Introduction

Te Hoe is on the west coast of Mahia Peninsula about 2.5 km southwest of Mahia Beach (Figure 1). It occupies a sandy beach facing across the northern end of Hawkes Bay towards Waikokopu, Nuhaka and Wairoa (Figure 2). A valley about 100 m broad extends inland for about 1.5 km between mudstone hills, and at its head a saddle leads to the headwaters of the Whangawehi stream, providing easy access to the east coast of the peninsula. Today the valley is in pasture, apart from small patches of regenerating bush on some of the higher slopes. Plant microfossils from our excavations indicates that prior to human occupation there was forest cover, probably similar to the coastal-broadleaf forest found in the nearby Mahia Scenic Reserve.

There is no traditional information regarding early Maori use of Te Hoe, although, as will be seen there is archaeological evidence for pre-European occupation. There is also little known of its more recent history. Whaling probably began there about 1840, and Joseph Carroll, Captain Mansfield and John Smith are among those known to have been whaling masters there. The chart produced by Pandora’s coastal survey of 1857 shows three buildings that are probably located at Te Hoe, although there is some uncertainty as it does not depict the western shore of Mahia Peninsula entirely accurately (Figure 3). In 1876 a Crown Grant of 52.5 acres at Te Hoe was made to John Smith, and this probably corresponds to the ‘Agricultural Section I’ shown on a 1926 survey plan (Figure 4). Throughout the 20th century Te Hoe was used for pastoral farming and this continues today, although the lower part of the valley was placed under a QEII Trust covenant in 2004 (McCahon 2005).
Figure 3  Detail from Admiralty Chart 2528 Poverty Bay to Castle Point (1857). The group of three buildings near the centre of the northwest coast are probably at Te Hoe

Figure 4  Detail from 1926 survey plan (DP6259) showing Agricultual Section at Te Hoe
Previous Investigations

Although topographic maps have long noted that this was once the site of a whaling station, it was not recorded archaeologically until February 1990. Stone features thought to be fireplace mounds and tryworks foundations were recorded on both sides of a stream near the south end of the beach. Shell midden was eroding from the stream bank, and two terraces on the slope immediately above the south end of the bay were thought to have derived from earlier Maori occupation (Prickett 1990).

Additional terrace sites, some with pits, were located on the high ridges north and south of the valley during survey of the surrounding vicinity by Victoria Grouden in 1996 (Bain pers. comm.). This survey also added further features to the site record for Te Hoe, with several terraces and ditches extending inland for up to 200 m along the north bank of the stream. About 500 m from the beach above the confluence of two streams, the burial place of former whaler Daniel O’Keefe is marked by a concrete covered grave and headstone that was erected in 1995. According to local informants erosion had removed the remains of other whalers buried in this locality.

Investigations in 2005

Our investigations in 2005 (Figure 5) were focused on the beachfront, where the flat ground north and south of the stream can be usefully subdivided into three components.

- The **north flat** is comprised of a low beach ridge, about 2 m above sea level, and a broad swale (1.5 m a.s.l.), below a scarp which rises to a higher flat (ca. 10 m a.s.l.) covered in cutty grass.
- The **south flat**, covers an area of about 400 m² on what appears to be an old marine terrace (3.3 m a.s.l.) at the foot of the steep slopes marking the southern sides of the valley. Cut into this slope were two terraces at about 10m a.s.l. and another at about 20m a.s.l.
- The **eastern flat** is an inland tongue of flat ground north of the stream, also about 3.3 m a.s.l. An earthen mound at the inland edge of this flat was part of a dam constructed across the stream in the mid 20th century, and a shallow ditch along its northern edge was probably a spillway. Overflow from this spillway was presumably responsible for eroding the gully, now ponded, through the middle of the flat.

At the time of our investigations driftwood was abundant along the foreshore and in the mouth of the stream, and storm debris, including large mudstone boulders were scattered over the seaward margins of the north and south flats.

A north to south baseline was laid out down the seaward margin of the site and all excavation units were oriented to this grid. Each area opened for excavation was numbered consecutively, and metre squares within these were labelled in terms of their distance south and east of the grid origin. Excavation followed standard archaeological procedure, with turf removed by spade and stockpiled, and underlying deposits excavated by hand trowel following observable stratigraphy, or by 10 cm spits within deeper strata. Significant artefacts and faunal remains were plotted on record sheets and bagged separately, while other materials were extracted by screening excavated soil through 6.4 mm sieves, and bagged by stratigraphic layer and square. All excavation areas were drawn in plan and photographed, and stratigraphic profiles were also drawn.
Figure 5  Te Hoe excavations, 2005
Area 1

Area 1 was located around a rectangular depression on the south flat, at the foot of a steep slope below the flight of terraces. It was laid out, initially, to half-section the depression, then extended to ca 18 m². This showed that the feature had formed through the settling of fill within an iron tank that had been set into a pit dug into the ground. Alongside it was a stone structure that had formed the furnace of a tryworks (Figure 6). A 30 cm wide trench along the line of the original half-section was excavated down to undisturbed natural stratigraphy and was expanded into a wider trench at the eastern end of the area, where deeper cultural deposits were encountered (Figures 7, 8).

Figure 6  Area 1 from north during excavation, showing tank (left) and furnace (right)

Layer 1 was greatly modified by human activity and is best described as nine discrete stratigraphic contexts. Layer 1a comprised a shallow turf of light grey-brown crumbly loam which ranged in depth from 1-2 cm where it covered rocks to ca 10-12 cm. Scattered artefacts, shells and bones were found in the base of this turf. In the northwestern quarter of the area the topsoil merged into a hard, crumbly mixture of topsoil and clay nodules (layer 1b) in the top 10 cm of which cultural material was common. This mixed deposit also formed the upper part of the fill of the depression. Once the edges of the iron tank were encountered during excavation, the lower 30 cm of fill were removed as layer 1c. Within the northern end of the stone structure, the topsoil merged into a soil heavily stained with charcoal mixed with ash and bands of hard clinker-like concretions (layer 1d). At the southern end, the topsoil was mixed with ash and burnt orange clay (layer 1e). North of the tryworks the topsoil was heavily stained with charcoal and contained fragments of clinker and burnt bone (layer 1f). At the western edge of the structure there was a discrete pile of whale bone (layer 1g). Except within the iron tank, nearly all artefacts were recovered within about 15 cm of the ground surface. Trenching across squares S139/E12-13, and a testpit in S138/E10 showed that the mixed soil and clay layer in the eastern part of the area extended to 40 cm or more below ground surface and contained occasional historic period artefacts (layer 1h), indicating quite extensive ground surface modification. In S138/E13 it extended to a depth of 58 cm and material found here, at the interface with a lower cultural deposit (see below) is distinguished as layer 1i.
Figure 7  Area 1: plan showing feature in Layer 1 (above) and lower layers (below).
Layer 2 was characterised by shell midden. In S138/E13 there was concentrated shell and bone midden in a dark clayey soil (layer 2a). This extended to 1.25 m below ground surface along the northern edge of the square. It contained stone flakes, and no historic period artefacts. A sparse scatter of shells (layer 2b) was also encountered in the surface of the basal clay in the narrow trench west of the tryworks.

Layer 3 was a compact yellow clay. The deepest profile (Figure 8: B-C) shows the surface of this clay rising steeply to the south presumably reflecting the original hillslope before historic period modification. Where the section trench cut through the base of the tryworks the basal clay was stained orange and black by burning.

There were two discrete phases of occupation in Area 1. The first is represented by Layer 2, which appears to have formed by the spilling of midden down slope from a terrace above (Area 6). It is dated to the 15th century A.D. by radiocarbon determinations on two shell samples (see below).

During the second occupation a tryworks was constructed, comprising a furnace and cooling tank. The furnace walls were built of flat mudstone boulders packed with earth. The concentration of charcoal and clinker (layer 1d) and fire rake-out (layer 1f) indicate that the northern end of the structure was the firebox which, at just under 1 m in diameter, would have accommodated a single trypot. The mouth of this firebox is indicated by gap in the north wall, with red stains on the stones at each side showing where iron bars had supported courses of stone above the opening. The southern part of the structure forms a chimney flue rising up the hillslope. At their highest the furnace walls were no more than 40 cm above the original ground surface. At least twice that height would have been needed to enclose a trypot (Figure 9), and with no obvious scatter of fallen boulders in the immediate vicinity it seems likely that after falling into disuse, this structure was robbed of usable stone.
The tank immediately west of the furnace was 1.2 m (4 ft) square, formed of 3.2 mm (1/8 in) thick cast iron plates with rivetted joins at each corner. This type of ship’s water tank was widely employed in Australia and New Zealand during the 19th century for water storage and a range of industrial uses (Pearson 1992). It appears to have been used here, with the top removed, as a tank into which boiling oil from the trypot could be ladelled for cooling. As the reconstruction in Figure 9 shows, the tank was set into a pit in the ground so as to lower its top to a height just below the top of the trypot. Whale bones piled alongside the western wall of the furnace were presumably remains of animals being processed, perhaps accumulated here for use as fuel. Completing the representation of the trying out process here are complete or partial remains of three barrels (Figure 7).

**Area 2**

Area 2 was located near the inland corner of the south flat where an earth and stone mound about 4 m in diameter stood more than a metre above the surrounding ground, with numerous large stones lying on or in the surface suggesting it had once been a substantially taller structure. To the north and west, the ground sloping down to the stream had been built up into a flat terrace. To the south, the edge of the flat ground appeared to have been buried by spoil from a bulldozed farm track. A total area of 42m² was opened (Figures 10, 11).

Layer 1 was a grey-brown friable loam. Its turf and topsoil (layer 1a) were up to 15cm in depth and contained artefacts, especially metal and glass, and animal bones. Along the southern edge of the area (square S134/E19-24) a lens of hard yellow clay and soil from the bulldozed track on the slope above intruded into the topsoil. Material found within this spoil is designated layer 1a-i, and that immediately below it layer 1a-ii. Protruding through the turf north of this (squares S128-33/ E22-4) was the mound of collapsed chimney rubble (layer 1b), chiefly stones, but containing lenses of ash (layer 1b-i) and clay (layer1b-ii) and numerous artefacts. Layer 1 was deepest in the western arm of the area (squares S130-4/E17-24) and artefacts were especially common below ca 10cm (layer 1c). Wherever it was detectable, the postholes in Area 2 appeared to have been cut from the base of this deposit, and their fills are referred to collectively as layer 1c-i. At the same level, beneath the chimney rubble was a relatively intact fireplace (Figure 12) containing a large body of ash (layer 1c-ii). Where the southwest corner of the chimney was sectioned (squares S132-3/E23-4) artefacts were also found in the hard yellow-grey clay packed around the foundation stones of the chimney (layer 1c-iii). In places, especially where layer 1 was deep, it was difficult to distinguish the base of this deposit from layer 2, and material from this interface is distinguished as layer 1d.
Figure 10  Area 2: plan showing features in upper layers
Figure 11  Area 2: stratigraphic profiles
Layer 2 was a grey crumbly soil containing shell midden, both in concentrated lenses and more dispersed scatters. Excavation extended below the surface of this layer only in selected squares (Figure 13). This showed that layer 2 reached a thickness of about 35 cm and it was excavated in up to 3 10 cm spits (layer 2a-c). Metal, glass and ceramic artefacts, and bones of exotic fauna were relatively common in the top 10 cm, but scarce below that level. Nearly all of the deeper historic items were in close proximity to foundation posts dug from the upper layer (e.g. Figure 14), but similarity in the colour of the layer 2 matrix and the layer 1 fill made it impossible to confirm that all had been displaced to the lower level by the digging of these.

Layer 3 was a shallow, discontinuous band of clean yellow sand, with no bones or artefacts.

Layer 4 was a damp, clayey soil that varied in colour from dark brown to black. It contained a relatively sparse midden and no historic period artefacts or fauna. It was excavated in up to 3 10 cm spits (layer 4a-c). In squares S134/E22-24 a lens of hard yellow clay protruded into the lower spits of this layer.
Two phases of pre-European occupation are indicated here, followed by 19th century settlement. The earliest, represented by layer 4, is dated to the 15th century A.D. (see below). The deep soil with sparse midden and charcoal patches sampled here suggest the margins of a food dump and cooking area. A period of abandonment can be inferred from the discontinuous band of sterile sand (layer 3) separating layer 4 from the distinctly lighter soil matrix above. Reoccupation is evident in layer 2, which is a midden accumulation comprising discrete dumping incidents amid a general accumulation, perhaps from activities elsewhere on the flat, or on the terraces above. The abandonment may have been quite short, as a radiocarbon sample from the middle spit (layer 2b) indicates a late 15th or early-mid 16th century age, while a sample from the top spit suggests that the last main dumping episode was somewhere in the 17th or early 18th century. Artefacts and midden from the 19th century are also present, especially in the top spit (layer 2a), making it clear that material from late prehistory and the early historic have become mixed in the uppermost part of layer 2, and requiring that this body of material be treated separately in subsequent analyses.

The 19th century occupation also includes two components. Historic materials mixed in layer 2a were in place before the laying of foundations for the large house that dominates layer 1. This was a rectangular building about 7 x 5.5 m (Figure 15) with wooden foundation posts and an external chimney built on a substantial mound of rounded boulders and clay. The quantity of rubble spilling over the mound indicates that the chimney was constructed of smaller stones and clay for much or all of its height. Abundant nails and other fasteners suggest that the structure had wooden cladding as well as flooring, and glass windows are indicated by high concentrations of window glass at the northeast and southwest corners. Two sets of double piles at the north-east corner and an arc of whale vertebrae that appear to be shoring up the floor in front of the fire are probably indications of maintenance during the life of the building, and many of the artefacts recovered from layers 1c and 1d probably accumulated under the building during its use. However, with the tops of nearly all the house foundations charred, it is clear that the building eventually burned to the ground, which may have added some items from within the house to these assemblages. The cluster of items found within the fireplace ash (layer 1c-ii) can be closely associated with the final stages of its occupation. Material recovered from the chimney collapse (layer 1b) is probably but less certainly from this time. Worm action, stock trampling and buldozing have mixed some modern items into the top of the 19th century deposit (layer 1a).
Area 3

Area 3 was located near the eroding river edge of the south flat, which showed a band of shell midden below about 20 cm of dark soil containing historic period artefacts. Thirteen m² were excavated around a low mound, which excavation quickly proved to be a chimney base constructed of flat mudstone boulders. Four layers were identified (Figure 16).

Layer 1 was a grey-brown loam containing metal, glass and ceramic artefacts along with animal bones and shells. Beneath the turf and loose topsoil (layer 1a), it graded into a more compact soil containing fine rounded gravel likely to have been imported from the beach. Material in this deposit found in front of the fire place (squares S119-20/E11-14) was designated layer 1b, to the side and behind it (squares S121/E14, S122/E12-14) layer 1c, while items from an ash deposit within the chimney base were labelled layer 1d. Over most of the area this occupation lay on top of layer 2, but in places layer 1 filled scoops or hollows in the surface. A scoop below the fireplace (layer 1e-i) contained dark grey ash, historic artefacts and domestic mammal bones along with shells, and and a one piece bone fish hook, while three others (layer 1e: ii-iv) had only shells and fish bone. Test pits in the two southern corners (layer 1f:i-ii) showed that a handful of mammal bones, glass and metal artefacts had been compressed up to 10cm into the underlying surface.

Layer 2 was a grey clayey rubble of decaying mudstone boulders. Apart from a whale tooth and four fragments of metal in its surface, it was sterile.

Layer 3 was a band of shell midden encountered in the base of each scoops and a test trench joining e-i and e-iv.

Layer 4 was further mudstone rubble.
Figure 16 Area 3: plan (above) and stratigraphic profile (below)
A radiocarbon determination on shell from Layer 3 below the fireplace gives an early 15th century age (see below), making it likely that the lower midden here derives from the same phase as initial occupation of Areas 1 and 2. Reoccupation in the 19th century involved construction of a hut. Its stone chimney base and floor of compacted soil, rounded gravel and artefacts were clearly evident, but with only a handful of posts and other structural features its wall lines are difficult to define (Figure 17). Iron nails and spikes were relatively common, suggesting wooden framing and cladding, while the virtual absence of flat glass implies that there were no glazed windows. Posts immediately east of the chimney base may indicate that the upper part of the chimney was constructed of wood.

![Figure 17: Distribution of finds in Area 3 Layer 1 and estimated position of two walls](image)

**Area 4**

At its southwestern corner, the south flat is dominated by an elongated mound covered in large stones from a collapsed structure. This was excavated in quadrants oriented along the main axis of the mound, then fully exposed within a total excavated area of 40 m² (Figure 18). This disclosed, substantially intact, the last of at least two tryworks built on this spot, and partial remains of a predecessor.
The final tryworks was a substantial structure built of large flat mudstone boulders, loosely stacked and packed with earth into more or less straight-sided walls three or more courses high and standing 0.6 to 1.2m above the surrounding ground surface (Figure 19). It was 5.5 m long, 3 m wide at the northern end, narrowing to 1.5 m in the south. For more than half of its length the structure was divided into two parallel chambers by an axial wall. These chambers were roofed with very large cap stones supported on substantial iron bars for a length of ca 1.2 m in the central portion of the structure, and iron stains on the axial and side walls indicated that the roof formerly extended at least 0.9 m further south. Where it was roofed, and for a short distance further south, the structure also had a floor of large flat stones ca 0.3–0.4 m below the roof. At the northern end the side and axial walls extended out from the roofed section to form two open topped chambers ca 1.5 m long and 0.5–0.8 m wide. Each
had a narrow opening at the northern end, and their contents (see below) indicate clearly that they were fireboxes on which two trypots were mounted side by side. The roofed section thus formed two horizontal chimney flues, which merged and had their outlet at the unroofed southern end.

At the beginning of investigations most of the tryworks and surrounding area was buried in turf, and lying on this surface in a hollow beneath part of the intact roof of the structure was an accumulation of snail shells and bones of rabbits and birds (layer 0). Beneath this, four main layers were identifiable (Figures 20, 21).
Layer 1 was or derived from the same grey-brown crumbly loam encountered elsewhere on the south flat. The turf and upper few centimeters of topsoil (layer 1a) contained skeletal remains of several sheep. Beneath this level the ground was highly modified, and is best described as a series of contexts. The southeast corner of the area opened one end of a distinct hollow in the ground surface, in which a mixed loam/clay soil contained artefacts, and whale jaw and rib bones (layer 1b). These lay just above the keel and ribs of a whale boat (layer 1c), which in turn overlay a harder loam/clay mix (layer 1d) which extended to the west where it butted against the side of the stone structure and contained several large pieces of whale bone and numerous iron, glass and ceramic artefacts.

Within the walls making up the southern end of the tryworks the sub-turf deposit contained a dense concentration of iron fragments (layer 1f) and a series of lenses that are referred to collectively as layer 1f. These included a brown ashy soil containing scattered charcoal (5-20 cm deep), a darker soil containing lumps of charcoal and clinker (5-15 cm), and a brown ashy deposit that was burnt orange in places (5-10 cm). Except at the southernmost end (see below), this ash lay on the stone floor of the structure. Layer 1f extended northwards into the roofed portion of the chimney flues, the narrow confines of which made it difficult to trace the precise stratigraphic relationships between it and the deposits in the northern part of the structure. The sub-turf deposits here (layer 1g) comprised a dark brown soil containing many clinker fragments and two lenses of hard black clinker. Lying on top of the uppermost clinker lens in the western firebox was an iron bar, and red stains on the stones at the mouth of the fireplace show where it almost certainly once sat. Outside the northern end of the structure charcoal stained soil mixed with clinker, ash and clay (layer 1h) was presumably rake out from the firebox. Within this deposit was a large sandstone wheel from a grindstone. Extending along almost the entire western side of the tryworks was a large pile of whale bones (layer 1i), up to 0.4m deep, with numerous barnacles amongst the bones indicating that skin had still been attached to at least some of the whale body parts deposited there.
Partial remains of an earlier tryworks, similar in form to the Area 1 example, were located immediately east of the southern half of the later structure, just below the level of the bottom course of its eastern wall. They consisted of a 15 cm deep band of black clinker (layer 2a) oriented about 40° northeastward of the axis of the later tryworks, along with at least three large stones from the bottom course of the firebox walls still in place, and another probably related cluster of stones in S146E3-4. The band of clinker appeared to extend under the wall of the later structure. This may have connected with a layer of dark brown soil containing charcoal and clinker (layer 2b) that began at a similar level inside the southernmost end of the later tryworks where there was no stone floor (i.e. below layer 1f), although the greater depth (up to 30 cm) of layer 2b may indicate that it derives from even earlier tryings out in the vicinity. Indeed, layer 2a and surrounding stones were clearly not from the first activity there as they sat on a mound of redeposited clay (layer 2c) and overlay a large barrel hoop buried in the base of this deposit. Lower still was a band of clay containing lumps of clinker and charcoal fragments (layer 2d) beneath layer 2b under the later tryworks and below layer 1i to its west.

The natural stratigraphy under these deposits comprised a mudstone rubble (layer 3) which was found only in the test pits west and north of the structure, and a compact yellow clay (layer 4).

Area 5

Area 5 was laid out inland from the gully bisecting the eastern flat, where ceramics and metal artefacts were eroding from the bank (Figure 22). A low mound in the turf disclosed a stone chimney base of no more than three courses of mudstone boulders which enclosed several flat hearth stones and an accumulation of ash. Three layers were identified (Figure 23).
Layer 1 was a grey-brown loam with a turf of about 10 cm, below which artefacts and bones were apparent. Layer 1a comprised the ashy contents of the fireplace along with glass, metal, shell and bone. West of the fireplace, the turf gave way to a compact yellow-grey clayey floor with numerous artefacts and some bone and shell at and above this interface (layer 1b). Similar material was also abundant in the interface zone (layer 1c) of the northern squares (S113-4/E54-7, S115/E57:north half) where the underlying clay was paved with rough cobbles. Only a few artefacts and bones were recovered east of the fireplace (layer 1d) and above the oven feature in the southern squares.

Layer 2 was represented solely by a large circular scoop half-sectioned in squares S118/E55-6. With hard baked clay around its upper edges, concentrated charcoal at its base and a dense concentration of fire-cracked stones, this had clearly served as an earth oven.

Layer 3 was a compact yellow clay.

The oven in layer 2 must predate the hut in layer 1 because of its position almost directly below the south wall of the later structure. Although it has not been dated, this feature is most likely to be associated with one of the two phases of prehistoric occupation already documented at Te Hoe.

With a clearly distinguishable clay floor dimensions of the 19th century hut can be reasonably be estimated at about 4.5 x 3.2 m. Only two postholes could be identified and both nails and window glass were very scarce, suggesting a relatively ephemeral structure, perhaps mostly of indigenous materials. The paved area adjacent to the floor may indicate that there was a door on the north side. Inside the building, a patch of burnt orange clay in the middle of the floor could relate to traditional methods of ochre preparation, but the neither the artefact or faunal assemblage indicates anything other than historic period occupation.

Area 6

Although the three terraces and small raised-rim pit above the south flat appeared to be a typical example of small prehistoric sites known from the region, metal detection survey encountered a number of responses, and Area 6 was laid out to determine the nature of historic period activity there. A transect was excavated across the western-most of the two lower terraces (Figure 24), and the bulldozer-cut section below the eastern example was cleaned back and recorded (Figure 25). Three layers were identified.
Layer 1 was a grey-brown crumbly loam up to 15 cm in depth. In the northern half of the area a yellow-brown slopewash formed the upper portion of this layer. The only metal item recovered during excavation was a large iron bolt likely to have derived from farm machinery found immediately below the turf in S158/E7.

Layer 2 varied from dark grey to black and contained a dense concentration of shell midden at the north end (squares S153-5/E7) and scattered shell fragments elsewhere. This deposit was charcoal-stained and contained fire-cracked rock where it spilled over the edge of the eastern terrace.

Layer 3 was a compact yellow clay.
Although only a small area was excavated, the total absence of evidence for domestic fauna, glass, ceramics and any metal other than a piece of farm machinery was sufficient to demonstrate that the terraces were not used during the 19th century. A radiocarbon sample from layer 2 gave a 15th century date (see below), shows that they were occupied at the same time as the earliest midden dumping occurred on the flat below. Without a larger areal excavation it is impossible to be sure, but it seems likely that the western terrace would have supported a small whare.

Area 7

Located seaward of the gully bisecting the eastern flat, Area 7 was laid out around a cluster of large stones detected by probing. These proved to be the collapsed remains of a chimney, the surviving base of which stood only one or two courses high (Figure 26). Four layers were identified (Figure 27).
Layer 1 was a brown clayey loam which reached depths of up to 15 cm. Scattered artefacts, mammal bones and shells were encountered immediately under the turf.

Layer 2 yellow-grey silty clay that encroached into the eastern squares (S100-3/E39-40) where it ended abruptly at the outer edge of the chimney base. It contained a small number of artefacts and bones.

Layer 3 was grey-brown grey-brown clayey loam. Within the fireplace (layer 3a) it was notable that there was only a small pocket of ash and little charcoal, but numerous artefacts and bones. These were even more common on the floor (layer 3b) which was up to 25 cm deep and compact. A section of this (S100-1/E37) was excavated in eight 2 cm spits which showed that bones and artefacts occurred throughout, although almost 60% of items were found in the top 4 cm around a large firescoop (i). The perimeter of the floor was defined by four walls (see further below), and material recovered when the excavation was extended to encompass these wall lines (layer 3c) probably also derives from the floor. Northward extensions of the east and west walls form a small porch. Material recovered here, and in adjacent squares on the northern side of the house are referred to as layer 3d. A series of scoops in the floor and porch are referred to collectively as layer 3e. Features i to iii were clearly firescoops, and each had been used at a different time during the formation of layer 3. Feature iv may have been a posthole. A small number of artefacts and bones were also recovered from outside the southeastern side of the hut (layer 3f).

Layer 4 was a hard yellow clay.

The structure excavated here was the most complete hut located at Te Hoe, and measured 3 x 3.9 m. Its walls were formed of upright timber slabs set about 50 cm into the ground (Figure 28). These ranged in breadth from about 20 to 95 cm, and most of the gaps in the wall lines are likely to be where slabs were removed or dislodged. The largest gap of about 1 m in the northern wall probably forms the doorway. Window glass and nails were relatively scarce, suggesting only limited use of exotic building materials. The building appears to have been used, or reused over a considerable period of time with
artefact deposition and firescoop digging occurring throughout the buildup of a deep floor deposit. Both the limited evidence for burning in the fireplace, coupled with the presence of firescoops in the floor suggest that for much of its life this hut was used in a traditional Maori manner.

Figure 28 Timber slabs forming south wall of Area 7 hut

Area 8

Area 8 was located near the middle of the north flat where the low beach ridge slopes gently into a swale. Attention was drawn here initially by a cluster of large stones just below the surface but the excavation of 24 m² around these showed that did not form a structure, and that the cluster had probably accumulated relatively recently. Deeper excavation along the S46 row revealed evidence of former occupation (Figure 29).
Layer 1 was a thin turf of yellow-brown sandy loam.

Layer 2 was a grey sand. It varied from light grey (layer 2a) through to dark grey (layer 2c) and in squares E4, E8-10 and E12 contained charcoal, mammal bones, some shells and metal items (layer 2b).

Layer 3 was a mudstone rubble comprised of broken boulders, gravel and loose sand. It is deepest at the seaward end, thinning out completely once into the swale, and in E2 (Figure 30) and E4 two distinct deposits (layer 3a, 3c) are separated by a band of clean yellow-grey sand (layer 3b).

Layer 4 was a compact sandy clay soil with charcoal and animal remains and occasional metal and ceramic artefacts. This formed a thin band (layer 4a) in the seaward squares (E2-6), but was deeper (layer 4b) filling scoops and hollows in the underlying surface further inland.

Layer 5 was a compact yellow silt, layer 6, a body of sand, stone and gravel, and layer 7 sand gravel and mudstone rubble.
These lower layers suggest that prior to human occupation there had been some ponding of water in a swale behind the beach ridge formed of mudstone rubble, presumably eroded from the adjacent cliffs and thrown up by the sea. Two such dumping events, probably closely spaced formed layer 3, burying an occupation surface that contained a piece of blue transfer printed tea cup, a clay pipe stem and some iron nails, which at this site makes it unlikely to be older than 1840. Tidal disturbances of sufficient magnitude to produce this dumping were recorded in Hawkes Bay on 6 August 1858, 15 August 1868, and 10-11 May 1877 (Hawkes Bay Herald 14 Aug 1858:2, 18 Aug 1868:2, 15 May:2). Newspapers were not being produced in Hawkes Bay at the time of major earthquakes in the lower Wairau valley (15 October 1848) and West Wairarapa (23 January 1855), which are likely to have produced similar effects (de Lang and Healy 1986: 122). It is also possible that violent storms might have overwhelmed the Te Hoe beach front, but whatever the cause, abandonment relatively early in the historic period occupation seems likely. The bulk of the assemblage recovered from this area derived from layer 2 and does not appear to be in primary deposition.

Area 9

The northern end of the north flat was tested by turfing a 30 m² rectangle around a loose cluster of surface boulders which proved not to form any recognisable structure. Beneath the turf were some sheep bones and a large patch of charcoal stained sand. A test pit quickly demonstrated that this was a pit in which mid to late 20th century rubbish had been burned (Figure 31). Test pits in two corners showed that the pit had been dug into a sterile grey sand on mudstone rubble and boulders. No artefacts or fauna were recovered.

Figure 31  Area 9: plan (above) and profile (below)
Area 10

The final excavation was opened near the middle of the south flat, around a rectangular cluster of stones just evident through the turf. These proved to be a chimney base, differing from all others on the site in having stone laid across the entire hearth within the chimney walls (Figure 32). Four layers were identified.

*Layer 1* was a shallow turf and grey-brown loam with scattered artefacts and bones.

*Layer 2* was a lighter brown soil, mixed with charcoal and ash within the fireplace (*layer 2a*), and comacted into a distinct floor in front of the fireplace (*layer 2b*). Most artefacts were recovered on or within this layer, including an 1891 silver shilling in square S127/E12.

*Layer 3* was a mottled yellow-brown soil, lying on mudstone rubble (*layer 4*).

The limited area excavated here make it impossible to determine the size or form of the structure that once stood here, although the size of the chimney and presence of a clay floor both suggest a small hut like those in Areas 3, 5 and 7. No window glass was recovered and nails, although moderately common, were mostly found in the fireplace so were probably introduced with fuel.

![Figure 32](image-url)  
*Figure 32*  Area 10: plan (above) and profile (below)
Radiocarbon Dates and Pre-European Occupation

Seven samples from suspected pre-European contexts were submitted for radiocarbon dating (Table 1). The contexts from which these derived were noted in the relevant sections of the foregoing discussion. All were either tuatua (18077-78, 18080-81) or cockle (18079, 18082-83) and were analysed by standard procedures at the Waikato Radiocarbon Laboratory. Calibrated results (Figure 33) show five determinations peaking close together in the 15th century AD. Wk 18079 overlaps with these but may suggest a 16th century date, while Wk 18083 is most likely to be from the 17th century or later. This places the lower layers of occupation in Areas 1, 2 and 3 along with the use of Area 6 within the 15th century. As noted earlier there is stratigraphic evidence for abandonment of Area 2 before the reoccupation represented by layer 2, which is consistent with a 16th century date from the bottom of this layer and a 17th or 18th century date for the top. When this occupation ceased is not clear because the uppermost component of this deposit was clearly disturbed by 19th century activities.

Table 1  Radiocarbon Dates from Te Hoe

<table>
<thead>
<tr>
<th>Context</th>
<th>Wk No</th>
<th>CRA (BP)</th>
<th>Cal AD 1σ</th>
<th>Cal AD 2σ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area 2 L2a (spit 1 of midden with glass/metal)</td>
<td>18083</td>
<td>617±35</td>
<td>1620–1770</td>
<td>1530–1842</td>
</tr>
<tr>
<td>Area 2 L2b (spit 2 of midden with glass/metal)</td>
<td>18079</td>
<td>776±35</td>
<td>1466–1588</td>
<td>1446–1652</td>
</tr>
<tr>
<td>Area 2 L4a (spit 1 of midden with no glass/metal)</td>
<td>18082</td>
<td>831±35</td>
<td>1436–1528</td>
<td>1404–1626</td>
</tr>
<tr>
<td>Area 6 L2 (midden on terrace)</td>
<td>18081</td>
<td>829±36</td>
<td>1436–1530</td>
<td>1405–1630</td>
</tr>
<tr>
<td>Area 1 L2a (near top of deep shell midden)</td>
<td>18077</td>
<td>836±31</td>
<td>1436–1522</td>
<td>1401–1620</td>
</tr>
<tr>
<td>Area 1 L2a (near base of deep shell midden)</td>
<td>18078</td>
<td>882±32</td>
<td>1406–1490</td>
<td>1334–1530</td>
</tr>
<tr>
<td>Area 3 L3 (shell midden below fireplace)</td>
<td>18080</td>
<td>927±35</td>
<td>1353–1374</td>
<td>1314–1489</td>
</tr>
</tbody>
</table>

Note: Calibration by OxCal v4.0.5 (Bronk Ramsay 2007); marine calibration data from Hughen et al. (2004); Delta R = -7±45

Figure 33  Calibrated Radiocarbon dates
Although our excavations only sampled these earlier horizons, they suggest a small hamlet of one to three houses, along with storage facilities which in turn imply gardening in the near vicinity. Food preparation and perhaps also cooking, appear to have been concentrated on the flat below the terrace, and as the analysis of faunal remains shows, the marine environments provided most of the animal food (James-Lee 2006).

19th Century Occupation

With the only possible 19th century depiction of the Te Hoe settlement being three structures shown on the 1857 Admiralty chart, it is clear the reconstruction of settlement there relies almost entirely upon field archaeology. This shows that there were at least three tryworks constructed in Areas 1 and 4 at the southwestern corner of the beach flat adjacent to a ramp likely to have served for hauling up whale boats (Figure 34). These were constructed in at least two as the largest tryworks was built over remnants of a smaller example, indicating continuity in the concentration of industrial activity in this part of the site.

More than one phase of 19th century occupation is also indicated nearby in Area 2 where the large house on piles was built over a layer (2a) with historic historic period artefacts and fauna mixed into the top of the prehistoric midden. Two phases are also apparent in Area 8, where initial occupation was buried by storm debris, perhaps in the middle decades of the 19th century. Unfortunately the evidence of later occupation here is in a disturbed context. Undisturbed evidence of small huts was located in Areas 3, 5, 7 and 10, and chimney mounds likely to be from similar structures were the most common form of field evidence at Te Hoe. Prickett’s original survey located another, now destroyed by erosion and buried in driftwood below the northwest corner of the south flat. In 2005 we recorded two further examples on the seaward edge the eastern flat, and on the small terrace inland of the north flat. The land owner also reported that in the mid 20th century further piles of stones could seen on the higher inland terrace now obscured by cutty grass.

These observations suggest that there were a substantial number of dwellings at Te Hoe. Detailed consideration of how many of the excavated huts might have been occupied at any one time will follow analysis of the artefact assemblages, but as already noted, there was an 1891 coin on the floor of the Area 10 hut, showing that occupation continued until at least the end of the 19th century.

Figure 34 A ramp, presumably used for hauling up whale boats, can be seen just beyond the Area 4 tryworks
References

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