UCL
Rapa Nui Landscapes of Construction Project

(LOC13)

Survey on Poike
2016

**Felipe Armstrong, Sue Hamilton, Sonia Haoa, Rob Scaife,
Mike Seager Thomas, Paulo Tepano**

Rapa Nui Landscapes of Construction

The Rapa Nui Landscapes of Construction Project (LOC) is funded by a grant from the Arts and Humanities Research Council in the UK. Based at the Institute of Archaeology, University College London, the project is directed by Sue Hamilton of UCL (Principal Investigator) and Colin Richards of the University of Manchester (Co-investigator), in collaboration with Kate Welham of Bournemouth University (also Co-investigator).

The 2016 team comprised Felipe Armstrong, Prof. Sue Hamilton and Mike Seager Thomas, of UCL, Prof. Rob Scaife of the University of Southampton and *CONAF* ranger Julio Tepano. Our Chilean counterpart was Francisco Torres Hochstetter of the *Museo Antropológico P. Sebastián Englert* (*MAPSE*).

On the island, LOC works with Rapanui elders and students and in close cooperation with the *Corporacion National Forestal* (*CONAF*), Rapa Nui, *STP* Rapa Nui and the *Museo Antropológico P. Sebastián Englert*.

The main aim of the project is to investigate the construction activities associated with the island's famous prehistoric statues and architecture as an integrated whole. These construction activities, which include the quarrying, moving and setting up of the statues are considered in terms of island-wide resources, social organization and ideology.

The Project is not just concerned with reconstructing the past of the island, but is also contributing to the 'living archaeology' of the present-day community, for whom it is an integral part of their identity and their understanding and use of the island. LOC is working with the Rapanui community to provide training and help in recording, investigating and conserving their remarkable archaeological past. Fieldwork between 2008 and 2013 was undertaken under a permit issued by the *Consejo de Monumentos Nacionales* (*CMN*), Chile (ORN No 1699 CARTA 720 DEL 31 del 01.2008).

January–February 2016

Contents

Survey on Poike

January–February 2016

Sue Hamilton[1] & Mike Seager Thomas

Introduction

In January/ February 2016, at the request of and in consultation with *STP* Rapa Nui and *CONAF* Rapa Nui, the Rapa Nui Landscapes of Construction Project (LOC) carried out two in depth *c*. 500x500m walkover surveys on the east end of the Poike peninsular. These followed quad-copter aerial photographic and geophysical surveys in the vicinity of Ahu Hati te Kohe and Viri Viri o Tumu, and quad-copter aerial photographic survey at Ahu Motu Toremo Hiva, conducted by our team in February 2015. The first walkover survey was located around and inland of Ahu Hati te Kohe and Viri Viri o Tumu (P1), the second approximately 1.5km to the north of this, immediately inland of Kava Kava Makohe (P2). Additionally, at the request of *CONAF* Rapa Nui, two previously recorded sites *c*. 1km to the southwest of P1 were visited (P3 and P4) (Fig. 1; Table 1) (Appendices 1 & 2).

Poike is mantled by a thick layer of poorly consolidated sediments weathered in situ from the volcanic bedrock. P1 has been badly damaged by the erosion of these sediments and, except for Ahu Hati te Kohe and Viri Viri o Tumu, few archaeological sites are known there. The dearth of known sites is attributable primarily to this sediment erosion, but is made worse by the density of vegetation cover, and the (earlier) burial of features by colluvium, derived from the aforementioned weathered bedrock. P2 is cut through by a single massive erosion gully, and in places its surface is creeping downhill, but overall it has been much less affected by sediment erosion, and many archaeological sites are known there. The erosional environments of P3 and P4 are similar to that of P1 but both include the locations of previously known (but now eroded out) sites.

The aim of these four surveys was to characterize the archaeology of the survey areas and identify sites of cultural importance, to characterize their erosional environment(s), to assess the damage already done to the archaeology and the interpretative implications of this, to assess the nature and imminence of the threat posed to the surviving archaeology by sediment erosion, and to identify conservation and rescue priorities. All of these aims were achieved, the fulfillment of last three following automatically from that of the first two. It is hoped and expected that this information will compliment survey data garnered in 1989 by Patricia Vargas of the *Universidad de Chile* (1990) and more recently by Sonia Haoa, and contribute usefully to ongoing and future archaeological interpretation, and conservation and rescue planning.

[1] UCL Institute of Archaeology, 31–34 Gordon Square, London, WC1H 0PY. s.hamilton@ucl.ac.uk

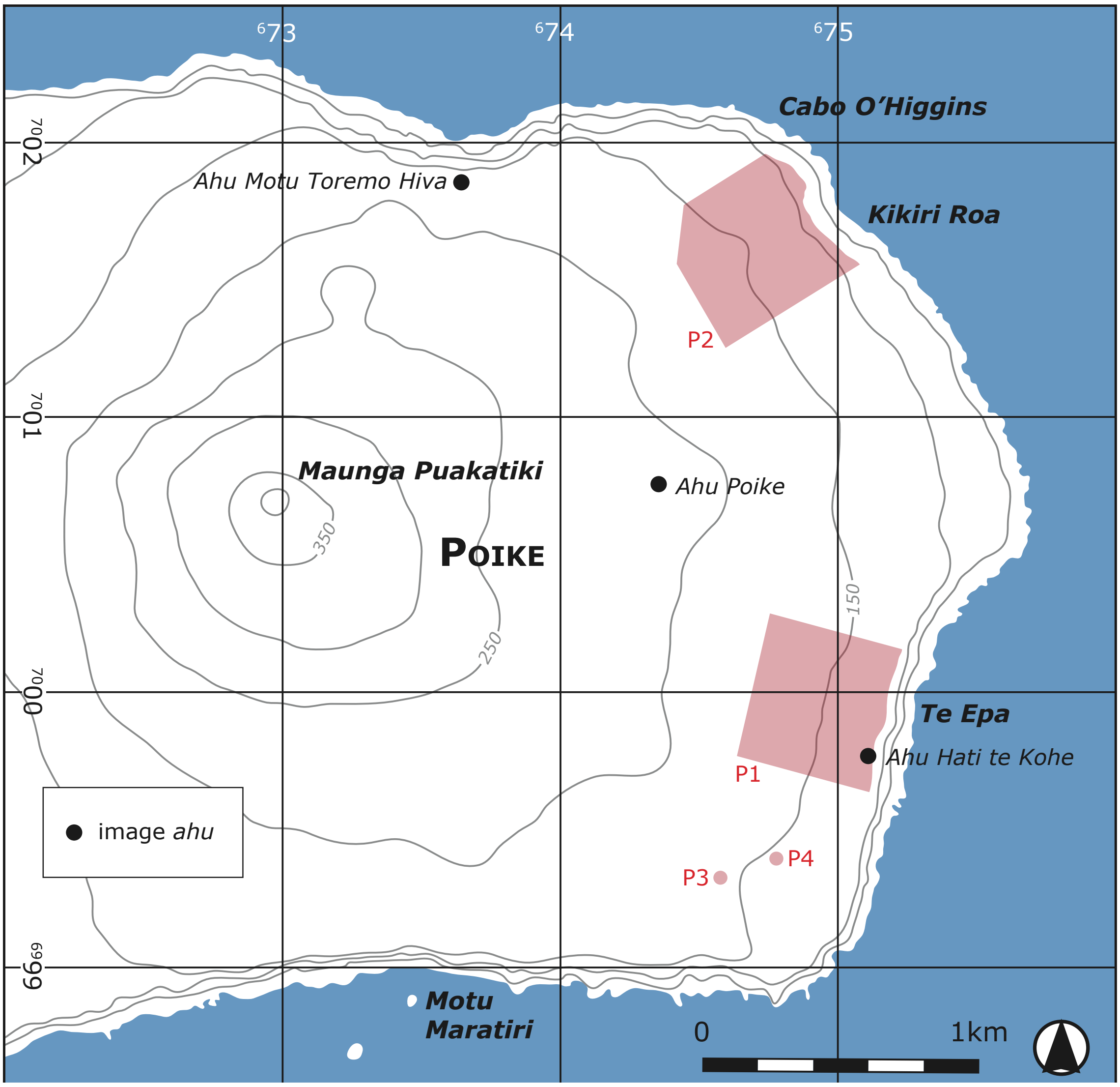


Figure 1. *LOC Poike survey, 2016. Areas P1–P4*

Table 1. *Coordinates of survey areas (UTM WGS84)*

LOC (LPS) survey area	Grid references (corner of square/ polygon)
P1	674730/7000300 674625/6999800 675230/7000170 675110/6999660
P2	674440/7001780 674410/7001560 674580/7001260 674725/7001950 675060/7001560
	Grid reference (centre of 100m diameter circle)
P3	674570/6999320
P4	674770/6999390

Copies of the original written and photographic record for these surveys were passed to *STP* and *CONAF* Rapa Nui on completion of fieldwork, and provisional reports in Spanish and English posted online[2] and submitted to *STP Rapa Nui*, *CONAF* Rapa Nui, the *Museo Antropológico P. Sebastián Englert* Rapa Nui and Sonia Haoa in March 2016.

Method

The plan was to line walk P1 and P2 at 30m intervals, recording on pre-prepared prompt led walkover survey sheets all archaeological features, together with details of the threat posed to them by sediment erosion. In the event line walking of the whole of both areas proved impossible due to the dense vegetation in them and was restricted to open areas, and a less systematic approach applied to densely vegetated ones. For both areas the focus of recording was on individual sites considered representative of a particular erosional environment, threatened in the short term, and/ or useful interpretatively. Foremost amongst these were, in P1, Ahu Hati te Kohe (site M1) and Viri Viri o Tumu (site M2), and in P2, a *paeŋa* quarry and petroglyph site (site M5) and an extended *taheta* complex (site M6).

For the purposes of this survey, 'sites' include isolated individual and groups of features, and 'features', isolated archaeological exposures (structures, sections, scatters of cultural material etc.) and any discrete features or contexts into which these were divisible. Thus Ahu Hati te Kohe comprises 29 proximate features, including two composite sections, divisible, respectively, into two and five separately recorded layers or horizons (Table 2); and site M4, four discrete and — in three cases — widely separated but spatially related features (Table 3). Both in situ, and where identifiable, the remains of out of situ features were recorded.

For each feature, data was recorded on its location, form, composition, size, relationships (if any), erosional context, interpretation and importance (Appendix 3). Recorded features were georeferenced using handheld Garmin *etrex* and Brunton *Multi-navigator* GPSs using the UTM WGS84 grid.[3] We also assessed the threat posed to them by ongoing erosion. In order to characterize any changes within the survey area since the 1989 survey, more detailed data than is publically available was subsequently sought from Patricia Vargas on the state of Ahu Hati te Kohe, Viri Viri o Tumu and a handful other easily matched sites at the time of her survey, but so far we have had no response. Sites were correlated with those recorded in 1989 by overlaying our distribution maps on those published by Vargas (1990, 11, 13) and with those recorded by Sonia Haoa by matching our grid references and photographs to hers.

Erosional Context

P1 can be divided into three vegetational zones: mature *eucalyptus* and pasture (with *lupinus* scrub) (Fig. 2) (both of which postdate a period of *c*.

[2] https://www.academia.edu/22957821/

[3] Observed differences between grid references obtained using the different machines ranged from 0–15m, though we suspect that for some of the more sheltered sites within the survey area, the inaccuracy is greater.

Figure 2. Lupinus *and* eucalyptus *in P1*

Figure 3. *Erosion within the* casuarina *plantation in P1. Viri Viri o Tumu from Ahu Hati te Kohe*

mid 20th-century ploughing) and recent *casuarina* plantation (Fig. 3). Within P1, the first two of these show no significant evidence for sediment erosion, though it has been observed within the eucalyptus belt by other workers (Mieth & Bork 2005, 257),[4] and occurs in P2 and in other areas of Poike under pasture. We attribute this to the gentle relief of these areas within P1. Within the *casuarina* plantation, however, sediment erosion is severe, the height of the weathering front up against the mature *eucalyptus* and a number of pedestals of uneroded natural within the eroded area (e.g. under M2 and M3) (Fig. 3) suggesting sediment loss of 2m deep and more over most of the plantation area. Despite the recent plantation, this erosion ongoing.

In P1 there are three obvious mechanisms for this erosion: surface-wash, runoff gully erosion and wind deflation. Surface-wash strips sediments from the unvegetated surface between the newly planted trees. That this is active today is shown by the pedestalling of out of situ cultural stones (Fig. 4)

Figure 4

The pedestalling of out of situ cultural stones by surface wash in P1. Scale 0.1m

and, in places, the removal of *casuarina* litter from beneath the trees. Gully erosion is represented by every stage from rilling to gullies of up to 4m deep (Figs 5 & 6). Ongoing erosion is shown by the staining orange of the cliffs below the gully mouths, by the build-up of sediments behind modern dams placed across the gullies and the presence in the build-up of recent cultural and organic material, and the fresh scouring of the gullies on the downslope sides of the dams. No recent collapse of gully sides was noted but the steep

[4] The dense litter that accumulates under *eucalyptus* is reported to increase run off and therefore soil erosion. Within mature plantations, however, canopy, litter and fast developing root systems inhibits erosion. It is perhaps significant therefore that the erosion front within P1 stops where mature eucalyptus begins.

sides and undercutting of these indicates that this can be expected soon. Wind deflation caused by a turbulent updraft close to the edge of the cliff was witnessed in the field by the LOC team. The effect of these processes in terms of sediment erosion is cyclical. Sediments are removed slowly over time till a tipping point is reached, when the ground surface is destabilized irrecoverably and suffers catastrophic collapse; then the process begins again. Destabilization is accelerated by extreme climatic events such as storms and disturbance by people and animals.

Figure 5. *Insipient riling to the rear of Viri Viri o Tumu. Photo: Adam Stanford*

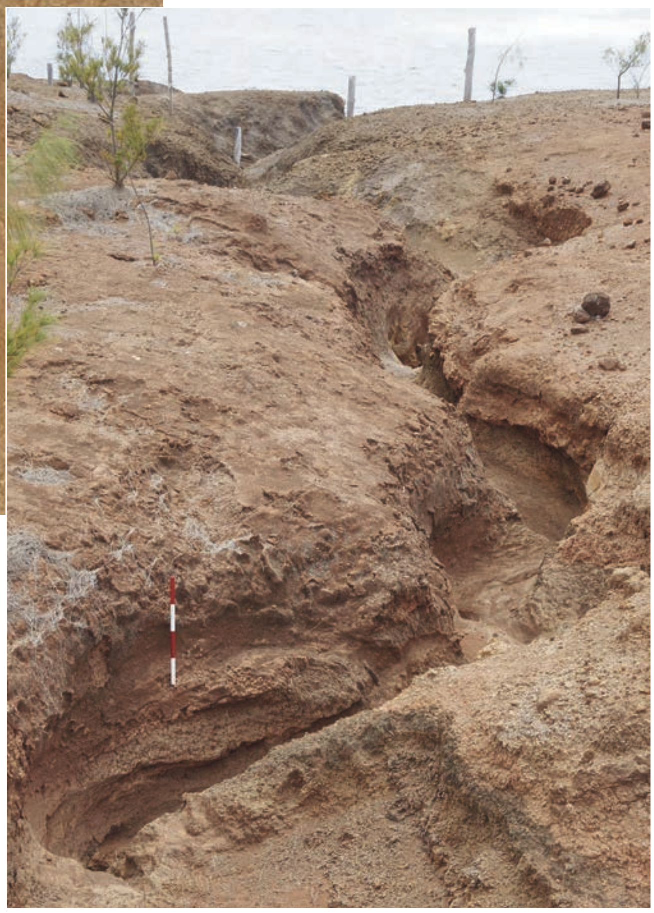


Figure 6. *Gullying at the north end of Ahu Hati te Kohe. Scale 0.4m*

P2 is wholly under pasture (also with *lupinus* scrub) out of which a large number of rock outcrops protrude. Unlike P1, P2 appears never to have been ploughed. For these reasons perhaps, the effect of sediment erosion on it has been much less severe. Indeed, some small runoff gullies within it have revegetated; and an archaeological feature, the current form of which most likely results from surface creep (LPS083), is now stable. Major ongoing sediment erosion within P2, however, is represented by a massive, up to 8m deep runoff gully, fed by a number of smaller gullies. There is also evidence for ongoing surface creep in the form of tiny steps or terracettes (Fig. 7). This is attributable to the steep slope,

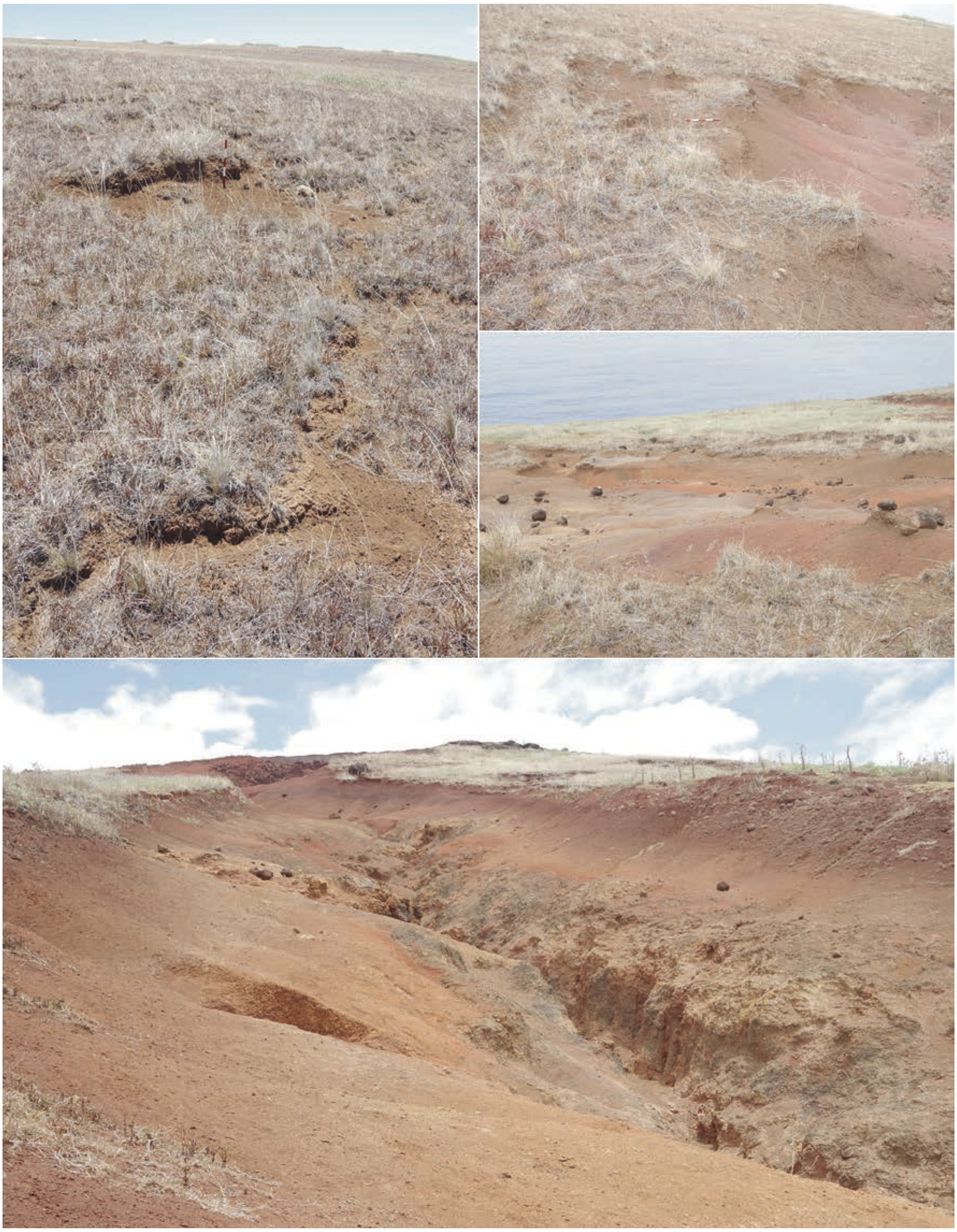


Figure 7

Stages of erosion in P2: terracettes, slumping and gullying

the loose sediments comprising it, and ongoing trampling by cattle. To the north of the deep runoff gully these terracettes have begun to slump and are developing into a new network of runoff gullies, currently smaller than, but analogous to that seen in P1.

Survey Area P1

The nature and quality of the feature record for P1 is conditioned by the burial of parts of it by colluvium and by its surface conditions, very deeply eroded to the south and northeast and heavily vegetated with mature *eucalyptus* and *lupinus* scrub to the north and west (Figs 2–6 & 8). 44 features and

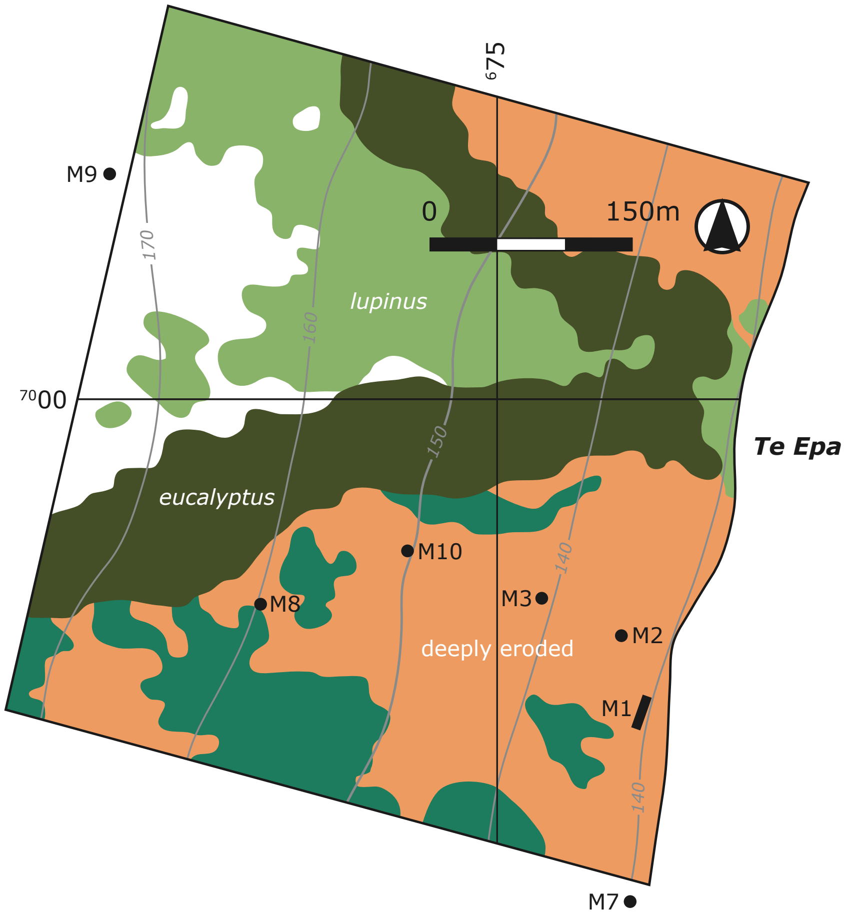


Figure 8

LOC Poike survey area P1. M nos = sites surveyed by LOC. Sites M7 and M9 fall just outside the survey area

eight sites were recorded during fieldwork in P1. Of these, nine features were subsequently subdivided, creating a total of 57 separate features (Table 2). In areas of deep soil erosion only three *in situ* sites were recorded, though the former presence of a minimum of three more is indicated by individual and concentrations of out of situ cultural stone (e.g. LPS080). No features or sites were identified in its densely vegetated areas. The record obtained by the survey therefore is unlikely to be completely representative of the prehistoric landscape within P1 as a whole. The nature of the archaeological exposures, however, provides both actual and potential insights, which are intrinsically interesting and usefully differ from those available for other *ahu* landscapes (e.g Hunt & Dudgeon 2002, Martinsson-Wallin & Wallin 2014; Vargas *et al*. 2006, fig. 10.4; LOC 2009). The form of the features and sites recorded, our interpretation of these, and their potential to yield further data are described below. A summary of our record of them including an assessment of their importance and the threat posed to them by ongoing erosion can be found in Table 2 and the full record in Digital Appendices 1 and 2.

LOC (LPS) site nos	Vargas 1990	Feature type	Importance	Threat	LOC (LPS) Feature nos
M1	23-10	buried soil horizon	high	high	039–040, 042
		composite section			054 (031 and 032), 058 (025–027, 040 and 065)
		fill			049
		layer			025–027, 031, 050, 057, 064 (025–027, 033), 065
		moai			056
		mound			034–035, 038
		isolated stone			046, 062–063, 066
		out of situ stone scatter			033, 059 (035 and 059), 060–061
		wall			051–053, 055
M2	23-11	buried soil horizon	high	high	043–045
		fill			069 (037 and 069), 073
		layer			029, 067 (029 and 067)
		isolated stone			074
		out of situ stone scatter			072
		wall			068, 070, 072
M3	23-12	exposed relict soil horizon	medium	high	077 (036 and 077)
		mound			036
		out of situ stone scatter			076
M7	none	buried soil horizon	high	high	041 (028 and 041)
		cist			047 (030 and 047)
		layer			028, 030
		out of situ stone scatter			048
M8	none	near situ stone scatter	low	low	078
M9	none	isolated stone	low	low	079

Table 2

LOC Poike survey: area P1. LOC 2016 and Vargas 1990 site and feature numbers (nos in brackets = later sub-divisions of 2016 features recorded in the field)

LOC (LPS) site nos	Vargas 1990	Feature type	Importance	Threat	LOC (LPS) Feature nos
M10	none	out of situ stone scatter	medium	low	080
M11	none	stone scatter (possible *umu*)	medium	low	081

Table 2 cont.

Ahu Hati te Kohe (LOC site M1)

Site M1 or Ahu Hati te Kohe[5] stands out today as a partially grass covered mound at the edge of a wasteland of deeply eroded yellowish red sediments, spotted with recently planted trees, running parallel to and just inland of the eastern cliff of the Poike peninsular (LPS034) (Figs 9 & 10).

Figure 9

Ahu Hati te Kohe. Overview from the south

It comprises an up to 4m high, 5–15m wide, 40m long bank. On three sides it is surrounded by deep erosion gullies. On its long seaward side and at both ends it slopes steeply and on its inland side, steeply at its north end and gently at its south end. Owing to its part burial by colluvium and the subsequent cutting away of parts of this by erosion, and the patchy vegetation cover, it is impossible for the surveyor in the field to get a complete overview of the structure or structures underlying it; instead, it is necessary to patch the overall appearance of these together from a number of widely separated sedimentological and cultural exposures. Key amongst these are: two vertical

[5] *Hati* translates as 'break' and *kohe* 'mandible' or 'gesture', the combination possibly indicating an 'emotional break' in a family (Paulo Tepano pers. comm.).

Figure 10
Ahu Hati te Kohe. Aerial photograph taken in February 2015.
Photo: Adam Stanford

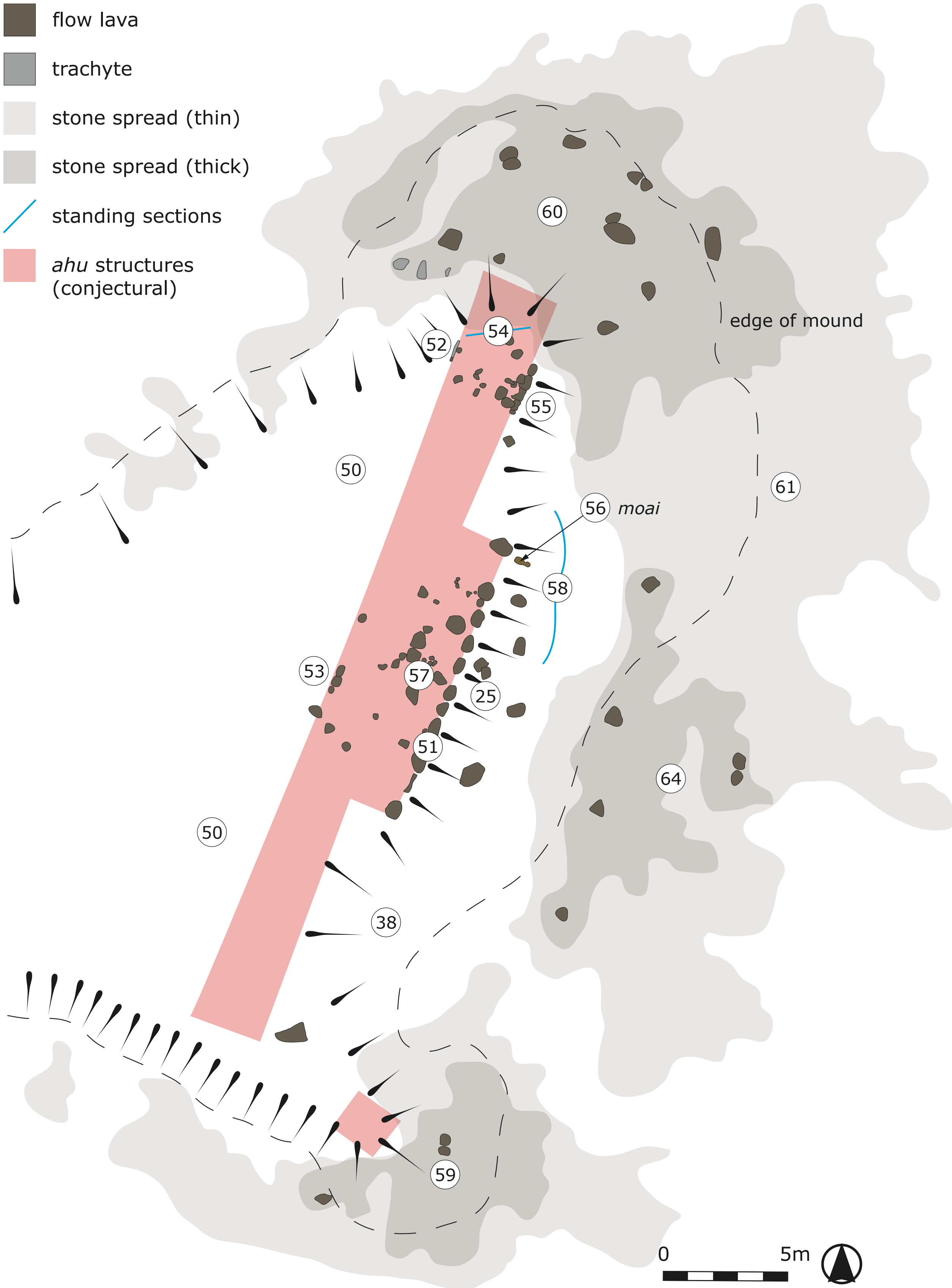


Figure 11

Ahu Hati te Kohe. Interpretative plan showing the key features based on the aerial photo shown in Fig. 10 and sketches made in the field during the 2016 survey sections, one at the north end of the mound at approximately right-angles to it (LPS054) and one along its seaward slope (LPS058); a soil A-horizon exposed in its inland slope (LPS042), identified as such because of its distinct reddish brown colour (R. Scaife pers. comm.); a series of stone walls parallel to its long axis projecting from and delineating its upper breaks of slope (LPS051, LPS052 and LPS055); and, head down on its seaward slope, a *moai* in Rano Raraku tuff (LPS056). It is upon the data revealed by these exposures that the following reconstruction is based (Figs 11 & 12).

The lowest and earliest sediments of archaeological significance visible in the two sections comprise culturally sterile, reddish yellow silt soil B-horizons (LPS039 and LPS040), identifiable as such from their light colour and developed ped structures (R. Scaife pers. comm.). These two horizons, and the probable soil A-horizon exposed in the mound's inland slope, are at approximately the same level and are thought to mark the surviving top of the prehistoric landsurface (Fig. 12). In the section through

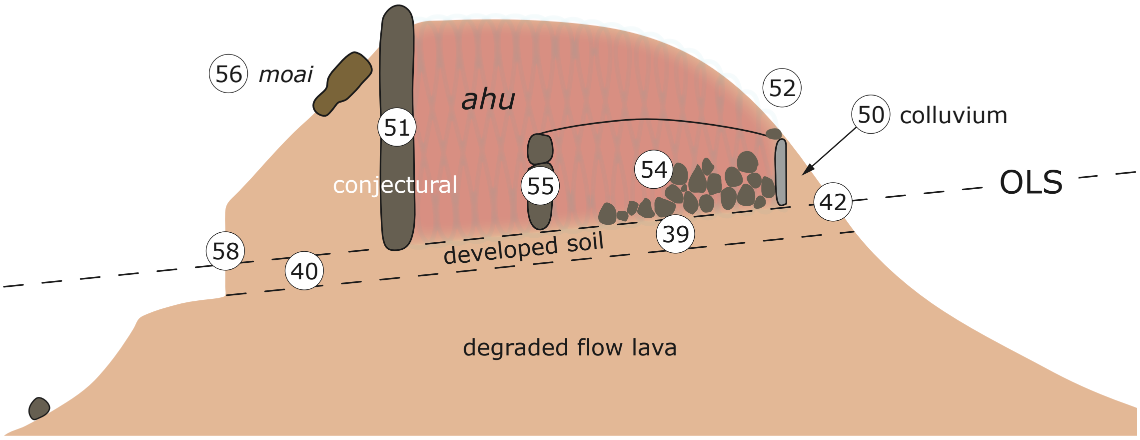


Figure 12

Ahu Hati te Kohe. Schematic section through the ahu *showing the suggested relationship between the three exposed soil horizons and the structures and sediments overlying them*

the right end of the mound, the horizon underlies a cultural fill comprising clast-supported stone (LPS031) (Fig. 13). This latter is part of the structure, or one of the structures, buried within M1. At the latest therefore, the horizon is contemporary with the construction of this structure. In the section along its seaward slope, the horizon is overlain by a series of layers containing and in one case comprising cultural material (LPS025–027 and LPS65) (Fig. 14). The origin of these latter deposits is not certain but most likely they relate to the period when the structure or structures buried within M1 were constructed, used and abandoned. The horizon therefore should be later but not *much* later than that the former. The soil A-horizon in the mound's inland slope is buried by what looks like colluvium (LPS050), rather than material related to the construction and use of the structure or structures buried within M1, and is therefore likely to be the youngest of the three.

The structure or structures buried within M1 and comprising Ahu Hati Te Kohe has to be reconstructed from the exposed walls, the stony fill, and the relationship of these to the soil horizons and earthen sediments referred to above.

At approximately 12.5m long, the longest of the former (LPS051) comprises a line of 13 small, undressed, mostly contiguous flow lava boulders

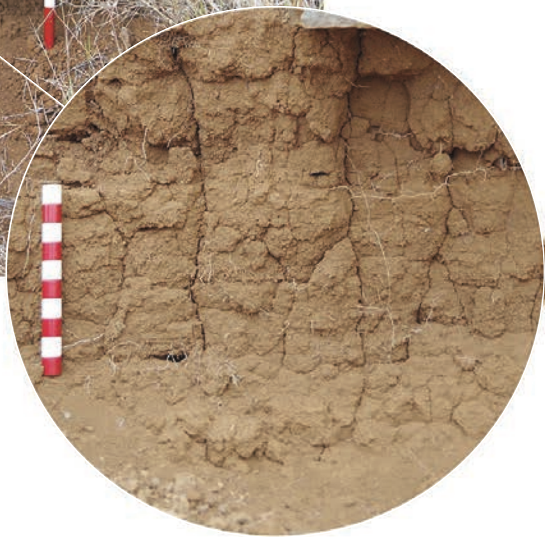


Figure 13. *Ahu Hati te Kohe. Section (LPS054) through the north wing of the* ahu *showing its clast-supported fill (LPS031) overlying soil horizon LPS039 (inset). Scales 0.5m and 0.1m*

Figure 14. *Ahu Hati te Kohe. Longitudinal section (LPS058) through the sediments comprising the site's seaward slope. Scale 0.4m*

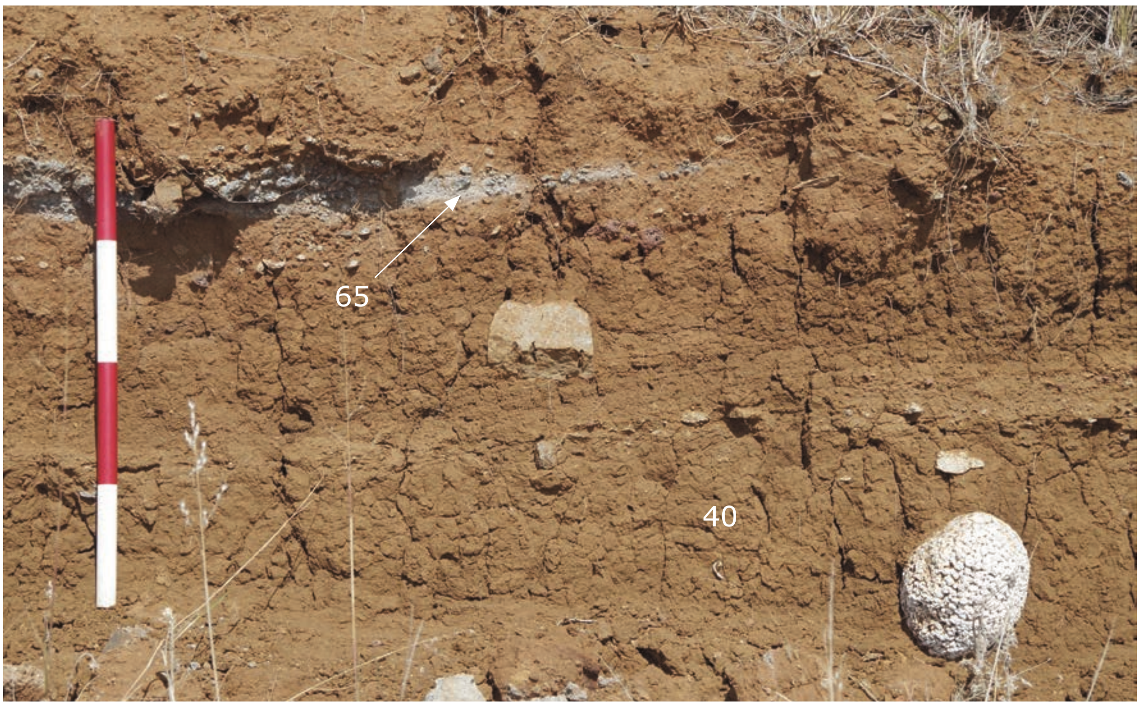


Figure 15. *Ahu Hati te Kohe. The main rear or seaward wall (LPS051), looking south. Scale 0.4m*

(Fig. 15). These form the principal seaward break of slope of the mound. Today these rise half a metre or so only above the surface of the mound but if projected down to the level of the soil horizons discussed above, should stand over 2m high (Fig. 12), and boulders similar to those comprising it, and possibly fallen from it, in the slope on its seaward side (LPS025) and lying horizontally on top of the mound (LPS057), suggest that it might have been even higher. The *moai* (LPS066) (cover photo) lies on its side downslope of a gap of its length in the exposed wall and may formerly have lain in this. A second wall (LPS055) on the seaward side of the mound is on a slightly different alignment. It is located to the right (north) of and approximately 2.5m inland of the line of LPS051. Of smaller, undressed flow lava boulders it stands only one to two courses high (*c.* 0.6m), its visible end stopping well short of the visible end of LPS051 (Fig. 16). The third wall (LPS052) is located *c*. 3m inland of LPS055 and is certainly part of the same structure (Figs 17 & 18). The exposed wall is *c*. 1m long and consists of two upright *paeŋa c*. 0.5m high, one of trachyte and one of flow lava, orientated parallel to the line of LPS051, *not* LPS055. A probable former continuation of this to the north is indicated by the presence of several *paeŋa* fragments, including some of trachyte, in a surface spread of eroded-out cultural stone on the lower northwest slopes of the mound (LPS060) (Fig. 18). The space between LPS52 and LPS55 is filled with

Figure 16

Ahu Hati te Kohe. The rear or seaward wall of the north wing (LPS055). Scale 0.5m

clast-supported flow lava rubble, visible on the surface between them (LPS049) and in the section at the end of the mound (section LPS054, layer LPS031) (Fig. 13). Two *poro* projecting from this and resting on the upright *paeŋa* and the presence of a number of *poro* in the stone scatter to the north, suggest that this layer may formerly have been capped with these. The large flow lava boulders noted on top of the mound (LPS057), inland of LPS051, do not continue over this set of features, the highest point of which is noticeably lower than LPS051 and the mound inland of it. In line with the *paeŋa* wall (LPS052), a line of three heavily weathered stones inland of the long seaward wall (LPS051) may also be part of a wall (LPS053).

Also of note in the context of the visible walls is the shape of the south end of the mound. No stone structures are visible here but, as to the north, where the shorter seaward wall (LPS055) is located several metres inland of the longer (LPS051), there is a pronounced inset (LPS038) (Fig. 11), while projecting seaward from it, is a spur of uneroded natural (LPS035), surrounded by a surface spread of eroded-out cultural stone (LPS059), indicative of a former structure (Fig. 9, foreground).

Finally, of interest is the nature and composition of the layers burying the three visible walls and comprising the landward and seaward slopes of the mound (LPS025–027, LPS040, LPS50 and LPS065), and the composition of a surface spread of cultural stone at the base of the seaward slope of the mound (LPS033). The reddish yellow layer comprising the landward slope is the 'fine-layered' colluvium described by Mieth and Bork as 'wrapped' around *ahu* in the badlands of eastern Poike (Mieth & Bork 2005, 253–4; fig. 10). Its upslope-facing slope is attributable to subsequent runoff gully erosion. We do not know for sure the nature of the layers comprising the mound's seaward slope but one, consisting of small-sized, clean, clast-support angular flow lava, visible below both seaward walls and to the south of the longer

Figure 17. *Ahu Hati te Kohe. The front or landward wall of the north wing (LPS052). Scale 0.4m*

Figure 18. *Ahu Hati te Kohe. Out of situ trachyte* paeŋa *(LPS060) fallen from the front or landward wall of the north wing (LPS052)*

wall, is definitely of cultural origin (LPS065) (Fig. 14), while the uppermost layer, which incorporates the flow lava boulders referred to above (LPS025), must derive at least in part from the structure or structures now buried by it (Figs 9–11). As for the stone spread at the base of the seaward slope of the mound, this comprises mostly undressed flow lava rubble but of note amongst it are a spread of over 40 pieces of calcareous algae (LPS061) (Fig. 19)

Figure 19. *Ahu Hate te Kohe. Concentration of calcareous algae amongst the out of situ cultural stone behind (on the seaward side) of the* ahu *(LPS061). Scale 0.5m*

Figure 20. *Ahu Hate te Kohe. Red scoria amongst the out of situ stone behind the* ahu *(LPS062). Scale 0.25m. Photo: Felipe Armstrong*

and two pieces of red scoria, a broken *paeŋa* (LPS062) (Fig. 20) and a cylindrical piece, both possibly from Puna Pau.

Owing to the patchy nature of the archaeological exposures, certain interpretation of M1 is currently impossible. We cannot be sure, for example, that the three walls belong to a single structure. We cannot be sure that the three visible developed soil horizons relate to the same landsurface. We cannot be sure from what level the longer seaward wall rises. Nor can we be sure that there is a relationship between the height of the mound to the north and the height of the mound to the south. That said, M1's overall configuration on the ground recalls that of a small complex *ahu* comprising a central platform with a high seaward/ rear wall and two low wings, on the seaward side of one of which was a crematorium (LPS059). This interpretation is supported by the presence on site of calcareous algae and possible Puna Pau red scoria, both of which are associated with *ahu* elsewhere, and by the layer of clean clast supported stones in the mound's seaward slope (LPS065), which is visible behind both the 'platform' *and* the two 'wings', suggesting that at the time it was deposited all three were related. At odds with it, however, are the elaborate facing of the north or left wing, which is untypical of an *ahu* wing, and the absence of a pavement inland of this (the gullying that revealed the prehistoric landsurface here would also have revealed a pavement, had one survived in this location). Whether or not the stones on top of the mound (LPS057) fell inland from its longer seaward wall or are part of an original upper surface, and whether or not the *moai* fell backwards from M1 or was formerly incorporated into its structure are matters for conjecture.

If M1's interpretation as a complex *ahu* is correct, the site is of considerable importance: firstly, because much of it remains buried and therefore retains the potential to reveal characteristics of *ahu* construction, use and environment that have been lost elsewhere and, secondly, because it is on Poike, the culture of which has been postulated to be different to that of rest of the island, and so provides a potentially well-preserved point of comparison between the two. Buried features with likely archaeological potential include the soils, which could yield pollen related to the periods before, during and after its use, the structure itself, and the land surfaces to its front and rear, which may retain evidence of activity related to its construction and use. They may even include more *moai*. Points of obvious comparison with *ahu* elsewhere include its form and the red scoria and calcareous algae[6] associated with it, which are similar, and the form and materials used in the front wall of the north (left) wing, the sheer quantity of calcareous algae, and the absence of evidence for cremated bone, which are different. Of course fully realizing M1's potential would be contingent upon active archaeological intervention, at the very least sampling of the exposed sections, and at best excavation. But some of it has been realized by the present LOC survey, and, because the erosion of the site is ongoing, longer term monitoring would very likely realize more.

Viri Viri o Tumu (LOC site M2)

Viri Viri o Tumu[7] is located approximately 40m northwest of, and just inland of Ahu Hate to Kohe, in the same eroded wasteland. Unlike the former, however, it is not buried, but stands proud of the modern landsurface on a pedestal of uneroded natural sediments (LPS075), around which a deeply cut gully curves (Figs 3 & 21). The pedestal on which it stands is littered with cultural stone (LPS072) and the site, the seaward walls of which sit on the pedestal's upper break of slope, seems to totter on the edge of

[6] Calcareous algae is widely associated with *ahu* (e.g. in the seaward tumble from the small *ahu* immediately behind Ahu Hekii) and particularly *ahu* crematoria.
[7] 'Viri Viri o Tumu' translates as 'Viri Viri of Tumu', or 'son of Tumu' (P. Tepano, pers. comm).

collapse. A comparison of photos taken by LOC in 2010 and the site today, however, shows no significant change in it to have occurred since then.

Figure 21. *Viri Viri o Tumu*

The structure is D-shaped (Figs 22 & 23), its straight front wall facing inland (LPS069), and its curved rear wall seaward (LPS070 and LPS071). The front wall is *c*. 6m long and 0.45m high and comprises a row of 12 contiguous *paeŋa* set upright with their long axes parallel to the ground. The *paeŋa* are of trachyte and flow lava. At its north end and in the middle, these alternate, and at its south end, they are grouped (Figs 24 & 25). The curved rear wall comprises 15 small, undressed, mostly contiguous flow lava boulders with some smaller stones wedged between them (Figs 26 & 27). The northwest end of the rear wall abuts the northern end of the front wall. At its southwest end, however, the rear wall stops short of front wall, and there is another gap — presumably where it has collapsed — in its southeast curve. The fill of the structure projects above both walls. It consists of two distinct deposits: silty sand (LPS037) and clast-supported flow lava and trachyte rubble (LPS069) (Figs 25, top, & 28). The survival of these deposits at a level higher than the two walls, a vertical section through them above the *paeŋa* wall, and a litter of cultural stone on the slopes of the pedestal (LPS072), which we assume to come from the structure, suggests that both walls were higher than they

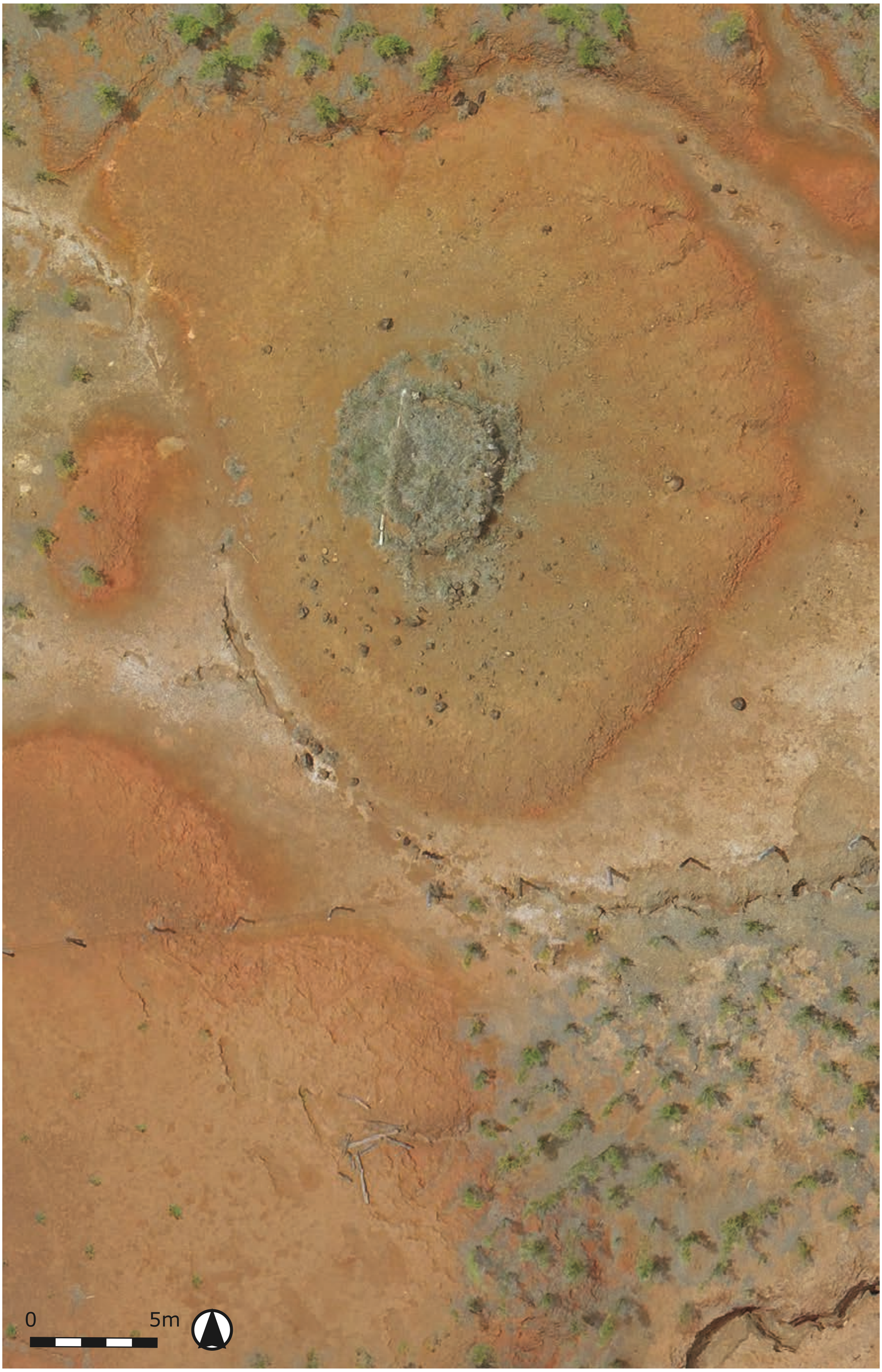


Figure 22

Viri Viri o Tumu. Aerial photograph taken in February 2015. Photo: Adam Stanford

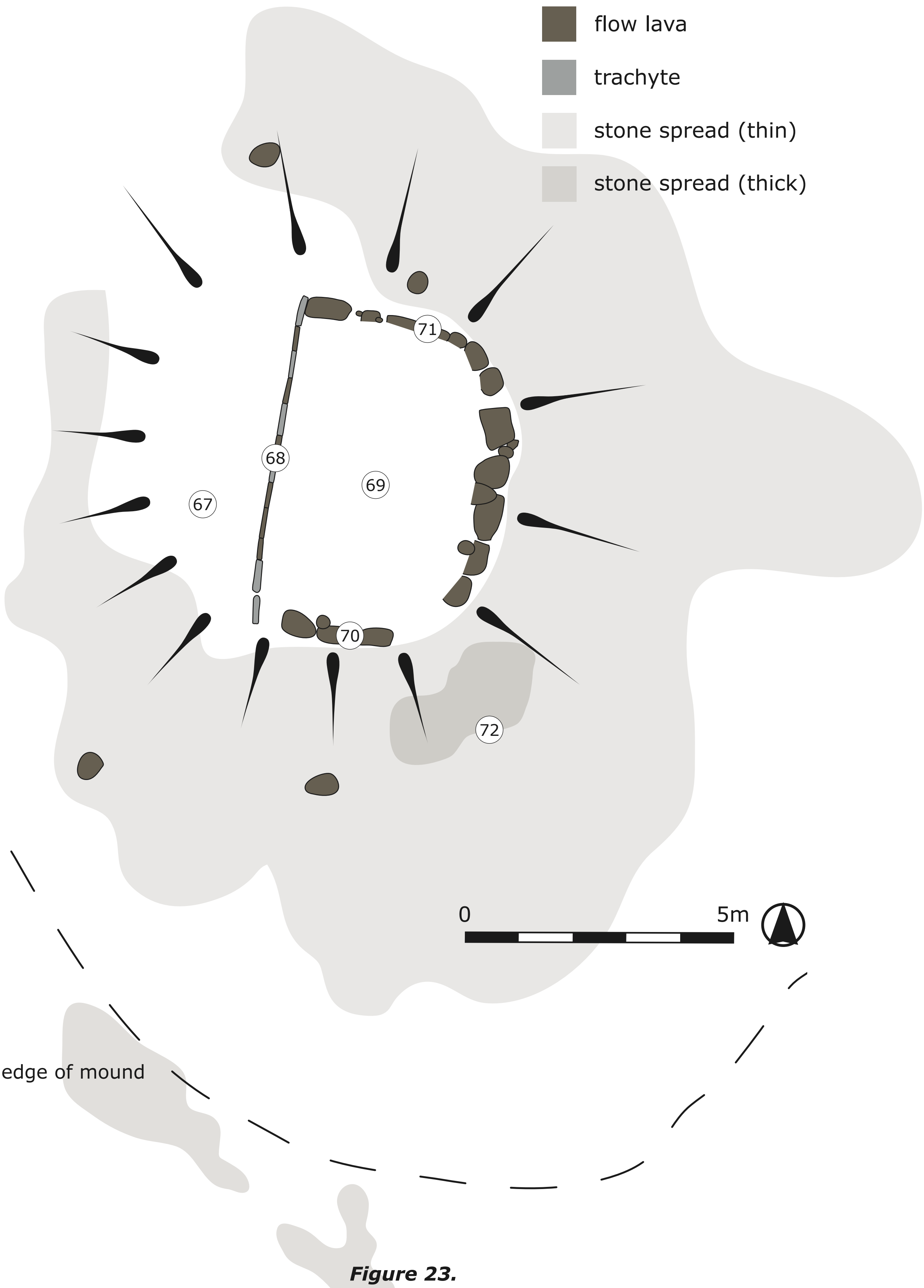


Figure 23.
Viri Viri o Tumu. Plan showing the key features based on the aerial photo shown in Fig. 22 and sketches made in the field during the 2016 survey

Figure 24. *Viri Viri o Tumu. The front or inland wall (LPS068) in 2010. Note the* poro *'pavement' at the break of slope (LPS067)*

Figure 25. *Viri Viri o Tumu. Detail of the front or inland wall (LPS068) in 2010. Scale 0.1m*

Figure 26. *Viri Viri o Tumu. Part of the D-shaped rear wall (LPS070 and LPS071)*

Figure 27. *Viri Viri o Tumu. Part of the D-shaped rear wall (LPS071)*

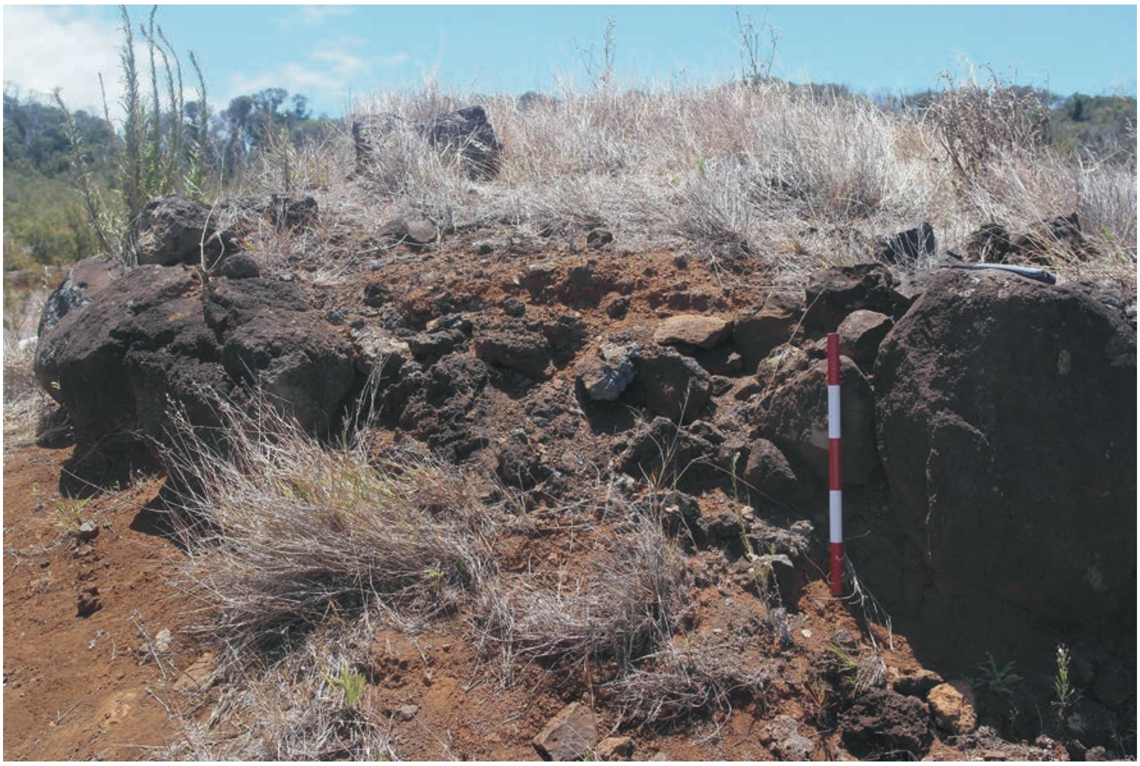


Figure 28

Viri Viri o Tumu. The fill (LPS069). Scale 0.5m. Photo: Felipe Armstrong

are today. It is unclear whether the silty sand fill, which is visible only in the section above the *paeŋa* wall (Fig. 25), was a deliberate deposit or built-up over time between the wall and the rubble fill after the latter was deposited: both are possible. In front of the *paeŋa* wall is a narrow semi-circular terrace, the outer edge of which corresponds to the upper break of slope of the pedestal. On this a few *poro* are visible (LPS068) and more may lie beneath a silty sand deposit of unknown origin between these and the wall (LPS029). This is likely to be a pavement. A revetment of very large undressed flow lava cobbles around the terrace was not present when the site was photographed in 2010 and must therefore be modern.

At the top of the pedestal, underlying both the curved rear wall of the structure and the pavement, developed soil horizons analogous to those visible at site M1 are exposed. Once again these mark the surviving top of the prehistoric landsurface. That under the pavement, a dark, reddish brown silty sand (LPS044), is identified as a soil A-horizon, and that under the wall, a reddish yellow silty sand with a developed ped structure (LPS043 and LPS045), as a soil B-horizon (R. Scaife pers. comm.) (Fig. 29).

It is not certain what Viri Viri o Tumu is. Suggestions include an ancillary *ahu* similar to small structures to the sides of *ahu* elsewhere on the island, an *avaŋa*, a crematorium or a multi-purpose structure. What evidence there is for these alternatives is ambiguous. For example the site is in the correct location for an *ahu* and of the right size for a crematorium or an *avaŋa*. Yet, except for a few pieces of calcareous algae in the litter of cultural stone on the slopes of the pedestal on which it stands, it has so far yielded none of these site types' usual associations (red scoria, beach pebbles, burnt and unburnt bone etc.). Of these very different options, the most likely is that it is an *ahu*, for like coastal *ahu* elsewhere, it has a distinguishable back, front and pavement, which orientate it inland. The least likely is that it is a crematorium, for it has so far yielded no evidence of burning at all.[8] But given the possible differences between Poike and the rest of the island, none of these options should be ruled out till we have more information.

Figure 29

Viri Viri o Tumu. Developed soil (LPS045) underlying the rear wall (LPS071). Scale 0.1m

Irrespective of its interpretation, because of its location on Poike and because of its unusual configuration, the site is important. Less certain is its potential archaeologically, for this will vary depending on what, when and for how long it was used. Except for the terrace, the exterior of the site has gone, while the loss of the upper part of the wall will doubtless have allowed any deposits on its upper surface to escape. It is unlikely therefore that any data related to its use or its environment, during and immediately after its use, will survive, except possibly in the silty sand deposit in the section above the *paeŋa* wall (LPS037). It is likely, however, that data relating to its environment prior to its construction can be recovered from the developed soils underlying it (LPS043–045) and data relating to its construction recovered from its stony fill (LPS069) and the land surface buried by it. (The former, for example, may contain evidence that would prove that the trachyte in this derives from the on-site dressing of this stone). Once again, however, the recovery of these later is contingent upon active archaeological intervention, in the form of the sampling of the exposed sediments and excavation.

---

[8] Our *CONAF* guide, Paulo Tepano, is of the view that trachyte, because it is less resistant to fire than the island's more accessible basaltic flow lavas, would not have been incorporated into a crematorium. We have discounted this view in our interpretation because of the evidence at Viri Viri o Tumu for a former upper course of unknown stone type.

LOC site M7

Site M7 lies just beyond the southern corner of survey area P1. Unlike the features comprising sites M1 and M2, those comprising site M7 are not of great archaeological significance in themselves but they contribute to our understanding of the sedimentological environment of P1 and therefore of the other sites within it. They include a soil A-horizon (LPS041) buried by colluvium (LPS028) (Fig. 30), a stone cist (LPS047) also probably buried by colluvium (LPS030) and reported to have contained human bones in the recent past (F. Torres Hochstetter pers. comm.) (Fig. 31), and a spread of eroded-out cultural stone (LPS048). The soil horizon and cist are separated by a deep erosion gully, but are just a few metres from each other and at approximately the same height.

Figure 30. *LOC site M7. Soil A-horizon (LPS041) buried by colluvium (LPS028). Scale 0.1m*

The soil horizon is exposed in the slope of a small pedestal of uneroded sediments. It consists of reddish brown silty sand, which stands out clearly against the sediments above and below it, and has a well-developed ped structure. Both it and the sediments underlying it are culturally sterile. The colluvium consists of reddish yellow silty sand, is finely laminated, and contains struck obsidian.

The cist likewise is exposed in the side of a gully, in its case *c*. 2m below the uneroded modern landsurface. It consists of two approximately

Figure 31
LOC site M7. Cist (LPS047) across the erosion gully from LPS041. Scale 0.5m

parallel, small, undressed tabular flow lava boulders, one upright and one at about 45°, capped by third, and is open on the gully side. We do not know how far it extends into the gully side. A fourth stone, possibly a fallen capstone, is wedged within it. It is too far below the modern landsurface to have been easily dug in from this, but as already noted, it is at approximately the same level as the buried landsurface just across the erosion gully from it, and we assume therefore that it was originally placed on or inserted into a continuation of this surface and buried by the same sediments that buried it. It *was not* dug into in the slope from which it protrudes today, but was exposed and truncated as the sediments that had accumulated over it were gullied away (Fig. 32).

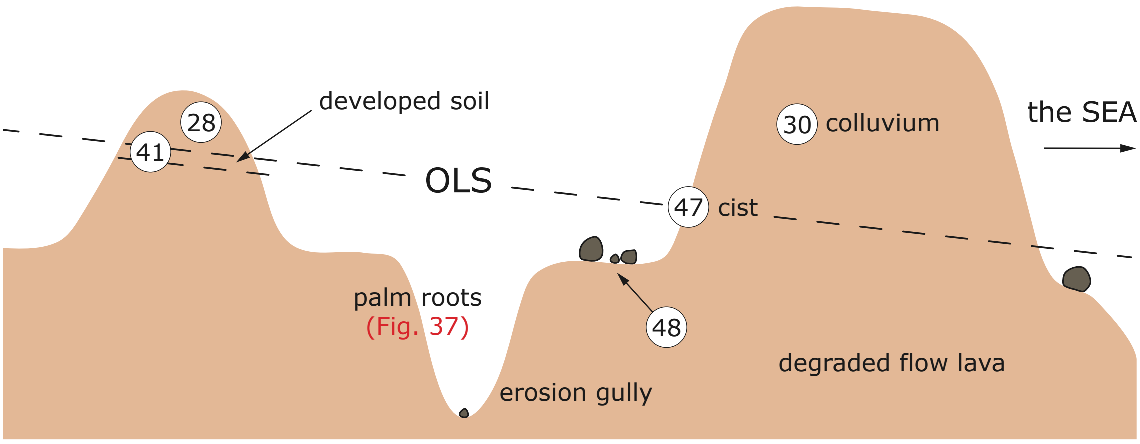


Figure 32
LOC site M7. Schematic section showing the suggested relationships across site M7

The survival of this depth of colluvium so close to the cliff needs explanation. Why did the colluvium not just flow over the cliff? We suggest that the former built up against a feature, which is either buried beneath it, at its seaward edge (like M1), or which has fallen into the sea since it accumulated. The surface spread of cultural stone (LPS048), which lies on a narrow terrace within the gully, perhaps derives from this latter.

A destroyed ahu *landscape*

Spatially survey area P1 encompasses an *ahu* landscape. Its tragedy is that the greater part of this has been obliterated by colluviation and erosion. Inland of the *ahu*, LOC identified only four sites, only one of which we can even attempt to reconstruct (a possible *umu* 500m from the *ahu* — site M11, feature LPS081).

Near Viri Viri o Tumu is a pedestal of uneroded sediments (LPS077), on which perches a possible fragment of prehistoric landsurface (LPS036) surrounded by a scatter of eroded-out cultural stone including many *poro* and struck stone artefacts (LPS076) (site M3) (Figs 33 & 38). The association

Figure 33

LOC site M3

of the stones to the mound, from which they thin away, suggests that these are somewhere near their original use or final deposition locations. A 50 x 20m geophysical survey conducted by LOC on and inland of this, however, showed the surrounding area to be devoid of identifiable archaeological features (Appendix 4), almost certainly owing to its scouring by erosion. Another surface scatter, close to the modern weathering front, must also be somewhere near *in situ* (site M8, feature LPS078). It too incorporates *poro*. The other feature, which is around a hundred metres inland of the *ahu*, comprises a patchy surface scatter of cultural stone — again rich in *poro* —

of about a hectare (site M10, feature LPS080) (Figs 4 & 34). Owing to the uncertain history of the ground on which it lies, there is no way to tell whether it, or any of the stones comprising it are in or near in situ.

Figure 34. *LOC site M10. Out of situ cultural stone lying on the eroded landsurface. Note the* casuarina *litter under the trees. Scale 0.4m*

It is clear from the many cultural stones lying in erosion gullies across the area surveyed that many more sites have been destroyed within it. Others very likely lie hidden beneath the colluvium. We can assume therefore that the distribution of surviving visible features bares little relationship to the distribution of sites during prehistory.

The burial and subsequent erosion of P1, however, has done more than just destroy the *ahu* landscape, it has revealed to us elements of it that are not visible elsewhere. We have already referred to the potential of the occupation surfaces and soils buried under and around the *ahu* and near the cist. More of these are visible inland, in isolated sediment pedestals, in erosion gullies and in the main weathering front (Fig. 35); including, in at least two locations, surfaces and horizons from a period before the settlement of the island (Figs 36 & 37). It has also left a record of the stone resources used within the survey area in its wake. A rough quantification of struck obsidian lying on the eroded surfaces of sites M1, M2, M3 and M10, for example, showed all four to be dominated by the glassy variety from Rano Kau, with very small quantities

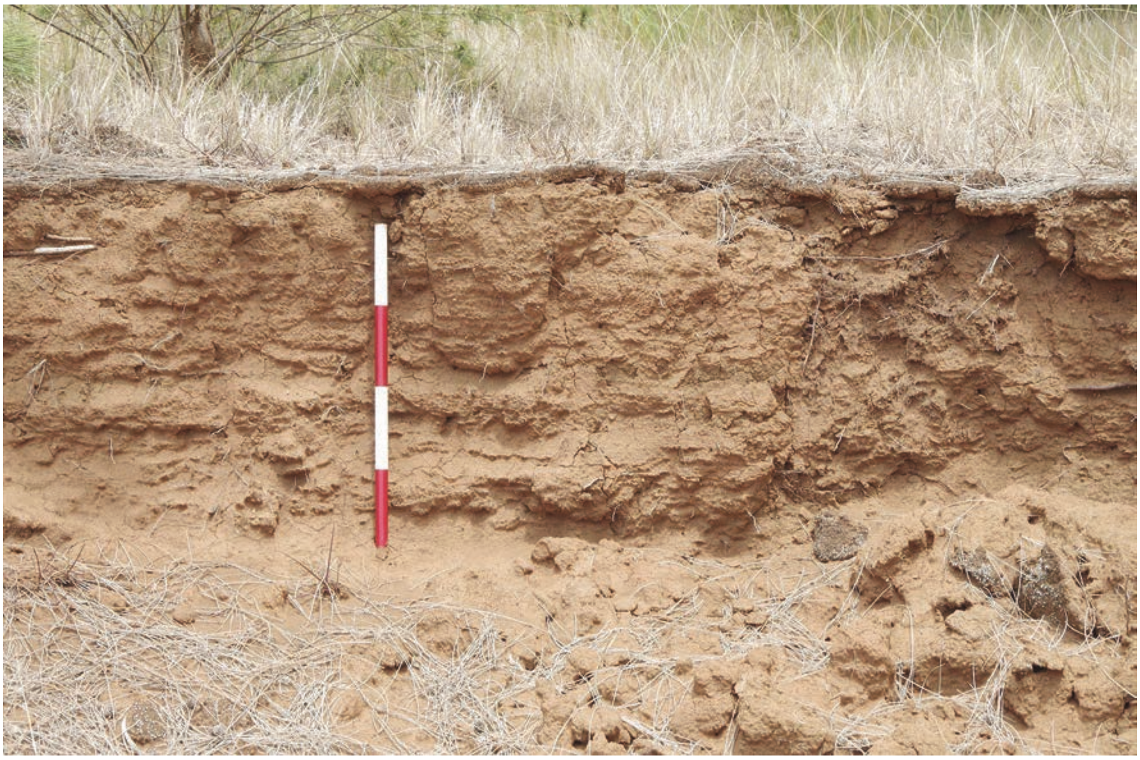


Figure 35. *Section through finely laminated colluvium in the weathering front inland of the* ahu*. Scale 0.4m*

Figure 36. *Soil horizon in P1 apparently projecting from under the degraded lava (top of picture). Scale 0.1m*

Figure 37 . *LOC site M7. Fossil palm roots in the gully transecting site M7. Scale 0.1m*

Figure 38. *Part of a polished adze from LOC site M3. The exact source of the stone utilized is currently unknown but it is widely distributed on Poike (e.g. at Ahu Motu Toremo Hiva) and is know from at least as far west as the Anakena area*

only coming from Motu Iti and Maunga Orito. We also recorded the presence of a blue grey tabular tool stone thought to be from Poike (on M2 and M3) (Fig. 38) and another tabular stone with a distinct speckled appearance, which closely resembles material from the Rano Kau area used for tools (cf. LOC 2013a, 21). *Poro* were present across the survey area. Calcareous algae, also originally from the sea, and trachyte, from the northwest of the peninsular, were observed around the *ahu* and site M3 but nowhere else. *Pu paeŋa* were absent. In these we have a rare unimpeded view of what stones were used and — up to a point — in association with what, over an unusually wide area.

Survey Area P2

The nature and quality of the feature record for P2 obtained by us is conditioned by its surface conditions, very deeply eroded in the centre east and patchily vegetated with *lupinus* scrub to the north and east (Fig. 39), and, unusually

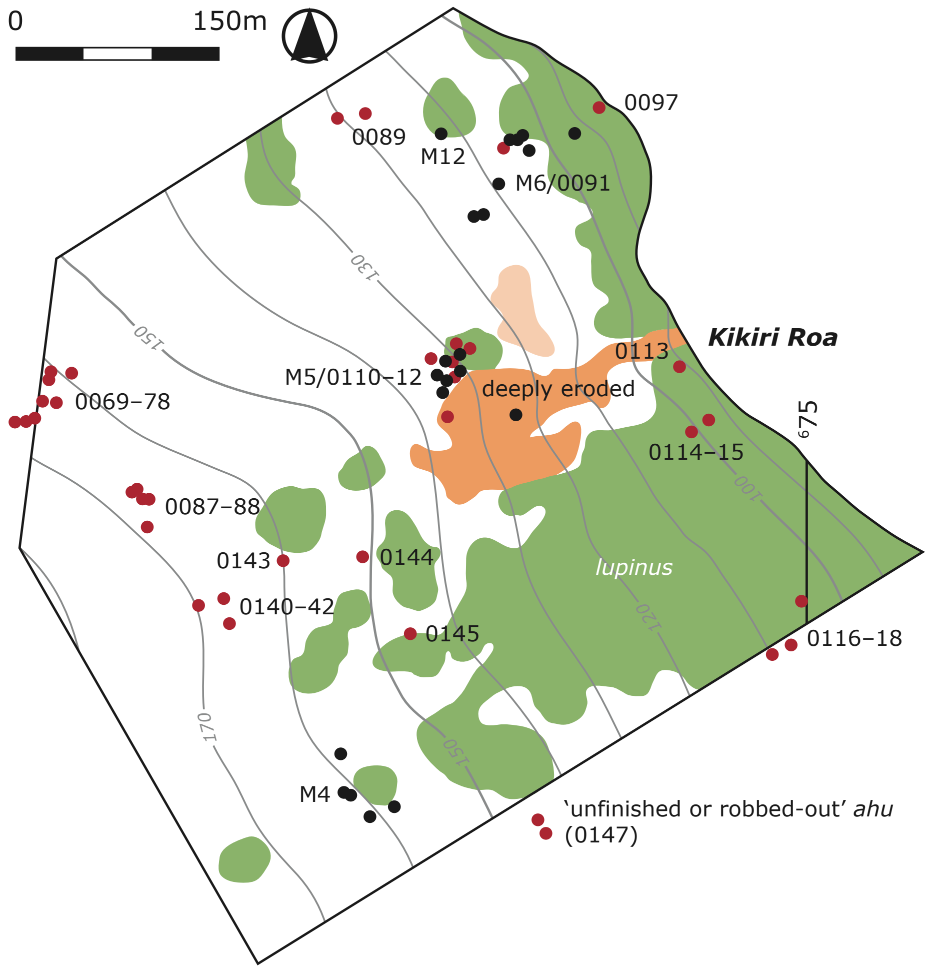


Figure 39

LOC Poike survey area P2. Black dots/ M nos = sites surveyed by LOC; red dots/ 4-figure nos = sites surveyed by Sonia Haoa

for Poike, by the existence within it of a number of utilized bedrock outcrops that project out of the scrub. LOC surveyed four sites and recorded 23 features, to which can be added another 12 sites and 37 features surveyed and recorded by Sonia Haoa (Table 3). In the area of deep soil erosion no *in* *situ* features were recorded, though the former presence of two is indicated by two concentrations of out of situ cultural stone (LPS090 and Haoa PK0111 and PK0113). Only features on bedrock outcrops were identified in densely vegetated areas (e.g. LOC site M6), while within these areas, as many as seven sites previously plotted by Patricia Vargas (Vargas 1990, 13) have not been relocated, either by Sonia Haoa or us. The record obtained, therefore, is again only incompletely representative of the prehistoric landscape within survey area as a whole, though for individual sites and their relationships, it is much less compromised than that from P1. The form of the features and sites recorded by LOC, our interpretation of these, and their potential to yield further data is described below. A summary of both our and Sonia Haoa's record, including an assessment of their importance and the threat posed to them by ongoing erosion can be found in Table 3 and the full record of both in Digital Appendices 1, 2 and 3.

LOC (LPS) site no	Vargas 1990	Feature type	Importance	Threat	Feature nos	
					LOC (LPS)	Haoa
M4	25-35 & 25-36	curbed structure	high	low	082	n/a
		stone scatter			083, 086	
		stone semicircle			085	
		umu			084	
M5	25-023, 25-24 and 25-25	carved rock	high	medium	087	n/a
		layer				PK0110n
		petroglyph panel			091–093	PK0110b–i, PK0110o–p
		quarry			089 (*paeŋa*)	PK0110a, PK0110m
		isolated stone				PK0110l
		out of situ stone scatter			090	PK0111, PK0112
		taheta			088, 094	PK0110j–k
M6	25-5, 25-6 and 25-7	line of stones	high	low	098, 101	n/a
		taheta			095–097, 099–100, 102–103	
M12	unknown	*taheta*	medium	low	104	n/a
none	unknown	quarry	medium	low	none	PK0072
		isolated stones				PK0074–76, PK0078
		structure				PK0073

Table 3.
LOC Poike survey: area P2. LOC 2016, Haoa and Vargas 1990 site and feature numbers

LOC (LPS) site no	Vargas 1990	Feature type	Importance	Threat	Feature nos	
					LOC (LPS)	Haoa
none	25-26	layer	high	low	none	PK0087h, PK0088
		quarry				PK0087a
		petroglyph panel				PK0087c–e, PK0087g
none	unknown	petroglyph panel	low	low	none	PK0141b
		isolated stone				PK0142
		structure				PK0140
		taheta				PK0141a
none	25-39	structure	low	low	none	PK0143
none	unknown	quarry	low	low	none	PK0089a
		rock garden				PK0089c
		taheta				PK0089b
none	unknown	out of situ stone scatter	low	low	none	PK0144
none	unknown	layer	low	low	none	PK0145
none	unknown	layer	low	low	none	PK0091g
none	unknown	structure	low	low	none	PK0097
none	unknown	isolated stone	low	low	none	PK0113
none	unknown	layer/ structure	medium	low	none	PK0114
		taheta				PK0115
none	25-45	isolated stone	low	low	none	PK0116

Table 3 cont.

LOC site M4

Site M4 is probably a settlement. It is located on the northern side of a low spur on the east-facing slope of the peninsular, about a 150m inland of a large linear stone structure just outside the survey area interpreted by Sonia Haoa as an unfinished *ahu* (PK0147a). The site consists of a small, oval, curbed structure of about 4.5 x 1.5m (LPS082) (Figs 40, left, & 41), similar to an inhumation burial excavated at Vai Mata on the north coast (Vargas *et al*. 2006, 176–81), a stone scatter incorporating three small whole, and one fragmentary *pu paeŋa* and a number of *poro* (LPS 083) (Fig. 40, right), a partial *umu* (LPS084) (Fig. 42) and a larger semi-circular stone structure (LPS085), and downslope of these, below a line of small flow lava boulders, a second stone spread, also incorporating *poro* and *pu paeŋa* (LPS086). The latter merges into a rock garden. The upper and densest part of the first of the two stone spreads has

Figure 40. *LOC site M4. Curbed probable inhumation burial (LPS082) (left) and house site (LPS082) (right)*

Figure 41. *LOC site M4. Curbed probable inhumation burial (LPS082). Scale 0.5m. Photo: Felipe Armstrong*

Figure 42
LOC site M4. Partial umu *(LPS084). Scale 0.5m*

the same proportions as, and very likely is all that remains of a house destroyed by surface creep down the steep slope on which it is located. It should be noted, however, that there are not enough *pu paeŋa*, either within the stone spread or across the site as a whole, to construct a complete *hare paeŋa*. This is an issue to which we will return below. Also of note is the site's relationship to Sonia Haoa's unfinished *ahu*, which is similar to that of settlements associated with *ahu* elsewhere on the island.

LOC site 5

Site M5 (Fig. 43) is located at the top of and is just touched by a very deep erosion gully, which bisects the eastern part of P2. Very likely therefore some features related to it have been destroyed (e.g. LPS090). The surviving features belonging to it are located on and around one of several prominent outcrops of weathered flow lava within the survey area. On the outcrop the features recorded include: 10 faint petroglyph panels, dominated by hook motifs (e.g. LPS092) (Fig. 44) and including a canoe or *rei miro* (LPS091) (Fig. 45), a row of cup marks (Haoa PK0110f) and some other, unidentifiable features; an unidentified carved stone (LPS087) (Fig. 46); a partially shaped *paeŋa* identifiable as such from its flat surface and straight, right-angled edge, both of which are untypical of the local geology (Fig. 47); a large rectangular and a very small round *taheta* (LPS088 and LPS094); and evidence for deliberate stone removal. Off the outcrop are a fragment of possible pavement (Haoa PK0110n), a partially embedded, small boulder-sized chunk of Rano Raraku tuff (Haoa PK0110l), and in the erosion gully, a cluster of eroded out cultural stone including an end-battered *poro* and a small *paeŋa* fashioned

Figure 43. *LOC site M5*

Figure 44. *LOC site M5. Hook petroglyphs. Clockwise from top left: Haoa PK0110d, 0110e and 0110g (photos: Sonia Haoa), and LPS093/ Haoa PK0110h. Scales 0.1 and 0.5m*

Figure 45. *Canoe or* rei miro *motif (LPS091/ Haoa PK0110b). Scale 0.5m*

Figure 46. *LOC site M5. Unidentified carved stone (LPS087). Scale 0.5m*

Figure 47
LOC site M5. Unfinished paeŋa *(LPS089/ Haoa PK0110m) in 2010. Scale 0.5m*

from Puna Pau red scoria (LPS090) (Fig. 48). In 2010, in the vicinity of the partially shaped *paeŋa*, we also observed a number of *toki* and broken *poro*, presumably used in working the outcrop.

Interpretation of this site is complicated because of the obvious loss of ground and archaeology wrought by the adjacent erosion gully. What survives looks like a quarry. But we know almost nothing of the features that have been lost and we do not know if those that survive relate solely to the quarry, or some other feature or site that no longer exists. What we can say however is that the complex as a whole brought together quarrying, which for geological reasons was more constrained on Poike than in many other parts of the island, a particular petroglyph motif, which though concentrated in two other places on the island, is also peculiar to Poike (Lee 1992, 115), and single fragments of two different non-Poike stone types (Puna Pau red scoria and Rano Raraku tuff), elsewhere usually associated with special sites and special meanings (Hamilton *et al*. 2011; Seager Thomas 2014). Also possibly of importance is the apparent absence, both from site M5 and the rest of the P2 survey area, of trachyte. From these, we infer that the site was special, but in a very different way to these latter.

LOC site 6

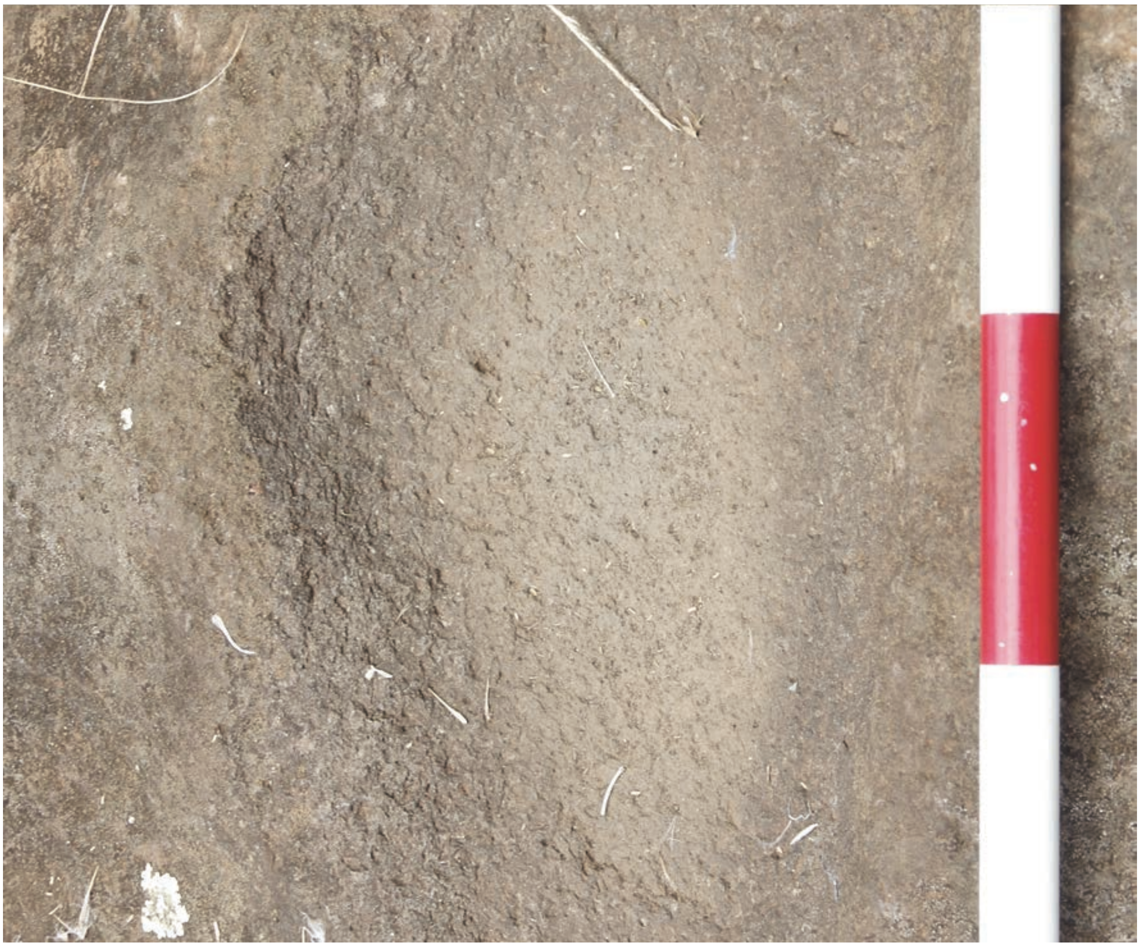
Between about 100 and 150m from the cliff edge, site M6 is also located on and around a prominent outcrop of weathered flow lava. It is best characterized as a *taheta* complex, for there are eight or nine *taheta* in the immediate vicinity (LPS095–097, LPS099–100 and LPS102–103) (Figs 49–55) and another just upslope of it (site M12, feature LPS104). Other visible features include, on the outcrop, further evidence for deliberate stone removal, and off this, two lines of stones at right angles to the slope of the hill on which the site is

Figure 48.

Out of situ scatter of cultural stone in the gully adjacent to site M5 including an end battered poro *and a broken Puna Pau red scoria* paeŋa *(LPS090/ Haoa PK0112). Scales 0.5m*

Figure 49. *LOC site M6.* Taheta *(LPS095). Scale 0.5m*

Figure 50. *LOC site M6.* Taheta *(LPS096). Compare the weathering of the worked basin and the surrounding unworked stone*



located (LPS098 and LPS101). The interest of this site lies in the forms, locations, and association within a single complex of so many very different *taheta* (small, large, exposed, hidden, isolated, grouped, in earth-fast bedrock and deliberately moved stones), and the weathering of these, which differs from that of unmodified stone, and therefore provides an additional way of distinguishing them from unmodified stone (Fig. 50).[9]

A quarry landscape

P2 stands out from P1 because of the different degree of erosion to which it has been subject and from P1 and many other locations within the peninsular because of its many stone outcrops, the absence of significant colluviation (at least in the parts of it surveyed by LOC) and the fact that it appears never to have been ploughed. These things have created a very different archaeological environment from that of P1, and elsewhere on Poike, both in terms of the way the area was used in prehistory and in terms of its archaeological preservation and visibility. Because of the poor preservation and poor visibility across P1 and the poor visibility in P2, direct comparison of the wider landscape is not possible. But it is possible to characterize P2 in terms of some of the sites within it and to contrast some, at least, of the elements comprising the two areas.

Figure 51. *LOC site M6.* Taheta *(LPS097). Centre picture x2. Scale 0.5m*

---

[9] The basins of *taheta* in M6 *appear* more vesicular than natural hollows in the flow lava. The reason for this is uncertain, but it is assumed that it results from the accelerated chemical weathering of phenocrysts crushed when the *taheta* were pounded out of the rock.

Figure 52. *LOC site M6.* Taheta *(LPS099).*
Scale 0.5m

Figure 53. *LOC site M6.* Taheta *(LPS100).*
Scale 0.5m

Apart from its settlement, possible grave and quarrying, P2 stands out because of the large numbers of *taheta* (13 across six sites) and rock art panels (15 across three sites) and the large number of hook motifs represented on these. Also of note is the sparsity of stone structures, indicating that the survey area was a source of stone rather than a consumer of it (it is important to emphasize of course that we do not know the size of, and how much stone was removed), the introduction to it of Puna Pau red scoria and Rano Raraku tuff, the apparent absence from it of trachyte and, once again, the very few *pu paeŋa*.

Superficial observations such as these cannot be interpreted with certainty. Some, however, can and probably should be interpreted functionally. *Taheta* and rock art panels will obviously concentrate in areas where they could be carved and in locations where stone workers were to be found to carve them, while, in a society where stone was an important resource, where it is scarce, as on Poike, we can expect it to have been moved about — freshly quarried and recycled alike. But if our observations on the role and meaning of stone in

Figure 54

LOC site M6. Taheta *(LPS102). Scale 0.5m*

Figure 55

LOC site M6. Taheta *(LPS103). Scale 0.5m*

social transactions elsewhere on the island are correct (Hamilton *et al*. 2011), we might also expect to see this on Poike. For example, it might be significant *socially* that white-coloured trachyte (and calcareous algae), present at P1's *ahu* and other finished *ahu* on the peninsular, was not observed in P2, and that Puna Pau red scoria and Rano Raraku tuff, associated with similar sites off the peninsular, was observed in P2.

P3 and P4

Survey areas P3 and P4 are located in the heavily eroded areas to the southwest of P1. Both contained archaeological features in 1989 (Vargas 1990, 11: quadrangle 23, sites 3–6) but no information is currently available about the nature of these at that time. LOC found the eroded surface of both areas to be littered with out of situ cultural stone, but except for a possible washed-out *umu* (LPS001) (Fig. 56), a few locations where the density of the stones was slightly greater (LPS002–005) and a handful of worked stones (LPS006) (Table 4), we identified and recorded no discrete features or sites. Among the stones comprising the litter, and the individually recorded features, are *poro*, *pu paeŋa* and a perforated *taheta* (Fig. 57). Owing to their complete devastation by erosion neither of these two survey areas is now of any archeological interest or importance. They do, however, exemplify the severe threat posed by erosion to the archaeology of Poike.

LOC (LPS) survey area	Site nos	Vargas 1990	Feature type	Importance	Threat	LOC (LPS) feature nos
P3	M13	23-3 & 23-4	out of situ stone scatter	low	low	001, 002, 003, 004
P4	M14	23-5 & 23-6	out of situ stone scatter	low	low	005
			taheta			006

Table 4.

LOC Poike survey: areas P3 and P4. 2016 and Vargas 1990 site and feature numbers

The Threat to the Archaeology

In the parts of P1 under pasture and mature *eucalyptus*, there is no evidence for significant ongoing sediment movement and there is no ongoing threat. In the parts of P1 under recent *casuarina* plantation, most of the archaeology has already been destroyed (M3, M10 etc.).

Where sites do survive, however, all are under imminent threat (Table 2). Of the 28 features comprising Ahu Hati te Kohe (M1), for example, eight have already been displaced and 17 truncated, while slope wash and wind deflation to the rear and gullying to the front and side has put all but two in imminent danger of piecemeal, if not total collapse. Sooner or later, if sediment erosion in the vicinity is not checked, the site will suffer a catastrophic collapse. The same is true of Viri Viri o Tumu (M2), which now sits on a pedestal of uneroded natural sediments, its rear wall projecting precariously beyond the top of the pedestal's slope.

In P2 gullying has destroyed some archaeological features (LPS090) and is encroaching on in situ M5. It is unclear to what extent the rock outcrop on

Figure 56. *LOC site M13. Eroded-out possible* umu *(LPS001). Scale 0.5m. Photo: Felipe Armstrong*

Figure 57. *LOC site M14. Perforated* taheta *(LPS006). Scale 0.5m. Photo: Felipe Armstrong*

which M5 focuses is threatened — probably not much; but portable artefacts on the ground around it are at risk of displacement. Otherwise sediment erosion is not currently impinging on the visible archaeological record and is not considered a significant threat.

Recommendations

Erosion inhibition

LOC is an archaeological project and its members are not qualified to make authoritative technical judgments on controlling sediment erosion. Common sense, however, suggests to us three possible ways of inhibiting ongoing erosion in the vicinity of the archaeological features surveyed. The first is to channel water runoff away from them, moving the erosion elsewhere. This would be both expensive and potentially risky, as the eroded surface is irregular, the underlying sediments inhomogeneous and the likely flow variable and difficult to predict. The second is to grass over the bare sediments. This would slow runoff, aid water absorption, shield and bind currently exposed sediments and encourage soil structure development within them — all of which would inhibit sediment erosion. It too would be expensive as large quantities of matting would be needed to protect the germinating seed, and in the short term it would be vulnerable to grazing animals, but it would be appropriate for selected, vulnerable areas such as the slopes around Ahu Hati te Kohe (M1) and Viri Viri o Tumu (M2) and the slumping terracettes of P2. The periodic, total exclusion of cattle from the threatened areas is also recommended, though this would have to be balanced with a concomitant loss of nutrient enriching dung.

Archaeological intervention

In view of the importance and interpretative potential of Ahu Hati te Kohe (M1) and Viri Viri o Tumu (M2) and the threat to which they are subject, some kind of invasive archaeological intervention is desirable and is recommended. It is also likely to be a cheaper than any structural, water management or vegetational intervention designed to save the two structures in their present form. It has to be recognized, however, that excavation would be destabilizing and that the potential consequences of it have either to be accepted or a properly priced strategy to mitigate them written into any fieldwork design.

The investigation of P1 would begin with the cleaning up/ cutting back, detailed recording and environmental sampling of the sections that are already exposed, and past saving (LPS039–045, LPS054 and LPS058, LPS069 etc.), in and around Hati te Kohe (M1) and Viri Viri o Tumu (M2). The next stage would be the selective sampling the sites themselves, with, for M1, a trench of a width that can easily be reconsolidated through the deposits in front of, comprising and behind the *ahu*; and for M2, a section through the pavement in front of it (LPS067) and its fill (LPS069). Both of these latter interventions would be recorded using a combination of the single context recording system, adapted to accommodate the particular needs of upstanding dry stone structures, and detailed planning and section drawing. The final stage, full excavation, would only be considered if the two sites are written off as not viable for long-term preservation.

Owing to the low threat posed by sediment erosion to sites in P2, invasive archaeological intervention there is not currently recommended.

Conclusion

Archaeological summary

As a distinct and largely separate topographic unit, Poike provides important perspectives on the nature of Rapa Nui's monuments and the variability of Rapa Nui prehistory, landuse and prehistoric communities.

Because of their preservation, their unusual structure, their associations, their likely use and their likely place within the wider community, the most significant features recorded during the survey are those related to P1's Ahu Hati te Kohe (M1) and Viri Viri o Tumu (M2). The upstanding features comprising these contain enough preserved information to tell us about their structures. The sediments and soil horizons they incorporate, overly and are buried by might, if analyzed, give us an idea of the environment before the two structures were built, during the time they were used, and afterwards. The out of situ scatters of cultural stone show that there were other features in the area, give as an idea of their density and indicate some feature types that were absent or that for some reason did not survive to be eroded out.

Sites recorded in P2 are also intrinsically interesting, and as part of a quarried landscape, add usefully to our understanding of the context of quarrying on the island as a whole. M4 is configured like a settlement and incorporates a rare feature type currently best paralleled by curbed inhumation burials on the north coast of the island (LPS082). M5 comprises petroglyphs, *taheta* and various quarry and stone working features, including a rare unfinished *paeŋa*; M6 a suite of seven *taheta*, whose different forms and locations could contribute to our understanding of this widespread but poorly understood feature type. Observations by us on the way the lava from which these latter were carved has weathered should also contribute to the wider recognition of stone working on the island.

The stones and stone artefact types associated with each survey area add to our understanding of resource procurement on Poike and — when compared — deeper social transactions during prehistory.

The threat

Survey by LOC and Sonia Haoa on Poike to date has garnered an abundance of interpretatively useful data. We must emphasize, however, that our 2016 survey was non-invasive and that much of potential importance remains to be learned of the sites examined by us, some of which will add to what we have learned, and some — no less importantly — qualify it. We must also emphasize that erosion on Poike is ongoing, and that sooner rather than later many of these sites will be destroyed and what remains to be learned of them lost forever. It is essential therefore that work is ongoing as well. Of the areas and sites surveyed by us, the need for this is most pressing in P1, on and around the two *ahu*, the importance and archaeological potential of, and the threats to which are set out above.

P1, however, is not the only area on Poike under threat from erosion. There are three major foci of surface erosion, to the north and south of P1 and at the far southwest of the peninsular above Ahu Tongariki, all of which are littered with out of situ cultural stone indicative of the destruction of archaeological features and sites. Ahu Moto Toremo Hiva is on the verge of falling into the sea (see Appendix 5), while gullying, which is widespread to the north and east of the peninsular, is drawing close to an important *ahu moai* and *hare paeŋa* complex (Ahu Poike) upslope of our two survey areas.

Future work on Poike

The threat of erosion on Poike is enormous. So too are the opportunities that it provides for tracking its archaeology and long-term environmental history.

The Poike peninsular comprises one of Rapa Nui's distinct topographic units, geological sources and contexts of cultural expression. Probably the oldest of the three principal volcanoes that comprise the island, it has a distinct associated geological make-up, including the lava domes that provided stone for the trachyte *moai* uniquely found on Poike. It is a unique part of the island with a recurrently suggested sacred geography (e.g. Van Tilburg 1994: 101; Mulloy 1975), distinctive forms of *ahu* and crematoria, and distinctive rock art and *taheta* complexes. For these reasons, a full understanding of how it articulated socially with the rest of the island is vital to understanding Rapa Nui prehistory as a whole. Owing to its erosion and colluviation, it also provides rare possibilities for archaeological preservation and exposure. Yet in terms of its monuments, Poike is one of the least studied and understood major topographic units of the island.

Severe ongoing erosion means that a number of its monuments, some of them unique, will not survive for mapping and investigation for very long, and a combined heritage management and environmental strategy is urgently required. For the archaeology, this needs to include: firstly, monitoring and where large-scale loss is inevitable, direct intervention in the form of sampling and excavation, and secondly, mapping the different categories of archaeology across Poike to characterize and categorize their types and the severity of likely future destruction, to suggest possible levels of protection and monitoring, and to place the results of the first in an interpretatively viable context. There is also an immediate need for small-scale intervention to save information from already exposed sections. The preservation of the exceptional structures of P1, described above, may be impossible and these monuments in particular need existing exposures to be sampled for pollen, their sediment micromorphology analysed, and their exposed architectural structure recorded in detail. Alongside this, erosion gulley sections in the vicinity should be sampled for pollen, and associated sediment micromorphology undertaken, as these offer the potential to contribute significantly to an understanding of Rapa Nui's environmental history from deep time down to the present. Such a programme by itself would greatly complement existing cultural and environmental sequences from isolated contexts across the island.

The coming together of Poike's unique archaeology, its unusual archaeological and environmental preservation and the on-going threat posed to these by erosion, notably in P1, has the potential to provide significant new and different perspectives of Rapa Nui cultural traditions and environmental history, particularly during the statue-building period.

References

Hamilton, S., Seager Thomas, M. & Whitehouse, R. 2011. Say it with stone: constructing with stones on Easter Island. *World Archaeology* **43(2)**, 167–90.

Hunt, T. & Dudgeon, J. 2002. Site report for the Maitaki Te Moa Site, Sector Vai Mata, Rapa Nui.

Lee, G. 1992. *The Rock Art of Easter Island. Monumenta Archaeologica* **17**. Los Angeles: Institute of Archaeology, UCLA.

LOC (Landscapes of Construction Project). 2009. *Ahu* landscapes — preliminary research assessment of phenomenological walkover surveys (PWSs) conducted along selected sections of the Rapa Nui (Easter Island) coastline. *Rapa Nui Landscapes of Construction Project Interim Research Reports* **2**. https://www.academia.edu/11536013/

LOC (Landscapes of Construction Project). 2013a. Excavation and survey at Puna Pau 2013. *Rapa Nui Landscapes of Construction Project Interim Research Reports* **8**. https://www.academia.edu/11506110/

LOC (Landscapes of Construction Project). 2013b. Preliminary multi-scalar survey of the southwest section of the *Ara Moai*. *Rapa Nui Landscapes of Construction Project Interim Research Reports* **7**. https://www.academia.edu/11536173/

Martinsson-Wallin, H. & Wallin, P. 2014. Spatial Perspectives on ceremonial complexes: testing traditional land divisions on Papa Nui, in Martinsson-Wallin, H. and Thomas, T., *Monuments and People in the Pacific*, 317–42. *Studies in Global Archaeology* **20**. Uppsala: Uppsala Universitet.

Mieth, A. & Bork, H-R. 2005. History, origin and extent of soil erosion on Easter Island (Rapa Nui). *Catena* **63**, 244–260.

Mulloy, W. 1975. A solstice orientated ahu on Easter Island. *Archaeology and Physical Anthropology in Oceania* **10(1)**, 1–39.

Seager Thomas, M. 2014. Stone use and avoidance on Easter Island. Red scoria from the topknot quarry at Puna Pau and other sources. *Archaeology in Oceania* **49(2)**, 95–109.

Van Tilburg, J. 1994 Easter Island. Archaeology, Ecology and Culture. London, British Museum Press.

Vargas, P. 1990. *Prospección Arqueológica en la Península del Poike y Sector de Mahatua*. Estudios del Asentamiento en Isla de Pascua. Santiago: Universidad de Chile.

Vargas, P., Cristino, C. & Izaurieta, R. 2006. *100 años en Rapa Nui. Arqueología del Asentamiento*. Santiago: Editorial Universitaria.

Appendix 1. Application to *CONAF* for 2016

SOLICITUD DE INVESTIGACIÓN ARQUEOLÓGICA EN EL SISTEMA NACIONAL DE AREAS SILVESTRES PROTEGIDAS DEL ESTADO.

1. Antecedentes del investigador:

1. NOMBRE DEL INVESTIGADOR RESPONSABLE (adjuntar C.V, certificado de título, certificados que acrediten la pertenencia a una institución científica o universidad): Sue Hamilton, Directora del UCL Institute of Archaeology, University College London. http://www.ucl.ac.uk/archaeology/people/staff/hamilton Se adjunta CV a la presente solicitud
2. INSTITUCIÓN CIENTÍFICA O UNIVERSITARIA A LA CUAL PERTENECE: UCL Institute of Archaeology, University College London, LONDON, WC1H 0PY
3. GRADO ACADÉMICO DEL INVESTIGADOR RESPONSABLE: PhD, FSA, Professor of Prehistory
4. PASAPORTE O CEDULA DE IDENTIDAD: [redacted]
5. DIRECCIÓN , TELEFONO EN ISLA DE PASCUA. Mana Nui Inn, Sector Tahai, Hanga Roa Tel: [redacted]
6. CORREO ELECTRÓNICO s.hamilton@ucl.ac.uk
7. NOMBRE DE LOS INVESTIGADORES ASOCIADOS, GRADOS ACADÉMICOS. (Indicar contraparte chilena de ser una investigación extranjera, indicar calificación profesional, responsabilidad y pertenencia a instituciones de investigación o universidades): • Mike Seager Thomas, Investigador Honorario Asociado, UCL Institute of Archaeology: geoarqueólogo, arqueólogo de campo, estudios líticos • Rob Scaife, Professor de Arqueología medioambiental, Universidad de Southampton, Reino Unido: palinólogo y arqueólogo medioambiental (incluyendo geomorfología y ambientes cuaternarios) • Felipe Armstrong MA, candidato a PhD, UCL Institute of Archaeology: arqueología del paisaje, arte rupetre

• Moana Gorman, Universidad SEK: estudiante de arqueología • Sonia Haoa (?), comisionada por CONAF para trabajo de prospección en Poike • Chilean counterpart: Francisco Torres H., MAPSE, Rapa Nui: arqueólogo *Nota: En el Reino Unido, la Arqueología de Campo incluye las tareas realizadas por un conservador en Chile. Un conservador en el Reino Unido se ocupa exclusivamente de la conservación material de objetos y monumentos utilizando medios técnicos.*
8. INDICAR N° DE PERSONAL DE APOYO SIN FORMACIÓN EN ARQUEOLOGÍA. Debido a la naturaleza del trabajo, no se hace necesario contar con personal de apoyo.

2. Antecedentes del proyecto:

1. NOMBRE DEL PROYECTO: Prospección arqueológica en Poike y evaluación de su estado de preservación
2. NOMBRE DE LA INSTITUCIÓN PATROCINANTE (En caso de ser extranjero presentar convenio con institución científica nacional que patrocina): CONAF
3. DIRECCION, TELEFONO Y CORREO ELECTRÓNICO DE INSTITUCION PATROCINANTE: CONAF, Sector Mataveru, s/n liligonzaleznualart@gmail.com [redacted]
4. NOMBRE , CARGO y CORREO ELECTRÓNICO DE RESPONSABLE DE LA INSTITUCIÓN PATROCINANTE: Lili González, CONAF: liligonzaleznualart@gmail.com [redacted]
5. NOMBRE DEL SITIO A ESTUDIAR. N/A. Se desconoce el nombre del o los sitios, hasta que se complete la prospección.
6. INDICAR SUPERFICIE TOTAL A INVESTIGAR, Dos áreas de 500m x 500m. Total: 50ha.
7. RESUMEN DEL PROYECTO: El objetivo de este trabajo es completar la labor iniciada en febrero de 2015 a solicitud del CAMN en el área de Te Epa, Poike. Así, se contará con un informe completo del estado de preservación del complejo arqueológico existente, dando cuenta de los riesgos actuales y potenciales que engrenta. Asimismo, este trabajo busca establecer las prioridades de conservación en la zona a prospectar, de manera de generar recomendaciones para su manejo futuro.

8. TIPO DE INTERVENCIÓN: Registro o intervención (Prospección, excavación , extracción de muestras o aplicación de otras herramientas). En caso de ser excavación debe presentar el permiso de CMN e indicar % del sitio a intervenir.

   Prospección sistemática por transectas

9. FORMUILACION GENERAL DEL PROYECTO:
   Completar el trabajo de prospección comenzado en febrero de 2015 a solicitud del CAM en el área de Te Epa, con el fin de generar un informe completo del estado de preservación del complejo del ahu, identificar riesgos actuales y potenciales, así como establecer prioridades de conservación en el área prospectada de manera de hacer recomendaciones para su manejo futuro. Este trabajo será complementario al trabajo llevado a cabo por Sonia Haoa y su equipo en Poike.

   En 2015 entregamos al CAM, luego de su solicitud, evaluaciones aéreas, de magnetometría y resistividad de suelos. Para alcanzar el potencial interpretativo de esta información, y de acuerdo a los estándares de la práctica arqueológica, estas evaluaciones necesitan de un estudio de prospección del área. Este sitio debe ser evaluado en su contexto arqueológico local, así como en relación a los procesos erosivos locales.

   Para lograr esto, proponemos realizar una prospección arqueológica de dos polígonos, cada uno de aproximadamente 25ha. Uno de ellos centrado en el área de Te Epa, evaluado el año 2015; y otro en un área cercana que posee un ambiente erosivo distinto. El estudio de dos ambiente erosivos diferentes en Poike nos ayudará a comprender el impacto variable de ellos en el registro arqueológico de Poike, y así complementar una evaluación completa y la comprensión de las amenazas dentro y fuera de la zona de Te Epa.

   Metodología Preliminar (Enero-Febrero 2016):

   - Establecer dos polígonos que en conjunto permitan caracterizar los diferentes ambientes erosivos en Poike (LOCP1: A = 674730/7000300; B = 674625/6999800; C = 675230/7000170; D = 675110/6999660. LOCP2: A = 674440/7001780; B = 674410/7001560; C = 674580/7001260; D = 674725/7001950; E = 675060/7001560)
   - Realizar transectas a intervalos de 30m en los polígonos.
   - Registrar a lo largo de estas transectas todos los rasgos estructurales, concentraciones de material, y otros materiales no locales depositados en el área (la prospección inicial no incluirá el registro de hallazgos aislados o ecofactos).
   - Evaluar el estado de conservación/preservación de dichos rasgos.

10. HIPOTESIS:
    N/A

11. OBJETIVO GENERAL
    Evaluar el impacto de la erosión en el registro arqueológico de la Peninsula de Poike, Rapa Nui.

12. OBJETIVOS ESPECIFICOS DE LA INVESTIGACIÓN:

- Mapear el regsitro arqueológico superficial de dos áreas amenazadas y complementarias de Poike, y evaluar el grado de erosión.
- Clarificar el potencial arqueológico y la naturaleza de la amenaza erosiva en Poike.
- Generar recomendaciones y establecer prioridades para futuros trabajos (conservación, excavación / registro detallado de rasgos, monitoreo, trabajo en conjunto con especialistas en medio ambiente).

Research aims:

- Evaluar la viabilidad de comparaciones entre Poike y otras áreas que ya han sido prospectadas en la Isla, dadas las diferencias en recursos ambientales.
- Aportar información comparativa a las prospecciones de las zonas de ahu de Hunt, y a nuestra prospección de Ara Moai en distintas zonas de la Isla, de manera de lograr una mejor caracterización del carácter específico de la arqueología de Poike.

13. PLAN DE TRABAJO DE LAS ACTIVIDADES A DESARROLLAR EN PNRN (procedimientos para cada actividad, adjuntar carta gantt):

Fecha	Activites	Personel
Día 1:18/01/2016 Lunes	LOCP1 Prospección del área de Te Epa, incluyendo la revisión de la prospección de 1992 al sur del área.	Sue Hamilton (SH) Mike Seager Thomas (MST) Felipe Armstrong (FA)
Día 2: 19/01/2016 Martes	LOCP1 Prospección del área de Te Epa, incluyendo la revisión de la prospección de 1992 al sur del área.	SH, MST. FA Moana Gorman (MG)
Día 3: 20/01/2016 Miércoles	LOCP1 Prospección del área de Te Epa, incluyendo la revisión de la prospección de 1992 al sur del área.	SH, MST, FA, MG
Día 4: 21/01/2016 Jueves	LOCP1 Prospección del área de Te Epa, incluyendo la revisión de la prospección de 1992 al sur del área.	SH, MST, FA, MG
Día 5: 22/01/2016 Viernes	LOCP1 Prospección del área de Te Epa, incluyendo la revisión de la prospección de 1992 al sur del área.	SH, MST, FA, MG
Día 6: 26/01/2016 Martes	LOCP2 Prospección del área inmediatamente al sur de	SH, MST, FA, MG and Robert Scaife (RS)

	Cabo O'Higgins. LOCP1 and 2 R Scaife evaluará comparativamente la erosión	
Día 7: 27/01/2016 Miércoles	LOCP2 Prospección del área inmediatamente al sur de Cabo O'Higgins. LOCP1 and 2 R Scaife evaluará comparativamente la erosión	SH, MST, FA, MG, RS
Día 8: 28/01/2016 Jueves	LOCP2 Prospección del área inmediatamente al sur de Cabo O'Higgins. LOCP1 and 2 R Scaife evaluará comparativamente la erosión	SH, MST, FA, MG, RS
Día 9: 29/01/2016 Viernes	LOCP2 Prospección del área inmediatamente al sur de Cabo O'Higgins.	SH, MST, FA, MG, RS
Día 10: 1/02/2016 Lunes	LOCP2 Prospección del área inmediatamente al sur de Cabo O'Higgins.	SH, MST, FA, MG, RS

14. IMPORTANCIA DEL PROYECTO PARA LA DISCIPLINA:
Este trabajo es relevante por los siguiente motivos:

- Evalúa la naturaleza y detalles de la prehistoria de Poike, así como actividad más reciente.
- Ayuda en la formulación de un futuro plan de conservación en Poike
- Identifica prioridades de conservación
- Identifica prioridades de excavación (de existir)
- Permite comprender las estructuras sociales y económicas del pasado y los usos de Poike en comparación con el resto de la Isla.

15. FECHAS DE INICIO Y TERMINO DE LAS ACTIVIDADES:
Lunes 18 al viernes 22 de enero de 2016 (5 días)
Martes 26 de enero al 1 de febrero de 2016 (5 días, sin incluir sábado ni domingo)

16. FECHAS ENTREGA INFORME PRELIMINAR E INVENTARIO
(Antes de abandonar Isla de Pascua):
Fotografías
Fichas de registro

17. INFORME PARCIALES:
Fines de mayo de 2016

18. INFORME Y/O PUBLICACIÓN FINAL:
Fines de agosto de 2016

19. OTROS PERMISOS REQUERIDOS (ESPECIFICAR):
    No son necesarios otros permisos

20. APOYO SOLICITADO A CONAF (ESPECIFICAR)

- Acceso en vehículos a la zona de trabajo
- Acompañamiento de personas locales para monitorear nuestro trabajo (este año no contamos con recursos para financiar este ítem)

21. EL INVESTIGADOR PRINCIPAL QUE SUSCRIBE , INDIVIDUALIZADO EN LOS PUNTOS 1 Y 2 SE COMPROMETE POR EL PRESENTE INSTRUMENTO A:

    ✓ HACER ENTREGA A PNRN DE COPIAS DE LA DOCUMENTACION VISUAL QUE SE REALICE DURANTE LA INVESTIGACIÓN.

    ✓ CUMPLIR LAS NORMAS GENERALES Y REQUISITOS ESTABLECIDOS EN EL REGLAMENTO DE INVESTIGACIONES EN EL SISTEMA NACIONAL DE AREAS SILVESTRES PROTEGIDAS DEL ESTADO, QUE EXPRESAMENTE DECLARA CONOCER.

    ✓ CUMPLIR CON LOS ARTICULOS DE LAS LEYES 17.288, 19.300 Y 19.253 QUE GUARDEN RELACION CON LA NATURALEZA DE SU INVESTIGACIÓN PARTICULAR.

    ✓ RESPETAR LOS DERECHOS DE LAS COMUNIDADES INDÍGENAS INDICADOS EN LA LEY 19.253 Y CONVENIO 169 SOBRE PATRIMONIO DE LAS ETNIAS ORIGINARIAS.

22. EL INVESTIGADOR DECLARA QUE LOS DATOS VERTIDOS EN LA PRESENTE SOLICITUD SON FIEL EXPRESIÓN DE LA VERDAD.

FIRMA DEL INVESTIGADOR PRINCIPAL

FECHA: 17th January 2016

1. QUIEN SUSCRIBE SE COMPROMETE A LA ENTREGA DE AL MENOS 2 COPIAS DEL TRABAJO REALIZADO EN EL PARQUE NACIONAL RAPA NUI, LAS QUE DEBERÁN ENVIARSE A:

- SECRETARIA DE COMUNICACIONES (SECOM) EN AVENIDA BULNES 197 2° PISO – SANTIAGO.
- OFICINA PROVINCIAL DE CONAF EN ISLA DE PASCUA, CASILLA 18 – ISLA DE PASCUA.

FIRMA DEL JEFE DE LA INSTITUCION PATROCINANTE

FECHA:

Appendix 2. Permission to work from *STP* Rapa Nui 2016

SECRETARÍA TÉCNICA DE PATRIMONIO RAPA NUI

RAPANUI Mauha'a Tupuna

Haŋa Roa, 29 de enero 2016

Señora
Sue Hamilton
Landscapes of Construction
Institute of archaeology, UCL.
s.hamilton@ucl.ac.uk

PRESENTE

Junto con saludarla cordialmente, me dirijo a Ud. para agradecer el apoyo técnico brindado por ud. y el equipo de **Landscape of Construction (LOC)** a esta Secretaría el año 2015 por medio del cual se realizó el análisis de resistividad y geo magnetismo en el sector de Poike en el marco del diseño de las iniciativas de emergencias arqueológicas en que actualmente trabajan las unidades técnicas de ésta Secretaría y la CONAF.

En dicho contexto, es importante certificar que durante este año 2016 se ha solicitado nuevamente su apoyo técnico en base a el acuerdo CAMN Rapa Nui establecido el día 15.01.2016 (se adjunta acta de sesión correspondiente).

Dicha solicitud técnica se enmarca en el diseño de las iniciativas de emergencia para sitios arqueológicos de Rapa Nui y en el marco de la presente campaña de apoyo se ha establecido un trabajo en conjunto a su equipo de investigación dirigida a completar la prospección arqueológica en Poike (iniciada el año pasado) con el objetivo de identificar y caracterizar los sitios arqueológicos, que permita la definición de estrategias de conservación o rescate de aquellos con mayor grado de alteración o vulnerabilidad desde el punto de vista de su conservación.

Según todo lo anteriormente expuesto, desear que la presente campaña se realice del mejor modo posible y esperamos poder seguir contando con el apoyo de su equipo en futuros proyectos de investigación en pos de la puesta en valor y/o rescate de los sitios arqueológicos de Rapa Nui.

Quedamos a vuestra disposición ante cualquier otra necesidad, sin otro particular, saluda cordialmente a Ud.

Jimena Ramirez G.
Coordinadora
STP Rapa Nui
Consejo de Monumentos Nacionales

SECRETARÍA TÉCNICA PATRIMONIO CONSEJO MONUMENTOS NACIONALES CHILE

CMN CONSEJO DE MONUMENTOS NACIONALES DE CHILE

Appendix 3. Feature Record Sheet

PROSPECCIÓN SUPERFICIAL – HOJA DE REGISTRO *WALKOVER RECORD SHEET*

1. Número de rasgo *feature no*				2. Número del sitio *site number*			
3. Nombre del sitio *site name*							
4. Tipo de rasgo *feature type*							
5. Contexto de Erosión *erosional context*	5.1 Rasgo en superficie *in situ, sin evidencia de erosión* *in situ surface feature*		5.2 Rasgo *in situ.* Sedimentos circundantes erosionados por viento o agua *in situ* deflated/ washed-out feature		5.3 Rasgo *arrastrado* por viento o agua out of situ deflated/ washed-out feature		
5.4 Otro *other*							
6. Amenaza actual *on-going threat(s)*	Alta *high*		Media *medium*		Baja *low*		
7. Interpretación *interpretation*							
8. Previamente identificado *previously noted*	8.1 Englert	8.2 Atlas	8.3 Otro (nombre) *other (name)*	(número/ *no*)			
9.1 Este *easting*				9.2 Norte *northing*			
10. Largo *length*	11. Ancho *width*		12. Alto *height*	13. Profundidad *depth*			
14. Fotografías (números) *photos (nos)*							
15. Uso del terreno *land use*							
16. Relaciones físicas *physical Relationships*							
17. Descripción *description*							
				18. Visbilidad *visibility*			
19. Importancia (*razonamiento*) *significance (justify)*							

Número de rasgo
feature no

N

20. Dibujo
sketch

21. Otro
other

22. Fecha *date*	23. Iniciales *initials*

Appendix 4. Geophysical survey on Poike, February 2015

by Kate Welham and Charlene Steele

Introduction

An area on the eastern coast of Poike was surveyed using magnetic techniques and earth resistance in order to investigate the remains of a monument posited to be a crematorium (LOC site M3). It should be noted that the area contained no signs of charcoal or burnt bone. The area is threatened by severe erosion and the results of the geophysical surveys will aid in the formulation of a heritage management plan for the area. The monument is present as an eroded mound with an area of approximately 0.5m^2 of the original ground surface remaining. The slopes of the mound are littered with stone, worked obsidian and some human bone from the remains of the structure, and this covers a circular area of approximately 10m^2.

Method

Earth resistance, fluxgate magnetometer and electromagnetic surveys were undertaken at Poike (Fig. A4.1). Grids for geophysical survey were located using a Leica 500 differential Global Positioning System (dGPS) and data were downloaded and processed in Leica GeoOffice v.8.0, and converted to SIRGAS2000. Plans were produced in ESRI ArcGIS v10.0 using point data exported from Leica Geo Office and base map layers provided by *CONAF*.

Earth resistance survey was conducted using a Geoscan RM15-D resistance meter and a PA5 multi probe array frame in the 0.5m configuration. Readings were taken at 1m intervals along traverses spaced 1m apart. All grids were 20 x 20m. All data were subjected to minimal processing (e.g. despike, edge match, and clip) in Archeosurveyor v2.5, and imported into ArcGIS v10.0 for display and production of interpretation plots. The data are presented in Figure A4.2, where white represents areas of low resistance and black areas of high resistance.

Fluxgate gradiometer survey was conducted using a Bartington Grad601b with readings taken at 0.125m intervals along north-south traverses spaced 1m apart, at a resolution of 1nT, readings were taken in parallel. All data were subjected to minimal processing (e.g. despike, zero mean traverse, and clip) in Archeosurveyor v2.5, and imported into ArcGIS v10.0 for display and production of interpretation plots. These data are presented in Figure A4.3, where black represents areas of magnetic enhancement and white represents areas of reduced magnetic enhancement.

The electromagnetic survey was conducted using a Geonics EM38B instrument in vertical dipole mode. Readings were taken at 1m intervals along north-south traverses spaced 1m apart. Data were accessed in Geonics DAT software. These data are presented in Figures A4.4 and A4.5, where black represents areas of increased conductivity/ magnetic susceptibility and white represents areas of reduced conductivity/ magnetic susceptibility.

Results

The mound and associated spread of material can be seen in all the data sets (Figures A4.2–5). The area with the thickest depth of preserved material presents a large low resistance response that is likely to represent some of the material washed down the sides of the mound as well. This is surrounded by a diffuse area of weak low resistance that may represent a further spread of material from the mound.

In the magnetometry data the top of the mound shows as an area of reduced magnetic enhancement and is surrounded by a scatter of dipole responses that may be indicative of the stones that litter the area. There is no evidence of burning in these data. In the conductivity (quadrature phase) data from the electromagnetic survey is an area of low conductivity that correlates well with the area of reduced magnetic enhancement in the magnetometry data. This response is surrounded by a diffuse area of higher conductivity that corresponds with the area of weak low resistance (a correlation also observed in LOC's *Ara Moai* data — Welham in LOC 2013b) that is likely to indicate the spread of material washed from the mound. The remains of the monument are represented clearly in the magnetic susceptibility data from the electromagnetic survey. The uppermost parts of the mound are present as a distinct area of high magnetic susceptibility. This is surrounded by an area of low susceptibility that correlated well with the responses from the other techniques interpreted as material washed down from the top of the mound.

Conclusions

At Poike, the techniques used were successful in detecting the eroded monument and provided a useful additional indication of the current state of preservation of the mound. There appears to be no evidence in these data for the presence of burning at this site.

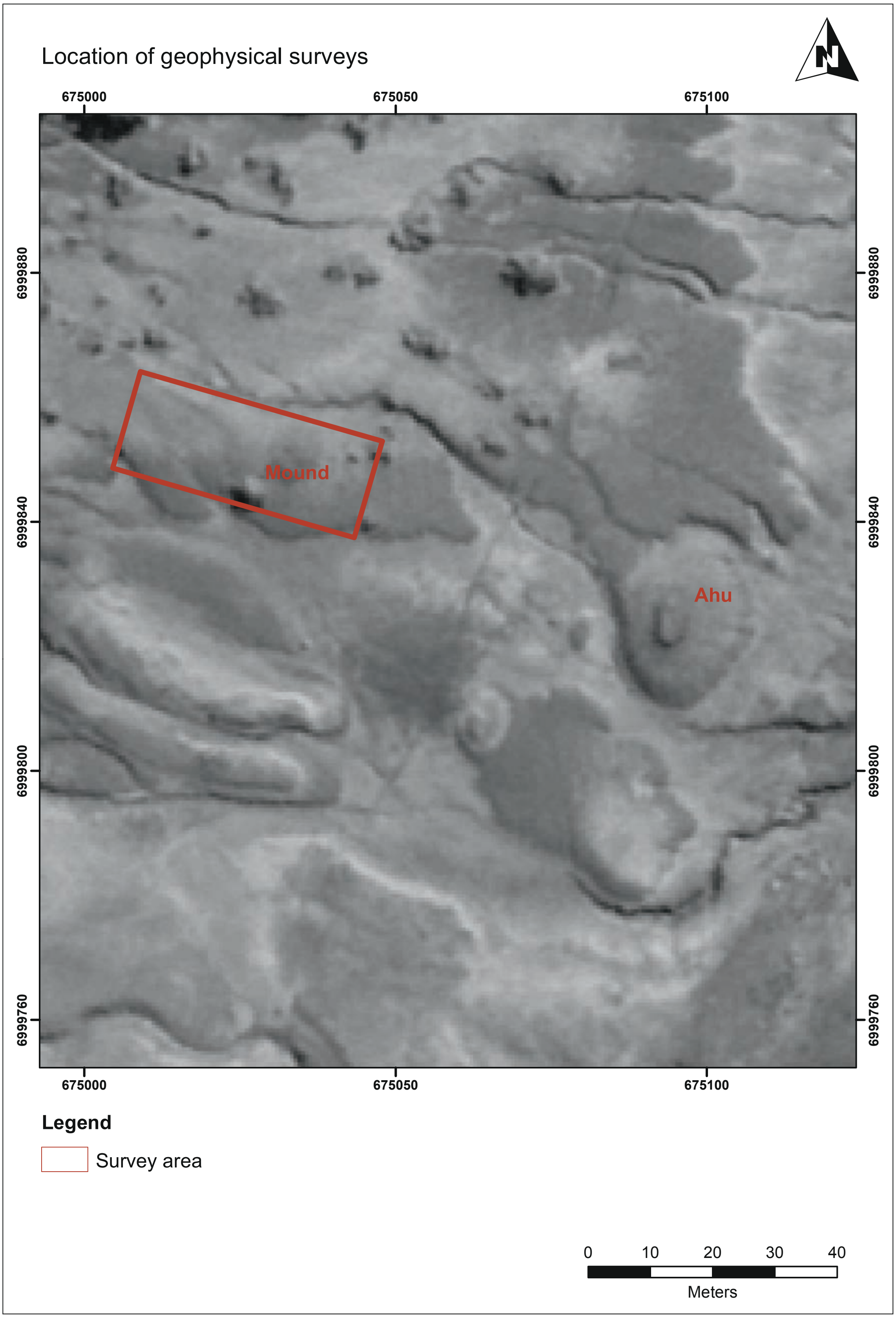


Figure A4.1

Location map of earth resistance survey at Poike

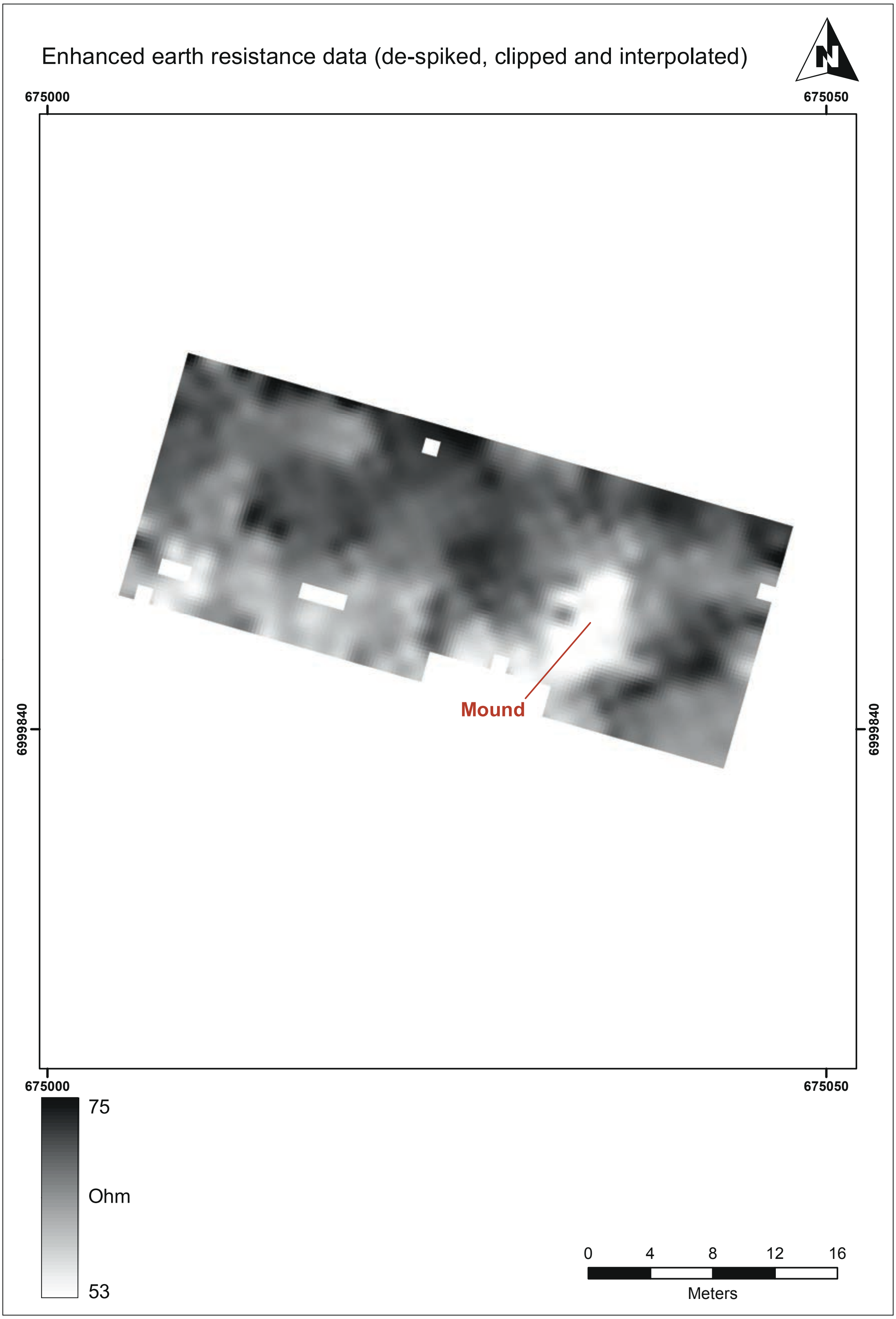


Figure A4.2

Enhanced earth resistance data from Poike

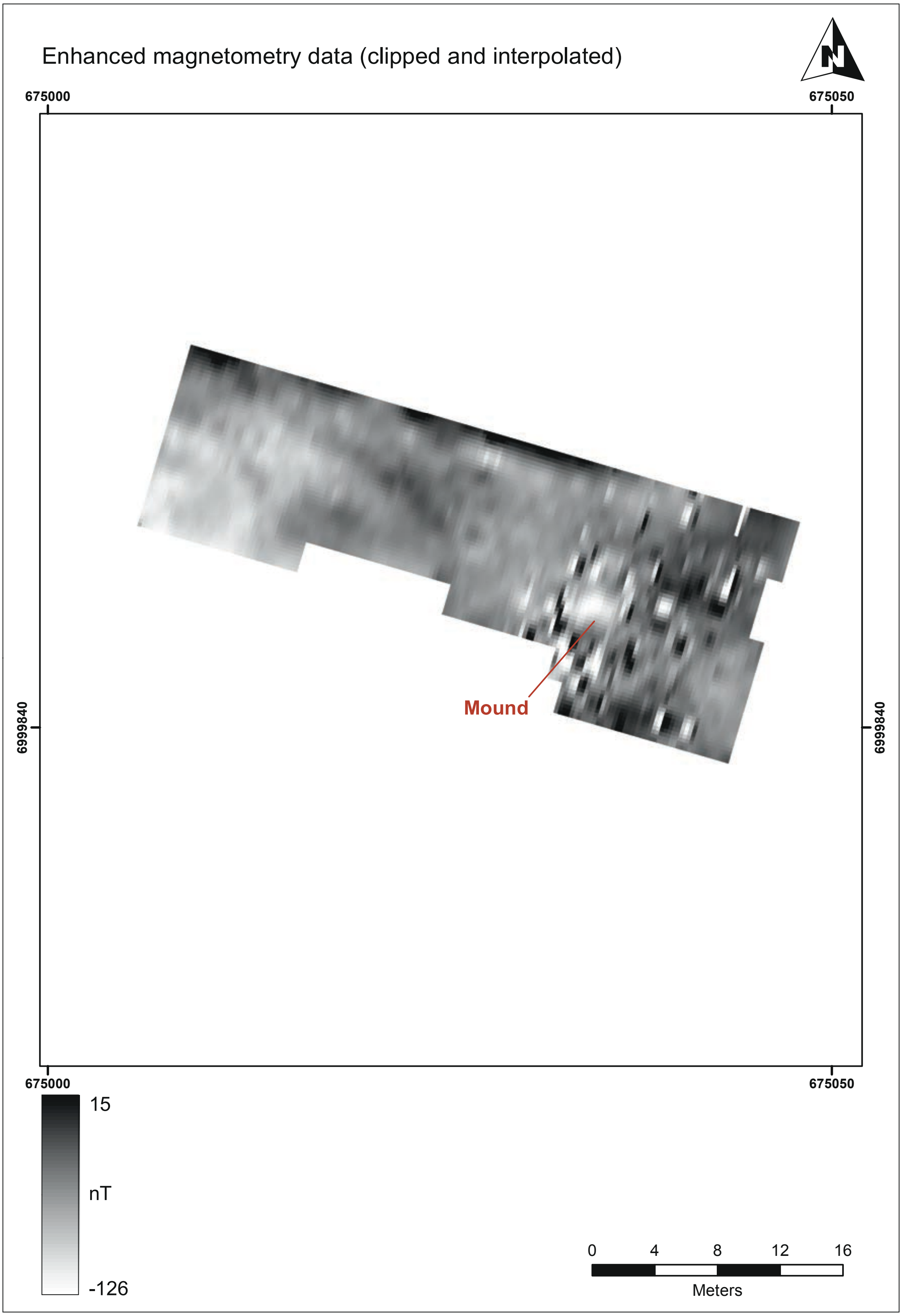


Figure A4.3
Enhanced magnetometry data from Poike

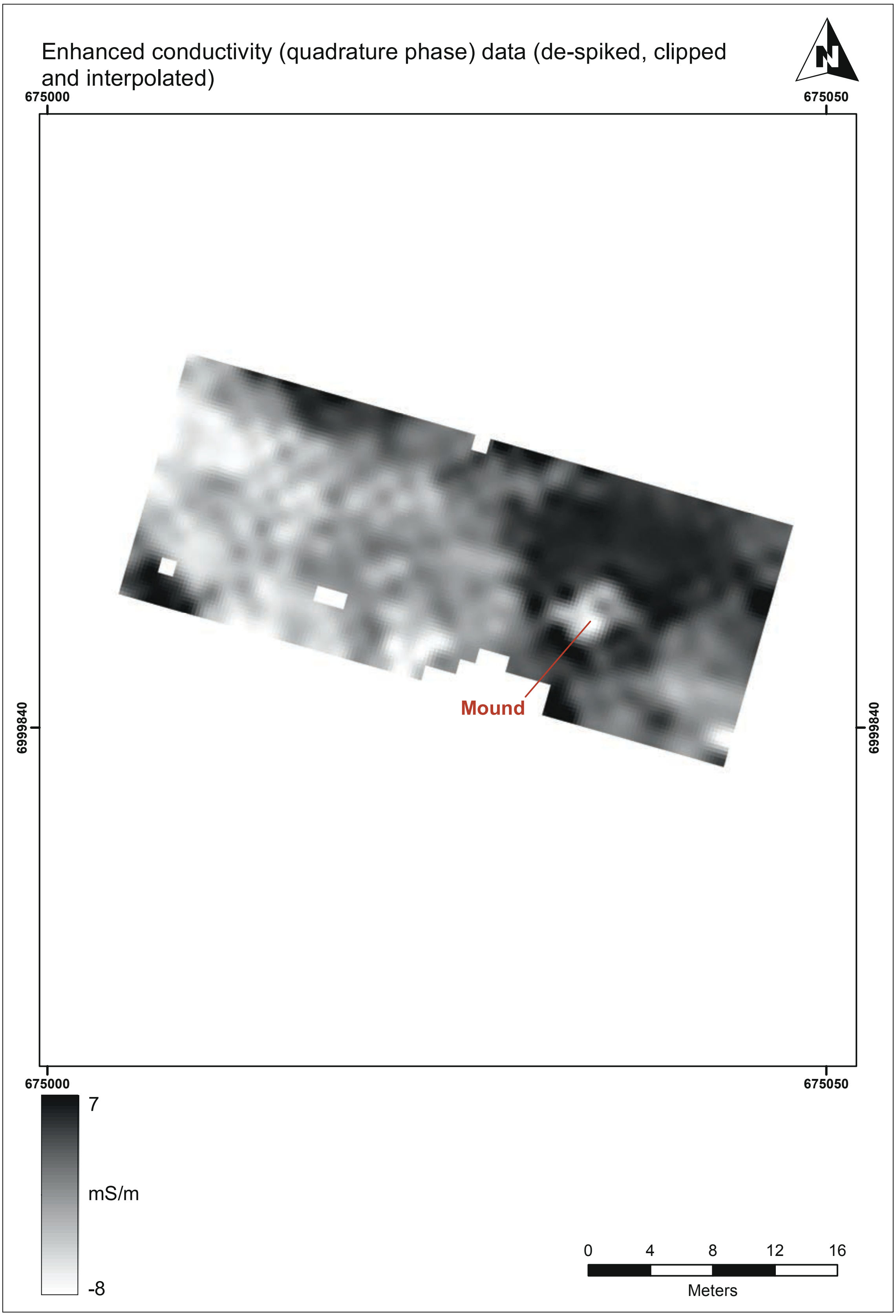


Figure A4.4

Enhanced conductivity data from Poike

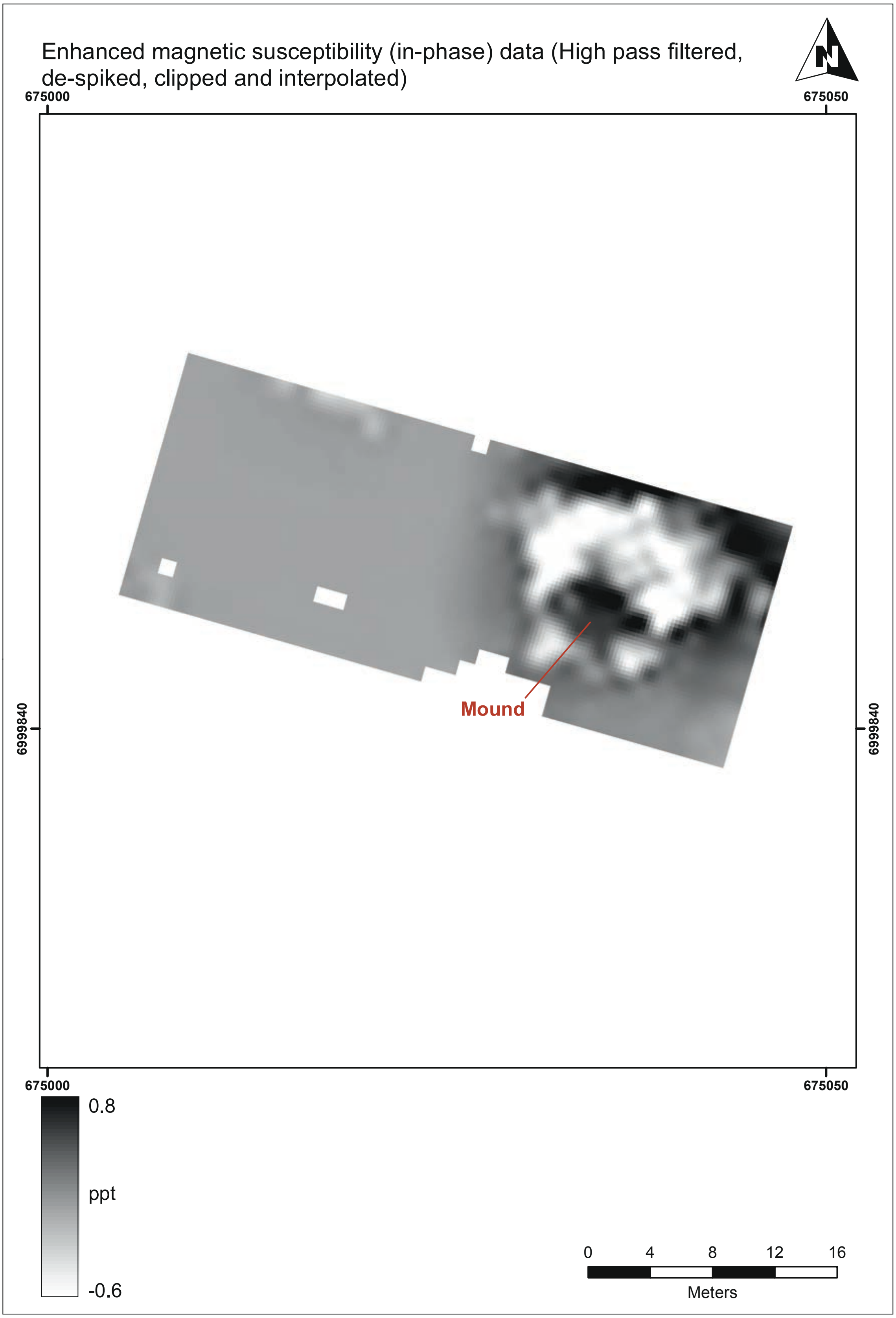


Figure A4.5

Enhanced magnetic susceptibility data from Poike

Appendix 5. Selected aerial photos of Ahu Motu Toremo Hiva

by Adam Stanford