NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION NEWSLETTER

PRELIMINARY REPORT OF FIELD WORK IN THE NUKUMARU-WAITOTARA AREA

by Colin D. Smart

The work described below was made possible, in the first place (1960-61), by the Dominion Museum and was continued (in 1961-62) with a grant of £155 from the National Historic Places Trust. Without this support, and the interest of Dr. R.A. Falla and Mr. Ormond Wilson, the excavations and field work, spread over nearly four months, could never have been undertaken. To Mr. Doug. McGregor and Mrs. McGregor we owe a special dept for the many extra things they gave or did, to make our excavtions on their property a most enjoyable experience. More than 50 people took part in the excavations and field work at some time, while many more assisted in various ways. To these people and especially to Jean, Mr. and Mrs. M.J.G. Smart, and Dr. A.G. Buist, I am most grateful. I must also record my thanks to Mr. Foster (Ministry of Works), Mr. C. Day (Wanganui Technical College) and Mr. R. McDonald (Wanganui Public Museum), for the loan of equipment and facilities.

THE LOCATION AND BOUNDARIES OF THE RECORDING AREA.

The area covered in this survey (fig.1) lies some 12 miles north west of Wanganui, extending from Maxwell along the coast through the Nukumaru district to Waitotara, and inland up the Waitotara Valley. Recording was concentrated in a "sample area" with arbitrary boundaries of grid lines (National Yard Grid) 225000 E to 240000 E, and 310000 N to the coast. This encompasses an area of about 72.5 square miles. It was found necessary to extend beyond the sample area to include special groupings or important sites around Waverley, around and west of the Waitotara River mouth, along the Okehu Stream, around Kai Iwi and especially, further inland up the Waitotara River. This enlarges the area surveyed in detail to nearly 100 square miles.

DESCRIPTION OF THE AREA

The physiography and geology of this area have been exhaustively described by Dr. C.A. Fleming, Geological Survey (Fleming, 1953). In general terms there are three main physiographic areas:

(1) A discontinuous and irregular coastal region of sand dunes, much of which is waste land with some areas of active dunes.

(2) An area of coastal lowland, sloping towards the coast, and dissected by occasional streams. Large areas of flat land lie between about 200' and 500' above sea level. The seaward margin of this area is covered by the coastal sand dunes.

(3) An extensive area of sub-maturely to maturely-dissected upland, rising over 1500' along the northern margin of the recording area, with small local areas of flat plateau (peneplain)

The coastline immediately to the east of the Waitotara River mouth is rocky but this gives way to a line of cliffs (rising over 100' in places) from Nukumaru to Castlecliff near Wanganui. North of the Waitotara River the coastline provides a sandy shore.

The Waitotara River and its tributaries, especially the Moumahaki Stream, comprise much of the drainage system. Smaller streams such as the Ototoka, Okehu, Kai Iwi and Moawhanau drain the area between the Waitotara and the Wanganui Rivers and their tributaries. The valley of the Waitotara River contains extensive flat areas of alluvial material.

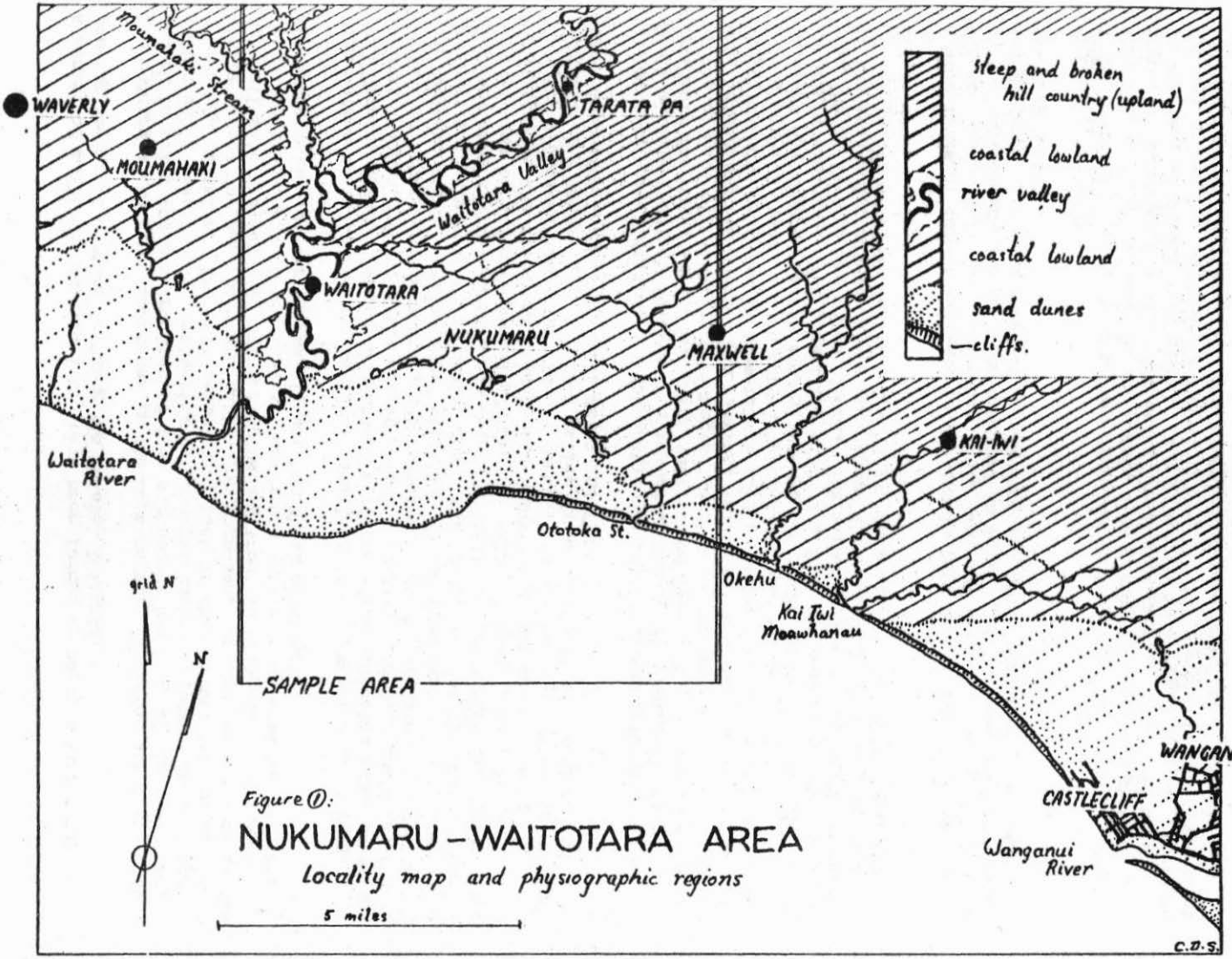


Figure ①:

NUKUMARU – WAITOTARA AREA

Locality map and physiographic regions

A series of small and shallow lakes have been formed by coastal sand dunes ponding the small streams draining the coastal lowlands.

The mudstones and fine sandstones in the more heavily dissected areas are soft enough to allow the construction of deep earthworks but are, at the same time, sufficiently resistant to weathering to preserve these earthworks in an often spectacular fashion. The soft sedimentary rock of the coastal lowland is also easily worked for defensive and habitation purposes. Nowhere in the area is the sub-soil material too hard for earthwork construction although in this same sense the loose sand of the coastal dune areas can be considered too soft for the preservation of earthworks, if not for their construction.

Information on soils and vegetation is available from several sources (e.g. Soil Bureau, 1954). Young podzolic soils, formed from windblown sand, cover the coastal lowland. These soils are of medium fertility with fair drainage, but subject to drying out in summer, and supported a growth of fern and scrub in pre-European times. Yellow-brown silt loam formed from sand and ash (from Egmont), well-drained and of medium fertility, cover some of the coastal lowland and much of the sub-maturely dissected hill country behind it. These areas were covered by podocarp-broadleaf forest. Silt and sandy loams, of low fertility, on the steep and broken hill country once supported a cover of podocarp-broadleaf and mixed (beech) forest. Highly fertile but poorly drained silt and clay loams cover the flat valley floor of the Waitotara River and once supported Kahikatea, Rata, Matai and flax.

One climatological station, at Moumahaki, provides detailed information of the local climate (another station is situated at Wanganui). Rainfall records are available for other areas, including that around Tarata Pa. A general account of the climate of the Waitotara-Wanganui area has been compiled by N.G. Robertson, Meteorological Service (in Fleming, 1953:2-6): records from Moumahaki show an approximate mean yearly temperature of 54.8 degrees F., a yearly mean of 24 days of ground frost, a mean annual rainfall of 46.09 inches (mean of 153.2 raindays distributed fairly evenly through the year), and a mean of 1,931 hours of bright sunshine. The prevailing winds are from the north-west and west, and from the south, and are often strong. The marked relief of the northern parts of the area under consideration must exert a considerable influence on the microclimates of river and stream valleys, including the immediate area around Tarata Pa.

A wide range of animal habitats is present in this area - open sea, river and stream, lake, sandy and rocky shore, open land and forest. Although this aspect of the environment has not been examined in detail yet it seems safe to assume the presence of a wide range of animal food and other resources in or near to the sample area.

THE FIELD EVIDENCE

A total of over 300 sites have been recorded in the area under surbey. More than 255 of these fall within the sample area giving an average density of about 3.5 sites/square mile with actual densities greater than 11-12 sites/square mile in places (see below). The site here is a visual unit of recording and may or may not represent a functional unit. It is probable that some sites will be further divided, into smaller units, for convenience of description and analysis.

A number of sites, especially pa sites, were known and visited by the writer and his father (M.J.G. Smart) several years previous to the main period of recording in 1962. Most of the sites (221 in the sample area), however, were located and recorded from aerial photographs by the writer and his wife, in a period of 5 days (8th-15th February 1962). This was followed by an intensive field examination of selected areas and selected individual sites for the next 11 days. Nearly 150 (including 44 sites not recorded from the aerial photographs) were visited in the field.

The procedure followed in recording, once the site was recognised with a stereo viewer on the aerial photographs, was as follows. The location of the site was marked on a master plan (Aerial Mosaic sheets) and assigned a site number on both the plan and a Site Reference Form (N.Z.A.A. Site Recording Scheme). Available reference details were noted, along with a description of the type and nature of the site and a sketch plan drawn with approximate scale. A selected series of sites were projected through an epidiascope for detailed mapping in the field (at a scale of 1 inch to 30 yards). Sites inspected in the field were described in detail, with photographs, plans, and where applicable, the projected map completed in detail.

No attempt was made to check all sites in the field - this would have been an unjustified waste of time and labour. Care was taken to select areas for field examination which would include variations of environment, types of sites, variations within site types, possible temporal and spatial differences, and so on. Sampling was carried out throughout the survey. The coastal sand dune area, known to contain midden and working floor sites, was excluded from the survey.

PA SITES AND DEFENSIVE EARTHWORKS

Some 48 sites (33 in the sample area) of this type were recorded. A wide range of topographic situations are represented - ridge, headland, hill, island, and cliff edge (e.g. fig.4: and plate I) but, with the exception of only a small number of pa, the use made of natural defence is fairly uniform. The individual aspects of the situation (especially slope, the nature of the area suitable for habitation and the type of sub-soil material) are the important and determining factors in the construction, and resulting appearance of the pa. To group the pa sites recorded in this area into the descriptive categories of conventional pa classification (e.g. Golson, 1957:73) appears to create a false and misleading basis for their study.

The defensive feature employed throughout the range of pa sites is the ditch, often deep and well preserved and sometimes with a "causeway" (Best, 1927:202). On ridge crests the ditch is short in series (usually three) fairly close together, and with no bank. Where the slope is not steep, a ditch situated slightly below the crest has, because of its situation on a slope, an outer bank which is sometimes further enlarged, while inner banks, when present, are usually small. Ditches unequally sub-divide habitation areas to some extent. Steep slopes are sometimes scarped but it is difficult to separate the defensive function of the scarp from the habitation area associated with it and thus determine its contribution to the defensive pattern. A small number of earthwork defences with no associated habitation evidence, often in unusual situations, remain something of a puzzle.

Habitation areas are nearly always artificially levelled. Size and shape, situation and occurence of platform and/or terrace, are of course entirely dependent upon the topographic situation. It is the surface and underground pits which provide the most striking evidence of habitation. Surface pits of

large size and excellent preservation are found on nearly every pa. Vertical pit walls and clearly rectangular outlines are common. These and the underground pits, by their remarkable uniformity, provide evidence of the close cultural association of the range of pa sites which, because of their varying topographical situations, seem so very different in layout and general appearance.

Although no surface evidence of palisading was encountered the presence of a considerable proportion of the habitation (especially storage) evidence outside of the visible defensive earthworks might suggest that the palisade was in extensive use in peripheral parts of the pa while the habitation "core", on the crest of the topographic situation, was more heavily defended with earthworks (this is supported to some extent by the excavations on Tarata pa; see below).

Little other habitational evidence such as midden material, in or around the pa, was recorded but this is probably due to the maintenance of the ground surface under good grass cover than to an absence of such evidence (as might indicate impermanent habitation). The faunal material from midden deposits includes shellfish from the seashore and from fresh water, fish, birds, dog and man.

PIT SITES

Both underground pits (3) and surface pits (over 230) occur in groups and singly outside of the pa sites described above. Two types of surface pits can be recognised:

(a) Deep, clearly rectangular and well preserved surface pits occur in groups, in pairs and singly. The groups show a somewhat random agglomeration of pits and any regular arrangement which does occur can usually be regarded as imposed by the topographical situation. These pits appear closely similar to those associated with the pa sites and tend to have a similar distribution (see below)

(b) Shallow, rectangular and poorly preserved surface pits occur in groups and "groups of groups" but seldom as single pits. Pits within these groups are usually arranged in regular patterns of straight, angled or curved, single or parallel lines, sometimes with differentiation of size within the line. The distribution pattern of this type is different to that of the pits described above and the pa sites (see below)

The large number of surface pits, and the great variety of form, pattern in association, and situation they exhibit, promises a fruitful field for analysis. But these evidences, above all else, require the fuller information obtained by excavation. It remains a possibility that a part of the difference in form and preservation may represent a difference in treatment through modern farming practices (such as ploughing) although the visible differences in the range of pits are shown, in some cases, by a series of pit groups in close proximity, even in the same field. Tentative interpretations of social organisation might be inferred from analysis of the surface evidence alone. A lack of closely associated evidence, such as artifacts or traditions, prevents any sound estimation of relative age.

SITES OF AGRICULTURE

A total of 22 groups or single examples of borrow pits were recorded but a great many more, outside of the sample area (particularly near Waverley) were seen in the field. Many have been excavated into old and stable sand dune ridges to win sand for the surrounding heavier loamy soils and, because of their situation in pure sand, assume a conical shape. Some are of considerable size with quite irregular shapes. They provide considerable and extensive evidence of agriculture on the coastal lowland.

Although no "made" soils, in association with these borrow pits, were recorded there are two other examples of a field evidence which is tentatively taken to represent former agricultural activity. These sites comprise small areas of flat land only a few acres in extent, upon which are low, regular, parallel ridges of sand. one example has been reduced somewhat by ploughing. Both occur close against the inner margin of the coastal sand dunes which have, presumably, supplied the sand for their construction. Their general appearance is similar to the stone ridge complexes more common in the Wellington and Wairarapa regions although an exactly similar function is not necessarily inferred.

OTHER SITES

A few traces of an eel(?) weir, many of which are known to have existed in early European times, occur on the Waitotara River close by Tarata pa. Only the bottom portion of the funnel-like walls which directed the eels into the hinaki remain but these, because they are normally below water level, are in almost their original condition.

Aerial photographs (taken in 1942) revealed the existence of a low ditch/bank unit of a rectangular plan, but with one long side formed by the Waitotara River, which can be associated with the type of Maori village constructed soon after the period of European contact. This site is no longer visible in the field.

Artifacts are occasionally found in places other than pa or pit sites. A number of wooden objects including paddles, pounders, digging implements (a large group was discovered at Nukumaru) and other assorted items (e.g Downes, 1932:50-58) have been, and still are, recovered from swamps. Several canoes remain in the Waitotara Valley and four have been collected by Mr. D.S. McGregor and now lie at the foot of Tarata pa.

A number of burial grounds of fairly recent origin occur throughout the area.

SITES OF THE MAORI WARS PERIOD

Waitotara and Nukumaru areas witnessed considerable activity during the period of wars on the West Coast. The famous Hauhau leader Titokowaru attracted, during his stay in Nukumaru, sufficient attention to warrant the employment of a large number of militia in an effort to smother an expected attack on the frightened township of Wanganui. Here also was the scene of the unfortunate incident, near "Handley's woolshed", which led to the wellknown Bryce v. Rusden libel case in 1886.

Much evidence remains from this fascinating historical interlude but for some peculiar reason, some of the most interesting and spectacular sites have been completely obliterated by farming and other activities. The first gunfighter's

pa constructed by the Waitotara Maoris, though not strictly of the Maori War period, has disappeared without trace while the site of one of the most magnificently conceived Maori redoubts, the Taurangaika pa at Nukumaru, bears no trace of its glorious but useless existence. Fragments of a cliff-edge gunfighter's pa and European redoubts of simple square, square with flanking angles and circular outline have been recorded. The history of this period is well preserved so that the surface evidences can be identified and interpreted with little difficulty.

DISTRIBUTION OF SITES

Pa sites occur in the Waitotara Valley and along a major tributary, the Maoumahaki Stream. These sites, situated in a uniform topography, are alike in plan and in individual features. Sites on the coastal lowland near Nukumaru, in rather different topography, are of different general appearance but resemble the Waitotara pa in their individual features. The latter sites occur around the headwaters of the Ototoka Stream, and along the Okehu Stream, but are found no further east that this although they extend westwards through South Taranaki. The restriction of pa sites to these major waterways - Okehu and Ototoka Streams, Waitotara River and its tributaries - is quite distinct.

Pit sites have been recorded throughout the sample area and appear to extend over all but the extremely rugged hill country inland. One type of surface pit (deep and well preserved) has a wide, random and discontinuous distribution over the whole area surveyed while the other type (shallow, poorly preserved) is restricted to the coastal lowland where its groups cluster in fairly well defined small areas of flat unbroken country (two areas of which occur in the Nukumaru district)

Underground pits are found only in the Waitotara Valley and nowhere in the Nukumaru or neighbouring areas.

Redoubts and gunfighter's pa are scattered through the Nukumaru and lower Waitotara Valley but can be related to particular fields of engagement or other documented activities.

PRESERVATION OF SITES

As already noted, many sites are in an extraordinary state of preservation. A very small percentage of the sites recorded from the aerial photographs have been damaged or destroyed, usually entirely destroyed. This destruction may be associated with a decrease in the size of land holdings with resulting increase in the intensity of farming, and must undoubtedly continue to claim small numbers of sites in the future.

THE EXCAVATIONS AT TARATA PA

Tarata is typical of the pa sites situated on the broken hill country along the margins of the Waitotara Valley. In the sites the evidence of occupation in the form of levelled areas, surface pits and underground pits, extending for a considerable distance along the crest of steep sided ridges, usually accompanied by a series of defensive ditches (one with "causeway" access), platforms and terraces, surface pits and underground pits, and slight traces of midden, burnt earth and oven stones, distributed over a distance of about one-third of a mile (see plan and profile, fig.3) A number of artifacts have been picked up on the pa.

The excavations began (in 1960) with small sample squares at various points, and a sample trench across the ridge to examine the cross-section of the pa. This led to an intensive examination (in 1960/61 and 61/62) of a small part of the northern

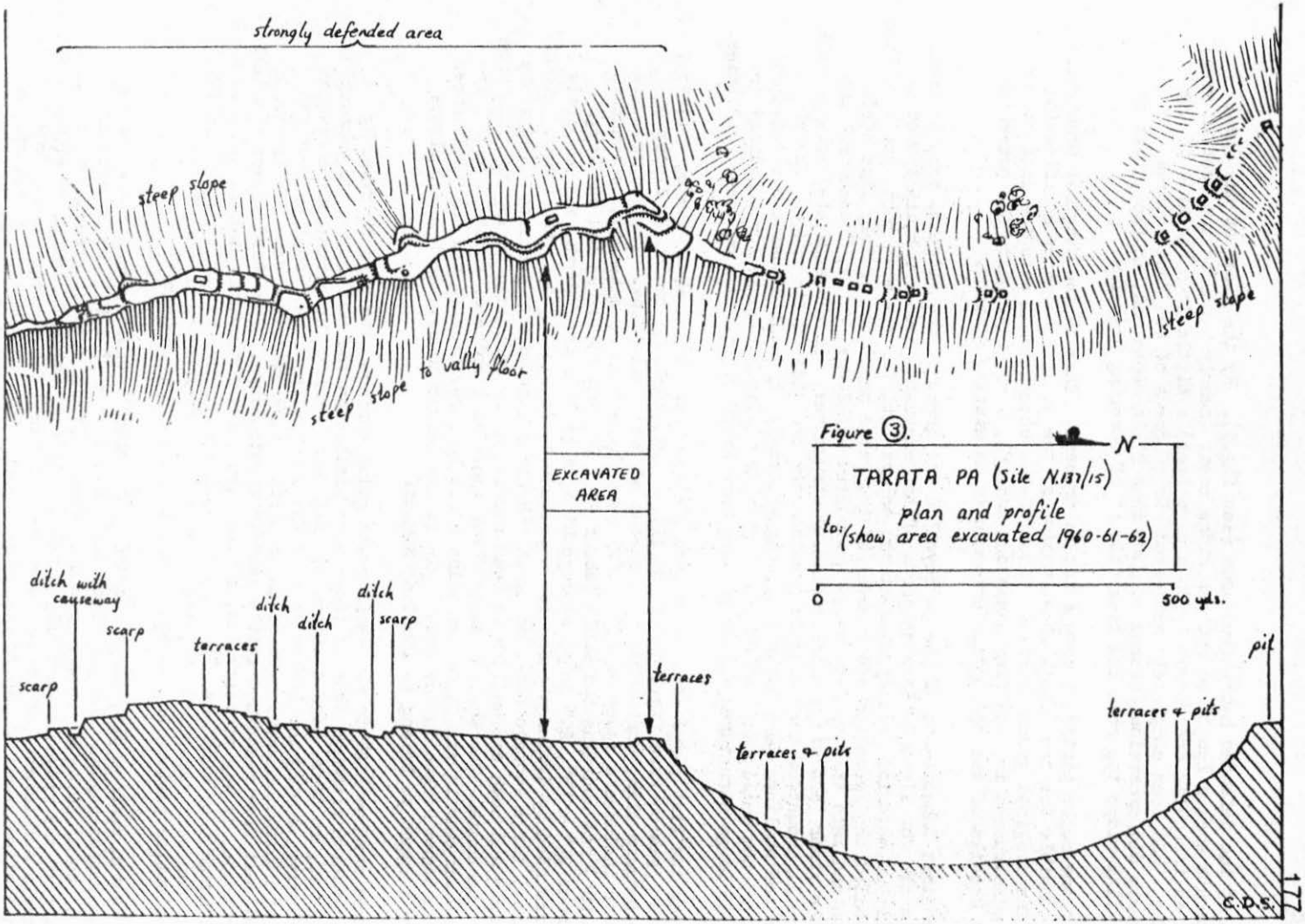


Figure (3).

TARATA PA (Site N.137/15)

plan and profile

to show area excavated 1960-61-62)

C.D.S.

end of the defended habitation area (see fig.3). By the close of the final season's work a length on 150' of ridge crest (nearly 4,000 square feet in area) and an irregular area (about 1,500 square feet) a little down the side of the ridge, had been completely excavated in a series of ten foot squares. Nowhere did excavtion descend to more than 2' in depth and, in fact, most of the flat ridge top revealed less than 1' of covering deposits.

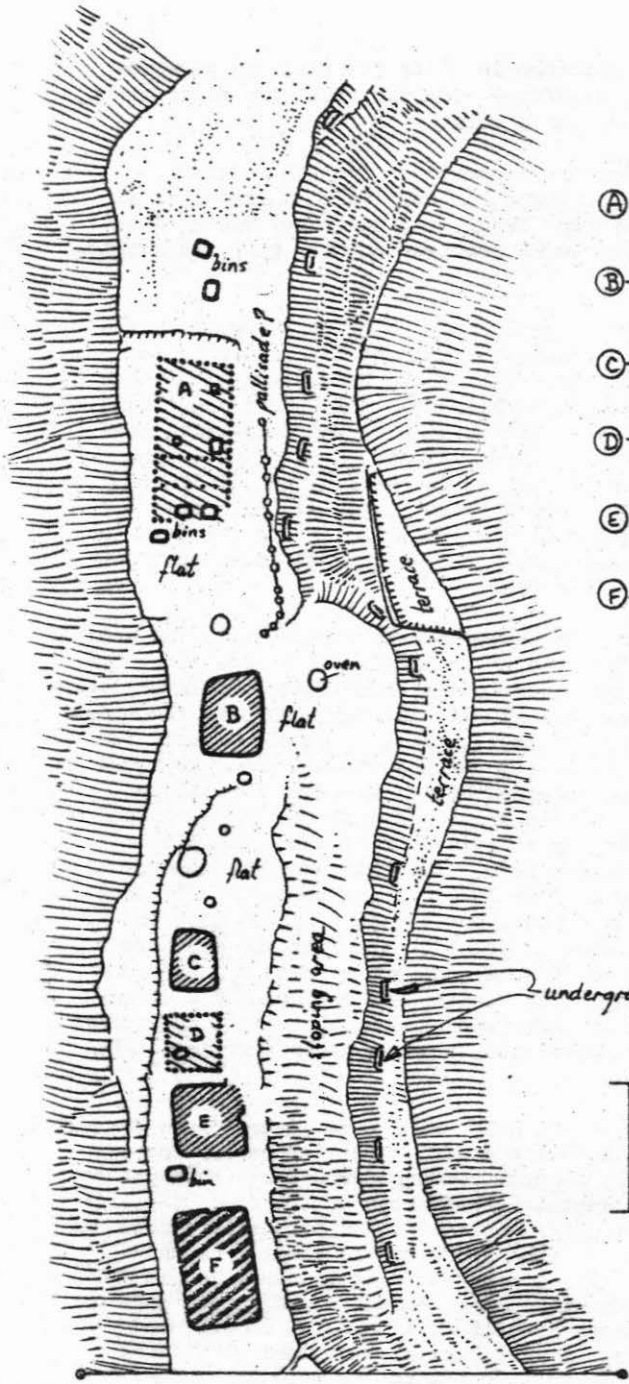
Only one major period of occupation is present. This is the original occupation, responsible for the actual construction of the pa and the major modification of the original ground surface. Most of the occupational evidence lies on, or is constructed in, the firm sandstone natural, a material which has preserved the details of the occupation evidence in an amazing fashion.

The first inhabitants of the pa levelled the crest of the ridge to provide areas suitable for living. In some parts of the excavated area a certain amount of built-up material (mostly sand-stone) occurs but, for the most part, the levelling entailed the reduction and removal of the ridge crest to a fairly flat surface. Upon and into this surface were constructed buildings, ovens, "fencework" and other minor (and often unidentifiable) structures. In the excavated area as well a small amount of terracing is present down the side of the ridge. These terrace outlines were invariably exaggerated by the soil deposits over them and proved too small, in most cases, to provide sufficient space for buildings or other large structures, although they bore abundant evidence of other activities.

Along the flat ridge crest a number of structures, or their remaining evidence, were revealed (see fig.4 and plate II). These included two house floors of rectangular plan, surrounded by a series of oval post-holes. The larger house floor includes a space of 10' by 12' (with some form of extension to about 10' by 18') and contains two small (about 9" x 9", and 15" deep) and one large (about 20" x 15", 24" deep) storage bins, a small stone hearth, and is partly surrounded by drainage channels to prevent water flowing onto the floor. Another three, large storage bins, occur in the floor extension and nearby The stone hearth and both end walls have been remade in new positions during the existence of the house. The smaller house floor includes a space of about 7' by 8', is much simpler in structure, contains a single large storage bin only and traces of a stone hearth in the same style as the larger house. Both house floors are thought to belong to dwelling houses.

Three shallow (12" to 18" deep) rectangular surface pits were revealed by excavation although none of these were visible on the surface before excavation. All had, in fact, been deliberately filled in during the period of occupation and must, during the latter part of the occupation, have formed part of the flat habitation area. Two of these surface pits exhibited very few postholes and must have possessed little associated structure. The third showed abundant evidence, by way of postholes, of the structural framework which it had possessed. Although they must have lost their usefulness during the period of occupation, and had been "disposed of", they obviously form an integral part of the habitation pattern and do not belong to an earlier occupation.

A fourth surface pit, large and deep, was clearly visible on the surface be excavation began. The pit floor includes an area 9' x 15', at a depth of 7.5' to 4' below a sloping ground surface. It has been constructed in a narrow part of the ridge leaving only a relatively thin wall of natural on either side, barely sufficient (or perhaps even insufficient) for passage to and from the habitation areas to either end of it. The floor retains a clear and simple posthole pattern but no evidence of a fireplace or internal storage bins, although the natural on this part of the ridge is a softer material which may



Ⓐ- house floor 10' x 12' (or 18') with 4 large and 2 small bins.

Ⓑ- shallow surface pit

Ⓒ- shallow surface pit

Ⓓ- small house floor 7' x 8' with single bin.

Ⓔ- shallow surface pit

Ⓕ- large surface pit 9' x 15' and 4' to 7'6" deep.

Figure ④

TARATA PA (N.137/15)
showing
EXCAVATED AREA

not have preserved small details of evidence in quite the same way as elsewhere. A single shallow buttress of sandstone material, with two faint steps, protrudes from the centre of the short north wall.

Scattered amongst these six structures are a number of oven depressions, drainage channels and assorted other features, as well as postholes. These latter are often in small regular patterns suggesting that they belonged to the smaller wooden structures and frameworks required in preparing and storing food supplies.

Along both edges of the ridge runs an irregular series of postholes. On the precipitous western side, scattered postholes run almost the entire length of the excavated area but the small size and depth of the holes suggest a light fence or windbreak, rather than a defensive palisade. Only short and incomplete lines of similar appearance occur on the eastern side of the habitation area and these are set further back from the ridge edge. At one point right on the eastern edge, however, a clear line of larger holes, well spaced, indicate a length (30') of much stronger fence or, more probably, palisading. The suggested defensive function of this feature is supported by its relation to a small access path, with steps, passing over the ridge edge and down to the storage and other facilities on the ridge face.

All the underground pits (rua) are of the style entered horizontally and are, of necessity, constructed along the ridge face or in artificial scarps along the ridge top. In the excavated area they occur in the ridge face immediately below the flattened top or in the scarps associated with the terraces down the ridge slope. Of the 47 recorded on the pa, 16 occur within, or closely associated with, the excavated area (about 60p.c. of all the underground pits are found in and around the northern end of the defended habitation area.) With few exceptions these pits are of fairly uniform shape and size (fig.5) - a more or less rectangular chamber of 4' (depth) by 6' (width) flat floor and 3'6" height, the roof sloping down towards the rear. The entrance, the top of which is level with the roof, measures about 18" x 18", has a recess for a "flush-fitting" door panel and an outer rain channel across the top and down the sides. A symmetrical pattern of small postholes in front of the entrance may have held a protective "verandah". Constant use of some underground pits by sheep has worn and broken several entances, while other pits have accumulated a floor-cover of mus and rubbish. A number of unfinished underground pits, and others only recently exposed by erosion or excavation, provide clear information on the methods of construction employed.

To determine the storage conditions provided by these pits several were tested for temperature and humidity. From a "wet and dry" bulb thermometer and a "maximum/minimum" thermometer, fairly regular readings were taken throughout the day inside selected pits, while another thermometer on the ridge top provided the normal (or nearly so) outside conditions. Readings were taken at 1-2 hour intervals, as well as notes on general climactic conditions and special conditions within the pits. No attempt was made to seal the pit or simulate supposed original conditions within the chamber. Sufficient information was gathered to determine storage conditions iithin the underground pits in their present state, and to extrapolate to possible original conditions. The normal diurnal air temperature fluctuation was not felt to any extent within the pit anf, with any reduction or blockage of the entrance (to eliminate sunshine and a small amount of air movement), would hardly be noticeable (fig.5) This nearly constant internal temperature (60-65 degrees F) is accompanied by an equally constant relative humidity of 94-95p.c. Such conditions, with an

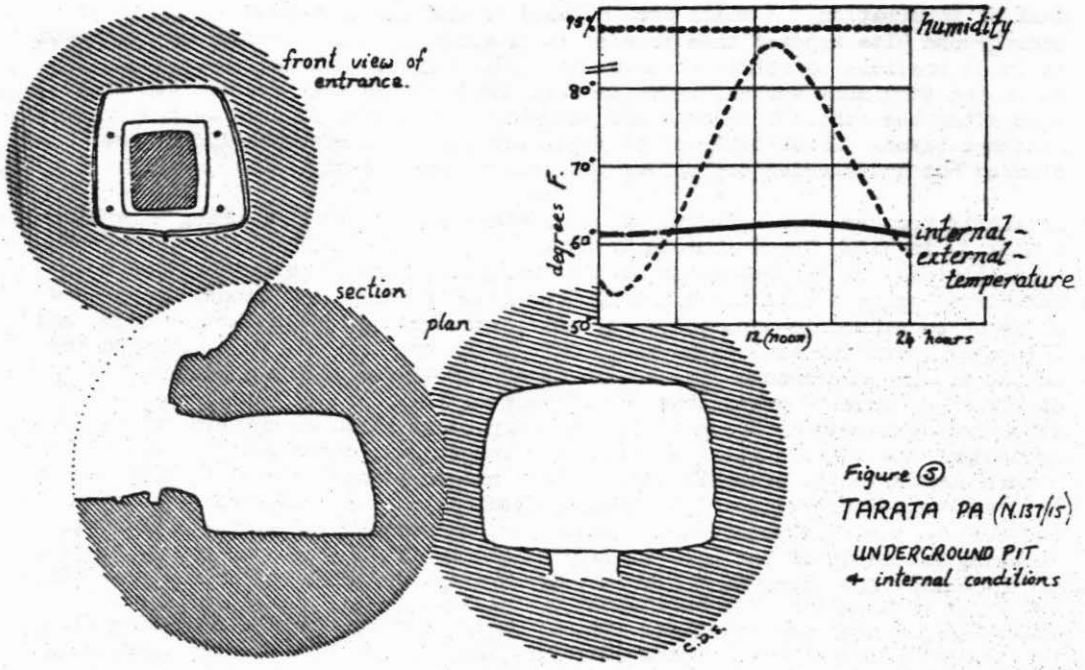


Figure ③
TARATA PA (N.137/15)
UNDERGROUND PIT
+ internal conditions

absence of light, would seem ideally suited to the storage of water (several rua have held water over a number of years up to the present time) but the elaborate precautions taken to prevent the entry of water into the chamber, and other evidence, suggest that the conditions are not so incompatible with the storage of root crops as they would at first appear and that these pits may in fact have been used to store kumara.

The excavated area on the side of the ridge, immediately below the habitation area and down some 15', uncovered an array of irregularly places postholes, short rows of postholes, an outer palisade, and assorted channels, steps, benches and other excavations. A narrow terrace providing access to a series of underground pits, close below the ridge top, places the pit entrances at about chest height, perhaps an example of an early labour-saving device in the home, while a concentration of cooking stones on a raised shelf associated with a small triangular terrace could be interpreted as a precursor to the "eye-level" grill. Much speculation and fantasy has indeed been applied (by visitors to the site) to the interpretation of the many unusual features uncovered on the pa.

An unusually small amount of midden material was encountered in the excavted area although traces exist elsewhere in the pa. Complete and fragmented oven stones were found everywhere, as was charcoal and blackened earth, but these do not appear connected with areas or sites of food preparation. A few shell fragments and bone, including crushed and burnt human bone, occured in small pockets of burnt earth, especially in the material filling one of the shallow surface pits. The small oven depressions provide the only firm indication of food preparation in the excatated area. It is likely that any refuse thrown over the steeper parts of the ridge side would disappear into the slumped soil further down the slope.

The small sample excavations in other parts of the pa did not provide a great deal of information. A small area cleared around the entrances of a pair of underground pits exposed them in what is probably as near to original condition as it is possible to obtain on this site (plate III). A long trench through a defensive earthwork series, revealed that the bank had been constructed some time after the other earthworks and actually rested upon an oven depression and charcoal layer. Investigations of other interesting surface features were planned but not carried out before the excavations closed.

Artifacts recovered from Tarata pa, by surface collection and during excavation, number 37 in all. These include 21 adzes, of the type called by Duff 2B (Duff, 1956:163-168), with rectangular section, slightly convex surfaces and an unmodified grip, manufactured mainly from locally obtainable stone. Many show signs of considerable abrasion, and consequent curving of the cutting edge, and this characteristic associates them with the clearly visible adze marks on the inside of the underground pits and in other structures in the sandstone. A single small adze of greenstone (?) of very dark colour bears traces of an attempted perforation of the butt. Two very small adzes or chisels are of greenstone and baked argillite (?). Adze lengths vary from 8¼" to 2 3/4", with a more common length of about 4"-5". Five hammer stones of varying size (2½"-6½") and degree of wear, all in locally obtainable stone, and two grindstones (as well as other lumps of coarse sandstone, showing no signs of use but not occuring naturally of the pa) probably relate to final stages in the manufacture of the adzes. No signs of primary stone working were revealed by the excavation but large working floors, and sources of suitable stone, are known in the coastal dunes near the Waitotara River. Pumice bowls, a pumice smoothing block, pointed sandstone file, a sinker and "top-like" object in very fine sandstone, stone patu and stone beater comprise the remaining artifact collection. With only a single major period of occupation present on the site it is fairly certain that these artifacts can be related to it.

No good traditional information is available for Tarata pa. A few vague verbal statements suggest that occupation took place not very much before European times but the pa was certainly uninhabited when the first Europeans came up the valley, The ridge and large areas of the nearby river flats were covered in scrub while the surrounding area supported a heavy growth of podocarp-broadleaf forest, portions of which remain today.
The main virtues of the pa lie in:

(a) the remarkable preservation of the site due to the firm sandstone natural in which it was constructed - thus providing not only great clarity of evidence, even details, but also providing unusual ease of excavation: and
(b) the single period of occupation involved - which allows the cultural assemblage of structures, layout of habitation areas, and artifacts to be clearly and precisely defined and, by inference from other information, provided with a relative date.

OTHER EVIDENCE

No special effort was made to collect traditional information. Sufficient was already available to confirm the otherwise established recency of the much of the field evidence (some examples of which were "still in use" when the early European visitors passed through the area). A few place names, as well as names for most of the pa sites, have been recorded from various published sources or collected from informants by M.J.G. Smart. These, with refernces to people and events, constitute a reasonable body of information which, because of the small area and short period of time involved, is taken to be reasonably accurate. This forms, however, a very minor part of the main analysis. There has been no attempt to trace traditional evidence beyond about 1750.

Early historical material is also readily available from various sources, covering the period from the travelling missionaries, through the Maori Wars, to the early surveyors and settlers.

The Nukumaru and Waverley areas have produced some remarkable and unusual items of material culture, ever since European farming began, but these remain without context or precise locality for the main part. Some items are without known cultural association while others find their parallels in the assemblages of Wairau Bar and related sites, or assemblages of more recent times. As with any examination of private or Museum collections, the frustrating absence of precise (or even near) locality prevents even the most copious of records from being related in any way to recorded field evidence. Thus although it is possible to demonstrate considerable cultural variety for the Nukumaru-Waitotara area, by way of artifacts, only in a very small way can this be related to any other evidence collected during the survey

ANALYSIS

The close examination of a small and carefully selected area, such as has been described, is bound to produce a wealth of new information even if for no other reason than the complete absence of such work elsewhere in New Zealand. Probably for this same reason it has produced many difficulties, not so much in the application of field methods but rather in the subsequent analysis of the results. Even such a simple aspect of the analysis as the sorting of the recorded pa sites into some suitable basis for comparative study immediately demonstrates the complete inadequacy of the conventional descriptive classification of pa sites. The topographical situation of the pa site has little real meaning in comparison, but rather it is the effect of the topographical situation, with all its individual variables, which determines (largely) the eventual appearance of the pa and reflectes, to some extent the interaction of man and his environment. Since, however, the archaeologist is dealing primarily with cultural material than the features of the greatest importance in the comparison of pa sites are those which are "cultural" - the surface and underground pits, the levelled areas, artifacts, food remains and so on, which constitute the actual field evidence left by the former inhabitants.

When over 300 sites, from a restricted area, are available for study there is an obvious need for evidence of time in association with the field evidence itself so that some form of chronological framework can be constructed. This can be an extremely difficult problem in New Zealand at the present time. Recourse may be made to other types of evidence such as artifact typology or tradition, neither of which exist in reliable form. Even excavation provides but little assistance and then only in certain parts of New Zealand. It seems likely, furthermore, that the field evidence may prove a rather insensitive indicator of culture change so that only the most pronounced changes will be reflected in the surface indications.

In spite of these, and other, difficulties it has been possible to define a recent aspect of Maori culture from the material obtained in the Waitotara-Nukumaru area. On artifactual, traditional and historical grounds the aspect belongs to the period immediately prior to the European settlement of the area (up to c.1850) and extends back at least a century earlier. It was observed in its closing stages by early travellers and missionaries. Its cultural assemblage includes the evidence from Tarata pa and other pa sites from Waitotara and from Nukumaru. There is evidence to suggest that the real extent of the area is from the Okehu Stream (just to the east of the sample area) up to and beyond Hawera, and it is proposed to refer to the aspect as belonging to South Taranaki (an area approximately equivalent to the tribal areas of Ngati-Ruanui and Nga Rauru). A precise definition of this aspect will be a major part of the eventual full analysis of the fieldwork in the Nukumaru-Waitotara area.

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EXCAVATION OF A HOUSE-FLOOR AT WAIMATE PA

by A.G. Buist

Description of site:
The area on both sides of the mouth of the Kapuni River, South Taranaki, was the site of two fortified pa and an unfortified occupation area. Waimate Pa, N129/100, is an island formed by the ancient river course and lies on the east of the present river mouth. Orangi-tuapeka Pa, N129/101, is on the west side of the river mouth. The headland between the two pa, N129/102, is a flat area of some twenty acres and has no defences apart from the steep bluffs on either side. Some three to four feet of volcanic soil lies above a hard sand-stone pan, In this surface soil numerous pits are visible.

History of site:
The area is one of the best documented sites in Taranaki, if not New Zealand, both by way of recorded tradition and recorded description. In June 1833 Wi Kingi Matahatea defeated the Waikato raiders at Te Namu Pa, near Opunake. He later occupied Orangi-tuapeka Pa and re-fortified it. Here, in 1834, he defeated the Waikatos under Potatau te Wherowhero and ended the Waikato raids into Taranaki (Smith 1910 p.512)

In October 1834 the area was bombarded by a British expedition in a valiant effort to rescue a whaler's wife, Betty Guard, and her two children, who were being held ransom. After a series of brilliant but inexplicable naval manoeuvres between the South Taranaki Bight and Blind Bay, the H.M.S. Alligator succeeded in landing a party of Marines at the mouth of the Waingongoro River some three miles down the coast. This party succeeded in moving a small cannon across country and finally took the pa. This was a purely punitive attack as the hostages had been released at the landing. On October 9th 1834 the whares were burnt and the expedition left, ending the first brilliant engagement of the Imperial Forces against the Maoris of New Zealand. Dr W.B. Marshall, Surgeon on H.M.S. Alligator wrote a book of his experiences which was published two years later (Marshall 1836). In this he describes in detail the Waimate sites before their destruction.