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REPORT ON ARCHAEOLOGICAL TEST EXCAVATIONS TAPUTAPUATEA, RAROTONGA

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INTRODUCTION

The excavations at Taputapuatea were carried out between January 29th and February 3rd 1993. They were small scale exploratory excavations intended to answer a number of simple questions about the prehistoric occupation of the land, and the nature of the intact stratigraphy.

Taputapuatea itself is a marae situated on the grounds of the Makea palace (Te Pare o Tane) in Avarua, Rarotonga (Fig 1). An Earthwatch team under the guidance of Drs Sinoto, Kurashina and Stevenson undertook some restoration work at Taputapuatea in 1987 and during that period excavated several test pits in the area between the marae and the palace. Several layers of occupation predating the marae construction phase were observed but full details are not yet published. Since 1987 a great deal of ground disturbance has occurred around the site. This has been associated with the renovation of the palace as well as the use of the land for celebration activities during the 1992 Festival of South Pacific Arts. Among other things, these latter activities saw the construction of an *umu* measuring approximately 5 x 3 x 1.3m about 25m west of the marae. The current excavation programme was undertaken with three broad goals.

1. To define the statigraphy of the site, and if possible obtain radiocarbon samples for dating.

2. To assess the degree of subsurface damage sustained by the site.

3. To get an estimate of the area of intact stratigraphy.

ARCHAEOLOGICAL BACKGROUND

In the Southern Cook Islands the earliest known sites are mainly coastal, and predominantly located adjacent to sheltered reef passages (Walter 1994). On Rarotonga the earliest known site is Ngati Tiare (RAR 40) located on Vaikapuangi stream approximately 300m inland from the large passage at Avarua (Fig 1). The earliest level of this site has been radiocarbon dated to the early to mid thirteenth century A.D. (Bellwood 1978). Ngati Tiare is a Rarotongan example of an 'archaic' East Polynesian site. Such sites are well known from the Marquesas and Society Islands and are distinguished by their distinctive

material culture which reflects a period of innovation and culture change specific to the East Polynesian area. Several other 'archaic' sites are known from elsewhere in the Southern Cook Islands, but Ngati Tiare is the only other such site currently known on Rarotonga. Ngati Tiare probably does not represent the phase of first colonisation but because of the scale of coastal construction activities over the last 100 years the chances of locating well preserved earlier horizons are slim.

The Taputapuatea site lies in a similar geographic position to Ngati Tiare. It is located 200m inland on the banks of a branch of the Takuvaine stream which, along with Vaikapuangi, runs into the harbour at Avarua passage. The two sites lie about 500m apart on the low land behind the modern beach ridge.

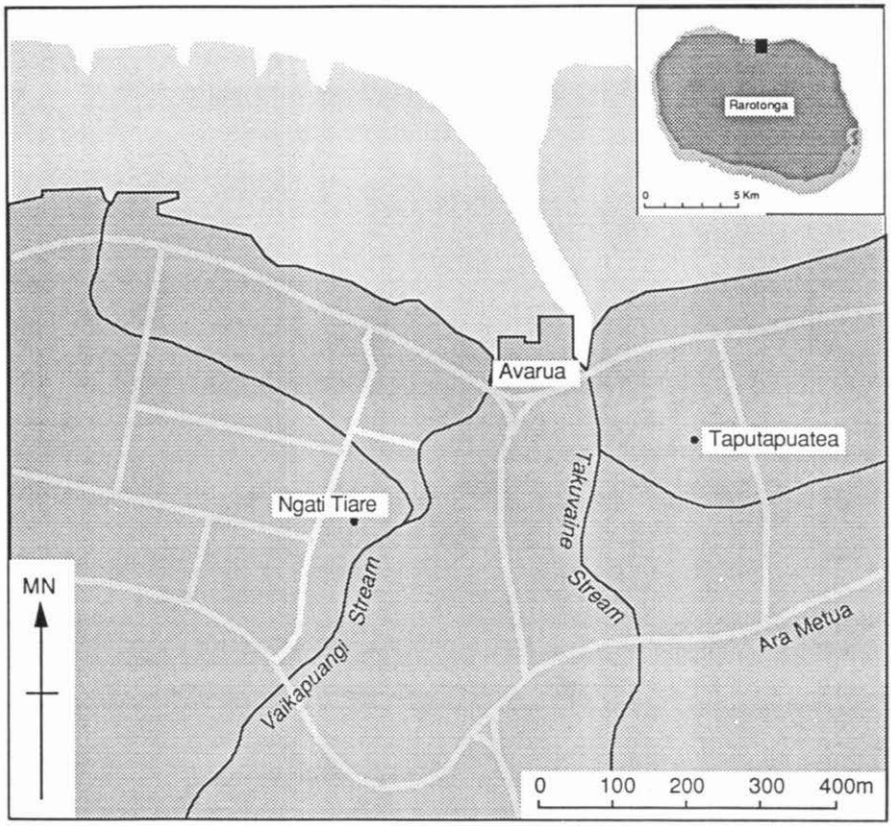

Figure 1. Location of the Taputapuatea site.

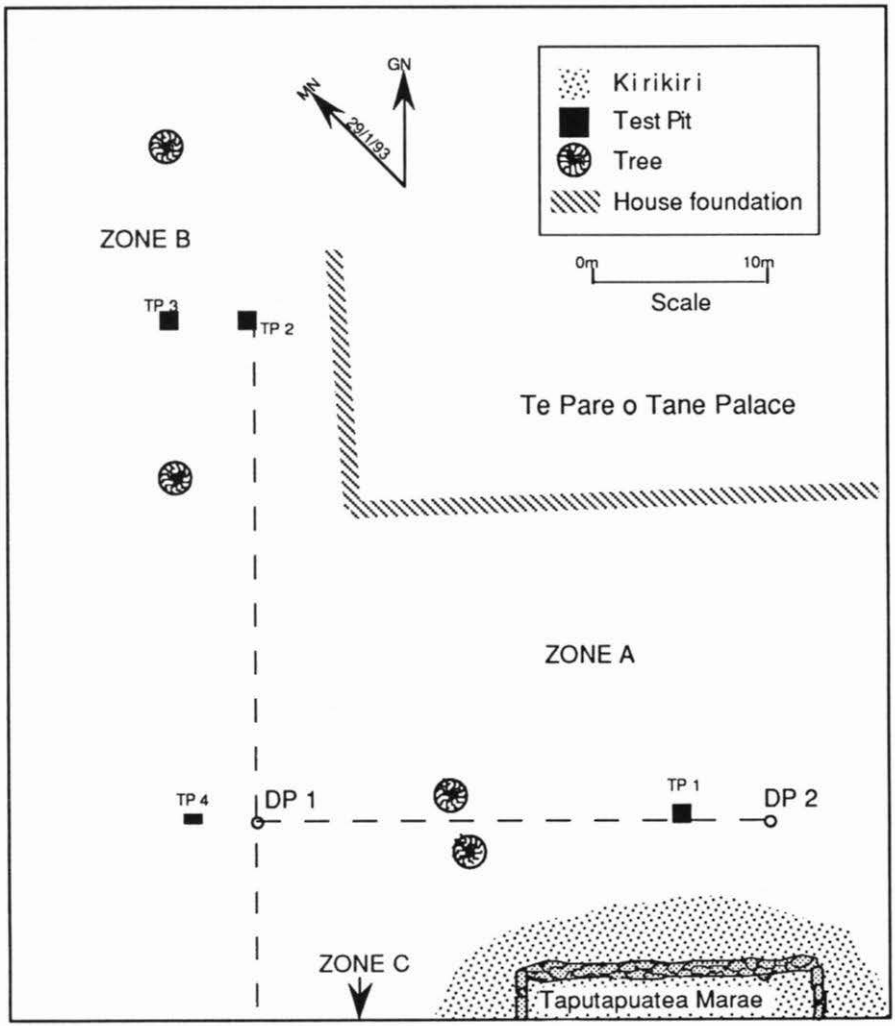

Figure 2. Taputapuatea site showing test pits and survey grid.

On the basis of their artefactual content, and depth of the cultural horizons it is likely that the sites are of approximately the same age. Ngati Tiare is a village site and currently under housing so it can no longer be thoroughly examined (although an excellent excavation has already been carried out there (see Bellwood 1978)). Taputapuatea on the other hand is located on a land block which was set aside in perpetuity by Makea Ariki in the late 19th century and therefore, it has never been extensively modified. Thus it is possible that the site might contain the only intact example of an 'archaic' settlement complex anywhere on Rarotonga.

Recognising the potential importance of the site, permission was sought from the landowners to carry out some small scale exploratory excavations.

THE EXCAVATIONS

The land area in which excavations were carried out is divided into three main zones for the purposes of this report (Fig 2). Zone A is the open area lying between the marae and the palace. Zone B is the area containing Test Pits 2 and 3 adjacent to the front of the left wall of the palace. Zone C is a large area of land running behind the marae, enclosed by the river and adjoining the Library and Museum section to the southeast (Area C is not shown on Fig 2). Zone C is approximately 7500m2 in area and is covered by low scrub and coconut trees although some areas of it have been recently cleared.

A temporary datum peg (DP 1) was established on Zone A (Fig 2). From DP 1 a grid was laid over the site with the north grid line lying at 60°. (All subsequent measurements in this report will be given in terms of grid north unless otherwise indicated). A second peg (DP 2) was established at 30m east and was intended as a permanent marker. Measurements were taken between DP 2 and permanent site landmarks so that the peg could be re-established should it get disturbed. A 60m grid line was laid in a north-south direction with the mid point located on DP 1, the northern end in Zone B and the southern end extending into Zone C (Fig 2).

Zone A Excavations

The first intention was to excavate 100 x 100cm test pits along the east grid line. To this end a series of pits were measured out every five metres from DP 2 to DP 1. The first of these excavated was TP 1 lying 5m west of DP 2 (Fig 2). TP 1 contained a clearly defined and relatively simple stratigraphy thus establishing the basic structure of the deposits in this area of the site.

TP1

The southeast corner of TP 1 lay on the baseline 25m east of DP 1. It measured 100 x 100cm and was excavated to a depth of 140cm. The stratigraphy consisted of five layers (Fig 3).

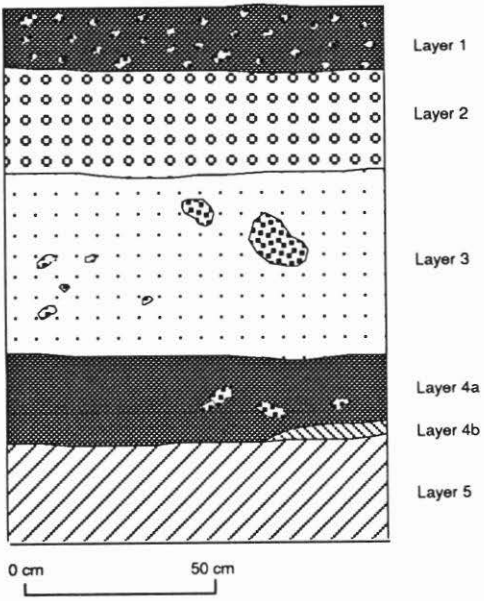

Figure 3. North Baulk of Test Pit 1.

Layer 1 Black coral sand containing humus, small fragments of coral and modern artefactual material such as bottle glass and nails.

Layer 2 Loosely packed *kirikiri* (c 3-5mm in size).

Layer 3 Fine, light grey coral sand containing a few lumps of coral up to about 20cm in size.

Layer 4a Dark compact, coral sand containing cultural materials.

Layer 4b Compact lens of fine light-grey ash.

Layer 5 Medium to fine grained, loose white coral sand and small coral pebbles.

Layer 1 was a well mixed, humus enriched soil built from a fine sand overlying Layer 2. It contained modern midden and most of the deposit is likely to have been accumulated since the mission period. Beneath this layer was a

deep bed of white coral pebbles or *kirikiri* (Layer 2). In East Polynesia *kirikiri* is usually associated with house floors (*paepae*) or with marae. In this case the Layer 2 material was unusually deep, and of a relatively large grain size so a ceremonial (marae) function is the most likely explanation. Layer 3 was a sterile layer representing the accumulation of wind or wave borne sands. Layer 4 is the earliest cultural horizon on the site containing oven stones and several artefacts including stone flakes (Fig 4). In the north east corner of TP 1 a concentration of oven stones overlay a lens of compact grey ash (Layer 4a). Although no outlines of a hearth could be defined, this feature is interpreted as a small, shallow firepit. Because of time constraints I decided not to continue the excavation of test pits along the east-west grid line but to try to establish the area of the deposit outside this central area. The Earthwatch excavations had also taken place in Zone A so we could now assume that much of the open space between the southwest corner of the palace and TP 1 probably contained intact stratigraphy and it seemed unnecessary to disturb any more of it at this time.

TP 4

The southeast corner of TP 4 lay on the grid line, 4m west of DP 1. It measured 100cm (E-W) by 50cm (N-S). Six layers were present (Fig 5).

In TP 4 Layer 1 was deeper and varied in colour and texture with depth. Two sublayers were defined (Layers 1a and 1b) distinguished by the fact that Layer 1b had less cultural material and was lighter in colour than Layer 1a and contained a low density of *kirikiri* derived from Layer 2.

The deep *kirikiri* layer found in TP 1 was also present in TP 4 (Layer 2) but contained a slightly higher proportion of light brown sand. In TP 3 the first

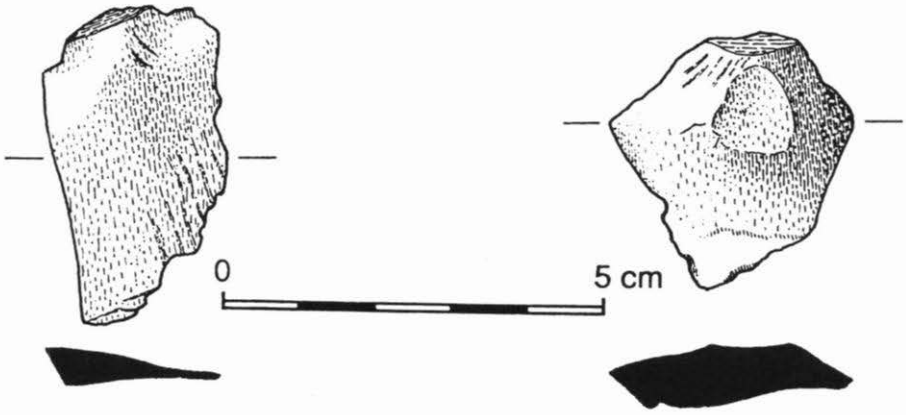

Figure 4. Stone flakes recovered from Layer 4, Test pit 1.

occupation horizon (Layer 4) was represented by a thin band of dark grey sand appearing as a lens in Layer 3. It contained a small quantity of mammal bone. This part of the site may have been on or near the edge of the first occupation area.

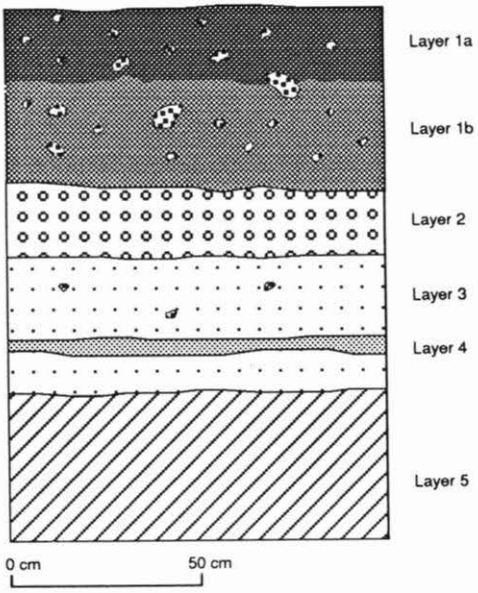

Figure 5. North Baulk Test Pit 4.

Layer 1a Black coral sand containing humus, small fragments of coral and modern artefactual material such as bottle glass and nails.

Layer 1b Light brown coral sand, some historic material, ash and kirikiri.

Layer 2 Loosely packed *kirikiri* (c 3-5mm in size).

Layer 3 Fine, light grey coral sand containing a few lumps of coral up to about 20cm in size.

Layer 4 Dark grey coral sand containing some midden.

Layer 5 Medium to fine grained, loose white coral sand and small coral pebbles.

ZONE B EXCAVATIONS

The Zone B excavations were designed to determine how far north the occupation horizons could be traced. There is a large open area of several hectares lying between the front of the palace and the coast road at Avarua which is very likely to contain archaeological material (see below). However, I did not feel that it would be appropriate to excavate in front of the palace at this time since this area has sacred associations. Therefore Test Pits 2 and 3 were located as far north as possible without encroaching on the palace forecourt area.

TP 2

Test 2 was excavated 30m north of DP 1. The top 30cm was a dark humus soil containing a rich mix of historic debris (metal and bottle glass). At 30cm telephone cables were encountered so the excavation was shifted 5m to the west to TP 3.

TP 3

This test pit was excavated to a depth of 140cm. The top 120cm consisted of an historic rubbish fill and was similar to, but deeper than, the material excavated in the top 30cm of TP 2. TP 3 cut through part of an historic rubbish pit which had been excavated through to the sterile sands of Layer 5 and then refilled. The fill consisted of lenses of brown soil within a dark matrix of charcoal stained sand and coral fragments. Bottle glass, broken china, pig bones and pieces of iron were also recovered. The fill contained many oven stones and several flakes of volcanic rock which were probably prehistoric in origin. It is thus likely that this rubbish pit was dug through an earlier prehistoric deposit. White coral sand was encountered at 120cm and excavation proceeded for a further 20cm. No further cultural layers were encountered.

ZONE C EXCAVATIONS

A total of three additional test pits were excavated on the north-south baseline. There were located with their southeast corners at 30m (TP 5), 20m (TP 6) and 10m (TP 7) south of DP 1. After commencing excavation however, we were informed that this area had been recently excavated and subsequently backfilled and so these pits were abandoned. In each pit the first 15cm contained a fine white sand which had been brought to the site for the purposes of levelling. Below this we encountered a similar although more compact sand matrix containing buried logs and large coral boulders. The test pits were abandoned at about 40cm. I can not rule out the possibility of there being deeper cultural horizons in these areas but time and labour constraints

prevented further excavation at this time.

Other observations

In addition to the test pits, subsurface stratigraphy was recorded in the north face of the large *umu* pit located about 10m south and 15m west of DP 1. The *umu* was approximately 120cm deep and had been filled with sections of coconut log up to 3m in length, large coral boulders and sand. A narrow area was cleaned out and deepened along the northern end of the pit and the stratigraphy was visible. A similar profile was encountered to that of TP 4 except that Layer 1 did not contain any sublayer and instead graded into the Layer 2 *kirikiri* at 30cm. However, in the *umu* pit face the *kirikiri* was heavily mixed with a brownish sand similar to (TP 4) Layer 1b. Layer 2 graded into the sterile Layer 3 deposit at 55cm and a thin band of slightly darker sand was encountered at 74cm. This is interpreted as equivalent to Layer 4 in TP 1 and TP 4. As in TP 4 this earliest occupation horizon occurred as a lens of about 6cm depth within Layer 3. Layer 3 then continued to 90cm where it formed a well defined interface with the medium to fine grained sands of Layer 5.

The spoil removed during the construction of the *umu* was lying along the western edge of the pit. It contained a great deal of dark soil, burnt rock and fragments of metal and glass. Much of this material came from Layer 1 but several stone flakes were also found and these may must have derived from one of the prehistoric cultural layers.

INTERPRETATION

On the basis of the stratigraphic sequence from Zone A a tentative interpretation of the occupation history of Taputapuatea can be offered. First settlement at the site is represented by Layer 4 in TP 1, TP 4 and in the north face of the *umu* pit. In TP 1 Layer 4 lies directly over Layer 5 which is probably a marine sand suggesting that it represents first clearance at Taputapuatea. Artefacts recovered from Layer 4 include two basalt flakes with well defined striking platforms (Fig 4). A number of other basalt flakes were also recovered but none contained any evidence of human modification. Fragmented pig rib bone was recovered from TP 1 and unidentified mammal bone and a single pig incisor was recovered from TP 4. The occupation date for this Layer is unknown. Some charcoal samples were collected but these were not suitable for submission as they proved to be fragments of mature wood from long-life species. No suitable shell was recovered either so new samples will have to be obtained if the site is to be dated.

Following a period of site abandonment and sand accumulation the second occupation is represented by the deep *kirikiri* deposits of Layer 2. This layer contained no prehistoric artefacts and the only historic material was clearly intrusive. It is therefore interpreted as a pre-European horizon and it would be

tempting to associate this layer with the construction of the marae Taputapuatea. It is likely, however, that the actual relationship between these events is somewhat more complex. The depth and wide distribution of the *kirikiri* and the relatively large particle size argues against its interpretation as anything other than ceremonial. But in places it has up to a 50cm overburden and thus might predate the marae construction by quite some time. The interpretation offered here is that the Taputapuatea land block, including that area contained within Zone A, was a sacred site used for ceremonial purposes for some time prior to the construction of the marae. The construction of the marae was simply the final phase of a long sequence of events.

DISCUSSION

The test excavations at Taputapuatea have answered a number of important questions about the occupation of this part of the Rarotongan coast and have posed several more. The Cook Islands Museum contains a shank fragment of a one-piece pearlshell fishhook which was recovered from Taputapuatea by the Earthwatch team in 1987. The lashing device on this hook takes the form of a laterally projecting head with a reduction on the proximal medial surface of the shank. It is uncertain which layer this derived from but the lashing device is similar to that found on hooks recovered from Anai'o (Walter 1989), Urei'a (Bellwood 1978) and Moturakau (Allen 1992). The Ma'uke and Aitutaki assemblages date between the 10th and 14th centuries A.D. and it is thus likely that the Taputapuatea hook derives from Layer 4, rather than the later prehistoric occupation of Layer 2. Pearlshell hooks were also recovered from Ngati Tiare and this reinforces the suggestion that the sites may be of similar antiquity since pearlshell does not appear to have been in widespread use in Rarotonga in the later periods of prehistory (Walter 1993). Ngati Tiare and Taputapuatea are both located at the back of the beach ridge adjacent to a permanent river running into the large reef passage at Avarua. Site selection appears to have been based on proximity to lowland crop soils, including the wetland soils, and access to the passage. This reflects a type of settlement pattern which is typical of the 'archaic' period pre-dating approximately the 15th century A.D. in the Southern Cook Islands (Walter 1990, 1993, 1994).

In terms of the three goals outlined at the beginning of this report a number of answers can now be given. Firstly, the stratigraphy of the site within Zone A has been well defined and shown to contain two prehistoric levels of occupation. The first is likely to be 'archaic', representing first human occupation of this section of the coast and perhaps being contemporary with Ngati Tiare. It shows every sign of being a living surface, perhaps that of a small village or hamlet. The second prehistoric horizon represents the use of this area for ceremonial purposes and demonstrates continuity in the sacred nature of the site over some time, culminating in late prehistory with the construction of Taputapuatea marae itself. Attempts to obtain dates for these horizons were unsuccessful due to the paucity of suitable organic materials

(charcoal, shell) obtained from the test pits.

Secondly, historic and recent modification of the site has been shown to have resulted in some destruction of the early occupation horizons. The palace itself is likely to overlie earlier deposits but has not necessarily damaged them. Elsewhere to the west of the marae however, damage has taken place through the construction of the *umu* pit and probably by a range of other construction activities associated with the occupation of the palace earlier this century. While deposits were not definitely identified in Zone C it is very likely that there too modification activities have resulted in some site destruction. In Zone B early historic activities, including the construction of a deep rubbish pit have cut through archaeological deposits as evidenced by the presence of what are probably prehistoric artefacts in the historic rubbish fill.

Thirdly, some preliminary statements can be made about the area of intact stratigraphy. Zone A contains an extensive and well preserved portion of the two prehistoric horizons. The stratigraphy of Zone C is unknown at present but there too it is possible that intact portions of earlier horizons are present. This large area has only recently begun to be disturbed but because of its proximity to the marae there are certainly untouched areas (to the south of the marae) that might well contain intact archaeological layers. The rest of the extensive land block on which Taputapuatea lies, particularly to the north of the palace, might also contain archaeological deposits. This is exactly the geographic location in which to expect early settlement to have occurred and the site has been protected from the ravages of development evidenced elsewhere along the coastal strip of Rarotonga.

Finally, and in more general terms, some comments about the Taputapuatea site and its place in the understanding of Rarotongan prehistory. Obviously the excavations so far have been extremely small scale and no major conclusions bearing on Cook Islands prehistory should be drawn. However, in my view these excavations have demonstrated the enormous potential importance of the site. Firstly, as the largest and best preserved example of an 'archaic' site on Rarotonga Layer 4 has the potential to provide important information about early Rarotongan culture including economic adaptations and material culture. Secondly, little is known about the development of Rarotongan religious beliefs and practices, about the growth of the marae complex, or about the role of such ceremonial centres in early Rarotongan society. Although traditional accounts and oral histories are immensely informative, Taputapuatea appears to provide (from Layer 2) physical evidence concerning the long term development of a major religious centre spanning perhaps several centuries. This makes it a unique and important site.

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