangi cockle	*Austrovenus stutchburyi*	2	1	
) half inch	Tuatua	*Paphies subtriangulata*	16	8	mainly burnt, fragmented
) half inch	Pipi	*Paphies australis*	49	25	mainly burnt, fragmented
) half inch	Pipi	*Paphies australis*	1259	630	mainly clean relatively whole valves, odd one burnt
) half inch	Tuatua	*Paphies subtriangulata*	19	10	
) half inch	Mussel	*Perna canaliculus*	3	2	
) half inch	Mudsnail	*Amphibola crenata*	3	3	
) half inch	Tuangi cockle	*Austrovenus stutchburyi*	1	1	
) half inch	Miscellaneous gastropod		1	1	
) half inch	Tuatua	*Paphies subtriangulata*	40	20	mainly fragmented valves, odd one burnt
) half inch	Miscellaneous gastropod		1	1	small turret shell
) half inch	Tuatua	*Paphies subtriangulata*	121	61	whole & fragmented valves, some burnt
) half inch	Tuatua	*Paphies subtriangulata*	147	74	mainly whole valves, odd one burnt
) residue	Pipi	*Paphies australis*	64	32	some burnt
) residue	Tuatua	*Paphies subtriangulata*	27	14	most burnt
) residue	Tuatua	*Paphies subtriangulata*	55	28	some burnt
) residue	Tuangi cockle	*Austrovenus stutchburyi*	1	1	very small valve
) residue	Tuatua	*Paphies subtriangulata*	32	16	some burnt
) residue	Tuangi cockle	*Austrovenus stutchburyi*	2	1	
) residue	Pipi	*Paphies australis*	43	22	mainly burnt

Matthew Campbell
CFG Heritage Ltd

Appendix E Radiocarbon dates

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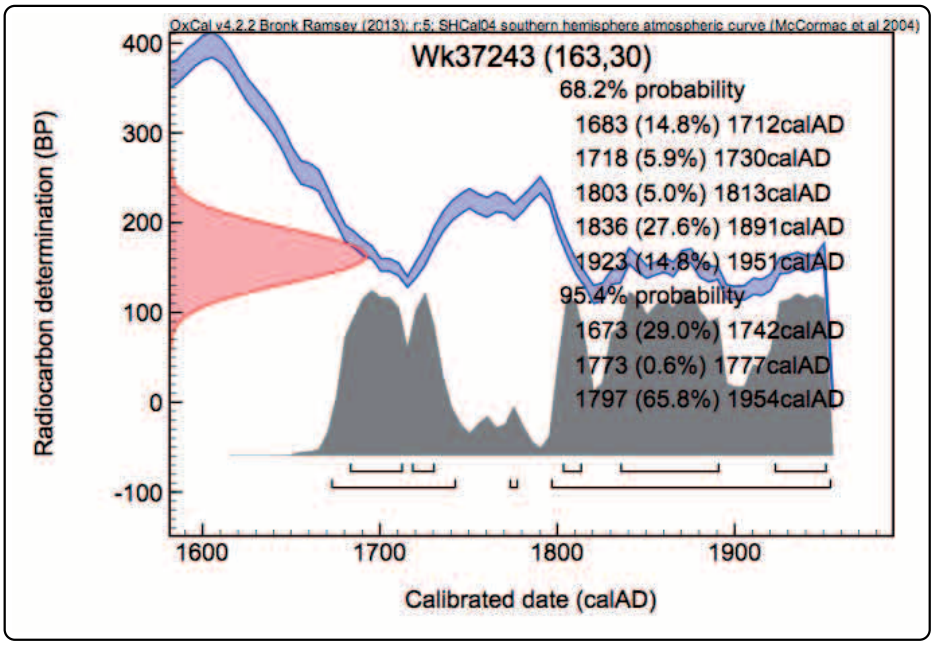
Head: Dr Alan Hogg

Report on Radiocarbon Age Determination for Wk- 37243

Submitter	M Campbell
Submitter's Code	V14/40 F 1
Site & Location	Te Tumu, Kaituna River mouth, New Zealand
Sample Material	Hebe, Coprosma, Manuka, Dracohyllum
Physical Pretreatment	Possible contaminants were removed. Washed in ultrasonic bath.
Chemical Pretreatment	Sample washed in hot 10% HCl, rinsed and treated with hot 1% NaOH. The NaOH insoluble fraction was treated with hot 10% HCl, filtered, rinsed and dried.

$\delta^{13}C$	-25.0 ±	0.2 ‰
$D^{14}C$	-20.0 ±	3.6 ‰
$F^{14}C\%$	98.0 ±	0.4 %
Result	**163 ± 30 BP**	

Comments



14/08/13

- 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, $\delta^{13}C$, is expressed as ‰ wrt PDB.
- $F^{14}C\%$ is also known as *Percent Modern Carbon (pMC)*

The University of Waikato
Radiocarbon Dating Laboratory

Private Bag 3105
Hamilton,
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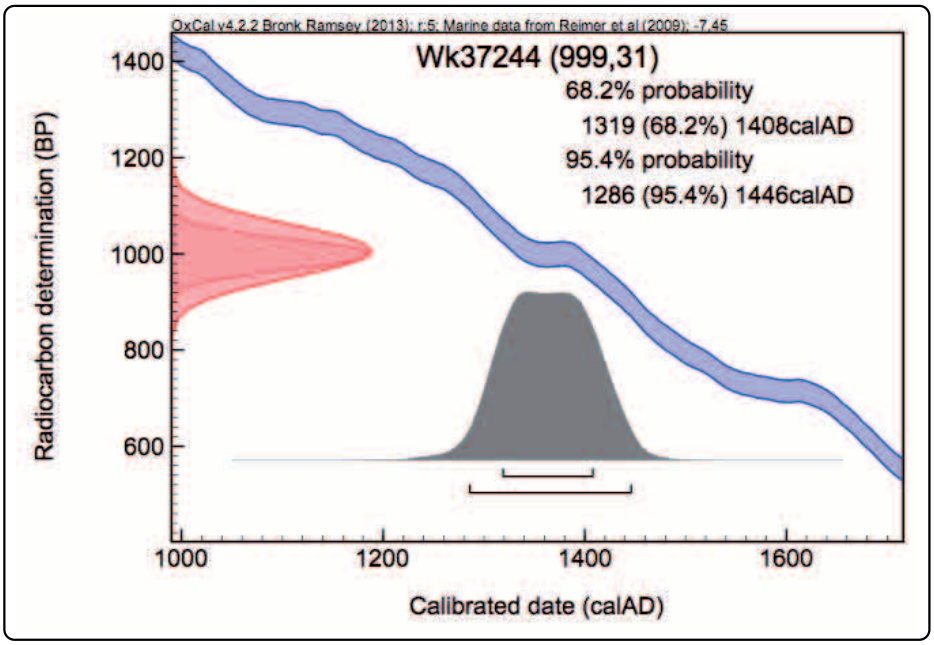
email c14@waikato.ac.nz
Head: Dr Alan Hogg

Report on Radiocarbon Age Determination for Wk- 37244

Submitter	M Campbell
Submitter's Code	V14/40 F 14
Site & Location	Te Tumu, Kaituna River mouth, New Zealand
Sample Material	Pipi shell
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.

$\delta^{13}C$	0.5 ±	0.1 ‰
$D^{14}C$	-116.9 ±	3.4 ‰
$F^{14}C\%$	88.3 ±	0.3 %
Result	**999 ± 31 BP**	

Comments



14/08/13

- 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, $\delta^{13}C$, is expressed as ‰ wrt PDB.
- $F^{14}C\%$ is also known as *Percent Modern Carbon (pMC)*

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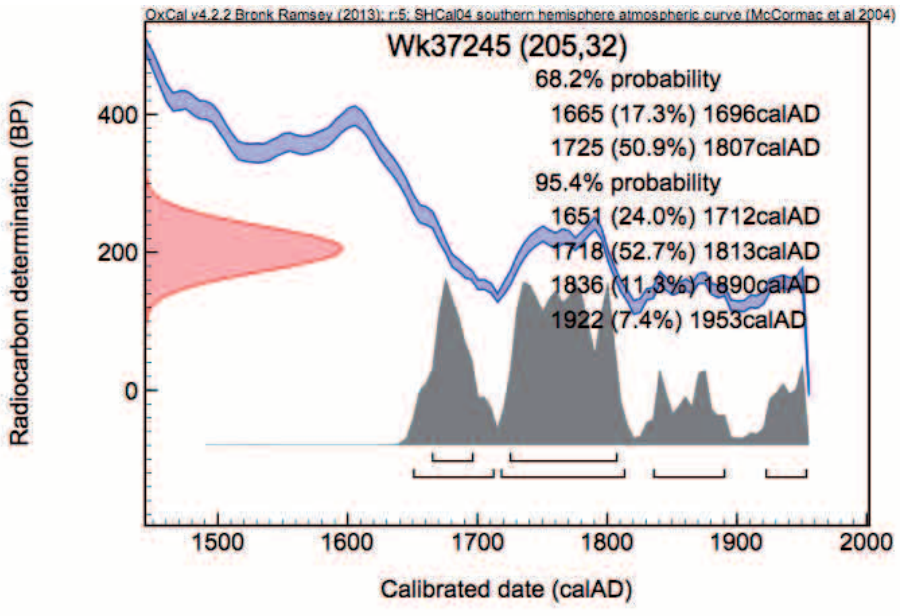
Report on Radiocarbon Age Determination for Wk- 37245

Submitter	M Campbell
Submitter's Code	V14/40 F 30
Site & Location	Te Tumu, Kaituna River mouth, New Zealand
Sample Material	Manuka, Putaputaweta, Pate, Ribbonwood
Physical Pretreatment	Possible contaminants were removed. Washed in ultrasonic bath.
Chemical Pretreatment	Sample washed in hot 10% HCl, rinsed and treated with hot 1% NaOH. The NaOH insoluble fraction was treated with hot 10% HCl, filtered, rinsed and dried.

$\delta^{13}C$	-24.9 ±	0.2 ‰
$D^{14}C$	-25.2 ±	3.8 ‰
$F^{14}C\%$	97.5 ±	0.4 %
Result	**207 ± 32 BP**	

Comments



14/08/13

- 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, $\delta^{13}C$, is expressed as ‰ wrt PDB.
- $F^{14}C\%$ is also known as *Percent Modern Carbon (pMC)*

Appendix F Site Record Form, V14/40

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

ARCHSITE archaeological site recording scheme

Site Record Form

NZAA SITE NUMBER: V14/40

SITE TYPE: Pa

SITE NAME(s):

DATE RECORDED:

SITE COORDINATES (NZTM) Easting: 1900807 **Northing:** 5816630 **Source:** CINZAS

IMPERIAL SITE NUMBER: N58/19 **METRIC SITE NUMBER:** V14/40

Finding aids to the location of the site

As per original Site Record Form: 1970 - On sand dune at mouth of Kaituna river and on left bank.

Brief description

PA

Recorded features

Other sites associated with this site

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD HISTORY	**NZAA SITE NUMBER:** V14/40

Site description

Condition of the site

Refer Gumbley, W and Phillips K.J 2000.

Statement of condition

Current land use:

Threats:

SITE RECORD INVENTORY	**NZAA SITE NUMBER:** V14/40

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

Observations about this site made in

Author	Year	Title	Publication Details
Gumbley, W & K.J Phillips	2000	Papamoa Lowlands Archaeological Survey and Heritage Assessment	Unpublished report prepared for Tauranga District Council

Supporting documentation held in ArchSite

AD AY -- BB AA HC

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD FORM

Map number N 58
Map name TAURANGA
Map edition N.Z.M.S. 1.
Grid Reference 881 515

SITE NUMBER N 58/19
SITE NAME: MAORI TE TUMU / OTHER
SITE TYPE P A

1. Aids to relocation of site E388100 N551500 Small Hill ?
On sand dune at mouth of the Kaituna river and on left bank.

2. State of site; possibility of damage or destruction
Surface sand bound by grass and scrub - damage ?

3. Description of site *(NOTE: This section is to be completed ONLY if no separate Site Description Form is to be be prepared.)*
Few signs of earthworks

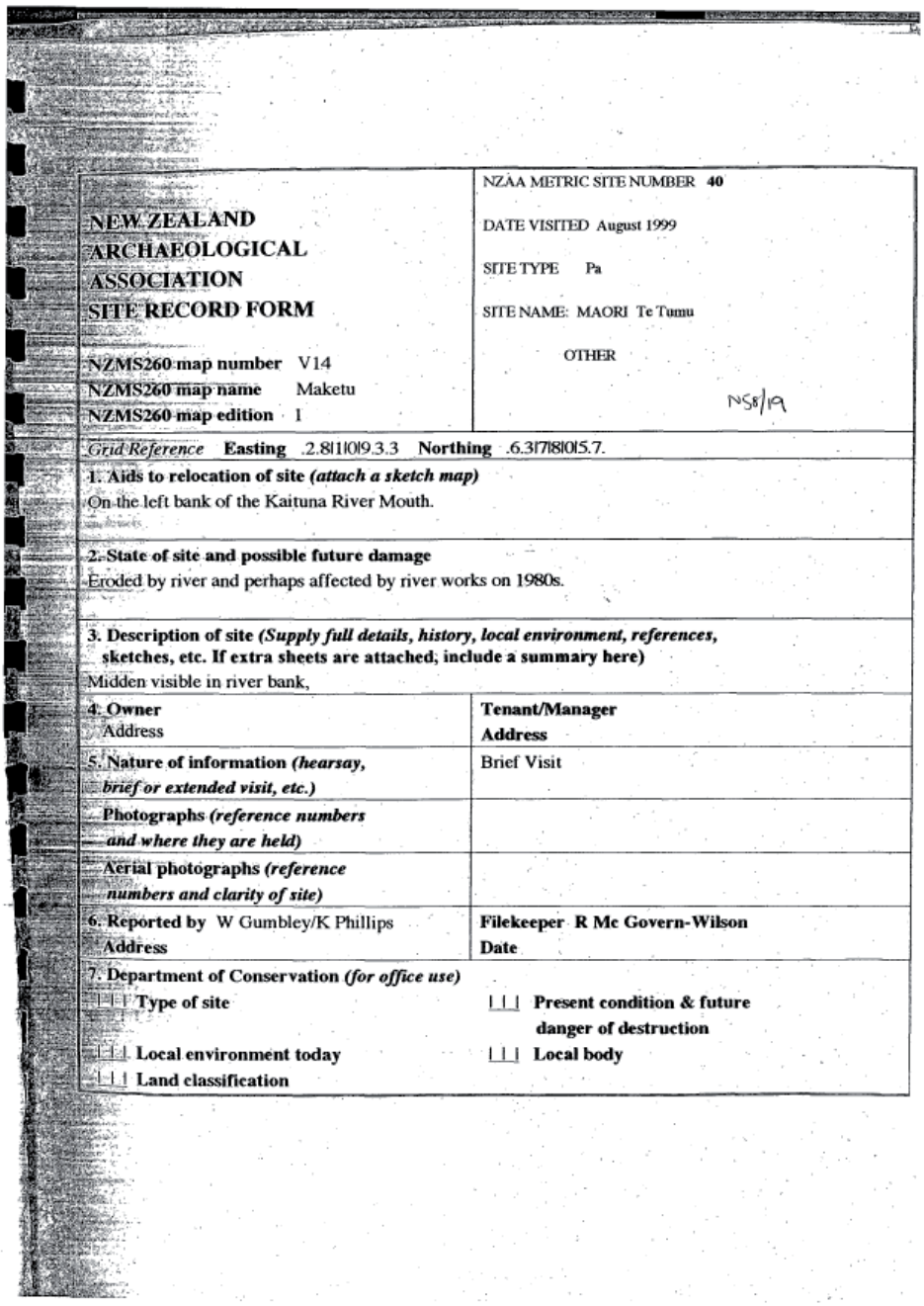
4. Owner ? Address — Tenant/Manager Address
Attitude — Attitude

5. Methods and equipment used
Photographs taken: Yes/No (Describe on Photograph Record Form)
Date recorded

6. Aerial photograph or mosaic No. — Site shows: Clearly/badly/not at all

7. Reported by Mr C. Watt Address 19 Lytton st Rotorua — Filekeeper K.W.Moore 13 McKenzie st Kawerau
Date — Date 6. 6. 1970

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION



NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION SITE RECORD FORM **NZMS260 map number** V14 **NZMS260 map name** Maketu **NZMS260 map edition** 1	NZAA METRIC SITE NUMBER **40** DATE VISITED August 1999 SITE TYPE Pa SITE NAME: MAORI Te Tumu OTHER NS8/19
Grid Reference **Easting** .2.811019.3.3 **Northing** .6.3178015.7.	
1. Aids to relocation of site ***(attach a sketch map)*** On the left bank of the Kaituna River Mouth.	
2. State of site and possible future damage Eroded by river and perhaps affected by river works on 1980s.	
3. Description of site ***(Supply full details, history, local environment, references,*** **sketches, etc. If extra sheets are attached, include a summary here)** Midden visible in river bank,	
4. Owner Address	**Tenant/Manager** **Address**
5. Nature of information ***(hearsay, brief or extended visit, etc.)***	Brief Visit
Photographs ***(reference numbers and where they are held)***	
Aerial photographs ***(reference numbers and clarity of site)***	
6. Reported by W Gumbley/K Phillips **Address**	**Filekeeper R Mc Govern-Wilson** **Date**
7. Department of Conservation ***(for office use)*** [ ] **Type of site** [ ] **Local environment today** [ ] **Land classification**	[ ] **Present condition & future danger of destruction** [ ] **Local body**

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

Site Information NZAA Metric Site Number V14/40

NZMS 260 map			Site	N58/19	
Edition	1987	Type	Pa		
Number	V14	Maori Name			
Name	Maketu	Other Name			
Grid Reference - OLD Easting	.2.8|1|1|0|0.0	OLD Northing	.6.3|7|8|1|0.0		
Grid Reference - New Easting		New Northing		Wpt Number	0
Grid Reference - GPS Easting	.2.8|1|0|9|3.3	GPS Northing	.6.3|7|8|0|5.7	GPS Accuracy +/-	1
Land Owner		Valuation Number			
Address		Legal Description			
Date first recorded	1/01/1970	Date of visit			
Required for a Council	YES	Council Name	Tauranga District		
Aids to relocation					
Current site condition	Intact.				
Current land use					
Threats					
Iwi Hapu					
Person providing update	Ken Phillips	File Keeper	Jan Worrall		
Address	PO BOX 855, Whakatane.	File Date			
Number of Photos	0	Maps Drawing Photos attached	☐		
Recommendations					
Additional Information	This site was excluded from the NZAA site recording scheme upgrade project as it was visited and updated during a survey of Papamoa East in 2000. See reference below: Gumbley, W. & K.J. Phillips 2000 Papamoa Lowlands Archaeological Survey and Heritage Assessment. Unpublished report prepared for Tauranga District Council. (Copies held at HPT, TDC).				
Special Notes					

Saturday, 26 October 2002 Page 1 of 1

Appendix G Section 18 Application

CFG HERITAGE
132 Symonds St, Auckland.
PO Box 10 015 Dominion Rd,
Auckland 1024
phone: (09) 309 2426
fax: (09) 309 2422
email: cfg@cfgheritage.com

Pam Bain
Senior Archaeologist
New Zealand Historic Places Trust Pouhere Taonga
PO Box 2629
Wellington 6140

24 May 2013

Application for archaeological authority under Section 18 of the Historic Places Act 1993

Tena koe Pam

I am writing to apply for an archaeological authority under Section 18 of the Historic Places Act 1993 to undertake limited exploratory investigations at site V14/40. The site was recorded by Cecil Watt in 1970 as the Te Tumu Pa. Te Tumu was the scene of a battle in 1836 when Ngaiterangi were defeated by Te Arawa. The recorded site is located on Pt Sec 3 Block VI Te Tumu SD, which is the subject of appeals to the Environment Court on cultural and archaeological sites in the Proposed Tauranga City Plan. I represent the Te Tumu Landowners Group (TTLG), comprising Te Tumu Kaituna 14 Trust, Te Tumu Kaituna 11B2 Trust and Ford Land Holdings Pty Limited. Pt Sec 3 Block VI Te Tumu SD forms part of the land owned by Ford Land Holdings Pty Limited.

During a judicial teleconference held between the parties to the appeal held on 25 February 2013 it was decided by the Court to adjourn the hearing until the section 18 investigation could be carried out (following the direction of the Court issued on 1 March 2013 certain milestones were agreed to but have since not been met).

Following the advice of Ngapotiki, the Court considered that “the area in which the Pa site might be located could extend 100m on the city side of Te Tumu cut, and 200m from the Mean High Water mark inland along the Te Tumu cut.” The area indicated by Des Kahotea, in his evidence, extends slightly beyond this indicative area and the investigation may extend into this area if necessary, with the approval of the parties to the Appeal. The area for the investigation is shown on the attached plan ‘Test trench plan.jpg.’ The base data for this plan, including the aerial photo, cadastral boundaries and SMA, was supplied by Tauranga City Council. The proposed Ngapotiki SMA was plotted as a 125 x 60 yard rectangle and angled at 19° east of north, as in the evidence to the Court of Des Kahotea. It is located to ± 5 m accuracy. The proposed excavation trenches are indicative only.

A recent site visit on 11 February 2013, in the company of Dr Rachel Darmody (NZHPT), Ken Phillips (representing Tauranga City Council) and Dr Des Kahotea (representing Ngaptoiki Tauwhakatiki Marae), showed that there are no visible signs of any earthworks to indicate a pa. There is a shell midden on the headland, the current west head of the Kaituna River has been exposed by erosion and earthworks on the Kaituna River mouth at Te Tumu (the

current course of the river was only finalised by major earthworks and construction of groyne in 1955–1957 and 1981–1982). This midden consists of tuatua shell with very occasional *Mactra* and *Dosinia*, and small heat-cracked hangi stones. There is no evidence of European materials such as bottle glass, Staffordshire ceramics or iron nails, which might be expected by the 1830s given that Phillip Tapsell was trading at nearby Maketu from 1830. This midden is typical of pre-European middens on the Papamoa Beach.

In places where cattle rubs have exposed the soil profile, this consists of about 200 mm of sand stained grey with organic material, overlying clean yellow sand, in other words, a natural, undisturbed soil profile.

The site was re-recorded by Gumbley and Phillips in 1999 as part of their *Papamoa Lowlands Archaeological Survey and Heritage Assessment* (2000) undertaken for Tauranga District Council. They noted a swale in the dunes that *could* have functioned as a natural defence, as well as the midden described above, but their description does not indicate any sure surface evidence of the Te Tumu Pa.

Historical records also indicate that Te Tumu was not located at this point. Eye-witness descriptions describe it as being low-lying and poorly defended and historic maps place it at the bend of the Kaituna to the east, where the current cut runs. These sources, and Native Land Court records, indicate that the pa contained whare and rifle pits but was only weakly palisaded.

An area on the headland of approximately 150 x 110 m has been identified and scheduled as a Significant Maori Area (SMA) in the decisions version of the Proposed Tauranga City Plan. The SMA corresponds to the recorded location of site V14/40. Subsequently an appeal by Ngapotiki seeks to have the SMA relocated to the south of the current SMA in an area measuring 125 x 60 yards (114 x 55 m).

Given the lack of surface evidence, the nature of historic descriptions and the historic changes to the Kaituna River at this point, I do not believe that either the current SMA or the location suggested by Ngapotiki represents the true location of Te Tumu Pa. In consultation with Dr Darmody, Mr Phillips and Dr Kahotea, it was proposed that a section 18 investigation could determine whether or not there is any evidence of Te Tumu at these locations.

Further consultation has been undertaken between the archaeologists associated with the project by teleconference on 1 May, and subsequently between TTLG and tangata whenua on site on 13 May. The methodology previously prosed has been modified in response to this consultation. In particular, a tangata whenua perspective is incorporated into the document and forms part of the core principles guiding the proposed investigations.

Tangata Whenua – Cultural Landscape Outline

In order to effectively address the concerns of manawhenua (ahi kaa) and tangata whenua regard must be given to the cultural landscape.

Recorded and un-recorded archaeological sites are only one layer of the cultural landscape, and not “the” cultural landscape. Waahi Tapu (sacred sites), Waahi Whakahirahira (sites of

significance) and Waahi Taonga (treasured sites) are amongst some of the key indicators of the wider cultural landscape. Manawhenua, is the ability to walk one's rohe and name the places and recite the korero (history) back to "discovery". While other iwi may have an interest in a rohe, it does not give them Manawhenua.

Tikanga Māori (principles) forms the basis of the consultation methodology used with all the Iwi with interests in this area.

Matauranga Māori has been defined as:

> "the knowledge, comprehension, or understanding of everything visible and invisible existing in the Universe" and of often used synonymously with wisdom"[1]

Incorporating tikanga (protocols) and kawa (ritual), Matauranga Māori is the knowledge base that provides an understanding of the environment, which incorporates Māori values. These values include; pono (what is right), tika (what is correct), take (source of things), kaikokiri (to push forward), tapātahi (aspects), Ngakau (the centre of the mind), whai hua (things that benefit), and kaipono (holding onto information).

These values are embodied within the metaphysical principles of wairua-tanga, tohunga-tanga, atua-tanga, ihi, wehi and taonga. Application of these principles are given effect through Whaikorero (oratory), karakia (prayer), waiata (song), manaakitanga (caring for visitors), Whakakotahitanga (tribal decision making), and Mohio-tanga (knowing and understanding).

Matauranga Māori values are derived from a common or universal Māori belief system[2]. These Māori beliefs are:

- Dynamic;
- Derived partly from a religious base; and
- Central to Māori life.

The fundamental concepts of this belief system include:

- Whakapāpā - genealogical descent, lineage;
- Mauri - the life force, the essential essence of being, an energy which permeates through all living things; and
- Ritenga - custom, rules, regulations, protocols, includes rāhui and tapu.

The traditional Māori whakapāpā begins with Ranginui the Sky Father, and Pāpātūānuku the Earth Mother. They had several children, who are departmental gods (atua). Included amongst them are Tangaroa (parent/origin of water or god of the sea) and Tāne Mahuta (god of forests and man). The Māori view of the world can be broadly defined as a series of states or dimensions:

- the material or physical state, which is familiar to most people. It is exposed to us through our senses, and it is the one we can directly observe and describe (e.g. taha tinana);
- the mental or intellectual state, which requires us to think holistically to understand the whole system, with all processes, not just one part of it (e.g. taha hinengaro);

[1] Landcare Research, Garth Harmsworth;. 2009. A framework for reporting cultural sustainability. Manaaki Whenua.
[2] Ibid

- the spiritual state, which many people are unfamiliar with. It is the spiritual dimension of Māori culture (taha wairua); and
- the related/associative state, which is learnt over a long period of co-existence and association with the environment. We say that we learn by experience (e.g. taha whanaunga).

Land, water, and air to Māori are special taonga. Their use and management require special care and attention. There are a number of terms commonly used in resource management today derived from the traditional Māori belief system:

- *ahi kā:* The principle of occupation, caretakership and use;
- *aroha:* Wise use of resources based on the motive of care and concern;
- *kaitiakitanga:* Spiritual/cultural and physical guardianship based on tikanga. The root word is tiaki which means "look after";
- *mana: A*uthority, influence, prestige;
- *rāhui:* Regulation on the use of resources for conservation purposes;
- *rohe*: Area of land within a generally recognised boundary;
- *tapu*: The principle of respect which enables good and proper decisions to be made regarding the use of resources; and
- *tikanga*: Social norms, customs, practices and lore adhered to by Māori .

For Māori, core cultural values and principles may include concepts such as:

- Whakapāpā (ancestral lineage, ancestral rights);
- Tikanga (custom, tradition, protocols);
- Rangatiratanga (status, authority and control);
- Mana, mana whenua, mana moana (based on whakapāpā, represents power, control, status, leadership);
- Manaakitanga (caring for, looking after, hosting);
- Whānaungatanga (relationships, family connections);
- Kotahitanga (unity, consensus, participation);
- Urunga-Tu (participation);
- Tohungatanga (the retention and use of knowledge to benefit the tribe or business);
- Kaitiakitanga (environmental guardianship);
- Tau utu utu (reciprocity, giving back what you take); and
- Wairuatanga (spiritual wellbeing, taking into consideration the spiritual dimension).

Cultural identity

This section will be completed by tangata whenau as it relates to statements of occupation; including whakatauaki, pepeha, patere and waiata; their identity as hapu and their identity with the whenua, and within their rohe and turangawaewae. Tangata whenua are the only ones able to make that determination.

Cultural Reference Points adjacent to the s18 Archaeological Investigation

A number of named cultural sites are found close to the s18 investigation area outlined on the attached investigation proposal. While all of these sites are some distance from the investigation area they do provide a cultural context.

1. Maketu Pa; to the east adjacent to Maketu township.
2. Te Paroa; approximately 2 km to the south west.
3. Te Paika; approximately 1 km across the river to the east.
4. Maketu Te Mamakurangi – Te Tumu Kaituna 11B1 – approximately 1.5 km away.
5. Te Whakarauhe (Whakarauaruhe?) – Te Tumu Kaituna 11B4 – approximately 1 km away.

Methodology options

Remote sensing

While remote sensing techniques such as magnetometry, ground penetrating radar or metal detection can provide useful and reliable archaeological data in the right circumstances, experience has shown that the sandy soils in this part of the coast are not suitable for the use of remote sensing techniques. Remote sensing identifies anomalies that stand out from the natural soils profile, but in the Papamoa dunes these anomalies often include tephra deposits, natural shell beds, fossilized logs and iron pan (iron pan is a result of water leaching out iron from the sands which then forms a hard layer). In any case, any 'anomalies' found by remote sensing would need to be ground-truthed by excavation. This ground-truthing potentially results in greater site disturbance than a controlled excavation. Various historic activities post-dating the occupation of Te Tumu pa, such a flax milling, farming and using the area as a staging area for the Te Tumu cut, will have contributed to sources of anomalies. Ground-truthing all these through excavation will result in digging numerous, semi-random holes and can hardly be considered best archaeological practice.

Test pitting

The use of shovel test pits, generally about 250 x 250 mm wide, is not considered useful in this environment where any archaeological evidence of Te Tumu pa that is found is likely to be fairly subtle. A small test pit will only give ambiguous results. It is proposed that test pitting be combined with machine trenching to give a more definitive result.

Trenching

Because of the loose nature of the sandy soil, which has been bare dunes in the recent past as shown in aerial photos prior to the construction of the cut, and the subtle nature of the archaeological features, shovel test pits are unlikely to provide any firm evidence of features relating to the pa. This was the consensus among the archaeologist who met on site on 11 February. The most appropriate methodology to use in this situation is a two stage process:

- shovel test pits will be dug every 10 m or so along the proposed trench line to ensure that no clearly obvious archaeology is present;
- followed by carefully controlled excavation of 1 metre wide trenches with a hydraulic excavator equipped with a 1 metre wide weed bucket;

- this will only strip off the topsoil down to the level where archaeological features become apparent, and will do minimal or no damage to them.

The accompanying plan shows indicative locations for the test trenches. As the investigation proceeds these locations may be changed in response to the results of previous trenching so that the locations shown can only be considered indicative. The trenches are numbered 1–5, which is the order in which it is intended they will be excavated. Initially an approximately 2 x 2 m test will be excavated every 10 m along each trench line. If no archaeological features are found then, following consultation and agreement with the cultural monitors and archaeologists, the entire trench line will be excavated. For trenches 4 and 5, which are beneath pine trees, continuous trenches will probably not be possible.

The plan two approximately 130 m trenches running north–south through both the Tauranga City and proposed Ngapotiki SMAs, and then three approximately 60 m east–west intersecting trenches at right angles to these. The trenches are within the location indicated by the parties to the Environment Court appeal as being a possible location of the Te Tumu Pa (an area of 100 m along the coast west of the Kaituna River mouth and 200 m upstream from this). Where these trenches extend into the trees to the north and east of the area it may not be feasible to excavate among tree roots; this can only be determined on the day. In this situation discontinuous trenches will be excavated where possible. These trenches would be only so deep as to remove the topsoil and expose the natural sand subsoil. Any archaeological features that are present will then be visible. Every attempt will be made not to disturb the recorded midden, which is likely to be more extensive than the visible surface evidence that has been plotted so far, or the coastal environment. The plan shows trenches running through the fence toward the midden – this area will be probed prior to trenching and if midden is encountered the position of the trench will be changed to accommodate this. We note that there is evidence of further middens in these areas – where these or any other archaeological features are encountered disturbance will be kept to a minimum.

If any definitive or strongly indicative evidence of the pa were encountered, excavation would cease immediately.

- Note – typical pre-European shell middens, which are common on the Papamoa–Te Tumu coast, should not be considered archaeological evidence of the Te Tumu Pa.
- If shell middens are found the excavation will be halted and re-evaluated, and will only recommence following consultation and agreement with the cultural monitors and archaeologists

Given that the defences are described as a weak palisade and rifle pits in historical documentation and Land Court records, initial evidence of these may be somewhat ambiguous. If any likely but uncertain evidence of the pa is found a wider area will be opened with the excavator until this evidence is either confirmed or refuted.

All trenches as dug and archaeological features will be digitally photographed and accurately mapped. It is not proposed to sample any pre-European middens, as this is beyond the scope of the project, but any historic period material encountered will be sampled in order to provide a possible date of occupation. A report will be prepared detailing the investigation and any subsequent analysis.

Investigation protocols and decision making

Archaeologists

Matthew Campbell, as representative of the landowners and authority holder, has the ultimate responsibility for the excavation including decision making.

Archaeologists representing NZHPT and Tauranga City Council will also be on site to monitor and assist as part of the investigation team.

Tangata whenua

To acknowledge the cultural history and context of this area the investigation team will also include:

- An archaeologist mandated by Tangata Whenua to represent their interests during the process; and
- A maximum of two cultural advisors to ensure appropriate tikanga and other protocols are adhered.

Decision making

The implementation of the methodologies outlined above will be accompanied at every stage by consultation and consensus agreement with cultural monitors and archaeologists.

At any time the cultural monitors can request that excavation be halted – the reasons for halting the excavation may be archaeological or cultural.

Information sharing

All information and outcomes arising from the investigation will be provided to all parties including tangata whenua

Koiwi

In the event that any human bone (koiwi) is identified during the investigation all work will cease immediately and all machinery will be removed from the site. The relevant mandated tangata whenua authorities will be contacted, the koiwi will be covered over to protect it and all personnel will leave the site awaiting further instruction from tangata whenua.

Two further documents accompany this document and inform the methodology and procedures:

- Purpose and Procedure, including on-site conferencing procedure, prepared by James Danby, Tauranga City Council.
- An Earthworks Monitoring Protocol specific to this investigation, prepared by James Danby, Tauranga City Council.

Yours sincerely

Matthew Campbell
Director

attachments: plan of proposed investigation trenches
site location plan
site record form, V14/40
purpose and procedure document
earthworks monitoring protocol

Appendix H NZHPT authority 2013/623

New Zealand Historic Places Trust
Pouhere Taonga

S:/Arch/2013-623

HP 11013/11036-059
In reply please quote 2013/623

24 May 2013

Dr Matthew Campbell
CFG Heritage Ltd
PO Box 10 015
Dominion Road
AUCKLAND 1024

Tena koe Mat

APPLICATION FOR AUTHORITY: Section 18, *Historic Places Act* 1993

Authority No:	2013-623
Archaeological Sites:	**V14/40 Te Tumu Pa**
Location:	**Bay of Plenty**
Proposal:	Exploratory investigation to locate Te Tumu Pa

DECISION

I am writing to inform you that the above authority has been granted.

The authority **attached** to this letter is an authority under the *Historic Places Act* 1993 to undertake the work specified in your application that may affect an archaeological sites. Please read the conditions imposed on this authority carefully.

ASSESSMENT AND ADVICE

The application involves a proposal to undertake archaeological investigations using test pitting and trenching as outlined in the authority application of 24 May 2013.

It is noted that the primary objective of the proposed investigation is to attempt to locate Te Tumu Pa.

In relation to section 18 (2) of that Act, Matthew Campbell is recognised as a skilled and competent archaeologist with access to appropriate resources. With respect to the requirements of section 18 (2), it is noted that he is experienced in stratigraphic investigation.

In relation to the requirements of section 18 (3), it is noted that representatives of appropriate Maori bodies have consented to the investigation, as agreed by the Maori Heritage Council of the NZHPT.

An authority may be granted in this case to permit an archaeological excavation of no greater total area of intact archaeological deposit or deposits than is consistent with the proposed investigation strategy, subject to standard conditions.

These conditions provide for the recognition of Maori cultural values as well as archaeological values, and enable hapu/iwi involvement as agreed.

An appeal to the Environment Court may be made by any directly affected person against this decision or condition, or review of a condition. The notice of appeal should state the reasons for the appeal and the relief sought and any matters referred to in section 20 of the *Historic Places Act* 1993. The notice of appeal must be lodged with the Environment Court and served on the NZHPT within 15 working days of receiving the NZHPT's decision, and served on the applicant or owner within five working days of lodging the appeal.

Please note in particular Condition 1, that this authority may not be exercised during the appeal period of 15 working days or until any appeal that has been lodged is resolved.

The holder of an authority may apply to the NZHPT for the change or cancellation of any condition of the authority. The NZHPT may also initiate a review of all or any conditions of an authority.

The NZHPT looks forward to receiving a report on the work done, which will make a valuable contribution to the knowledge of New Zealand's past.

Kia ora

Pam Bain
Senior Archaeologist

cc: Te Tumu Trust c/- Jeff Fletcher
via email at jfletcher@fordland.co.nz

cc: Tauranga District Council c/- James Danby
via email at James.Danby@tauranga.govt.nz

cc: Ken Phillips kjs.phillips@extra.co.nz

cc: NZHPT Regional Archaeologist, Dr Rachel Darmody rdarmody@historic.org.nz

cc: NZHPT Area Manager, Fiona Low flow@historic.org.nz

cc: NZHPT Maori Heritage Manager Dave Robson Maori drobson@historic.org.nz

cc: Des Kahotea via e-mail des@kahotea.com

cc: Colin Reeder-Nga Potiki via e-mail at colinreeder@hotmail.com

cc: Maru Tapsell (Waitaha)
C/- A Devon Matapihi, RD5, TAURANGA

cc: Te Ariki Morehu (Ngati Pikiao)
Okere Falls, R D 3, ROTORUA

cc: Whare Piahana
c/- Anthony Olsen at anthonyolsen@vodafone.co.nz

cc: Pia Bennett (Ngati Pikiao)
c/- Anthony Olsen at anthonyolsen@vodafone.co.nz

cc: Tony Paraire (Nga Potiki)
c/- Anthony Olsen at anthonyolsen@vodafone.co.nz

cc: Waka Taite (Nga Potiki)
c/- Anthony Olsen at anthonyolsen@vodafone.co.nz

cc Pikowhai Ohia (Ngati Pukenga)
c/- Anthony Olsen at anthonyolsen@vodafone.co.nz

cc: Planning Manager
Tauranga District Council
via email at info@tauranga.govt.nz

Pursuant to Section 14 (9) *Historic Places Act* 1993 the NZHPT must notify TLAs of any decision made on an application to damage, modify or destroy an archaeological site. We recommend that this advice is placed on the appropriate property file for future reference.

cc: Ministry for Culture and Heritage
via email at protected-objects@mch.govt.nz

Section 19 *Historic Places Act* 1993 refers

cc: NZAA Central Filekeeper
c/o DOC, WELLINGTON
Attn: Nicola Molloy
via email at nmolloy@doc.govt.nz

AUTHORITY
HISTORIC PLACES ACT 1993

AUTHORITY NO: 2013/623 **NZHPT File No.: 11036-059**

DECISION DATE: 24 May 2013

AUTHORITY HOLDER: Dr Matthew Campbell

POSTAL ADDRESS: CFG Heritage, PO Box 10 015, Dominion Road, Auckland

ARCHAEOLOGICAL SITES: V14/40 Te Tumu Pa

LOCATION: Bay of Plenty

DECISION

In accordance with section 18 (1) (b) of the *Historic Places Act* 1993, the NZ Historic Places Trust grants an authority to Dr Matthew Campbell to investigate archaeological site (NZ Archaeological Association Site Record No. V14/40 Te Tumu Pa in Bay of Plenty in conformity with the application proposal received and subject to the following conditions:

CONDITIONS OF AUTHORITY

1. This authority may not be exercised for fifteen working days from the date of receipt or until any appeal has been resolved.

2. That in any excavation work:
   a) Archaeological stratigraphy, features, and remains encountered shall be recorded, measured, sampled, sieved, analysed and reported as applicable in accordance with accepted archaeological practice,
   b) The position and extent of all excavation units shall be identified and mapped to scale accuracy in plan.

3. That any material culture remains encountered shall be recorded, sampled, investigated and cared for as may be appropriate and practicable, in accordance with accepted archaeological and conservation practice.

4. Test trenching of the area shown on the Test Trench Plan submitted with the authority application, shall be undertaken to determine the presence/absence of archaeological deposits. Any such deposits encountered shall be mapped to scale accuracy in plan.

5. That:

   a) The investigation shall be carried out in conformity with any cultural protocols or monitoring requirements advised by Nga Potiki, Waitaha, Ngati Pukenga and Ngati Pikiao.

   b) Any taonga or recognised Maori artefacts encountered shall be cared for and retained in law if appropriate in consultation with Nga Potiki, Waitaha, Ngati Pukenga and Ngati Pikiao, *and*

   c) If any koiwi tangata (human remains) are encountered, no further modification of the site concerned shall occur until Nga Potiki, Waitaha, Ngati Pukenga and Ngati Pikiao, NZHPT and NZ Police have advised an appropriate response.

6. That where applicable and practicable, research into appropriate archival, library, private, and museum collections or documentary sources shall be undertaken so as to direct the investigation, and to help interpret any archaeological features or deposits.

7. That if any taonga or Maori artefacts, or any other archaeological deposits having a primary association with Maori are encountered no further modification of that site shall occur until tangata whenua and the NZHPT have been contacted, and an appropriate response has been advised.

8. That the relevant Regional/Area Office of the NZHPT is informed before work commences, so that the NZHPT archaeologist is aware that the investigations are underway.

9. Site Record Forms must be updated or submitted to the NZAA Site Recording Scheme

10. Within twelve months of the completion of the on-site archaeological work a report must be submitted to the NZHPT. This report shall include, but may not be limited to, site plans, photographs, description of works undertaken and effects on archaeological sites and features, current site condition and any new sites recorded. One hard copy and one digital copy of the report are to be sent to the NZHPT National Office.

    Hard copies of the report must also be sent to:

    - NZAA Central Filekeeper
    - NZHPT Regional Archaeologist
    - Nga Potiki, Waitaha, Ngati Pukenga and Ngati Pikiao

ADVICE NOTES

Contact details for NZHPT Regional Archaeologist

Dr Rachel Darmody – Lower Northern Regional Archaeologist
NZHPT Tauranga Office
PO Box 13339
TAURANGA 3141

Phone (07) 578 1229 / Mobile 027 292 1588
Email: rdarmody@historic.org.nz

Consents required

No archaeological investigation shall be carried out under section 18 except with the consent of the

owner and occupier of the land on which the site is situated, or where appropriate, with the consent of such iwi authority or other body as the Maori Heritage Council of the Trust considers appropriate.

Archaeological practice
All archaeological work done under section 18 shall conform to accepted archaeological practice and the land shall be returned to its former state as near as possible, unless otherwise agreed with the owner.

Final report
Hard copies of reports must include all information, including appendices, in printed form. Digital reports must be submitted in PDF format as a single file, including appendices.

The Protected Objects Act 1975

The Ministry for Culture and Heritage ("the Ministry") administers the Protected Objects Act 1975. The Protected Objects Act 1975 regulates the export of protected New Zealand objects, the illegal export and import of protected New Zealand and foreign objects as well as the sale, trade and ownership of taonga tūturu. Taonga tūturu are defined as an object that:

(a) relates to Maori culture, history, or society; and
(b) was, or appears to have been, —
    (i) manufactured or modified in New Zealand by Maori; or
    (ii) brought into New Zealand by Maori; or
    (iii) used by Maori; and
(c) is more than 50 years old.

If a taonga tūturu is found during the course of an archaeological authority, the Ministry or the nearest public museum must be notified of the find within 28 days of the completion of the field work.

Non-compliance with the Protected Objects Act 1975
Note that failure to comply with certain obligations under the Protected Objects Act 1975 are offences and liabilities on summary conviction to a fine of up to $200,000 and a term of imprisonment not exceeding 5 years can be enforced.

For further information please visit the Ministry's website at http://www.mch.govt.nz/nz-identity-heritage/protected-objects or contact Heritage Operations by phone on 04 499 4229 or email at protected-objects@mch.govt.nz.

Signed for and on behalf of the New Zealand Historic Places Trust.

Pam Bain
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New Zealand Historic Places Trust
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