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HISTORICAL ARCHAEOLOGY IN THE WAIKATO

AN INTERIM REPORT ON THE TE MIRO PROJECT

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Abstract

The Waikato Art Museum has recently completed its investigation of N66/60, a large historical site situated in the Te Miro Swamp. Excavation revealed an unusual sequence of causeway construction, eeling activities and the establishment of a wahi tapu and resulted in the recovery of an important assemblage of Maori artefacts belonging to the latter half of the 19th century.

Introduction

The Te Miro Wet Site (Plate 1) is situated in an arm of the recently drained swamp at the south-western foot of Maungakawa - one of a chain of low hills forming a natural barrier between the eastern Waikato Basin and the Matamata Plain (Fig. 1).

The site was initially discovered in the course of drainage operations begun some five years ago. At that time, several well-preserved wooden artefacts (a ko, patu tuna, weaving peg, palisade posts and structural timbers) were retrieved from the drag-line operator's spoil deposited on the northern side of a raised pathway known locally as the "Old Maori Road".

Subsequent inspection of the site by the Museum's Archaeologist and Mr R. Porter of Cambridge in February 1977, confirmed a cultural origin for the causeway across the swamp and also showed the primary context of the earlier finds to be a substantial cache of water-logged artefacts lying hard up against the southern (upstream) side of the causeway. These were in alarmingly close proximity to the surface of the rapidly contracting peat and in grave danger of destruction.

After a protracted period of consultation approval for Waikato Art Museum to investigate the site further, by way of a rescue excavation, was obtained from the Archaeology Committee, New Zealand Historic Places Trust (Permit Numbers 1977/13 and 1978/244), Elders of the Ngati Haua people who have close historical and spiritual connections with the area and Mr Phil James, the present landowner.

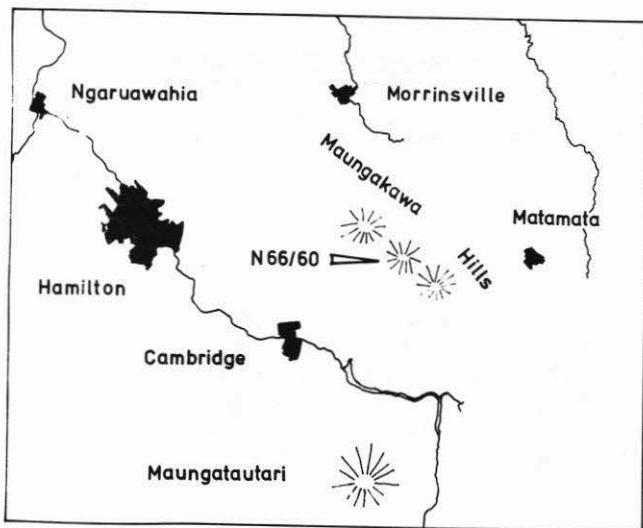


Figure 1. Location of the Te Miro site.

Historical context

It may be that the Maungakawa Hills, attaining an elevation of some 500 metres, formerly provided a territorial boundary between the Waikato and Hauraki Tribes for there is little evidence for pre-historic settlement within a radius of several kilometres of Te Miro. Maori tradition attests to the early 19th century occupation of the area by both Ngati Haua and Ngati Maru but the archaeological field evidence would suggest that the nearest settlements were situated on the northern, lower ridges of the range.

Led by the renowned warrior chief, Te Waharoa, whose birthplace was at Maungakawa, Ngati Haua succeeded in driving out the newcomers after the decisive battle of Taumatawiwi which took place in 1830 near Karapiro. Ngati Haua prospered in the Maungakawa area under the astute leadership of Te Waharoa's second son and successor, Tarapipi. It was Tarapipi, more widely known as Wiremu Tamehana, the Kingmaker, who founded the model agricultural settlements of Peria and Maungakawa in the mid-19th century.

The village of Maungakawa was situated on a low hill several hundred metres to the north of N66/60 and on the other side of the swamp. The well-preserved dam (N66/58) constructed in 1852 for an undershot flourmill (at a cost of £100) belongs to this period.

Upon the return of King Tawhiao to the Lower Waikato in the 1880s, the settlement at Maungakawa grew in importance to become the principal centre for the Waikato King Movement. The Kauhanganui or Maori Parliament House, constructed of timber brought over from Ohinemuri, was formally opened in 1891 and the first issue of Te Paki o te Matariki, the movement's newspaper, was printed on the printing press now housed at the Cambridge Museum.

On important occasions, such as the assembly of the Parliament, Maungakawa was host to thousands of visitors but the village's heyday as a vibrant political and social centre was tragically short-lived. Between 1895-1896 influenza epidemics ravaged the populace and the village was abandoned. Standing unattended, the Kauhanganui was badly damaged by fire in 1898. Its remains were dismantled and buried at a wahi tapu "where the two streams meet" in the nearby swamp.

The Ngati Haua folk who had moved from Maungakawa to Kutea (near Waharoa) two years earlier, constructed a second Kauhanganui there incorporating some of the timbers saved from the original building. Thence, they relocated to Rukumoana, near Morrinsville, where the third Kauhanganui stands adjoining the marae. This historically important building, constructed entirely of kauri, has been recently restored to its original condition by the local community with the assistance of a grant from the New Zealand Historic Places Trust.

Organisation of the "dig"

A total of 15 weeks fieldwork was undertaken over two seasons at Te Miro. Labour for the first season (15 January 1978 to 6 February 1978) was provided by a team of volunteers comprising members of the Museum Archaeological Society, university students and unsuspecting members of the public. For the second season (27 November 1978 to 16 February 1979) labour was provided by a core team of 15 university students employed under the Student Community Scheme and several volunteers.

Costs for the first season were met by the Museum and the second season was financed for the most part by generous grants. The excavation team commuted daily between Hamilton and Te Miro by landrover and mini-bus. Although much time was wasted in travelling this proved to be the most practical alternative to camping out on the site. In all, 62 people spent a combined total of 980 man-days working on the project.

Excavation

Our objectives at Te Miro were to determine the nature and extent of the site, to relate the cache of artefacts located in 1977 to the adjacent causeway and to recover as much as possible of an assemblage facing certain destruction.

A grid was established at the junction of the southernmost arm with the main body of the swamp, the baseline having been fixed on a bearing of 268° along the top of the causeway.

The method of investigation employed - excavation by area - was determined principally by the sheer size and orientation of the larger artefacts. The technique is well-suited to wet-site work. However, to be employed effectively the sequence of trowelling in phase, photographing, recording of plans and intermediate baulks and processing of all finds and samples for each, and often within a single layer, must be rigorously adhered to. In order to streamline the procedure, each find and sample was issued with an ID disc bearing an accession number which was entered both in a Finds Register and on the appropriate plan and section drawings.

A combined total area of 405m^2 was excavated at Te Miro (Fig. 2). In the first season, Area 1 (21 x 3m) was excavated to a depth of 60 - 90cm in the peat adjacent to the causeway. This was intersected at a right-angle by a smaller trench (4 x 3m) which was simply an enlargement of the breach made in the upper levels of the causeway some five years ago. Finally, a 4 x 4m section of the causeway, incorporating Area 10, was partially excavated to expose a corduroy superstructure.

In the second season a further five trenches - Areas 2 (23 x 3.40m), 5 (14.80 x 3.40m), 6 (15.40 x 3.40m), 7 (14 x 3.40m) and 8 (10.70 x 3m) were excavated to exhaust the proven concentration of water-logged artefacts. A further area of several hundred square metres, incorporating Areas 3 and 4, was checked out by systematic probing with the aid of gum-spears and planned. Areas 11 (4.60 x 3m), 12 (4 x 2m) and 13 (4 x 2m) were investigated with a view to solving specific problems concerning the causeway's construction and function.

Special problems

A variety of technical problems encountered in the course of excavation were ultimately resolved. During hot and dry weather, the water-table was elevated by blocking the east and west drains and all areas under investigation were kept damp by hosing down at regular intervals. Moisture retention was enhanced by covering these areas with heavy black polythene film overnight. To minimise the potentially

TE MIRO - N66/60

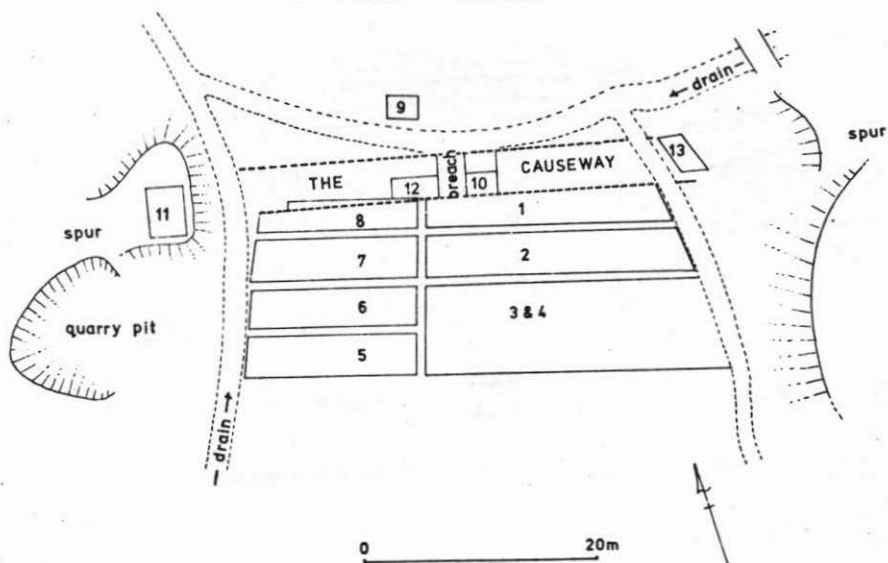


Figure 2. Site plan showing areas investigated.

devastating effects of the summer sun on the wooden artefacts as they were being exposed, screens were constructed on site to provide shade. These consisted of portable, inter-locking frames (4.50 x 2.50m) of tanalised Pinus radiata which could be joined together and covered with hessian to protect 80m² at any one time. The subdued light beneath these screens provided optimum conditions for close-up photography and also made working conditions more pleasant (Plate 2).

With the advent of persistently wet conditions the drains had to be unblocked to lower the water-table, the excavated areas would be drained using a four-stroke Briggs and Stratton pump and the hessian covered screens would convert the rain into a fine mist!

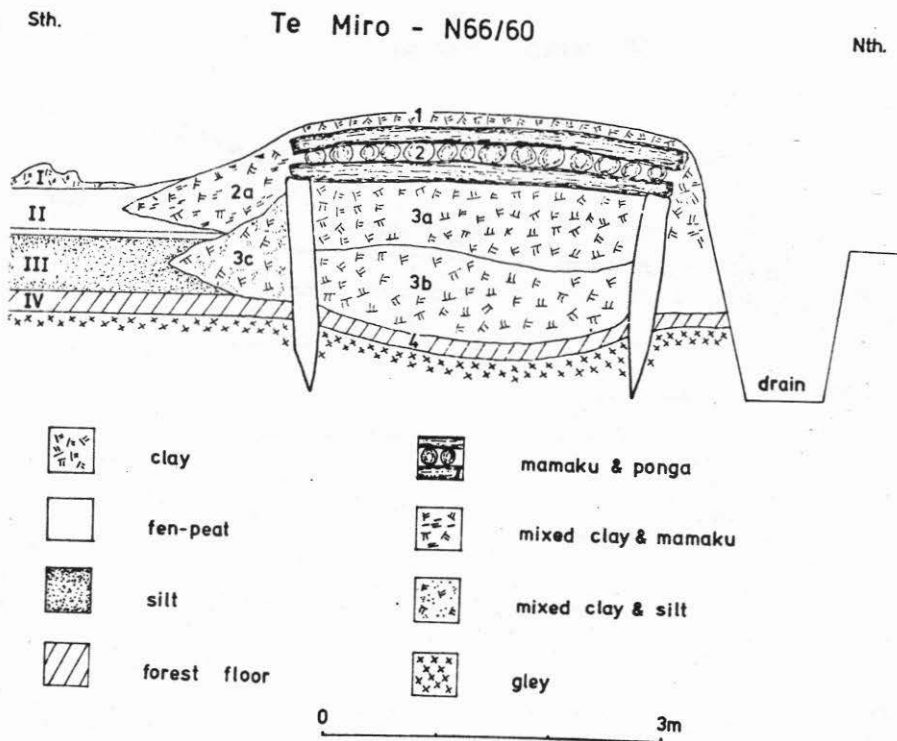


Figure 3. Schematic cross-section of the causeway and the adjacent swamp.

Once they had been documented, the smaller wooden artefacts were placed in plastic bags or tubular polythene lengths cut to size and removed to Hamilton for storage. The larger artefacts were kept immersed either in the drains or in the nearby artificial lake until arrangements were made for their removal. An articulated trailer with expandable 13 metre deck was hired for this purpose.

Combined Excavation Results

Occupying an area of several hundred square metres, N66/60 is best described as a 'multiple-use' site. Three major events transpired to provide a sequence which is considerably more complex than was at first supposed.

- 1) construction of the earthen causeway c1850's-60's;
- 2) piling activities conducted intermittently over the next few decades;
- 3) use of the site as a wahi tapu ca.1898.

The stratigraphy of the causeway at the centrally situated breach was established as follows (Fig. 3):

- Layer 1: thin clay cap,
Layer 2: a superstructure comprising up to three layers of mamaku and ponga laid down in criss-cross fashion to form a soak and corduroy,
Layer 3: upper horizon (a) compacted clay loam fill,
lower horizon (b) less compacted clay loam fill,
Layer 4: forest floor characterised by leaf litter, matted roots in an organic matrix with low silt content, fallen tree trunks, ponga, supplejack etc.,
Natural: blue gley.

The causeway, which measures 37 metres in length and up to four metres in breadth, originally stood 1.15 metres above the surrounding ground surface (Plate 3). It was constructed in the following manner. First some 3-400 posts and adzed planks, each tapered to a point, were driven deep into the sub-soil to form two parallel lines little more than three metres apart. Within each line the posts were set closely together and the interior gaps blocked with bundles of bracken-fern fronds. To the exterior of the southern line horizontal rails of kanuka were lashed to the upright posts, presumably to reduce lateral displacement during the next phase of construction when the area in-between the lines was filled with clay quarried from the spurs on the swamp margins.

The remains of several wooden ko used to dig out the heavy clay and two flax kete for carrying it, were thrown into the fill as they outlived their usefulness.

When the clay fill, now one metre in depth, reached the top of the upright posts, a nine metre long concave depression was left in the middle of the causeway to accommodate a timber superstructure. Comprising up to three layers of mamaku and ponga laid down in criss-cross fashion, it seems most likely that it was intended to function as a soak or inverted culvert. With the addition of a clay cap to the soak, the causeway was completed.

A large working floor was revealed at the western margin of the site (Areas 5 - 7) which appears to relate to the causeway's construction. Here, at the interface of Layer III and the former forest floor, adze/axe chips and bark were strewn in profusion over an area of some 30m². It seems quite possible that the wooden posts were trimmed and their footings tapered to a point here.

A variety of other artefacts were recovered from the same context in Areas 1 - 2 and 7 - 8. These include the component parts of several kaheru (composite spades), a number of ko (including one with a teka still attached by kiekie lashing), trade-axe handles, a number of whetting-stones and a large coil of aka (lashing vine). Also recovered were fragmentary food remains - tiny corn cobs and gourd fragments - suggesting that the causeway was constructed in late summer.

At this stage it is unclear whether or not this structure was part of an established road-way. Analysis of the clay fill revealed a 12% increase in the bulk density of Layer 3a suggesting compaction through such usage (Dr R. Allbrook, pers.comm.). Investigation of the approaches to the causeway (Areas 11 and 12) failed to produce convincing evidence for wheel-ruts though there were signs of scouring at the eastern end of Area 11.

The stratigraphy of the swamp on the southern (upstream) side of the causeway was established as follows (Fig. 3):

- Layer I: clay overburden from the drag-line operations,
- Layer II: black fen-peat resting on a thin layer of orange-brown raupo roots,
- Layer III: yellow-brown, silty sediment with a high grit content,
- Layer IV: former forest floor (corresponds with Layer 4 causeway),
- Natural: blue gley.

Effect of the causeway's construction on the local environment

As a direct and immediate consequence of the causeway's construction, the water-table on the southern side rose by some 80cm (i.e. at least to the bottom of the soak) and a shallow lake was formed. In the course of the excavation, it became clear that much of the species-rich vegetation in Layer IV did not belong to a swamp community and that it succumbed quickly. A series of levels undertaken by Mr N. Laurie, together with an examination of the peat profile on a transect through the middle of the southern arm, suggests that most of the area would have been inundated. Because of the large catchment area (which takes in several perennial springs) and the southern arm's impeded drainage, a 40cm deep layer of silt (Layer III) formed on the upstream side of the causeway. A brief examination of the extensively silted artificial lake nearby suggests that sedimentation could have occurred very rapidly indeed.

However, before Layer III was fully formed, the causeway had already begun to fall into disrepair. The long kanuka poles, originally lashed to the exterior of the southern postline, had fallen away and the clay fill from the interior was in the process of oozing out from between the posts. In an endeavour to halt the pronounced bulges beginning to appear along the southern postline, a number of additional posts were driven into the mixed clay and silt ooze (Layer 3c) and a very stout timber was used to shore up the worst affected section. A broken ta (maul), recovered from within Layer III, possibly relates to this episode.

The recovery of numerous ripi (a kind of sword-shaped eel-club used in shallow water) and a small, four metre long canoe within the upper horizon of Layer III attest to the site's usage for economic pursuits such as eeling and possibly fowling while the lake was still present but before the silt was fully formed.

Eels are very numerous in the drains surrounding the site and several species of wild-fowl abound (particularly ducks, geese and pukeko) on and around the artificial lake nearby. When the silty sediment (Layer III) was completely formed, a bed of raupo became established over the site and most of the central southern arm. Its extant remains are preserved in the thin, organic layer, orange-brown in colour, between Layers II and III. It is possible that the site was inundated only seasonally at this juncture.

Both the context and content of the final phase of activity at N66/60 are in keeping with the site's utilisation as a wahi tapu in the late 19th century. A comprehensive range of wooden artefacts, many of which have suffered scorching by fire, were recovered from the interface of Layers II and III alongside the causeway. These include large structural timbers, dressed planks with mortise and tenon joints, cleft or half-rounded posts, a gable-end panel, battens, ponga slabs, panel-footings clearly burned off at ground level, wooden wedges, lashing pegs, palisades with anthropomorphic heads, etc - the elements of a superior building exceeding 14 metres in length and evidently constructed along traditional lines. Also recovered were a variety of utilitarian objects - a wooden kumete with lug and spout, a waka-shaped vessel, fragments of iron kohua or "go-ashore" which appears to have been deliberately broken, spinning tops, two clay pipes, musket balls, a gun-flint, the interior wooden lining of a homemade cartridge-case and bottle glass, etc, to mention only a few.

Shortly after the artefacts were buried at the wahi tapu, swamp vegetation (flax, wiwi, etc) became established and in the course of cyclical regeneration, a shallow fen-peat (Layer II) formed to effectively seal off the cultural material beneath.

Significance of the site

The Te Miro Wet Site is significant principally for the light its investigation sheds on a poorly documented period of Ngati Haua history (1850s-80s) and the processes of acculturation at work in an area which, after the 1860's, remained in relative isolation from the mainstream of events in the Waikato.

At the beginning of the short sequence at N66/60, the causeway (a hitherto unpublished type of archaeological feature in New Zealand) represents an ingenious application of traditional Maori technology and organisation of labour to an essentially European innovation. The causeway bears all the hallmarks of the kind of 'public works' projects inspired by Wiremu Tamehana in the mid-19th century. At the end of the sequence, on the other hand, the large building tentatively identified as the remnants of the Kauhanganui from Maungakawa, retains the characteristics of a traditional design concept and construction technique (e.g. cleft and adzed timbers, mortise and tenon joints, wedges, lashing pegs, etc). Some of these timbers bear an extraordinarily close resemblance, notwithstanding the obvious metal-adze work, in both form and apparent function to the Mangakaware finds.

In providing time-depth for the formation of the fen-peat, the site has also produced ecological data of interest to peat scientists, the value of which should be enhanced by a palynological study of any exotic cultivars in the swamp profile.

A survey of levels between the original ground surface at N66/60 and the present summit of Tamehana's Dam, 980 metres to the north-west, raises the possibility that the greater part of the Te Miro Swamp could have been under water when the dam was operational. The lake would have reached to within 50 metres of N66/60 and could possibly provide a reason for the causeway's construction in the first place.

Finally, the Te Miro investigation has proved rewarding in that it has brought about a spirit of partnership between a contemporary Maori community and the staff of a small regional museum in their concern for preserving knowledge of the past for future generations. It has also resulted in the formation of many personal friendships.

Conservation and publication

The Te Miro assemblage, comprising some several hundred artefacts, includes a variety of wood species in varying states of degradation. Currently stored in a 14 x 1.50 x .60m polythene-lined holding tank, the assemblage will undergo treatment for conservation as soon as

possible. A modest start has already been made on the treatment of several hardwood artefacts with promising results, however, it is hoped that greater inroads may be made in the near future with the recent appointment of an Otago scholar to a D.Phil. in this field at the University of Waikato and the assistance of Auckland University's Anthropology Department. A full report on the Te Miro project is now in preparation. A draughtsperson is shortly to commence working on the plans, cross-sections and artefact illustrations. A number of specialist studies have yet to be farmed out but it is anticipated that a final report on the investigation will be available within two to three years.

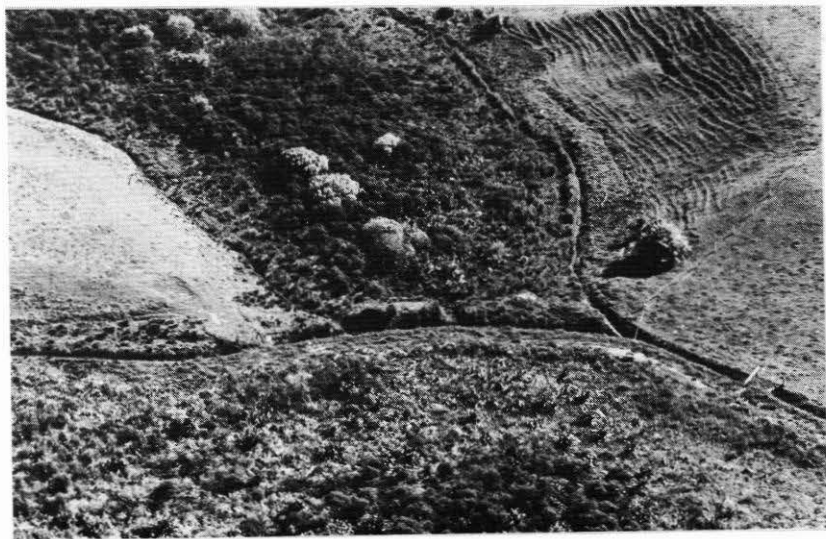
Once its treatment for preservation and formal study have been completed, the Te Miro assemblage will be transferred into the custody of the Ngati Haua people of Rukumoana for safe-keeping and display in the restored Kauhanganui which is to become a marae museum.

Acknowledgements

I should like to convey my personal thanks to the many who have participated in the Te Miro Project and contributed to its successful conclusion. I should also like to acknowledge Waikato Art Museum's indebtedness to the sponsoring bodies, the Golden Kiwi Scientific Distribution Committee, Mobil Oil New Zealand Ltd., the New Zealand Historic Places Trust and the Department of Labour (Hamilton) for their generous financial support.



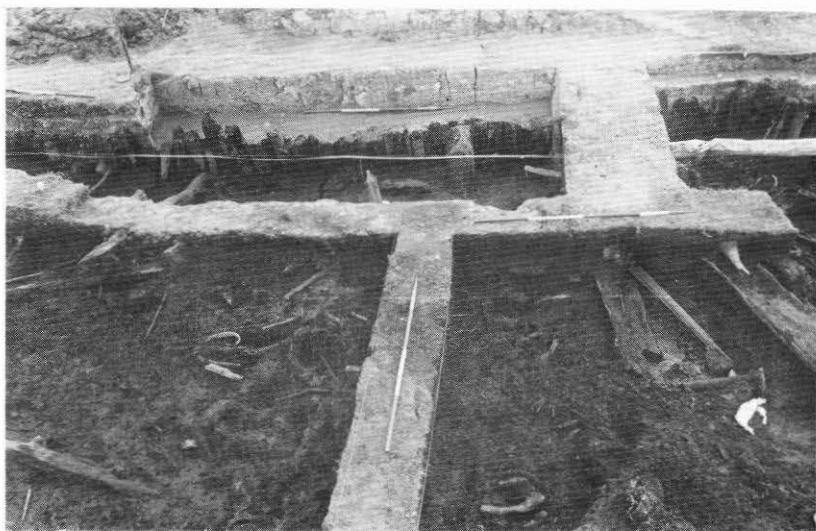
DUFF TRIBUTE. Roger Duff (with beret) at the Waitara swamp excavation, 1960. (At right is the late Rigby Allen).



TE MIRO Plate 1. Aerial view of Te Miro site.



TE MIRO Plate 2. Excavating under screens in Area 7, looking east.



TE MIRO Plate 3. Post-excavation view of Areas 7 and 8 with an exposed section of the causeway's southern post line behind.