



NEW ZEALAND  
ARCHAEOLOGICAL  
ASSOCIATION

**NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION NEWSLETTER**



This document is made available by The New Zealand Archaeological Association under the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

To view a copy of this license, visit  
<http://creativecommons.org/licenses/by-nc-sa/4.0/>.

INVESTIGATIONS AT CASTOR BAY POINT PA, TAKAPUNA, NEW ZEALAND

Roger Green  
Bernice P. Bishop Museum

This report on investigations at Castor Bay Point Pa on the north shore of the Auckland area in the city of Takapuna is written to provide information on several points of interest. The first relates to efforts to preserve the site and develop it as a park and as a prehistoric reserve. The second is to place on record a description of investigations to date, so that others may use them, should further efforts be judged desirable. The third is to indicate several results of wider importance in New Zealand prehistory. These last include the demonstration that the initial occupation of the site, which probably extended over the entire area of a headland remnant, is associated with the type of pa exhibiting only natural defenses supplemented on some slopes by simple terracing. During a later occupation, the site was converted to the more typical promontory pa (Golson 1957, pp. 81-82) in which an artificial ditch extending across the headland cut off access to an area less than one-third the size of the earlier pa. It also includes the demonstration that the large deep pits, belonging to the earlier occupation are contemporary with a slightly sunken but otherwise above ground unit whose form is of considerable theoretical interest. Finally it provides fairly conclusive evidence that a ditch with a flat bottom was the main defensive device in a ditch and bank system in which the low inner bank was entirely lacking in palisades or other wooden members.

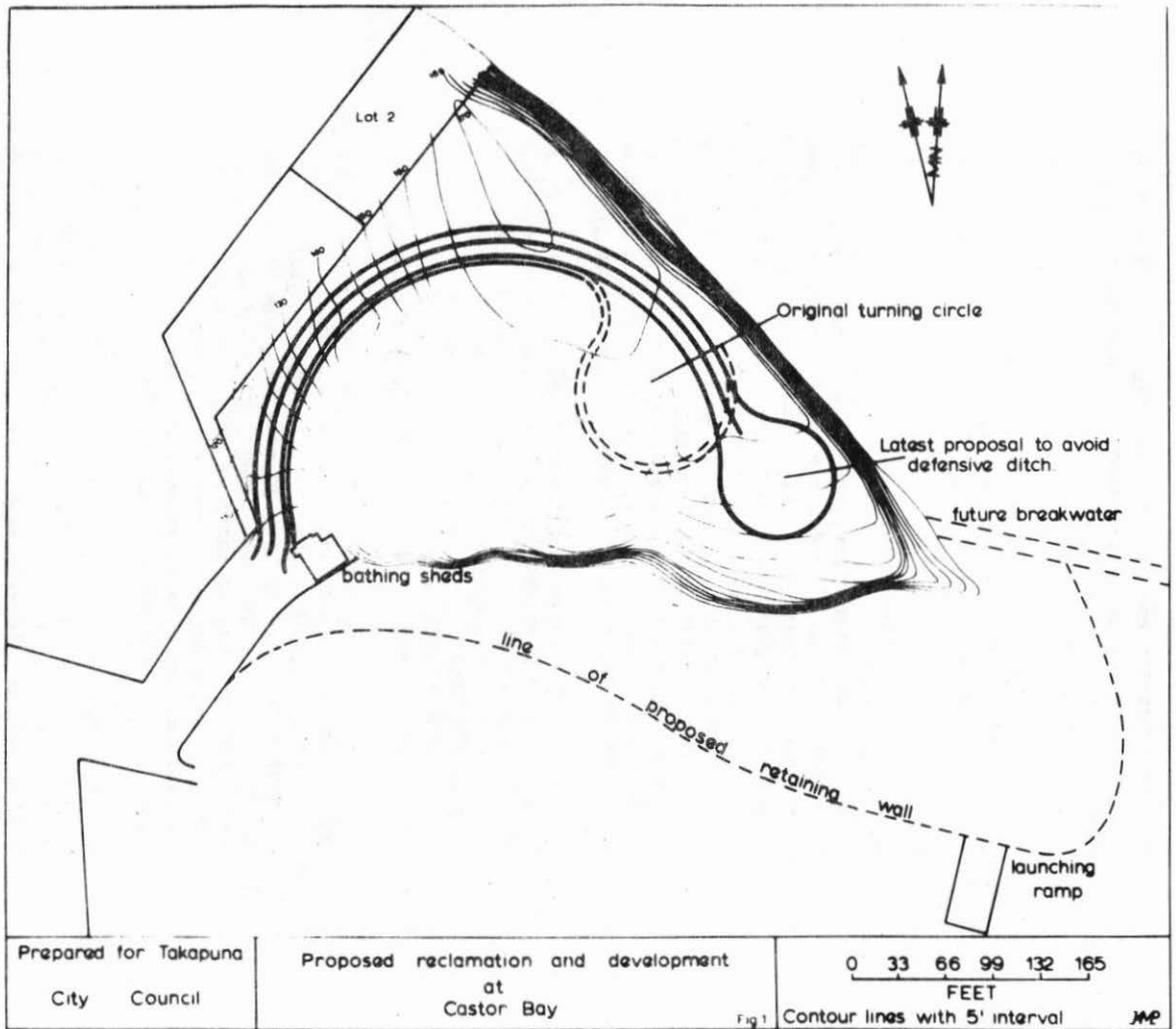
STEPS TOWARD PRESERVATION

The initial impetus for these investigations stems from the concern expressed by the citizens of Castor Bay, particularly those in the local Residents and Ratepayers Association, to have the site preserved as a park and historic monument rather than significantly modified by bulldozing and the construction of alternative amenities. This situation is best explained by an extract from my letter to the Castor Bay Residents and Ratepayers Associated, dated 25 November 1963. At this time, the site had already been recorded by H. J. R. Brown on whose records I was able to depend for my initial response. The extract reads:

"This site has been recorded in the New Zealand Archaeological Association Site Recording Scheme as N 38/20. Our records show that on September 8th, 1960 on page 11 of the Auckland 'Star', it was proposed to develop this area into a seaside park. More recently (April-May, 1963), as the result of enquiries from local ratepayers, we made an investigation of the site and a rough plan of its features. This was to furnish the ratepayers with information to oppose a proposal to level site to water-level, and use the spoil in building a boat or yacht basin. In our survey of sites in the Auckland Isthmus area, this is the only nearby Headland pa which we know of that is also reasonably intact. It is therefore unique as an example of this type of site within the Auckland-Takapuna City Area, although on the coast and offshore islands, there are numbers of such sites.

"There are two courses of action open in the case of this site. One is to schedule it for permanent preservation: the other is to place it in a category for interim protection. The first alternative is the one we choose where it is possible; the second alternative is one we accept wherever progress or the economics of the matter dictate. My concern is to outline the two alternatives within this context.

"If it is made a Category I site - the owners of the property or the Domain Board of the Reserve must agree to scheduling the site for permanent preservation as a National Monument. If this is done, our aim will be to keep the existing surface earthworks intact, and to prevent any extensive damage to invisible remains below the surface that can only be discovered by proper excavation. This does not preclude turning the site into a pleasant grassed and tree-shaded park which people can visit or use for their leisure. But it would preclude any modification of the existing surface without proper archaeological investigation first. Such a scheduling would also open up the possibility for a second type of development. This would involve a major excavation programme in which certain of the pits, postholes, defences, and other features found below the surface would be stabilized, fenced, roofed, and made into permanent displays ... The idea would not be to reconstruct a model pa, but to learn through investigation the actual history of this pa and some of the features it displays, and then select some of these for exhibition. The result, through notices, diagrams, etc., would be an authentic interpretation of the history of the site. Such a thing has never been done in New Zealand .... Such



Prepared for Takapuna  
City Council

Proposed reclamation and development  
at  
Castor Bay

Fig 1

Fig. 1.

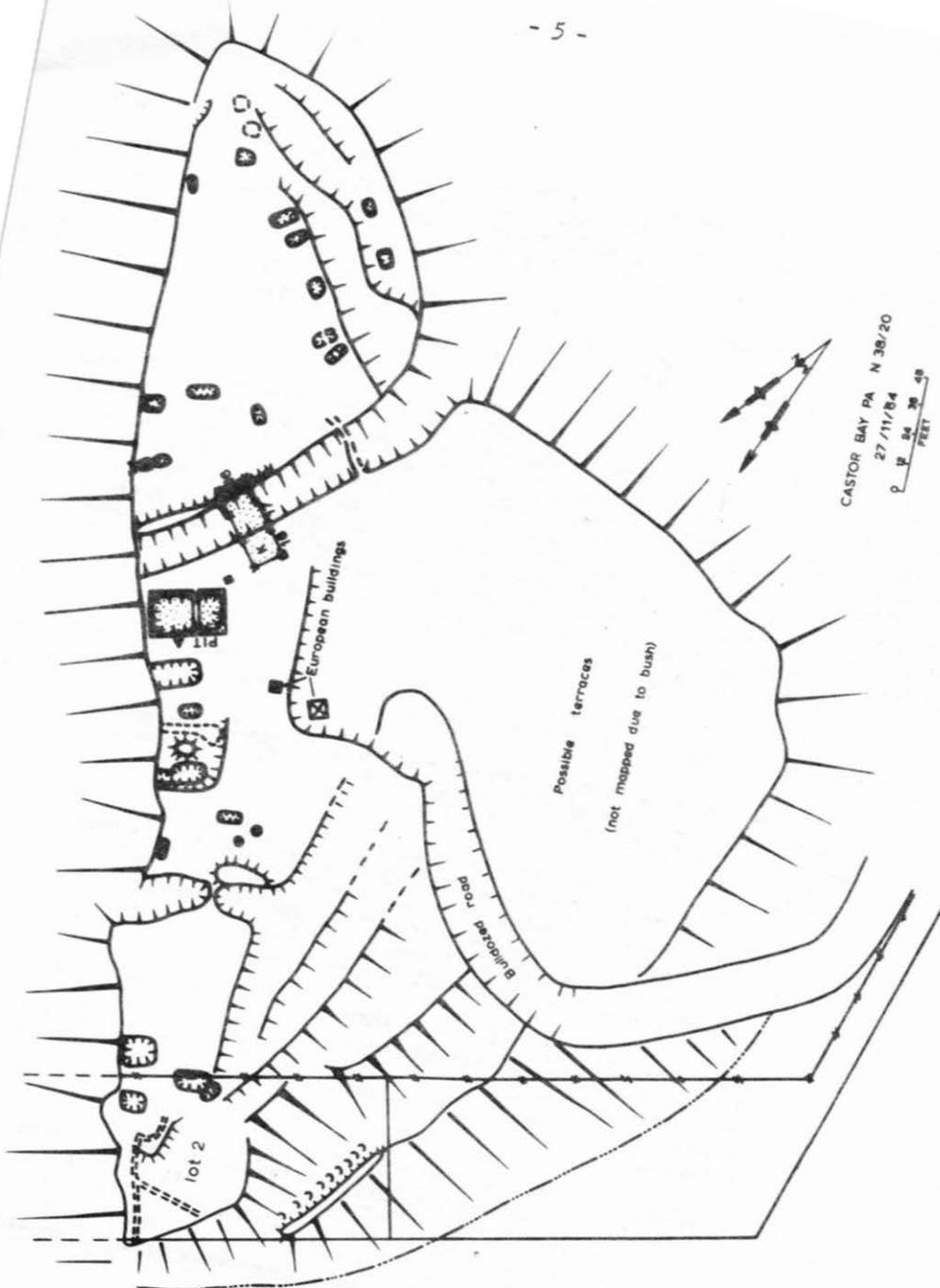


Fig. 2.

exhibits require continual maintenance also. But they are possible in New Zealand, and this site, after suitable preliminary investigation, could quite possibly be developed as a National Monument as well as a Park.

"The alternative is to make it a Category II - If this is done, we simply request permission to investigate the site as fully as possible before it is destroyed."

A result of this letter was an invitation to address their Association on this subject on 9 July 1964, a meeting which was attended by some of the councillors for the Takapuna City Council in whom control of the park was vested. A letter along a similar vein to the City Council followed and was favourably received. This initiated a long and profitable exchange of letters between the City Council and Mr H. J. R. Brown, and/or myself. At that time the Town Clerk furnished us with the contour map of the site which indicated their revised plans for development. These included an access road and turning circle at the top, replacing those originally proposed by the City Engineer (Fig. 1).

With this map in hand, Mr H. J. R. Brown and I inspected the site and commented on their proposals in a letter of 8 September 1964:

"Last week, with map, compass and tape, we again examined the area and the line of the proposed access road. We wish to oppose this proposal for reasons that follow:

- (a) To achieve a reasonable gradient on the proposed road would seem to involve a cutting some 15 to 20 ft in depth between points 4 and 7. Not only would this divide the reserve and leave a dangerous and narrow ridge on the seaward face, but it and the parking area would also intrude on what otherwise could be a pleasant and secluded part of the park.
- (b) Moreover, the road still cuts through the inner defences of ditch and bank, which extend completely across the headland, as they must to achieve their purpose. The engineer has not avoided the feature, as he assumes simply by looking at the contours.
- (c) Finally, not only would the parking circle involve the destruction of several pohutukawa trees which should remain and take up much of the nicest area of the site, but it would also destroy several pits and probably numerous other features that lie buried in the principal living area inside the inner defences. Surely this inner area is one from which

cars should be entirely excluded if the reserve is to serve its purpose. In fact, we wonder if it should be assumed that the public really wants to park cars in the rather limited area on top of the reserve. Rather, they might wish to walk up a good access way, or at best cars might be minimally catered for in the north-west corner of the reserve, where they will not interfere with activity in the rest of the reserve.

"If there is to be no deep cut made between points 4 and 6, the gradient between the road as now constructed and that which is proposed, will be very little different. In the first case, the rise is about 45 ft over a distance of 200 ft, and in the second case it is 60 ft over a distance of 300 ft. While this is a steep grade of slightly more than 20%, it is not beyond the means of trucks, tractors, and most cars if the road were well formed. Our suggestion therefore is that the existing road be upgraded, metalled, and made into an all-weather track. Our preference would be that it is open only as a footpath to the public and a service track for maintenance. However, if sentiment really favours being able to drive up, then the present turning area should be cut on the east side and filled on the west.

"To advise you further on the development of the reserve as a prehistoric monument and to record the evidence before it is destroyed, we propose to make a cutting through the inner ditch and bank for you: this will allow us to learn more about the history of the site and provide the Council with a service access way into the inner area of the site. At the same time, we would open up several of the pits in the area of the proposed turning circle, to see if they are suitable for public display. We would therefore like your permission to carry out this work as part of our society training programme at the end of November.

"We will be glad to meet with the Parks and Reserves Committee at any time to discuss these proposals."

In the meanwhile, the Takapuna City Council had instructed the City Engineer to clear the top of the site carefully of a dense cover of gorse, rubbish and weeds, making possible our more detailed investigations. And, on 22 October 1964, the Council granted us permission to map the site, make a test cut through the ditch and bank and to open up several pits in the area of the proposed turning circle. On 3 November 1964, Mr Brown, and I also attended a meeting of the Parks and Reserves Committee on the subject, along with representatives from the Auckland Institute and Museum.

Then, as part of a training dig, the University of Auckland Archaeological Society carried out limited investigations on 27, 28, 29 and 30 November 1964 under my direction.

The investigations included (see Fig. 2):

- (a) the plane table mapping of the entire site under the direction of Miss Janet M. Davidson,
- (b) the excavation of a three foot wide strip through the ditch and bank along the north sides of squares K-16, 17 and 18,
- (c) preliminary excavations in the fill of pit A.

The results of these investigations formed the basis for the following report to the Takapuna City Council in a letter dated 23 December 1964:

"I. General Development as Public Reserve

The area now a reserve does not include the total area of the prehistoric pa. The map that accompanies this report (Fig. 2) clearly shows those features beyond the fence at the northern end of the reserve which lie on private property. They are not extensive but do serve to complete the site as a unit. Thought should be given either to acquiring this piece of land, or at least to restricting its development or modification without consultation first with the Council. At present, it is well cared for, and the prehistoric features show up well. Thus there is no urgency in the matter as things stand, but in the long term view, it should not be allowed to become another house site, for instance.

Some of the objectives in developing the Reserve would seem to me to be the following:

1. Maximum use of and additions to already existing native bush, trees, etc. with all open areas in short grass.
2. As little restriction as possible by any amenities of the view toward the sea and Rangitoto.
3. Easy all-weather access for the public on foot and by Council maintenance vehicles.

4. Erections of those public amenities thought desirable (fencing, lavatories, water taps, tables, shelters).
5. Selection of certain areas for in place display of prehistoric features, although greater areas of site should actually be investigated in order to furnish a sound basis for interpretation of history of the site.
6. As little disturbance as possible of existing surface features in all stages of development.

II. Immediate Problems in Respect of these Objectives

1. The upgrading of the present bulldozed track should be one of the first objectives. Former features such as the foundations of the custodian's house, the steps and the structures on top, should be removed with as little disturbance of surrounding features as possible. Their removal will not damage the prehistoric value of the site in any way, as things now stand.
2. Thinning of the bush and brush on the north-west corner and along the southern side is necessary both for purposes of further mapping and effective utilization of the entire area.
3. The problem of fencing is a difficult one. The present fences are poorly located as well as being in a bad state of repair. I should favour their careful removal and replacement only along the northern sea face, depending on bushes, etc., for protection along the other sides.
4. The question of other amenities is one the Reserves and Parks Committee will have to answer. These could be located where the existing ones now are without undue interference with prehistoric features of the site.
5. When the bush has been thinned and the grass is kept short by mowing, many of the prehistoric features, not easily visible now, will be more apparent. The details can be shown on a map such as Fig. 2 which can be placed on public display with an explanation of these features. This could be the first step in the development of the prehistoric aspects of the site. Provision would thus have to be made for a set of all-weather display or notice boards as one of the public amenities.

6. The cutting we made through the inner ditch and bank has provided me with the relevant information of that section (see Fig. 4). The spoil from those excavations can now be dumped back into the ditch in that area to provide a flat access way into the inner portion of the site at this point.

### III. Development of the Reserve as a Prehistoric Monument

1. Sufficient evidence was recovered in the ditch and bank section to say that at least two periods of building are represented. Thus the present inner ditch and bank was constructed after the site had already been lived in for some time, and the bank itself covers over and seals in some of these earlier features. The ditch is some five feet deep. Except in the area of the earthen access way, I would recommend that this ditch be re-excavated along its entire length. It would then provide a very dramatic feature and give a far better idea to people of just how effective this type of defensive system was. Again, study of the sections on the drawings will give you some idea of this. If this is done, the reserve and headland will again be effectively divided into two portions - a smaller inner secluded picnic area with very nice vegetation and a larger outer area with more open space, containing the various public amenities, displays, etc.
2. The structural features which this site displays are cut into clay and decomposing siltstone. Most are now well filled, but like the ditch, could easily be opened up again for suitable display and in a fairly permanent state that would require only periodic maintenance.
3. Where suitable features do not occur in the ... (display) area, single examples of these features could be excavated on other parts of the site and made into individual exhibits. These, however, would not interfere unduly with the utilization of most of the remaining area as a pleasant public park.
4. Finally, from the map (Fig. 2), you can see that the site is quite different from the more typical hill pa found on most of the volcanic cones of Auckland. It is also different in many ways from the typical headland pa in that it lacks the

extensive ditch and bank fortifications and depends instead on terracing for defence, with the main inner ditch and bank being added only at the end of the period of Maori occupation of the site. As such, it therefore stands as a unique example of this type of pa within the Greater Auckland area, and every effort should be made to preserve and develop it as a prehistoric monument as well as a park."

Another outcome of these activities was the inclusion of the site in the Archaeological Tour conducted in the autumn of 1965 for the Auckland Festival Committee and organized by the University of Auckland Archaeological Society. Its inclusion, of course, was based on the fact that it was the only pa of this type within the Auckland area which could be visited and explained.

I was absent from the country for the first five months of 1965, but upon my return some of my suggestions had been or were now acted on. Among these points implemented were (1) the removal of the custodian's house, (2) the upgrading of the existing roadway to the top, providing for easy access on foot as well as for Council maintenance vehicles, and (3) the registration of the private land at one end of the pa, but not part of the reserve (see lot 2 on Fig. 1), as a place of historical interest subject to certain zoning restrictions. The City Engineer also checked the regeneration of the gorse, and the City Council agreed to pay wages to workmen to assist in carrying out our plans to open up the northern end of the ditch and reform the bank, so that they could be displayed in something like their original form. Finally I indicated the intent on the part of myself and the Auckland Archaeological Society to hold the Easter vacation training excavation on the site in the autumn of 1966.

The objectives I had for the Easter dig, other than as a training exercise, were (1) to explore the nature and suitability of pit A for display, (2) to determine the full extent of the very interesting features we had encountered under and adjacent to the inner bank before the areas of squares K-16, 17 and 18 were turned into an access way across the ditch and through the inner bank, and (3) to verify that the northern end of the inner bank and the area immediately adjacent to it yielded no evidence for wooden palisades or other defensive devices. The actual information gained is indicated in Figures 3, 4 and 5, and will be discussed in more detail below.

I later used a member of the Archaeological Society as a hired labourer paid by the Council to complete the excavation of the ditch and the stripping of the remainder of the northern end of the inner bank.



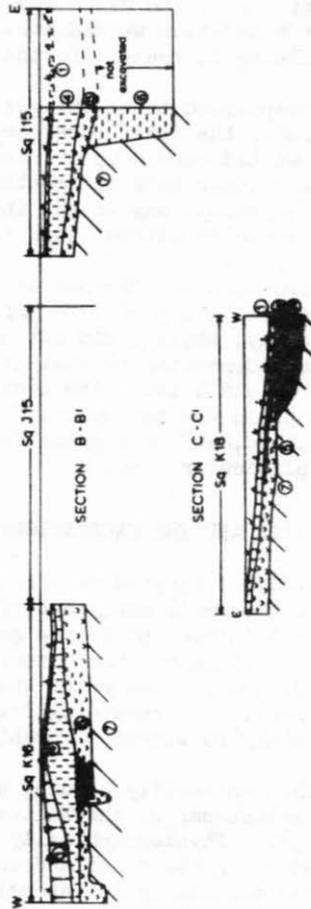
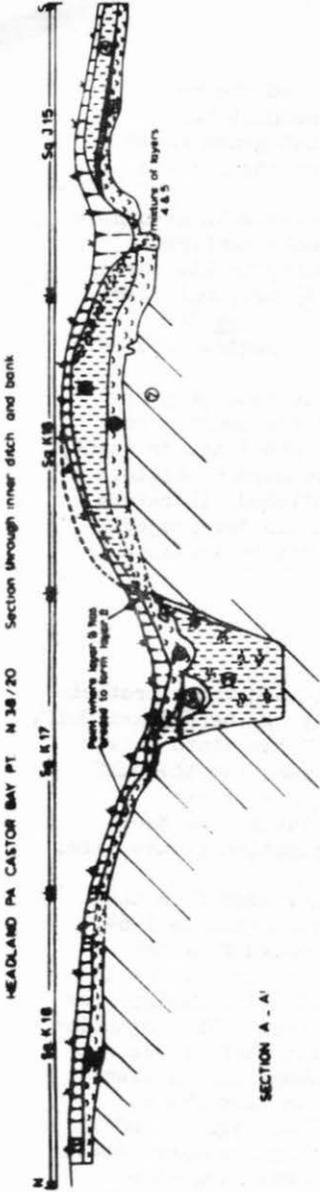


Fig. 4

Fig. 4

He also carried out the backfilling of the squares we had opened up, formed the access way across the ditch and bank, and rebuilt the surface of the inner bank which we had stripped, so that grass would again grow on it, helping to prevent further erosion of its surface.

Our efforts accomplished three things: we could say with assurance that the northern end of the inner bank carried no wooden members as defensive devices; we had opened up 14 feet of the ditch to its former depth and restored the inner bank to something like its original form; and we had provided an access way to the inner part of the pa for Council maintenance vehicles without loss to the archaeological record.

Unfortunately the occasion did not arise to pursue this project to its conclusion in the spring of 1966 before I left the country for other employment. Thus, while I did not achieve the end I had in sight, I believe this account demonstrates that it would have been possible, and, in fact, probably still is. The account is published, therefore, both as stimulus to those who may desire to attempt a similar project elsewhere in New Zealand, and as a guide for any who may be inclined to continue with this particular case.

#### DESCRIPTION OF THE SITE AND THE EXCAVATIONS

The site, N 38/20, is located on a prominent headland which protects the northern side of the small embayment of Castor Bay on the Hauraki Gulf, named for the castor oil trees that once grew there. Rangitoto Island lies directly to the east across the channel which leads from the Gulf into the Waitemata Harbour. The point and the site upon it are referred to as Rahopara; the remaining fragments of associated Maori tradition serving mainly to attest to prehistoric occupation of the site.

Geologically the continually eroding headland is formed from the soft sand, mud and siltstones of the Waitemata formation (Searle 1964, pp. 10-13 and Fig. 5). Physiographically it is separated from the adjacent high ground along the coast and on that side of the bay by a short but deep ravine containing an intermittent creek which drains from the seacliff edge, facing the channel, down into the bay. The formation of the ravine thus seems puzzling, until it is realized that it was not formed by the present creek but is a remnant of a geologically ancient drainage system known as the Shoal Bay Stream, which in turn was a tributary of the ancestral Waitemata River (Searle 1964, Figs. 2 and 7). As a result, any pa built on the promontory would not only possess steep cliffs on those sides adjacent to the water, but the remaining side, unlike many similarly situated pa, would also possess what was in effect a huge natural ditch protecting the only approach by land. Not

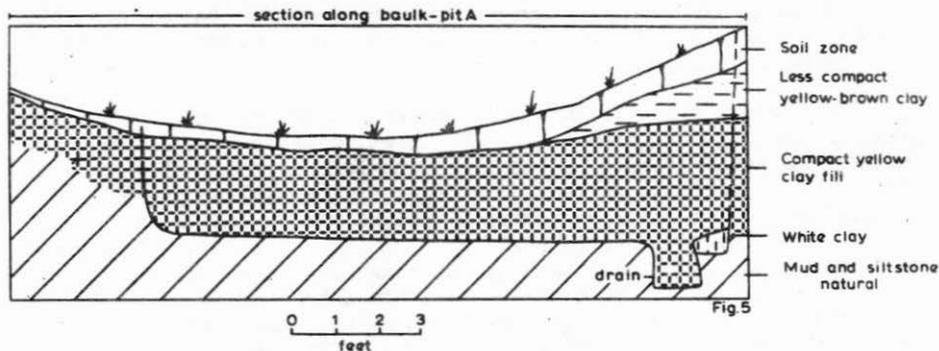
surprisingly, it was on the slopes of this ravine that most of the terracing was encountered (Fig. 2). Thus the pa, although located on a promontory was, in fact, a terraced hill pa in Golson's classification (1957, pp. 75-78), at least when it was initially occupied. As such, defences were largely natural and supplemented only by a few terrace scarps along the points of easiest access. The original occupation appears to have encompassed the entire promontory. Later a much smaller area at the tip of the headland was singled out for defence by extending a ditch and bank system across a narrower neck of land toward the tip. This effectively cut off easy access to that part of the promontory and converted the site into a more typical, though smaller, headland type of pa.

On the present evidence, it is not possible to determine whether the short section of bank with a shallow ditch behind it (located at one end of the lowest terrace on the ravine slope) and two short ditches with a narrow access way between them (located on the uppermost flat and dividing that area in two) belong to the earlier or later occupation. The excavation evidence, though restricted, suggests that in the later period, occupation outside the well-defended area at the end of the promontory was minimal.

The other surface features present are large and small pits, some of them associated with drains. The large, visible pits all occur outside the area defended by the ditch and bank system. The excavation in pit A indicated it, at least, belonged to the earlier period of occupation, having later served as a rubbish tip. The identification of a similar large deep pit, now filled, in square I-15 passing under the inner bank, indicated that such pits may also have occurred in the area inside the ditch and bank but have since been refilled. Thus the high concentration of smaller bin-shaped pits in the inner area may well reflect their primary association with the later period of occupation, though both types may have been present in the earlier period.

The excavations may be discussed under three headings: (1) the ditch and bank, (2) features and occupation evidence earlier than the ditch and bank, and (3) pit A.

Ditch and bank: The initial three-foot wide cutting through the ditch and bank in row K demonstrated that these defences were definitely later than the initial occupation of the site, and that under the bank itself, some of the earlier features were very well preserved indeed. It also demonstrated that the ditch was of the flat-bottom variety and that the inner bank revealed no features that could be related to wooden defensive devices. In later excavations, an additional 19 feet of ditch to the north-east was opened up; it exhibited the same general form and possessed the same general fill as had been encountered in the original section. Thus section A-A (Fig. 4) illustrates nicely the shapes of the ditch and the bank and their relationship to the various layers encountered. The entire upper surface of the inner bank from square K-16 to H-16, a distance of some 50 feet, was thoroughly searched for postholes.



None was encountered, nor were any found on the layer 4 surface in squares I-15 and J-15 in the area which lay immediately behind the bank. Therefore, it would seem that this type of bank conforms to the second of two prehistoric types defined by Best (1927, p. 43) and Golson (1957, p. 84) in which palisades were lacking and the defenders themselves were deployed along the high wall-like bank. In this site, section A-A (Fig. 4) indicates that the scarp of the inner bank rose not less than nine feet above the bottom of the ditch. Erosion suggests that its height was actually greater. In fact, to the north-east where the bank itself was better preserved, a section would yield a figure of closer to 12 feet, providing a clear height advantage to those on the inside in relationship to those on the ground adjacent. A drainage ditch at the rear of the inner bank was encountered in squares J-15 and K-15 (Fig. 3), presumably to carry off water accumulating on the bank. The bank, therefore, had a relatively broad and flat surface on which people could easily stand or move about. The ditch on the other hand was narrow and cut well down into the soft underlying sand and siltstone (layer 7), so that at its base, the shape of the ditch was still unaltered by erosion. Materials from the ditch were, for the most part, utilized in forming a solid inner bank of clay (layer 4). Not surprisingly, this bank also contains pockets of fill with charcoal and shell which result from having to excavate through the layer 5 occupation in order to form the ditch. Other such pockets of charcoal and shell were also encountered in the puggy and extremely wet clay (layer 3) at present filling the ditch. However, the latter were presumably derived from the erosion of layer 5 along the outer edge of the ditch after the site had been abandoned and the ditch itself began to refill. This is well illustrated in the section by a very large pocket of shelly material (layer 3a in section A-A of Fig. 4), which apparently slumped away from the top outer edge of the ditch down into what was probably a water channel then on the surface of the layer 3 fill in the ditch.

For a while there was some confusion on our part between the materials of layer 2 and layer 5, because both looked very much alike. This is not surprising because one is the source for the other. Close examination, however, showed that layer 2 had a higher clay content, was a lighter grey in colour, and was not everywhere present throughout the length of the ditch. What seems to have happened at the particular point illustrated in the section is that the initial filling of the ditch was largely by erosion from the adjacent inner bank. Then a major slump (layer 3a) on the outer edge of the ditch shifted the drainage channel within the ditch nearer to the inner bank. Erosion from the inner bank by then had nearly filled the ditch, and the possibility of further contributions from it was therefore greatly reduced. As a result, the

major contribution now derived from the erosion of layer 5 on both sides of the ditch, a process which slowed as vegetation regenerated and a soil zone (layer 1) developed. This last, of course, was superimposed on all the deposits along the entire length of the section.

The earlier occupation and its associated features: Layer 5, a shelly midden deposit with a dirt matrix stained black by charcoal, was everywhere present in those squares excavated. The layer in part or entirely, appears to seal in some features while others appear to have been cut from its surface. These features consisted primarily of ovens and postholes, but also included one deep and another very shallow pit. Two large ovens of early date were encountered, one in the south-east corner of square K-18 and the other along the north side of K-16. A smaller oven was recorded in square K-16, cut from the surface of layer 5 and superimposed over the western wall and drain belonging to an earlier pit of very shallow depth. Another small oven was encountered in association with layer 5 in square I-15, which was also superimposed over a large deep pit that had been refilled. Thus, as these ovens and the postholes indicate, some of the earlier features were replaced by others during the time interval represented by the build-up of layer 5.

Postholes from this period were most frequent in squares K-16 and K-18, the areas adjacent to the ovens. While no given structural form can be inferred owing to the limited area opened, the posts presumably reflect above-ground units. Thus an association of ovens, midden debris, and postholes would seem more than sufficient grounds on which to infer cooking and eating in an area possessing some types of related, above-ground, domestic structures. This would be in keeping with the occasional flakes of obsidian and stone that were recovered from the midden, although no complete or culturally diagnostic portable artefacts were found. The midden is typical of those on many pa sites and is composed largely of pipi and cockle shells, probably gathered on the open beach and mudflats of Castor Bay. Habitation, moreover, must have occurred over some period of time for the two early pits to have been abandoned, for some ovens to have been replaced by others, for several sets of posthole patterns to have developed from erecting new buildings, and for up to a foot of midden to have accumulated.

The clay (layer 6) filling the deep pit in square I-15 appears to have been placed there in a single operation and therefore with that purpose in mind. This operation was followed by the deposition of layer 5 on its surface, indicating that the pit must date to the early occupation of the site. Although the limited excavation suggests a pit of large size, the size cannot be greater than that of pits elsewhere on the site, or the pit would have appeared in the section in either the

ditch or seacliff face (Figs. 2 and 3). A similar stratigraphic position applies to the shallow pit in square K-16 with which the deep pit would be contemporary. Whereas one could legitimately infer a storage function for the large deep pit (Groube 1965, pp. 97-104), this is not so easily done for the shallow one.

This slightly sub-surface pit would appear to me to be most similar to one of two shallow pits Golson found adjacent to a series of bin-shaped pits on the ridge behind the midden area at the Sarah's Gully Settlement (Green 1963, p. 66). This pit also had postholes in the floor and on the surface along the outside wall and was not much deeper or larger than the Castor Bay structure. In fact, the floor at the eastern end of the Castor Bay pit lies at the surface, because the ground on this end sloped down and away. On the western end and along the adjacent sides, the pit was drained by a series of very shallow ditches leading into one larger ditch extending out from the north-western corner. While the structure would have been small in size, six feet by 7.5 feet, this is large enough for it to have been a domestic unit, the main thing lacking being a hearth. However, stratigraphic evidence would associate it with an adjacent oven. Thus, although a more exact interpretation of the shallow pit is not possible, I do not think that of a kumara store is really acceptable, at least not if constancy of humidity and temperature were decisive factors (Groube 1965, pp. 93-100). Moreover, Maori domestic units with slightly sunken floors were noted by some of the later observers in New Zealand (Groube 1965, pp. 87-91) making an interpretation as a domestic unit ethnographically feasible. I have therefore chosen to interpret the shallow pit as a domestic unit on the basis that it is largely an above-ground structure of approximately the right size which is located in an area which possesses evidence for other domestic activities and yet also is contemporary with a large and deep storage unit.

Pit A: The excavations in pit A were in many ways the least satisfactory both from the viewpoint of archaeology and from that of defining a feature for possible display. The difficulty lay in the nature of the principal fill, a very compact and sticky water-laid clay which was not easily removed by trowels or even by shovels. This fill was so well plastered to the floor and walls, which were of almost identical materials, that it was very difficult indeed to identify their surfaces with any precision. In addition, both the clay fill and the underlying deposits into which the pit itself had been cut, tended to crack along naturally formed joints further compounding the problem. When our efforts with trowels and hand picks proved fairly futile, experimentation with shovels demonstrated that it was possible to define the central floor area of the pit with reasonable accuracy by

using spades. However, toward the edges of the floor and along the side walls, only the laborious process of prying away the clay fill in the lumps into which it had naturally cracked, enjoyed any success. By this means, we were able, in the end, to establish a reasonably accurate cross-section for the pit along a baulk left across the central portion for this purpose (Fig. 5). We were also able to define the floor level and walls over most of the area at the eastern end of the pit.

These efforts not only revealed a number of postholes in the floor of the pit, but also a drain along the northern wall. However, at a height of some eight or ten inches above the level of the floor, the pit walls proved almost impossible to define, probably because the upper portion had slumped slowly into the pit during the process of erosion and soil creep. I believe a buttress once existed on the eastern end of the pit, but its presence is not certain, and all that can be said is that the base of the wall bulged out into the floor area at the appropriate place. Similar problems were encountered in making certain identifications of postholes in the floor of the pits; I am reasonably sure of the drain only, a feature which showed up nicely in the section (Fig. 5).

Lenses of shell, charcoal, and other midden debris were encountered at a number of points well up in the clay fill, particularly in the eastern portion of the pit. There appeared to be no local source from which they could have been derived by erosion, nor did their form appear to represent such an origin. Rather, they seem to reflect deposits periodically dumped into the pit, suggesting that its abandonment and partial infilling were already under way before occupation on the site had ceased. This interpretation would be consistent with the location of this pit to the outside of the later defences and the fact that it had been left open rather than purposefully refilled.

Other: Only in squares J-15 and K-18 were excavations conducted which would have encountered materials belonging to the later period that might reflect occupation and not defensive activities. In square J-15, on the surface of layer 4, a large concentration of stones associated with some charcoal and a little midden debris was found (Fig. 3), while in K-18, outside the ditch and bank defences, no layers or features belonging to this occupation were identified.

As the later occupation yielded no materials of early 19th century European origin, and because the ditch and bank defences would have afforded no protection under conditions of gun warfare, it would appear that both occupations are probably prehistoric in date, or at least prior to the period of contact (1800-1820 A.D.) which produced the major changes in classic Maori culture. More precise dating would require analysis of the charcoal samples collected from one of the early ovens.

## CONCLUSIONS

The investigations carried out on the Castor Bay Point pa were limited in scope and directed toward assisting in the preservation of the site as a permanent field monument within a pleasant city park. While they failed in their objective, owing largely to my departure from the local scene, I believe they could have met with, and may yet meet with success. The potential for similar projects elsewhere in New Zealand is great and it is hoped that some day it will be realized.

At the same time, these investigations achieved certain useful archaeological conclusions. The first is the accurate mapping of one of the few remaining pa of this type within the Auckland City area. A second is a result of excavations conducted in connection with providing a maintenance access across the principal artificial defensive feature. They showed that the main ditch and inner bank on the pa belonged to a later period of occupation. This demonstration, not possible on the field evidence alone, indicates that in at least one instance, a larger terraced hill pa was followed by a smaller headland pa in the same locality. They also permitted the definition of the shallow form of the pit which may be some kind of domestic unit, placing this form as contemporary with deep storage pits and the terraced hill form of pa. These excavations also provided an archaeological demonstration of the existence of a narrow flat-bottomed ditch during the later period of occupation in conjunction with low, broad, inner bank that does not seem to have carried any additional wooden defensive devices. This means, of course, that with proper maintenance, little more would have to be done to keep a portion of this ditch open as a display of one form of prehistoric defence practised by the Maori. Moreover, enough is now known of this site, to make an interesting explanation of its principal features possible in some form of public display in connection with the open ditch.

## ACKNOWLEDGMENTS

Without the assistance of Mr H. J. R. Brown, Miss Janet Davidson, Mr Karel Peters, Mr Dick Grimes, and various members of the University of Auckland Archaeological Society, these investigations would not have accomplished any of their intended aims. Without the co-operation and assistance of the Takapuna City Council, there would have been little of any consequence to report. These efforts place me under an obligation I did not completely fulfil. This report is written, therefore, so that the vital information is not entirely lost, and so that their efforts may in some measure be compensated by making the results public. A version of the first section of this paper was given at the 1966 weekend conference of the Association on Salvage Archaeology.

