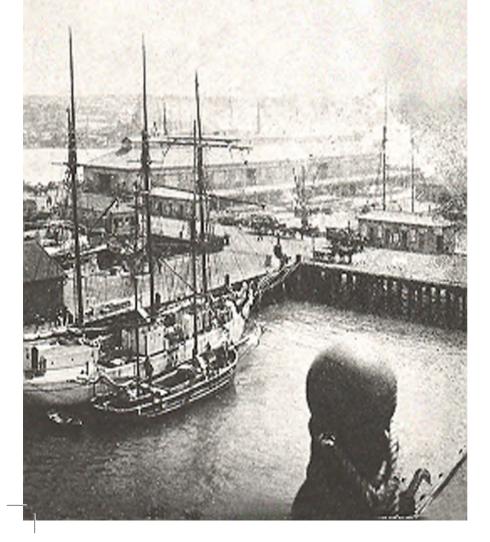


Clough and Associates Monograph Series

no. **5**

INVESTIGATIONS AT McGREGORS BAY, WHANGAREI HEADS

Final Report in Fulfilment of NZHPT Authority No. 2003/143



Prepared for K. & M. Vinson, 2008.

by

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INTRODUCTION

Project Background

The Vinson family farm at McGregors Bay, Whangarei Heads, has been subdivided. An earlier assessment of the property by Bruce (2002) identified several archaeological sites on the property, some features of which had the potential to be affected by earthworks for the subdivision (Figure 1-Figure 4). An Authority to modify part of a midden/oven site Q07/800 (feature g) and any unrecorded sites exposed during development was granted by the New Zealand Historic Places Trust (HPT) in December 2003 (2003/143). The Authority required the preparation of an Investigation Strategy, subsequently prepared by Bruce (2003), in which it was noted that another site (terrace/midden Q07/797) might be affected by the development of Lot 4.

Clough & Associates were later asked to carry out the archaeological investigation, which took place in October 2005. It was agreed by the HPT that site Q07/797 would be investigated under the original Authority. This report presents the final results of the archaeological investigation of sites Q07/800g, Q07/797, and several previously unrecorded midden exposed by earthworks (considered to be part of sites Q07/800 and Q07/798).

Archaeological Investigation Objectives

Bruce's assessment and investigation strategy (2002, 2003) proposed the archaeological investigation of two knolls on the property (Figure 3). Site Q07/800 included a number of coastal midden and ovens eroding below a knoll where other scatters of midden had been identified. Bruce (2002) argued that a small flattened area on the knoll might represent a habitation area (Area g) and that this would require investigation. A neighbouring knoll, including possible terracing (Q07/797) was also investigated, although Bruce (2003) felt that the features were not particularly secure. In addition to these main areas, earthworks along the main access ways to these sites were monitored and archaeological features identified were investigated.

The coastal aspect of the sites and the types of features identified by the assessment suggested the following major research objectives for archaeological investigation on the Vinson Farm:

- Economic and other activities carried out by the area's inhabitants.
- Age of the sites.
- Internal layout of the sites including the activities within sites and in relation to sites nearby.
- Relationships with other sites in the wider area.

As Bruce (2002, 2003) indicated, archaeological investigation of the sites could potentially provide useful data for understanding the use of the pre-European landscape by local Maori.

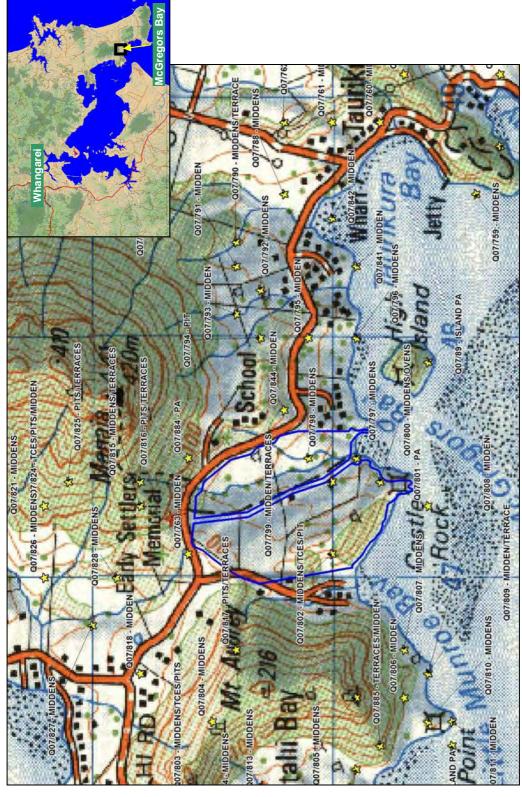
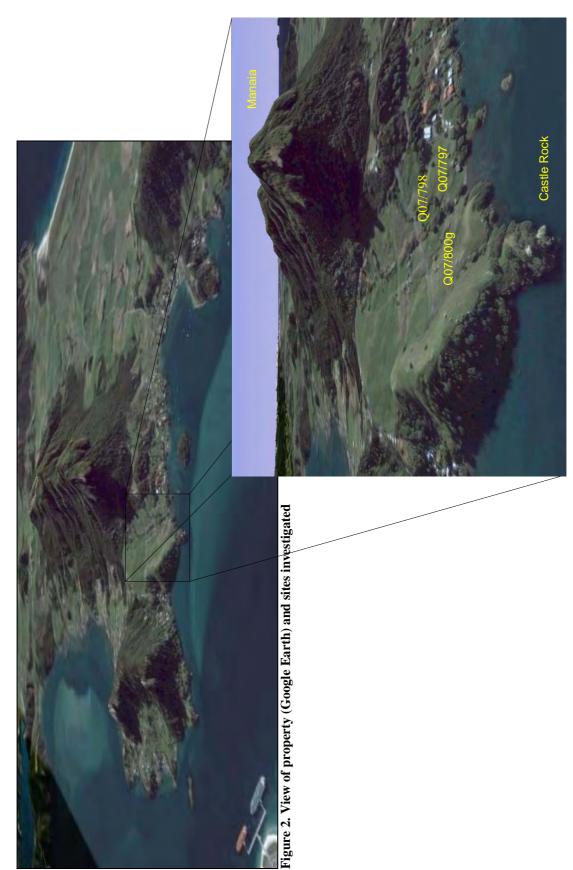


Figure 1. Plan of project area and previously recorded archaeological sites (source: CINZAS 2008)

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McGregors Bay, Whangarei Heads

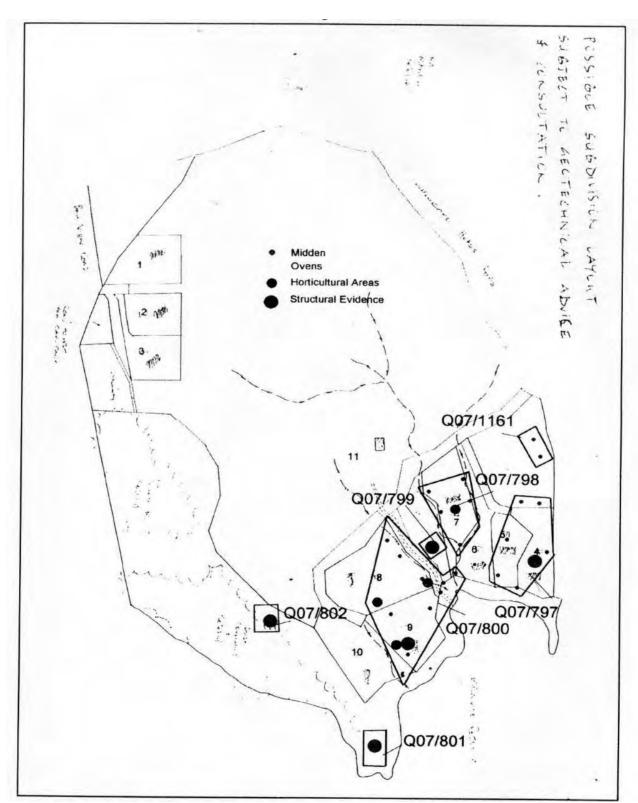


Figure 3. Plan of archaeological sites from Bruce 2002: Figure 2

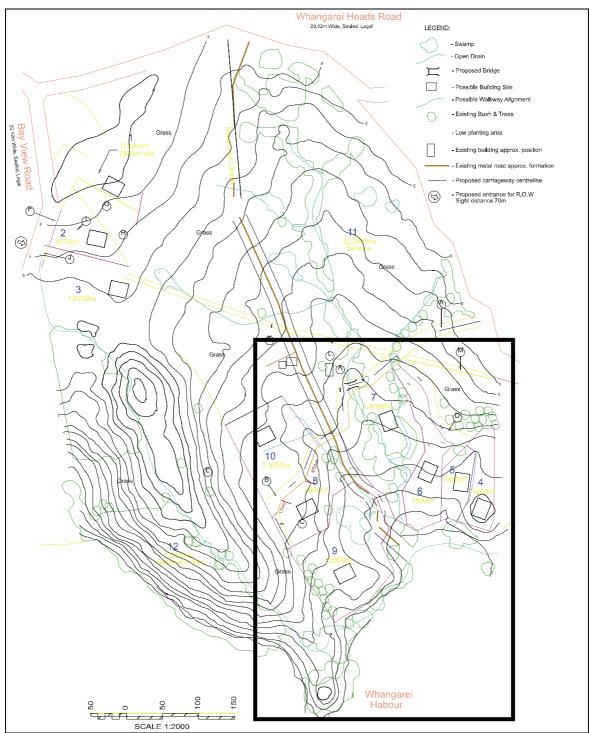


Figure 4. Plan of project area showing building plans (Courtesy Reyburn and Bryant Ltd). For inset area see Figure 13

BACKGROUND

Historical¹ Background

Various hapu of the Ngapuhi tribe have long been the tangata whenua of the greater Northland area, including Whangarei. The ample marine and freshwater resources available as well as the temperate climate meant that Whangarei was an attractive place to live. However, the positioning of Whangarei at the southernmost boundary of Nga Puhi tribal land meant that it was a focal point of retaliatory attacks from southern tribes seeking revenge on Nga Puhi (Pickmere 1986:4).

In 1820, at the beginning of the musket wars period, Reverend Samuel Marsden made an intrepid journey down the Whangarei Harbour accompanied by a Maori party. Marsden reported that everyday life in the area had already been disrupted, with villages attacked and people living in fear (Pickmere 1986:7).

In late 1821 or early 1822 Nga Puhi were defeated at Raho-ngaua pa, located at the eastern side of the entrance to Parua Bay (Figure 6). The pa was attacked by 'an invading party of Waikato and Ngati-Paoa warriors' (Pickmere 1986:4; Stephenson 1910). An 1823 observation of Whangarei by a party of missionaries noted that plundering and fighting in the area had led most inhabitants to flee the coast in favour of inland protection (Pickmere 1986:9).

Whangarei was to become the meeting place of northern war parties travelling further south during this period of intertribal wars. One tradition suggests that these gatherings gave Whangarei its name, which literally means 'swimming place of the whales' but can be translated as 'the meeting place of the chiefs' (Pickmere 1986:3). The end of the intertribal wars was brought about during the 1830s by two factors – constant war was exhausting the tribes, and the influence of missionaries was increasing (Pickmere 1986:13). Subsequently the coastal areas of Whangarei were repopulated with Maori returning to their tribal lands – not, however, to the fortified pa sites but to coastal kainga on the shores of the harbour (Pickmere 1986:14). William Colenso marked the location of a number of villages in the area (see Figure 7).

While Russell in the Bay of Islands had become a bustling whale port by 1838 with numerous hotels, grog shops, and billiard saloons, Whangarei's first permanent European settler, William Carruth, did not arrive until 1839 (Pickmere 1986:19). By 1842 there were still only seven families of settlers living in Whangarei (Pickmere 1986:37). Resentment and disillusionment towards the Government had been growing among Maori since the signing of the Treaty of Waitangi, and when word of an attack on settlers in Russell reached settlers in Whangarei they left their homes and sailed for Auckland. For several years there were no Europeans living in the area.

¹ Largely extracted from Judge & Clough Jul. 2006.

Historical Background, continued

The Whangarei Heads peninsula was originally purchased by Gilbert Mair from a chief named Te Tao in 1839. The sale was not without its complications, with Te Tirarau, the paramount chief of the region, putting in a claim on the land. Over 20 years later, with the review of Old Land Claims, the settlement was finalised and the Government awarded Mair only 414 acres of the original 10,000. However, by this time, Mair had transferred all interests in the Whangarei Heads block to John Logan Campbell, who continued to fight for the original claim. During the 1850s Whangarei Heads was settled by a group of Nova Scotians (Pickmere 1986:26-27), and many of the old family names were still present on maps dating to the 1930s (Figure 8, Figure 9). The Whangarei Heads was progressively converted to farmland. Road access appears to have been in place or at least planned by 1924 (Figure 10).

Physical Landscape

Manaia dominates the backdrop to the property and is a prominent reminder of a volcanic past, the land dropping steeply from its summit (Figure 2). The property itself has gentler contours with smaller ridges running down towards the water into the small bay. Boulders stand out dramatically across the property, a further reminder of the volcanic origin of the land mass. With access to the rich marine resources in the sheltered bay, and easy access to the main sea routes along the coast – and those farther inland in the Harbour – the area remains a desirable settlement location.

Castle Rock rises up at the western edge of the property, and its traditional name is recorded as 'Whangarei'. Another tradition² suggests that the name Whangarei derives from 'whanga', to wait, and 'rei', to ambush; and the archaeological sites here are strategically located at the narrowing of the harbour, an appropriate place for sentries to keep watch over the harbour approaches.

A stream flows down the central valley to the sea providing a fresh water source.

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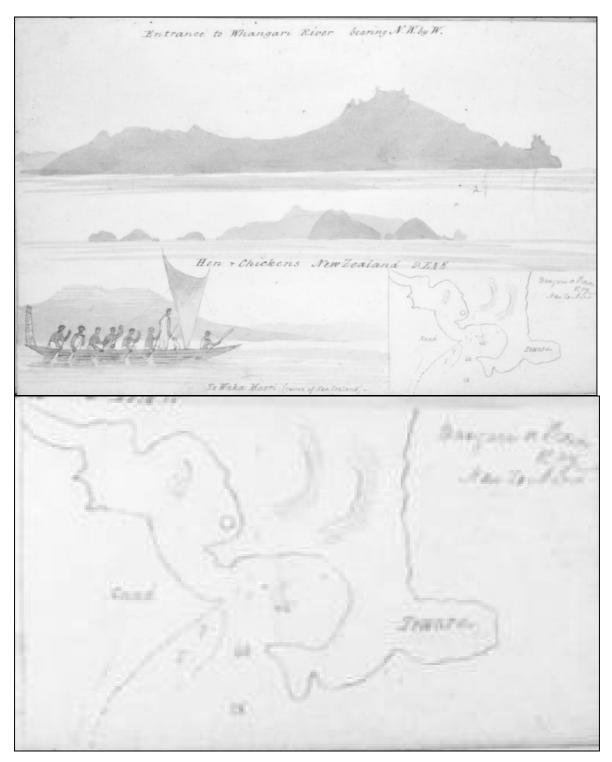


Figure 5. View of the Entrance to Whangarei River (1842)
Entrance to Whangari River, bearing NW by W; Hen and Chickens, New Zealand..., Te Waka Maori (canoe of New Zealand); Wangari or Bream Bay, New Zealand.1842. Reference number: MS-0104-071
http://digital.natlib.govt.nz/get/22590?profile=access

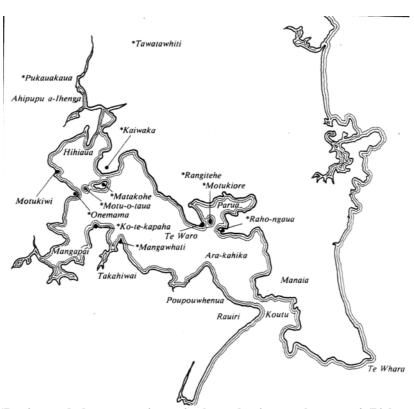


Figure 6. 'Pa sites and place names in use in the early nineteenth century' (Pickmere 1986:5)

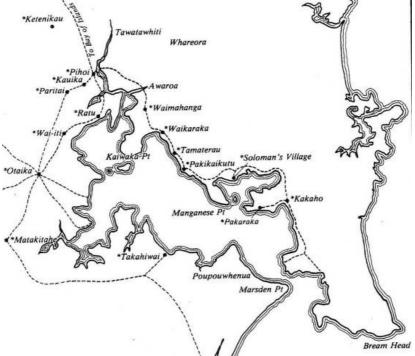


Figure 7. 19th century kainga (Pickmere 1986:14)



Figure 8. Part of Roll 56 (date unknown)

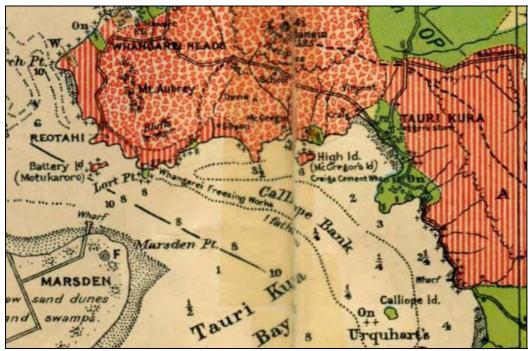


Figure 9. From Geological Map of Whangarei Heads area (Ferrar et al. 1934)

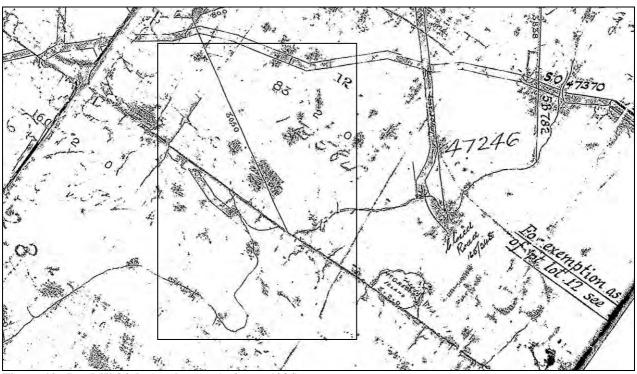


Figure 10. Deed W 34 date unknown (prior to 1924)

Archaeological Landscape

The coastal Whangarei Heads areas have extensive evidence of pre-European Maori occupation, with a range of features including pits, terraces, shell midden, cultivation sites and pa (Figure 1, Figure 11). The density of occupation in the Whangarei area was the result of a combination of factors that favoured settlement – access to both marine and freshwater resources, fertile soils, access to water transport routes, and areas of high altitude for the strategic siting of defensive sites with views out over the Harbour and the approaches to it.

Previous archaeological work in the area has included an intensive field study of the Whangarei Harbour area for the Northland Harbour Board by Nevin in 1984. In 2006 the NZAA Site Upgrade Project covered the Whangarei region, updating the records of many previously recorded archaeological sites.

Numerous small scale field surveys have also been undertaken as part of resource consent assessments. Recent surveys include: an assessment of an 8ha block at McLeods Bay (Prince 2004b), a 19.5ha block at Taurikura Bay (Baquié & Clough 2006), a 20ha block at Taiharuru (Prince & Clough 2004), an 8ha block at Tamaterau (Judge & Clough Nov. 2006b), and properties at Parua Bay (Clough 2006; Judge & Clough Jul. 2006) and Urquharts Bay (Judge & Clough 2006b). However, increasing subdivision pressure in the area means that this only a sample of the work now being carried out in the region.

Bruce's (2002) survey had re-identified the recorded sites on the Vinson property (see Figure 3), which comprised 7 sites and a range of features including house sites, defended sites, horticultural systems, kumara pits and extensive midden deposits. The sites included a medium-size pa just to the west of the area under investigation. The pa site at Castle Rock, Q07/801, is a single ditch pa with views across the harbour (Figure 12). Small terraces probably provided small living platforms, and midden is dispersed along the slopes. In fact, middens are found in a number of places across the property with thick middens eroding from the banks above the beach. Another small pa is present nearby in the small island in the harbour (High Island, previously McGregor's Island, see Figure 1 and Figure 9). Pipi shell dominates the midden sites identified, in contrast to the cockle middens identified on the opposite side of the harbour at One Tree Point (see e.g., Phillips and Harlow 2001; Bickler *et al.* 2007; Plowman *et al.* 2008).

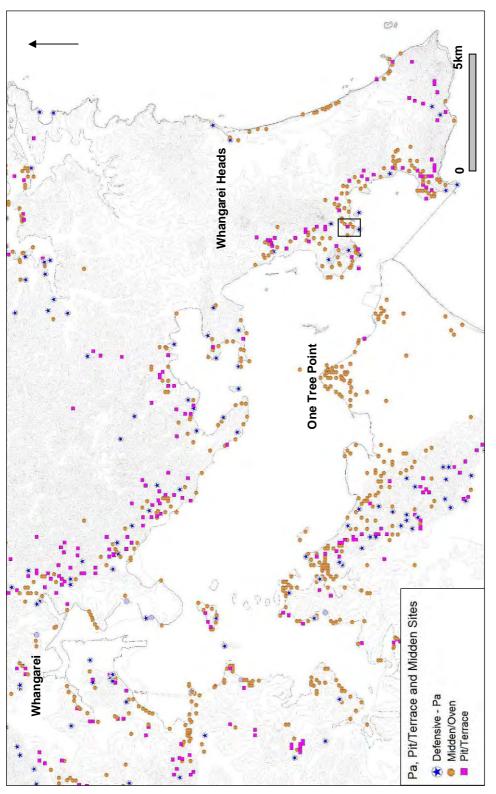


Figure 11. Map of recorded pa, midden and pit/terrace sites in the Whangarei Harbour area (source data CINZAS 2008)

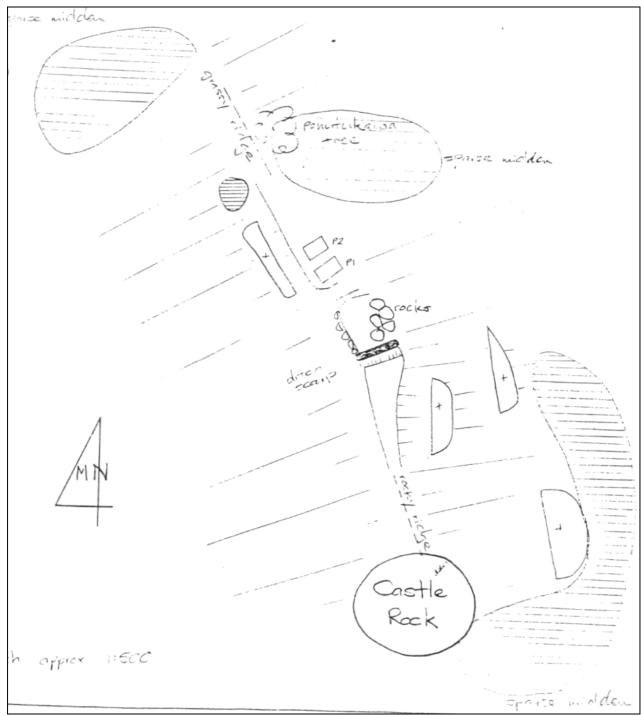


Figure 12. Map of pa site Q07/801 (by G. Nevin, from the site record form, 1983)

EXCAVATION RESULTS

Excavation

The previously recorded extents of pa site Q07/801, a midden/terrace/pit site (Q07/802), a midden/terrace site (Q07/799) and two midden sites (Q07/1161 and 798) were avoided by the subdivision. Most of the features of site Q07/800 (midden/ovens) were also avoided, but a knoll with the potential for occupation (Q07/800g) was affected, as was midden site Q07/797. These areas were the main focus of the investigation.

Excavation was carried out during 7–9 November 2005. The project area was divided into two main areas: Area A to the east (Figure 13, Figure 25) and Area B (Figure 13, Figure 26) to the west. Mechanical excavators were used to clear the main access ways from the main road across the properties to the various allotments. Monitoring of the topsoil removal was carried out and features uncovered were investigated. The results (Figure 13, Table 1) are summarised below:

- **Area A**: Four areas (A1-A4) of shell midden scatter were identified in this zone and were investigated. As Q07/798 was the nearest site recorded in this area, the shell was classified as part of this site and the Site Record Form (Appended) updated. Site Q07/797 located in Lot 4 was also investigated, and more midden scatters were identified here than originally reported.
- **Area B** (Q07/800): Five areas (B1-B5) of shell midden scatter were identified in this zone and were investigated. These were considered part of Q07/800. Area Q07/800g was also investigated, but no archaeological features were identified.

Site	Area excavated	Easting	Northing
Q07/797	Lot 4	2647596	6595937
Q07/798	A1	2647559	6596199
	A2	2647504	6596157
	A3	2647521	6596082
	A4	2647463	6596144
Q07/800	Q07/800g	2647427	6595853
	B1	2647388	6595869
	B2	2647353	6595892
	B3	2647348	6595894
	B4	2647276	6596003
	B5	2647298	6595938

Table 1. Location of main features excavated

Q07/797 (Lot 4)

This location was identified as a possible archaeological site in 1983 (see Bruce 2002 for further details). Shell midden was clearly visible on the side of headland with some possible terraces, suggesting potential for a habitation site. A series of trenches was excavated by digger, running along the ridge and headland, in an attempt to identify possible archaeological deposits on the site (Figure 22). Within this area only a small 2m x 2m concentration of shell midden was identified in Trench 5 with a depth of 2cm (Figure 23, Figure 24). This deposit comprised mainly fragmented and whole pipi within a clean matrix. Shell scattered in Trench 2 and 3 no longer represented intact deposits.

A1 (Q07/798)

This site was located on a southwest facing slump terrace below the main road (Figure 13). A number of other small scattered shell deposits (Figure 14) were present nearby.

The main concentration was a scatter of midden 7m x 5m (Figure 15). The material had a clean matrix with very little charcoal. No hangi were identified. This site, however, appeared not to have been ploughed. The midden was predominantly large pipi; some other species were present, but were not as abundant. The midden was mostly shallow (2-5cm) but in some locations it was up to 15cm deep. Samples were collected from features 1-4. A fine scattering of charcoal was present over some of the area exposed by the road, but this seemed to be related to bush clearance in the 19th century. A possible grinding stone was also noted (Figure 16).

A2 (Q07/798)

This site was located on a southwest facing terrace (Figure 13). It consisted of a small thin scatter of shell (Figure 17). The core area was a deposit about 1.4m x 0.8m x 0.05cm deep, from which a sample was taken. Pipi, cockle and some fine charcoal were identified, with no ash found in the clean matrix.

A3 (Q07/798)

This site consisted of a smear of shell roughly 15m x 4m on the southwest side of a small knoll of a ridge running south into McGregors Bay (Figure 18). A sample of shell was collected from the surface of the deposit after the topsoil had been stripped (Figure 19). A test pit dug into the deposit revealed that this site was totally unlike any of the other sites excavated in Area A in that its depth was considerably greater than 5-10cm (Figure 20). The test pit was terminated at a depth of 50cm and the extent of the deposit was then explored. Investigation revealed a hard back edge to the deposit. No firm edge at the front (downslope, to the southwest) could be identified. Within this deposit was whole, and quite large, pipi with a mostly clean fill containing some charcoal.

It was decided to examine the extent of this deposit using a mechanical excavator, and two trenches were cut. These trenches were excavated in a series of spits down through the deposit. The first of the trenches was located in the area of the test pit – roughly the centre of the deposit. Excavation revealed a maximum depth of 70cm for the shell, and that it overlay another 2-5cm of soil above a clay base. This area also showed a cut at the back edge of the deposit. The distance from the cut edge to the front of the mixed fill in this location was 2.5m. The solid shell deposit ended at around 70cm depth. Throughout the excavation of the shell deposit a quantity of charcoal was observed within the matrix and a sample was collected (at a depth of 60cm).

The second of the trenches was placed near the southeast edge of the deposit and revealed a thin area of shell with a shell and soil fill. The deposit thinned out over an area of just 1m with a maximum depth of 40 cm. It was hard to discern any evidence of a cut edge within this trench.

Following an examination of the fill it was considered that this deposit may have represented the infilling of a terrace. To establish whether or not this was the case an area to the southwest of the shell deposit was taken down in spits to the level of the clay. Only very thin topsoil was found in this area, which was not level, sloped to the southwest and had no evidence of filling at the southwestern edge of the area. No features were identified within either the topsoil or at the level of the clay.

A4 (Q07/798)

This site consisted of a circular mound of shell and rock measuring 3m x 3m. This was located on the small central ridge line running south between the two streams (Figure 21). A sample of the shell material and matrix was collected from the top of the deposit following the initial exposure of the extent of the site. This deposit was half sectioned. The eastern side was removed in a series of four spits by the digger. This revealed that the majority of the rock within the deposit was near the top. The deposit had a maximum depth of 40cm. No hangi pits or any other features were identified either within the deposit or in the surrounding area. A second sample was collected from near the base of the deposit but was similar to that from the top. The deposit consisted of pipi and tuatua shells within a soil/clay matrix with a quantity of the local rock interspersed. No charcoal was identified.

Q07/800g

The knoll identified by Bruce (2002) as a possible house site was stripped using a digger (Figure 27), but no archaeological features were identified. A trench was excavated more deeply, but with no further results (Figure 28). Small obsidian flakes and a core (Figure 29 and Figure 30) were found in the topsoil which suggested the possibility that the knoll may have been occupied in the past. If so, it appears that ploughing has destroyed any structural features that may once have been present.

B1 (Q07/800)

After stripping the area of Q07/800g (see above), a driveway was excavated up towards the western boundary of the proposed allotment to join up with main access way for the properties (Figure 13). A thin scatter of shell was found in the saddle of the spur about 30m west of Q07/800g (Figure 31) with a concentration of large pipi visible along the northern slope. It was considered likely that ploughing had destroyed any structural features that may once have been present.

B2 (O07/800)

This small concentration of pipi midden was found around a large boulder along the proposed driveway (Figure 33). The pipi appeared to have fallen around the rock and no structural features were identified.

B3 (Q07/800)

This concentration of large pipi shell was found 5m to the west of area B2 (Figure 13) and appeared to have been deposited from a single processing event (Figure 34). The concentration was about 1m x 2m and up to 15cm thick in places (Figure 35). It is likely that this material, along with other shell scatters around the upper knoll on the spur (not excavated) represented a cooking zone for nearby living areas (Q07/802).

B4 (Q07/800)

This site consisted of a scatter of mainly tuatua shell over an area of c.3m x 4m (Figure 13, Figure 36). No intact features were identified.

B5 (Q07/800)

This site consisted of an irregular oval shaped shell deposit extending over an area measuring 11m x 10m (Figure 37). Two core areas were identified within this, measuring 6m x 6m and 6m x 3m (Figure 38). A machine trench was excavated near the northern edge of the deposit (running roughly SW to NE) over about 12m, and the material was removed in two spits. This trench revealed the site to be between 2cm and 7cm deep within the core areas and no more than a fine scattering of shell outside them. The deposit consisted mainly of whole and fragmented tuatua shell, within a clean soil matrix. No charcoal was identified.

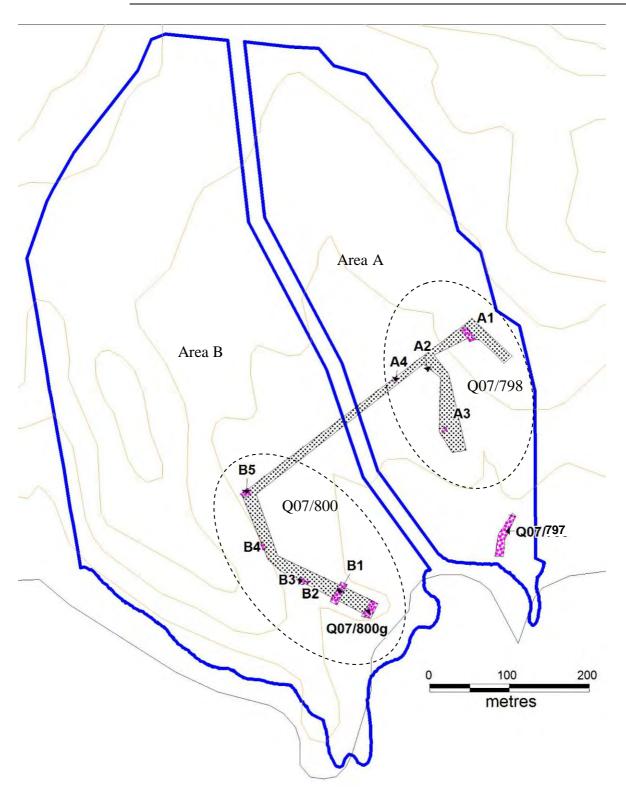


Figure 13. View of main tracks cleared and archaeological areas investigated (pink)

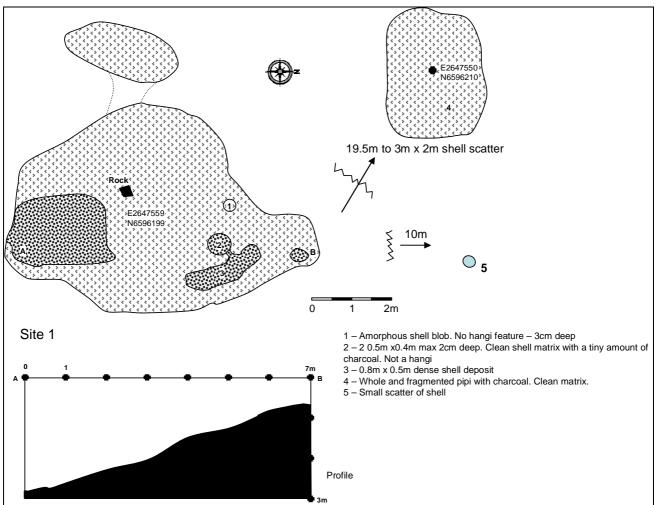


Figure 14. Plan of Area A1



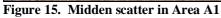




Figure 16. Possible grinding slab

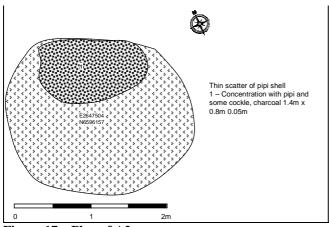




Figure 17. Plan of A2

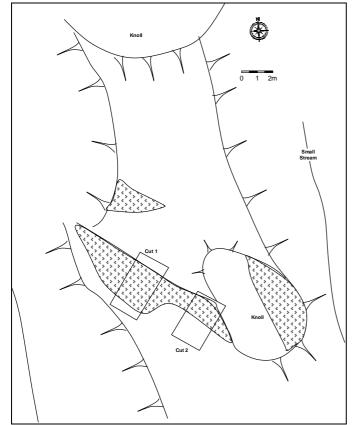


Figure 18. Plan of A3



Figure 19. View S from the N side of A3



Figure 20. View NE of cut 1 into A3 showing midden depth

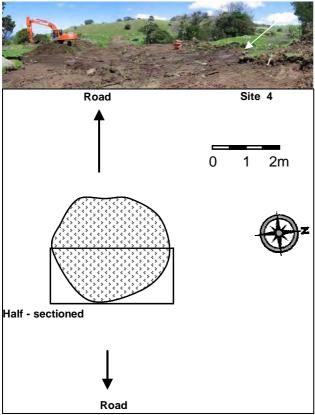


Figure 21. New site A4

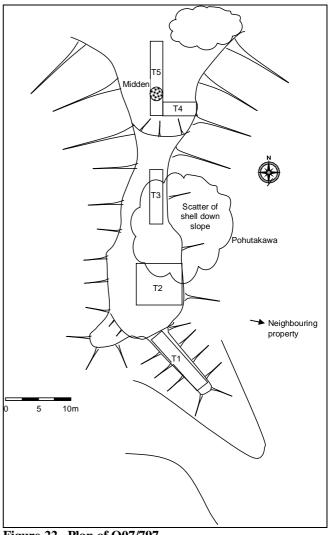


Figure 22. Plan of Q07/797



Figure 23. View S to S edge of Lot 4



Figure 24. View E Lot 4 trench 2 southern end



Figure 25. View of Area A



Figure 26. View of Area B and Q07/800g



Figure 27. Looking along spur towards area of Q07/800g



Figure 28. Trench through Q07/800g



Figure 29. Obsidian flakes and core found on site Q07/800g (front)



Figure 30. Obsidian flakes and core found on site Q07/800g (back)



Figure 32. Area B1



Figure 33. Area B2



Figure 35. Section through B3



Figure 34. Area B3



Figure 36. Area B4



Figure 37. Area B5

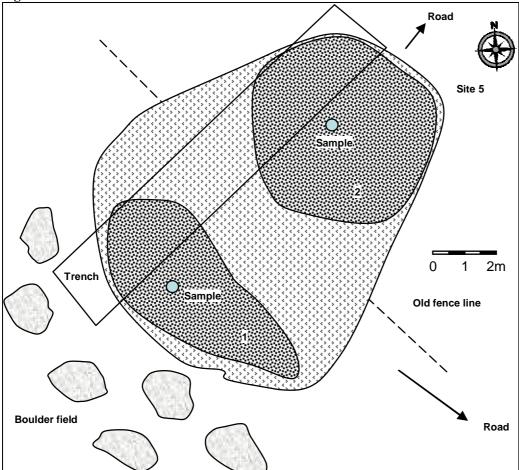


Figure 38. Plan of Area B5

ANALYSIS

Analysis of Midden

Twelve samples of midden material were submitted for analysis from the Vinson property at Whangarei Heads (Table 2). The samples submitted for analysis recovered from Q07/798 area A1 were from two features and one concentration of midden deposition. Samples from other areas were taken from the main concentrations as there were few features in these areas. The samples were analysed to obtain identification of species and minimum number of individuals.

All midden samples were sieved through a 2mm screen enabling the bulk of soil to be removed. Diagnostic portions of shellfish were then separated into individual species and counted to obtain MNI. The diagnostic portion of bivalves focused on hinges, which were counted in total and divided by two to obtain a minimum number for each species. No faunal material such as fish, bird, or mammal bone was recovered from any of the samples submitted for analysis. Once diagnostic material had been collected the remaining material was floated to enable charcoal samples to be extracted for species identification.

Area A Q07/797

The overall shell sample from this location was small, with all species recovered from a sandy shore/mud-flat location. The single example of *Crepidula costata*, or ribbed slipper shell, had probably attached itself to one of the larger *Paphies australis* (pipi) shells (n=12).

Q07/798

The midden material sampled from the four new midden in area A was predominantly sourced from a sandy shore/ mud-flat environment, the majority of shells consisting of *Paphies australis*, pipi (n=451) and *Paphies subtriangulata*, tuatua (n=334). Rocky shore species are represented only by one possible example of *Lepsiella scobina* (oyster borer) and one *Turbo smaragdus* (cat's eye). Most of the material came from area A1.

The largest of the *Paphies australis* (pipi) shells, which dominate the samples, measured 75.70mm in length. *Paphies subtriangulata* (tuatua) is also well represented, especially in A3, where it is the dominant species, with the largest example measuring 71.92mm in length. *Austrovenus stutchburyi* (cockle) was recovered in moderate quantities from the A1 concentration, A1 Feature 2, and A2, but is poorly represented in A1 Feature 3 and in A3 and absent in A4.

ANALYSIS, CONTINUED

Area A, continued

The majority of shellfish identified in the Area A samples were sourced from sandy shore/mud-flat environments, with only *Crepidula costata* (ribbed slipper shell) commonly located in rocky shore environments; however this species may also attach itself to other shells. The presence of the three examples of *Zethalia zelandica* (wheel shell) recovered from the concentration and Feature 2 in A1, and from A3, cannot easily be explained as these species concentrate in deep water. However it is possible that these shells were washed inshore after the animal had expired.

Area B (Q07/800)

The midden from Area B was similar, with pipi and tuatua dominating and smaller quantities of other species present. All of the shell identified was extracted from a sandy shore/ mud-flat environment with *Paphies australis* (pipi) numbering the greatest (n=102). The largest example of *Paphies subtriangulata* (n=67) measured 72.35mm in length. Very few juveniles were present which suggests that shells were either deliberately selected on the basis of size, or collection occurred well after the end of the spawning season. No cockle shell was recovered from sites B1, B2, B3 and B5.

Table 2. Midden analysis: Minimum Number of Individuals

Species	Q07/797	Q07/798					Q07/800					
	Lot 4	A1-Conc	A1-Ft2	A1-F3	A2	A3	A4	B1	B2	В3	B4	B5
Austrovenus stutchburyi	4	31	25	4	17	1					4	
Paphies australis	12	74	65	188	10	95	19	17	33	46	4	2
Paphies subtriangulata		21	53	39	2	165	54	11		13	20	23
Paphies sp.												10
Cominella glandiformis	2	1				2		1			1	
Dosinia anus		3			3	3	1					
Amphibola crenata		4				1	1					
Turbo smaragdus						1						
Zethalia zelandica		1	1			1						
Crepidula costata	1	1										
Struthiolaria papulosa		1										
Lepsiella scobina?						1						
Opercula	5	2			1	1						2
Unidentified gastropod		2	2	2		1	1					
Fragmented hangi rock		7	15	16								

ANALYSIS, CONTINUED

Charcoal

Charcoal analysis was carried out by Dr Rod Wallace at the University of Auckland. The two samples (Table 3) were dominated by woody species indicating open environments or re-growth scrub vegetation. Of the remaining species, puriri tends to survive forest clearance and is still abundant in the modern landscape. While hinau or pokaka and matai are more typical of forest, they are rare in these samples. The presence of abundant kauri is out of place in the context of this assemblage. However, branches and roots of this species are very resinous and typically survive as sub-fossil wood on landscapes where the living trees have long been absent.

Table 3. Charcoal identified in midden

Name	Scientific Name	Habitat	B1	A3	Total
Akeake	Dodonaea viscosa	Shrub		1	1
Fivefinger	Pseudopanax arboreus	Shrub	3		3
Hebe	Hebe species	Shrub	1		1
Kanuka	Kunzea ericoides	Scrub	12	15	27
Kauri	Agathis australis	Conifer	5	11	16
Mahoe	Melicytus ramiflorus	Scrub		5	5
Manuka	Leptospermum scoparium	Scrub	2	2	4
Puriri	Vitex lucens	Broadleaf tree	3		3
Tutu	Coriaria arborea	Shrub	1	3	4
Shrub sp.	Unidentified Shurb	Shrub	1		1
Ngaio	Myoporum laetum	Shrub	1	7	8
Hinau/Pokaka	Elaeocarpus dentatus or hookerianus	Broadleaf tree	1		1
Matai	Prumnopitys taxifolia	Coniferous tree	1		1
Bracken	Pteridium esculentum (bracken rhizome)	Fern		1	1
Mapau	Myrsine australis	Scrub		1	1
Total			31	46	77

CHRONOLOGY

Dates

A shell sample from Area B1 in Q07/800 and was expected to date to between 1500 and 1850 AD as the midden sites appeared to relate to later Maori occupation rather than early 'Archaic' sites (see below). The results of the radiocarbon age determination are shown in Table 4 and provide a date range between 1465-1530AD (at 1σ) (Figure 39), i.e. during the 15th or early 16th centuries. This is a bit earlier than expected but not dramatically so.

Table 4. Samples sent for Radiocarbon dating

Label	Sample	Material	Raw	Error	Curve	-2σ	-1σ	+1σ	+2σ
Q07/800 B1	Wk20566	Shell	720	35	Marine	1450	1470	1555	1630

Comparison with Other Sites

A number of other radiocarbon dates have been obtained during previous fieldwork on sites at One Tree Point (Phillips and Harlow 2001; Bickler *et al.* 2007; Campbell 2006) and Takahiwai (Harlow *et al.* 2007) on the opposite side of the harbour. These dates are illustrated with that from Q07/800 B1 in Figure 40. Another date from Jones *et al.* (2002) for a site at Pataua South (north of the current project area) is also included (Q07/17-1002).

The MacGregor's Bay site dates to what is generally referred to as the 'Classic' Maori Period, but at the earlier end of this period when compared with the dates from other sites. Classic Period sites are distinct from the earlier 'Archaic' sites, which generally have a wider range of artefact material present in deposits.

The middens investigated on the Vinson farm generally appear to represent relatively short term occupations with no significant internal stratification. They are similar to the smaller midden sites found throughout the region, although they lack the internal complexity of features found at the larger sites on the other side of the harbour at One Tree Point (Phillips and Harlow (2001) and cannot compare with the scale of shellfish processing described at Omaha Beach (Campbell *et al.* 2004; Bickler *et al.* 2003).

The shell concentrations more likely relate to small cooking areas located away from the main habitation areas such as the nearby pa (Q07/801) and the terrace/pit site Q07/802, but as the one radiocarbon date submitted was earlier than we would expect from the pa itself, it is possible this area was used as a small encampment with temporary shelters nearby.

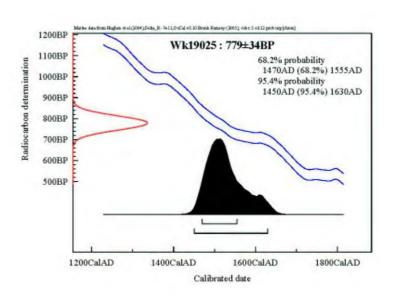


Figure 39. Calibrated radiocarbon dates from Q07/800 Area B1

Calibrated Dates

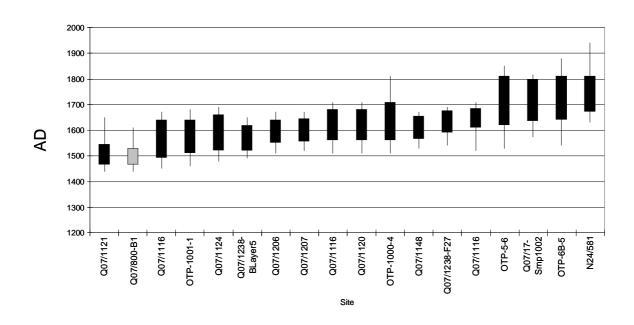


Figure 40. Radiocarbon dates from Q07/800 and other dates from nearby sites

DISCUSSION AND CONCLUSIONS

Discussion

The investigation at the Vinson Farm was limited to those areas affected by subdivision development, and excluded the more intact and significant archaeological sites and features on the property. These included the pa at Castle Rock (Q07/801), the midden/terrace/pit site on the ridge to the northwest of the pa (Q07/802), the terrace/midden site Q07/799, and all midden along a 20m coastal strip including the major part of the midden/oven site Q07/800.

The unaffected areas of site Q07/800 comprises other areas of midden (see appended SRF). Area g of site Q07/800, a knoll overlooking the main part of the site, was identified by Bruce (2002, 2003) as a potential habitation site. However, no archaeological features or material were present on the knoll with the exception of two obsidian flakes and a core. These may be indicative of use of the knoll in the past, but if so all other evidence has been destroyed by the intensive farming to which the property has been subjected.

The second knoll, located to the east of Q07/800g, on which vague terracing and midden were originally recorded by G. Nevin, was also investigated. However, although additional midden was exposed, there was no evidence of associated structural features.

Several small previously unrecorded midden of varying extents were exposed by earthworks, and have been recorded as part of sites Q07/800 (Area B) and Q07/798 (Area A). None of these was associated with intact hangi or other features. One of the midden (A3) may have represented the infilling of a terrace rather than the normal accumulation of waste in the course of shellfish processing and consumption. Generally, however, the midden were small and appeared to represent relatively short term occupation.

These results, although limited, have nevertheless provided useful information on the settlement of Whangarei Heads by Maori in the past. The midden deposits suggest that the area was primarily used for cooking and processing seafood, perhaps with minor dwellings nearby. The pa (Q07/801) at Castle Rock, and the midden/terrace/pit site Q07/802 on the ridge immediately to the north, were in close proximity and were probably the main locations for food storage and dwellings.

The results of the excavations on the Vinson Farm can be placed within the growing corpus of archaeological information from around the Whangarei District, and in particular from the more complex sites recently excavated around One Tree Point.

DISCUSSION AND CONCLUSIONS, CONTINUED

Other Investigations around Whangarei Harbour Middens excavated at One Tree Point by Phillips and Harlow (2001) contained a large number of features including oven scoops, caches of hangi stones, bin pits and complexes of postholes and stake holes. Q07/1124, for instance, probably contained two phases of use and numerous cooking events. Postholes in the larger sites suggest the presence of a variety of shelters and as Phillips and Harlow (2001:35) argue, the main wooden components were deliberately removed for reuse. A line of stakeholes suggestive of a brush fence at site Q07/1123 (Phillips and Harlow 2001:43ff) also provides good evidence that some of these sites may have been occupied over a period of some months (probably for the duration of the summer).

The other important features found at One Tree Point were the odd shaped 'bin pits'. Generally ranging in size from 40-120cm in length, 28-65cm in width and up to 35cm in depth, Phillips and Harlow (2001:75) attribute these to small storage pits for the smoked shellfish. This is quite plausible, although one can also imagine that they may have acted as small pantries, storing root crops used during the stay on the dunes. Their presence also supports the notion that, in some cases, the occupation of Point could have lasted for a considerable number of weeks.

At the other end of the spectrum are the smaller sites consisting of a number of cooking areas with little other evidence of either housing or other activities (Phillips and Harlow [2001:84]; Q07/1148 Campbell 2006; Bickler *et al.* 2007). The sites were probably just small cooking areas with only small shelters nearby. These are likely to have been widespread from One Tree Point through to Marsden Point. The more complex sites were generally located nearer the coastline. Q07/1238 at Takahiwai (Harlow *et al.* 2007) falls somewhat in the middle of the spectrum – covering an area larger than the smaller sites, but without any evidence of large habitation structures. Its proximity to the neighbouring pa may represent a functional relationship, a separation of earlier cooking areas from major habitation, not present at One Tree Point.

At the southern tip of the Whangarei Heads, the excavation of a large midden site was carried out at Bream Head in the 1960s. It produced evidence of significant shellfish cooking as well as seal, dog, bird, tuatara and fish bone, chert flakes and hangi stones and fishing equipment (Green and Davidson 1964 and NZAA Site Record Form Q07/103 cited by Phillips and Harlow 2001:14). This is suggestive of Archaic material.

DISCUSSION AND CONCLUSIONS, CONTINUED

Cockle and Pipi

The sites excavated in McGregors Bay appear to be mainly characterised by pipi-dominated middens, although tuatua was found in significant quantities and cockle more occasionally in concentrations. The main exception was the midden in area A3, which was dominated by tuatua, and appeared to have resulted from the infilling of a terrace.

The pattern at McGregor's Bay differs from the middens in the southern harbour at One Tree Point and neighbouring areas, where cockle was the predominant species harvested, although other species were also found. However, it was the vast quantity of shell that was the overwhelming feature of the occupation evidence at One Tree Point. Phillips and Harlow (2001) estimated that something of the order of 36 million shells would have been present in the sites they examined at One Tree Point, and when combined with the other midden sites found nearby, including some major sites elsewhere which have not yet been excavated, it is clear that cockle was a significant component of the local food cycle in pre-European times. There was a greater diversity of species at one site (Q07/1238), representing the use of the mangrove swamps nearby.

However, while 36 million shells may give the impression of shellfish being a large component of the diet it may represent seasonal occupation of these sites by a moderately sized group (several whanau) during a period of a few decades. The dietary dominance of cockles is possibly overestimated by the very visible nature of the remains in comparison with those of plant foods, eels and fish.

Although the radiocarbon date from McGregors Bay was towards the early end of the One Tree Point sequence (around 1500AD), it is likely that the pipi dominance at sites on the eastern side of the Bay continued on in later periods, and that the difference between the investigation results from the two areas is not temporal as other sites from the general area (including the pa) probably date to a later period and also have extensive pipi deposits. G. Nevin (1982 cited in Phillips and Harlow 2001) reports that there are two forms of pipi, the common pipi and a local variant called *kokota*. Kokota is now reportedly only found on the banks at the entrance to the Harbour.

Fishing

No fish remains were recovered from the midden at McGregors Bay, but the lack of direct evidence of fishing does not necessarily mean that fishing was not important. Unlike shellfish smoking, where the shells are left behind, fish preservation may involve minimal preparation and therefore may leave little evidence that is archaeologically recoverable. Dogs may also have contributed significantly to the lack of fishbone recovered as they tend to eat the scraps. It is unlikely that fishing was not carried out at McGregors Bay.

DISCUSSION AND CONCLUSIONS, CONTINUED

Fishing (continued)

The data from One Tree Point (particularly Phillips and Harlow (2001) and Campbell (2006)) do indicate that a range of fishing was carried out. Snapper and shark were identified at Takahiwai, which correlates with the presence of snapper, kahawai and shark identified at One Tree Point. The stake holes found around some of the firescoops at One Tree Point sites probably indicate drying and smoking frames for a range of kai moana and this may also have been the case at site Q07/1238 at Takahiwai.

Conclusion

Archaeological investigation at McGregors Bay was limited in scope, as the subdivision was planned to avoid the recorded sites as far as possible. The two knolls investigated as potential habitation sites (Q07/800g and Q07/797) did not provide any evidence of house or other structures, but it is possible that intensive farming of the property in the past has destroyed features that may once have been present; two obsidian flakes and a core found at Q07/800g suggest use of the knoll in the past.

The investigated midden have provided useful information on the pre-European settlement of this area of the Whangarei Heads. It is possible that the area was used as a temporary shellfish and fish processing area, where cooking and smoking were carried out away from the main living area at the neighbouring pa and other sites on the ridge to the southwest. The fires used to cook the shellfish were probably also used for cooking staples such as kumara as part of meals, as longer cooking times are suggested by the presence of hangi stones and oven features along the coast. The radiocarbon date suggests that the bay was occupied during the mid-late 15th century through to the early 16th century AD, but dates from other sites would probably take this occupation through to the 18th century at least.

Overall, the excavations at McGregors Bay have contributed to the growing body of information relating to the occupation of the Whangarei Heads by Maori prior to the arrival of Europeans.

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APPENDIX - RADIOCARBON DATE

The University of Waikato Radiocarbon Dating Laboratory



Private Bag 3105 Hamilton, New Zealand. Fax +64 7 838 4192 Ph +64 7 838 4278 email c14@waikato.ac.nz Head: Dr Alan Hogg

Report on Radiocarbon Age Determination for Wk-

19025

Submitter S Bickler
Submitter's Code Q07/800g

Site & Location Vinson Farm Q07/800g, New Zealand

Sample Material Paphies australis

Physical Pretreatment Surfaces cleaned. Washed in an ultrasonic bath. Tested for recrystallization:

aragonite.

Chemical Pretreatment Sample acid washed using 2 M dil. HCl for 250 seconds, rinsed and dried.

Result 779 ± 34 BP

Comments

HUH099 21/6/06

Result is Conventional Age or % Modern as per 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 of 1 .

[•] The isotopic fractionation, $\delta^{1/3}C$, is expressed as % wrt PDB.

Results are reported as % Modern when the conventional age is younger than 200 yr BP.

APPENDIX -SITE RECORD FORMS

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION METRIC SITE RECORD NUMBER: Q07/800

SITE RECORD FORM (METRIC) DATE VISITED: 5/7/2002

METRIC MAP NUMBER: Q07 (Whangarei) SITE TYPE: Midden/Ovens/House Site

METRIC MAP EDITION: 260 (1988)
SITE NAME: MAORIOTHER

GRID REFERENCE : EASTING-2647400 NORTHING-6595800

Additional Information: With 11 individual features, including midden, horticultural remains, ovens and structural features, this site contains the densest concentration of archaeological remains on the Vinson property

Feature "a" is a shallow pit feature and midden located near the disused pigsty. The feature was not revisited as is was outside the area of the development.

Feature "b" was originally ambiguously recorded as a 4 by 4 meter area of hillside up from the Puiriri tree and the two huge rocks. This may refer to either a patch of midden not noticed during this survey or the flat area above the pigsty that is likely to have once sustained Maori gardening. There are a several mounds of stone surrounding a roughly rectangular flat area measuring approximately (paced) 60 by 40m.

Feature "c" refers to a midden located on a low mound, beneath the large rock at the southern edge of the flat area of possible Maori garden, recorded in this survey as feature "b". The midden is now highly fragmented and no more than two metres in diameter. The midden content was exclusively pipi shells.

Feature "d" was not relocated during this survey, it has either been eroded away by grazing cattle or exists subsurface.

As the features "e" and "f" were located outside of the areas of proposed development they were not included in this survey. These features, both of which being midden, can still be seen from the vantage point of the farm track, eroding out of the hill to the southeast of the pigsty and above an area of swampy ground.

As one follows the slope from feature "d" down hill in a southeast direction, another flattened plateau is encountered. At the southern edge of this plateau, before it drops into the sea, is a large rock surrounded by the midden that makes up feature "g". The midden is primarily pipi, in a highly fragmented state, dispersed by grazing. There is a high likelihood that further midden exists in the area subsurface as there are a number of shell scatters on the steep slope to the beach below the feature "g". There is also a high likelihood that archaeological material will exist subsurface on the flat area of plateau. In particular there is the vague outline of a scallop shaped terrace, no more than 30cm deep and only apparent because the paddock has been recently grazed, measuring approximately ten by five metres. This terrace was interpreted as a possible house site, while the flat plateau itself is likely to have been utilized, if not specifically modified, for Maori gardening. Both these features have been incorporated into the Site Q07/800, feature "g" complex for ease of administration.

Feature "h" is another midden on the southeast edge of the plateau mentioned above. In 1983 the midden measured 8 across and 12m down slope. Today the midden has been dispersed more widely and largely fragmented. Midden scatter can be found from the top of the plateau to the beach. The midden is primarily pipi, no obsidian flakes or sea mammal bone were recovered during this survey.

Feature "i" refers to the midden eroding out of the foot of the slope upon which feature "h" is located, and on the western bank of the stream mouth that emerges from an area of swampy ground. Seen in profile from the beach, this midden extends for approximately 6m. Measuring 50cm thick in places this feature contains tightly compacted pipi and to a lesser extent cockle, with occasional fire cracked rock and accumulations of charcoal. On the eastern side of the stream mouth similar concentrations of midden can be seen eroding out of the bank. The area of swampy ground from which the stream emerges contains taro (Colocasia esculenta) of the red stalk round leaf variety (rr)

Feature "j" denotes a large area of midden, approximately 20m by 4m on the east bank of the stream mentioned above, below a stand of boulders and nearby a barbeque area. The midden is predominantly pipi and to a lesser extent cockle. The feature is well outside of the area intended for development.

Directly south of and below the terrace and midden feature "g" is a steep slope that descends to the beach below. At the foot of this slope there is a small stream mouth and a series of ovens exposed in cross section by erosion. The survey in 1983 recorded 4 ovens, visible beneath a thick 60cm layer of tightly compacted pipi and cockleshells. It would appear that the features have been well preserved as they are in much the same condition as originally recorded. Only 3 ovens were recorded in this survey, the remaining oven is most likely still intact, obscured by the encroaching Kikuyu grass. Beneath the thick lens of shell there is a thin 10-15 cm lens of crushed and burnt shell and interspersed charcoal, below which the profile of a scoop oven is clearly visible containing fire cracked rock, fragmented shell and charcoal. These ovens are outside the area affected by the proposed development.

 Owner Vinson Family Address: Whangarei

Tenant/Manager: Address:

5. Nature of information: Brief Visit

6. Reported by:Ivan Bruce Address:2 Dean Street Arch Hill Auckland

Filekeeper: Date:

7. NZHPT (for office use)
Type of Site

Local environment today Land Classification Present condition and future Local Body

	AEOLOGICAL ASSOCI FORM (NZMS	260) DA SIT	AA METRIC SITE NUMBER: Q07/800 TE VISITED: 7 November 2005 E TYPE: Terrace/Midden E NAME:			
Grid Reference	Easting 2 6	5 4 7 4 3 0	Northing 6 5 9 5 8 5 8			
	on attach a sketch map): cGregors Bay, Whangarei	Heads, Whangarei.				
2. State of site and	possible future damage: S Site excavated under Au	ITE PARTIALLY DI				
-	(supply full details, history	·	references, sketches, etc. If extra sheets are			
		ace (see previous	SRF) as Q07/800g was destroyed, but			
it did not contain any	archaeological featur	es. Other shell sca	tters were identified and excavated in			
_	_		lditional excavations of shell midden			
,	• •	-				
	emains. See Authority	report for further	details			
Locations of areas in	vestigated:					
ID	Easting	Northing				
B1	2647392	65958	378			
B2	2647353	65958	392			
B3	2647346	65958	393			
B4	2647297	65959	938			
B5	2647276	65960	003			
Q07/800g	2647431	65958	358			
4. Owner: K. & M. V	inson		Manager:			
Address: McGrego	rs Bay					
5. Nature of information	on (hearsay, brief or extend	ded visit, etc): Excav	ation under Authority			
Photographs (refere	nce numbers):	,	•			
	(reference numbers and cl	arity of site):				
6. Reported by: Simon			Filekeeper			
			Date			
Address c/o Clough & Associates Ltd. Date						
7. Keywords:						
8. New Zealand Register of Archaeological Sites (for office use) NZHPT Site Field Code						
NZIII I Site Heid C	ode					
Latitude S Longitude E						
Type of	Type of site Present condition and future danger of					
		doct	ruction			
		dest	LUCUOII			
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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD FORM (METRIC)
METRIC MAP NUMBER: Q07 (Whangarei)

METRIC MAP EDITION: 260 (1988)

METRIC SITE RECORD NUMBER: Q07/797

DATE VISITED: 7/5/2002

SITE TYPE: Middens/Terraces

SITE NAME: MAORI-OTHER

GRID REFERENCE : EASTING- 2647500

NORTHING-6595900

Additional Information:

This site is located in the south east sector of the property, and extends some 400m inland from the promontory and beach frontage. Six features were recorded by G.E. Nevin as components of this site in 1983, all of which were middens and all of which can still be located today. Nevin also mentioned four vague terraces upon the top of the spur that leads to the promontory; these were not however recorded as components of the site and only mentioned in the site record forms. Today no sign of any terracing on the hill top can be distinguished. However, as the summit has a generally flattened appearance with midden eroding out of the flanks, there is a high likelihood that the hilltop is an undefended settlement site and that structural features may exist subsurface. The site is composed of 6 other component features.

Feature "a" is a long midden eroding out of a level area between the foot of the spur and the beach itself, measuring at least 12m in length and 35-50cm thick. The midden was predominantly large sized pipi (Paphies australe). The midden will continue to erode as it is exposed to high tide but most likely extends, subsurface, for some distance inland.

Feature "b" alludes to scattered pipi shells under the very large 5m rock. There are in fact several scatters in this area some of which are recent (the area is obviously a popular family picnic), again mostly composed of pipi. The flat, grassed area would be a prime place for prehistoric settlement or food preparation and further middens are likely to exist subsurface.

Feature "c" was originally recorded as a dense scatter of pipi below a large rock in the centre of a paddock, in what is now proposed as Lot 5, the feature has been reduced to a shell scatter less than 1 meter in diameter.

Feature "d" refers to a large scatter of midden located beneath the Pohutukawa tree situated on the boundary side flank of the low ridge in the southwest sector of the property. The midden is highly fragmented and dispersed over an area of five by five metres, no intact lens was recorded during this survey and again the main constituent of the midden was pipi.

Features "e" and "f" are still located above a small natural rise 100m north of the Pohutukawa tree mentioned in feature "d". Feature "e" is a small midden no more than 2m in diameter and largely composed of broken pipi shells. Some 30m to the east of this midden, feature "f" can be found. The latter is actually composed of two middens eroding out of the hillside, again the midden content is dominated by highly fragmented pipi shells, largely affected by stock and down slope movement.

 Owner: Vinson Family Address: Whangarei

Tenant/Manager: Address:

5. Nature of information : Brief Visit

Reported by:Ivan Bruce
 Address:2 Dean Street
 Arch Hill
 Auckland

Filekeeper: Date:

7. NZHPT (for office use) Type of Site

Local environment today Land Classification Present condition and future Local Body

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION SITE RECORD FORM (NZMS 260) Map number Q07 Map name Map edition Angle of the process of the proce	6					
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3 Aids to relocation attach a sketch man):						
1 /						
As per previous SRF. McGregors Bay, Whangarei Heads, Whangarei. 4. State of site and possible future damage: SITE PARTIALLY DESTROYED						
Updated October 2005. Site excavated under Authority No. 2003/143.						
4. Description of site (supply full details, history, local environment, references, sketches, etc. If extra sheets are attached include a summary here) Area located as part of Lot 4 investigated (See NZHPT Authority Report). The potential for additional excavations of shell midden in this general area remains. See Authority report for further details.						
4. Owner: K. & M. Vinson Manager:						
4. Owner: K. & M. Vinson Manager: Address: McGregors Bay						
5. Nature of information (hearsay, brief or extended visit, etc): Excavation under Authority Photographs (reference numbers): Aerial photographs (reference numbers and clarity of site):						
7. Reported by: Simon Bickler Filekeeper						
Address c/o Clough & Associates Ltd. Date						
8. Keywords:						
9. New Zealand Register of Archaeological Sites (for office use) NZHPT Site Field Code						
Latitude S Longitude E						
Type of site Present condition and future danger of						
destruction						
Local Environment today Security code						
Land Classification Local body						

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD FORM (METRIC)

METRIC MAP NUMBER: Q07 (Whangarei)

METRIC MAP EDITION: 260 (1988)

METRIC SITE RECORD NUMBER: Q07/798

DATE VISITED: 7/5/2002

SITE TYPE: Middens

SITE NAME: MAORI-

GRID REFERENCE: EASTING- 2647500 NORTHING-6596100

Additional Information: This site was originally recorded as 4 middens, located between two streams that converge into one watercourse on the southern boundary of the site. Today all of the middens are small, no more than 3m in diameter, and highly fragmented. Feature "d" is situated to the south above the convergence on the bank of the western stream. Feature "c", the largest of the middens in this area, is located some 10m above this on the bank of the same river under a large Puiriri tree. Feature "b" is located on the bank of the eastern stream, under a large rock while feature "a" is located on the side of one of many small knolls in the area, largely destroyed by stock erosion. Two other middens were located during this survey; one small midden, no larger than 1 m in diameter was recorded 20m below feature "b", eroding out of the riverbank. The midden content of all features was, mostly broken pipi with occasional cockleshells throughout. More midden was located at the point of the convergence of the two streams distributed in thin scatters either side of the stream and visible as a thin lens on the eastern side of the convergence, below a point where a large rock meets a boundary fence. Both these features have been incorporated into the Site Q07/798 complex for ease of administration. The area of naturally terraced flat land between the two streams contains stone mounds and could contain remnants of a horticultural system subsurface, such as drains or ditches.

4. Owner Vinson Family Tenant/Manager: Address: Whangarei Address:

5. Nature of information: Brief Visit

6. Reported by:Ivan Bruce Address:2 Dean Street Arch Hill Auckland Filekeeper:

7. NZHPT (for office use)

Type of Site Local environment today Present condition and future Local Body

NEW ZEALAND ARCH SITE RECORD Map number Q07 Map name Map edition	AEOLOGICAL ASSOCI FORM (NZMS	260) D S	ZAA METRIC SITE I ATE VISITED: 7 No ITE TYPE : Midden ITE NAME:			
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	n attach a sketch map): Gregors Bay, Whangarei	Heads, Whangarei.				
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A3	2647525		6083			
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4. Owner: K. & M. V			Manager:			
Address: McGregor	rs Bay					
	n (hearsay, brief or extend	ded visit, etc): Exca	vation under Authorit	y		
Photographs (refere	nce numbers):					
Aerial photographs	reference numbers and cl	arity of site):				
8. Reported by: Simon	Bickler		Filekeeper			
Address c/o Clough & Associates Ltd. Date						
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