

SCIENCE AND RESEARCH INTERNAL REPORT 4
ARCHAEOLOGICAL SURVEY OF THE REMNANT OF
WIRI MOUNTAIN (MATUKUTURURU),
MANAKAU CITY

by

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for

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January 1988

ABSTRACT

A survey and mapping project of the prehistoric features remaining on the remnants of Wiri Mountain (Matukutururu), Manukau City, was undertaken. A number of archaeological features were recorded, concentrated into an area of gardening structures and a second area containing evidence of probable habitation. These are described and discussed and their archaeological significance is assessed.

ACKNOWLEDGEMENTS

The author wishes to acknowledge the Railways Corporation who funded this survey and report. Mr E Baker, quarry foreman, is thanked for his friendly assistance. L Androu and L Johnson assisted with the fieldwork. S Maingay is thanked for drawing the figures. Dr S Bulmer, Regional Archaeologist, provided many helpful comments on the draft of this report.

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1. INTRODUCTION

This report is concerned with an archaeological survey of the prehistoric features of the remnant of Wiri Mountain (Matukutururu), Manukau City. This cone was formerly a terraced Pa (R11/32) of the Waiohua people (Graham ms), but is now largely quarried away. Figure 1 shows the location of the mountain which is situated 3 km west of Manukau City Centre on the southeastern side of the junction of Wiri Station and Roscommon Roads. The Railways Corporation intends to quarry most of the rest of the mountain in the near future. This survey was undertaken to identify and evaluate any areas of archaeological significance that remain.

The mountain was "a large scoria cone built upon a lava pedestal above a sizeable lava field" (Searle 1981: 155). The cone covers some 18 ha and is thought to have erupted between 20 and 28,000 years. Originally it stood some 91 m asl, but about 35 m has been quarried from the top of the cone, and only small areas around the northern and western sides now remain intact. The soils are volcanic brown loams with small areas of red loams on the upper parts of the cone. Both of these soils were very suitable for prehistoric gardening.

The mountain has been owned and used as a quarry by the Railways Corporation since 1915, although quarrying had been undertaken there since the latter half of the nineteenth century. Consequently much was lost before any photographic records were made and it is not possible to reconstruct its former appearance, although it would seem to have been asymmetrical and with a number of small, uneven, cut terraces on its slopes, in contrast to the long narrow terraces at some other volcanic cone Pa, such as nearby McLaughlins Mountain (Matukuturua) (Sullivan 1975a:11). On the lower slopes of the cone a number of free-standing earth-and-stone walls radiated out from the cone into the surrounding lava fields, dividing them into roughly wedge-shaped segments which were further subdivided by cross-walls. Away from the mountain the boundary walls tended to follow the natural topography such as ridge tops and scarps, creating an irregular, but generally radiating pattern. Within these divisions of the lava fields there were large numbers of earth-and-stone

* NZ Archaeological Association Site Record Number

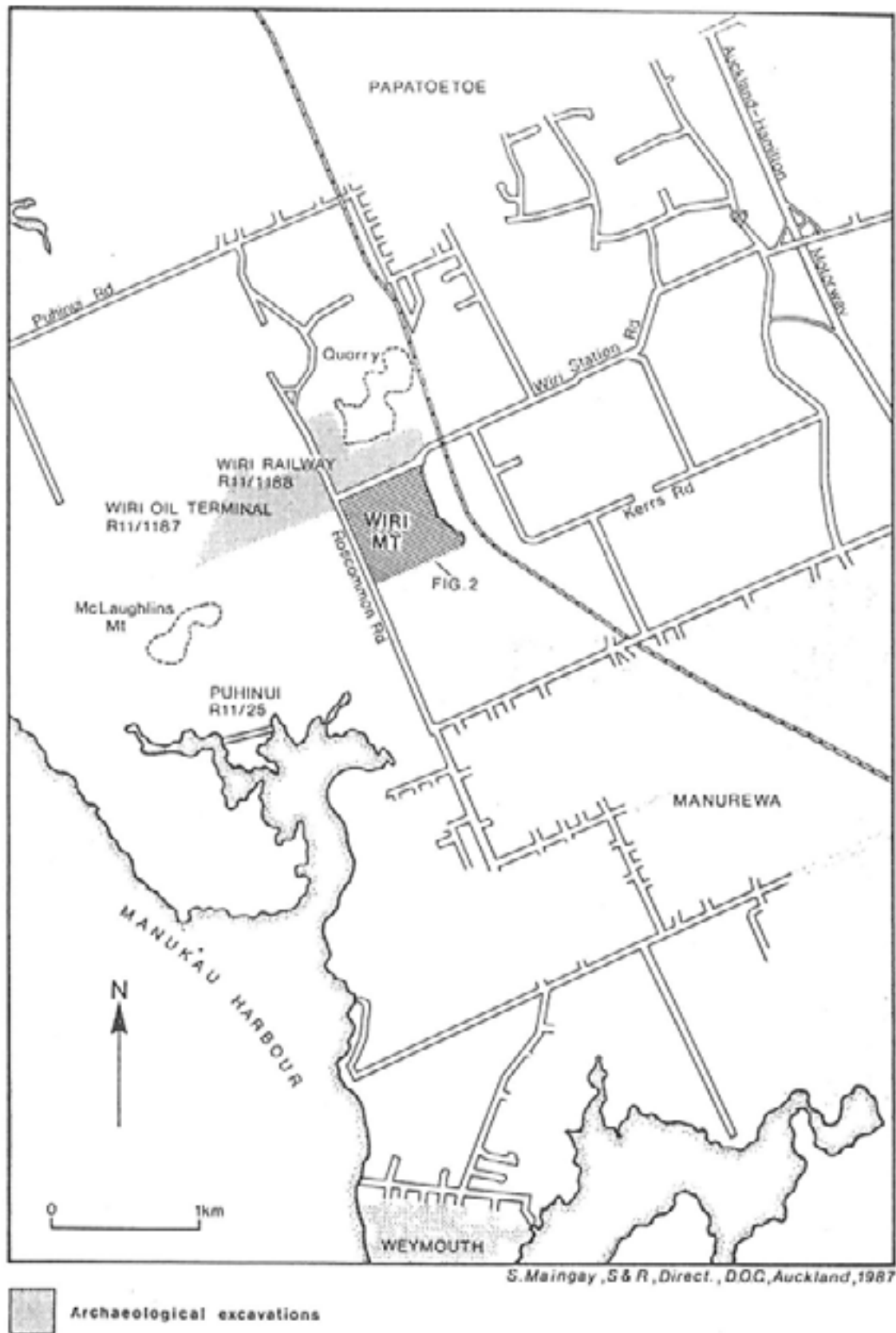


Figure 1. Location of Wiri Mountain, showing other Archaeological Sites in vicinity.

structures, including mounds, which were constructed as gardening devices (Sullivan 1974:140; Bulmer n.d:ms B1; J Coates pers. comm. 1987).

A number of excavations have taken place in the lava field garden systems in this part of South Auckland. In 1972 three mounds to the north of the cone were excavated to establish their prehistoric nature, structure and function (Sullivan 1974). This was followed by an excavation on the periphery of the adjoining McLaughlins lava field at Puhinui (R11/25) in 1980. This excavation examined a stream-side terrace, field shelters and gardens (Lawlor 1981). In 1982-83 a variety of garden types and habitation areas to the north-west of Wiri Mt were investigated at the Wiri Oil Terminal Site 1983; (R11/1187) (Bulmer 1983; n.d.). In 1985 mounds and terraces within a natural enclosure north of the cone at the Wiri Railway Site (R11/1188) were excavated (Coates n.d; Rickard n.d.) and in 1986 an open habitation area of the same site was examined (Veart in prep).

Wiri Mountain is one of a number of South Auckland volcanic cones that have been destroyed or virtually destroyed this century - Ellett's Mountain (Maungatakatake), Mount Gabriel (Waitomokia), Green Hill (Matanginui), Otara Mountain (Te Puke o Tara), Otataua and Puketutu Island. Mangere Mountain alone in South Auckland has survived substantially intact. Little is known of the archaeology of these South Auckland cone Pa. Two excavations have taken place at Ellett's Mountain (R11/31) in 1973-4 (McKinlay 1974) and 1983, and one on Wiri Mountain itself (Sullivan 1975a).

The Wiri Mountain excavation was on the mid-slope of the cone and looked at a terrace and walls on the north-western side of the mountain (Sullivan The initial occupation of the cone terraces was dated to after the beginning of the thirteenth century AD (Sullivan 1975b). The sequence of occupation at this part of the site was interpreted as indicating initial clearance of podocarp forest and diffuse gardening of the whole cone, followed by systematic clearance and the construction of walls on the slopes. At the time the summit of the cone was inhabited. Later expansion of the habitation areas encroached into the former slope gardens, which came into disuse. She considered it probable that large-scale expansion of gardening into the lava fields accompanied this latter phase (Sullivan 1975b: 46-7).

More recent work in the Wiri area has led to a re-interpretation of the occupation sequence as initial clearing of scattered small scale forest garden patches on the sides of the cone by the thirteenth century with systematic gardening in the lava fields from the fourteenth century onwards (Sullivan 1985:480).

2. FIELD METHOD

Initially the remnant of the mountain was walked over to ascertain any areas where prehistoric remains still were present. Following this the areas of archaeological interest (Fig 2) were surveyed by plane-table and alidade using a Wild RK 1 self-reducing alidade. The mapping was undertaken at a scale of 1:200 which has been found to be the most useful scale for plotting archaeological features (Veart, Foster and Bulmer 1984).

The archaeological features recorded included terraces, shell deposits, stone walls and earth-and-stone mounds (See below for definitions.). This latter category produced the largest number of features. At the adjacent Wiri Railway Site similar mounds had been mapped as single points and their size and height estimated separately (Veart et al 1984). This was necessitated by the low accuracy of the survey equipment then available. During a later survey of an earth-and-stone mound complex in East Tamaki (Foster and Veart 1986) the use of an E.D.M. and electronic field-book allowed for far more sophisticated recording of the dimensions of the mounds.

Here on Wiri Mountain the use of a more accurate alidade meant that a similar method could be employed. Four points indicating the maximum and minimum dimensions of each mound were plotted and a single spot height was taken at the highest point of each mound. Comparison of the differences between the spot height and the basal points meant that a mean mound-height could be established that would allow comparison of mound dimensions more or less independently of the slope of the ground around the mound. Walls were plotted by groups of three points across the width of a wall at intervals along its length. During the survey notes were made of other details of each

structure, such as apparent composition, condition, etc.

Following the field survey detailed contour maps at 0.25 m intervals were made of the remaining intact piece of mountain showing the location of the features recorded.

3. DEFINITIONS

Within the areas mapped four main types of structural components were recorded. Definitions of these are set out below.

Mound: An artificial construction made from earth and stone in varying proportions. Usually free-standing, roughly circular and highest in the centre. They varied in diameter from 1.5 to 8.0 m and between 0.1 and 1.14 m in height above the surrounding ground.

Wall: Similar in construction method and height to a mound, but forming a continuous wall-like length.

Terrace: Level area with a scarp behind and in front. Can be either natural or man-made. Terraces can be cut into a slope and/or built out in front.

Shell Midden/Deposit: An accumulation of shells (usually marine) often considered as food waste, but frequently used for terrace construction/levelling or used as a flooring material or in gardens.

4. ARCHAEOLOGICAL EVIDENCE

Two parts of the cone were found to contain surface evidence of prehistoric remnants. The locations of these are shown as a and b in Figure 2. Detailed individual maps are presented in Figures 3 and 4.

Area A (Fig. 3)

This area is on the eastern side of the cone approximately 45m asl and covers some 0.4 ha. The archaeological features are located in a rough semi-circle on either side of the entrance to the Lava Cave (Fig 3:a). These features have survived because of the presence of the cave is protected by the Manukau City District Scheme. To the east the ground drops away to a levelled 'car-park'. To the south it is bounded by the vertical quarry face whilst to the west, between the cave entrance and the quarry face is a vehicle track and turning circle. Northwards lies the road to the central quarry area.

The cave is some 200 m long, extending to the northern side of Wiri Station Road and contains many geologically interesting features. It does not contain any archaeological material or deposit, although it has been alleged that the cave was used for burials. No bones or other material evidence to support this are known of. On the northern side of the cave entrance there is a low ridge with a single, probably natural terrace (Fig 3:b) on its northern side. Below the north-eastern edge of this terrace in situ shell midden (Fig 3:c) is visible. The area to the north and west of this terrace has been disturbed and has quarry spoil over it and it is unlikely that further archaeological features are present. Between the ridge-top and the cave entrance a small disturbance of the ground surface shows the presence of a further shell deposit (Fig 3:d) suggesting occupation remains are present from the cave entrance to the northern edge of the terrace.

South of the cave is a low saddle rising to a small knoll. In situ shell deposit (Fig 3:e) is present on the southern side of the saddle and downslope to the east. The top of the saddle is fairly level and may contain sub-surface occupation features. On the south-eastern

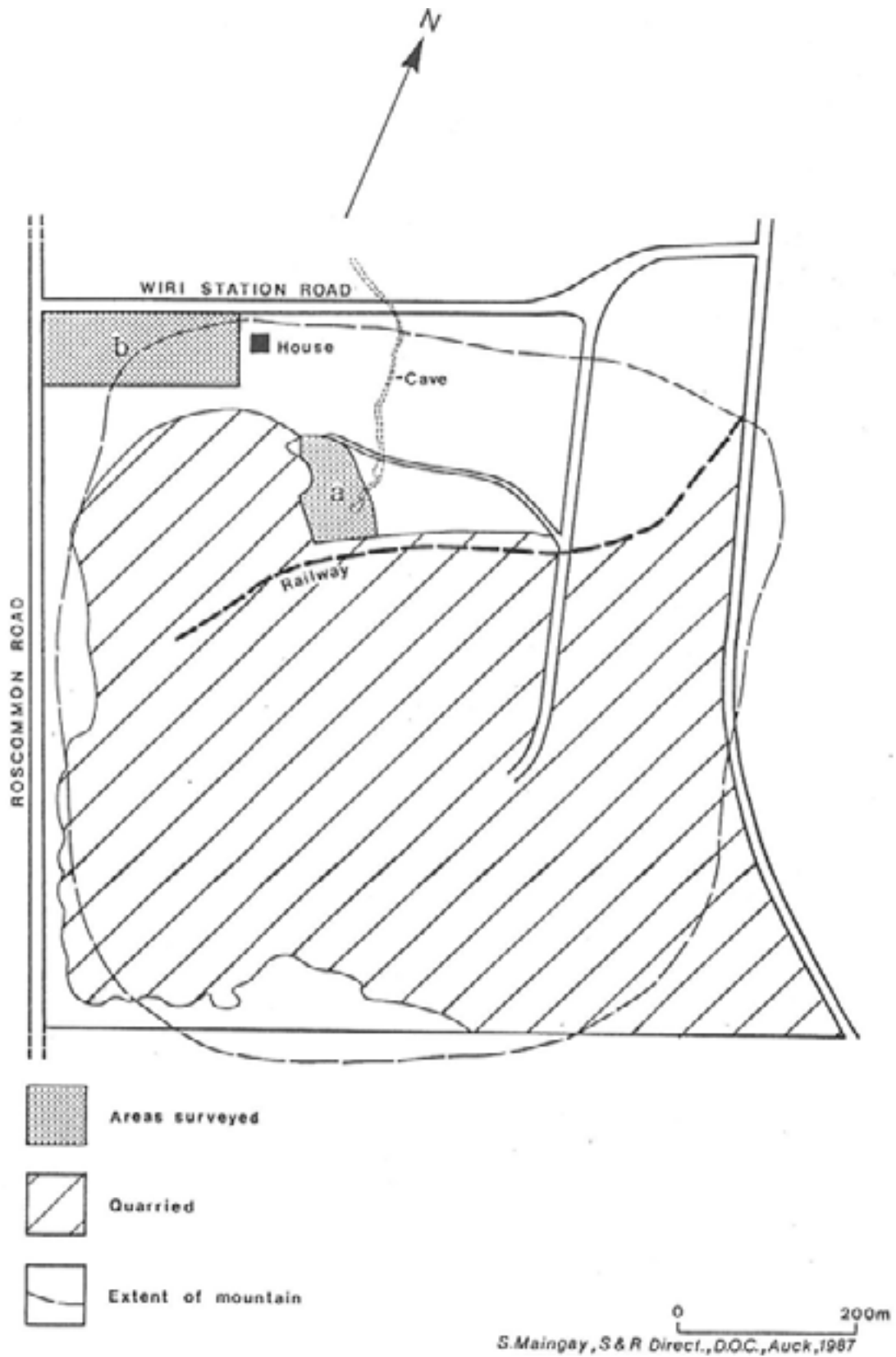


FIGURE 2. Wiri Mountain showing location of mapped areas.

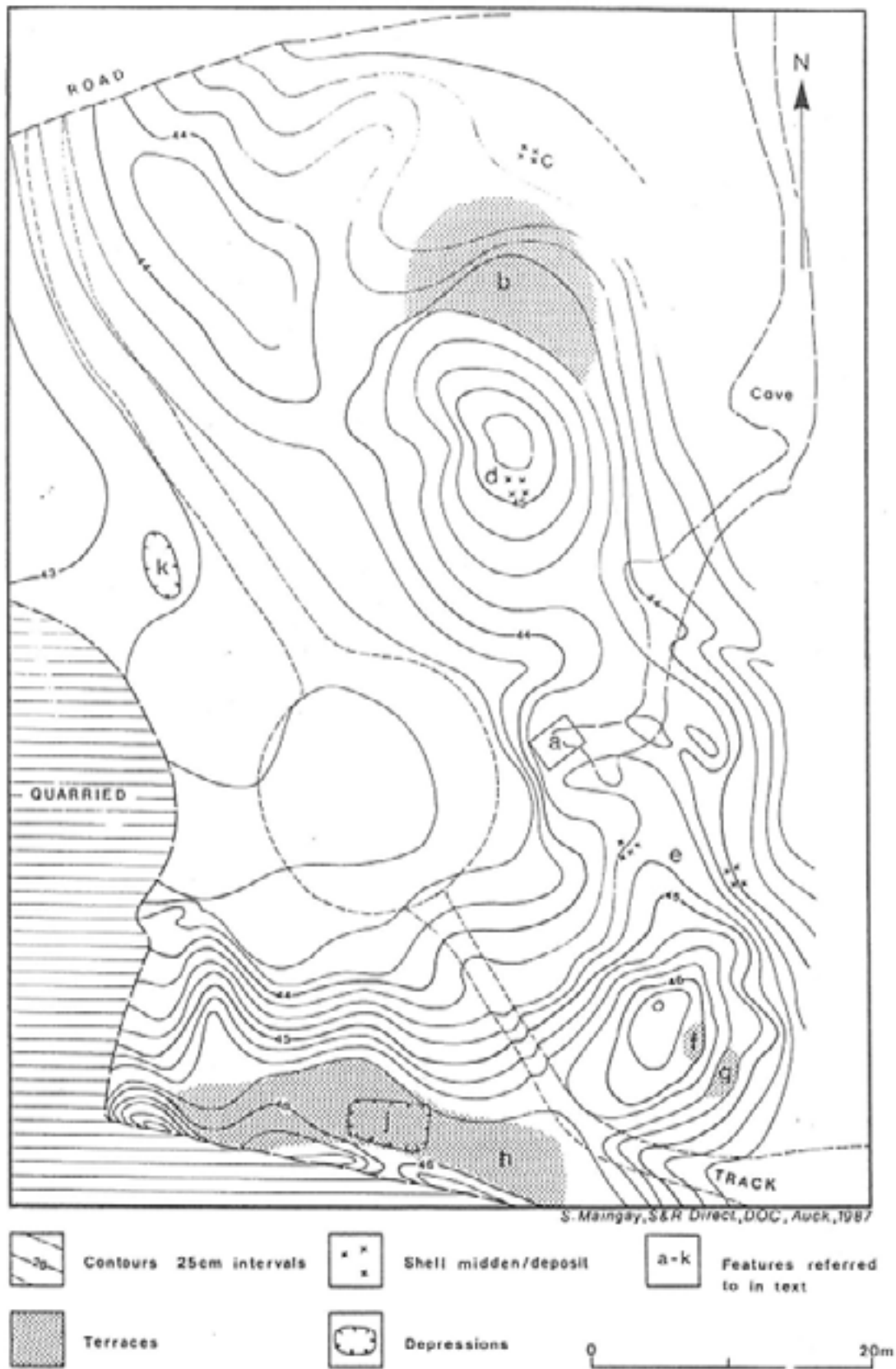


Figure 3. Wiri Mountain: Area A – Archaeological Sites

side of the knoll there are two very small terraces (Fig 3:f & g). There is no indication as to whether these are natural or artificial and they may or may not have been utilised.

West and south of the knoll is a bulldozed track close to the edge of the quarry. To the west of this track is a long cut terrace (Fig 3:h) running along the quarry-face with a large depression (Fig 3:j) towards its eastern end. At the western end the scarp rises towards the former summit. Two holes have been dug recently towards the western end of this terrace and no evidence of prehistoric remains are visible in the sides of these holes. The hypothesis that the terrace and depression features are a result of quarrying operations has been considered. Aerial photographs dating back to 1939 show both terrace h and the depression j clearly. Given the lack of signs of disturbance and presence of undisturbed topsoil on the scarps it is considered that these features are prehistoric rather than the results of early quarrying operations. Depression j may be a pit, or possibly two pits. Only test excavation of these features could clarify their possible prehistoric status.

A further depression (Fig 3:k) is present on the western side of the area between the track and the edge of the quarry. Study of early aerial photographs suggests that this latter area has been disturbed since 1939 and that this depression is probably of recent origin.

Area B (Fig. 4)

This area of approximately 1.5 ha is situated at the northern base of the cone. The visible archaeological features, with one partial exception -see wall 23, below, are all within the plane-tabled area.

To the south of the mapped area the sides of the cone rise steeply to the quarry rim. The slopes here are covered in quarry debris and scrub, with much waste rock from the widening of Roscommon Road having been bulldozed into this area (E. Baker pers. comm. 1985). Whether any archaeological features survive is not known, but it is considered unlikely, given the recent history of this area.

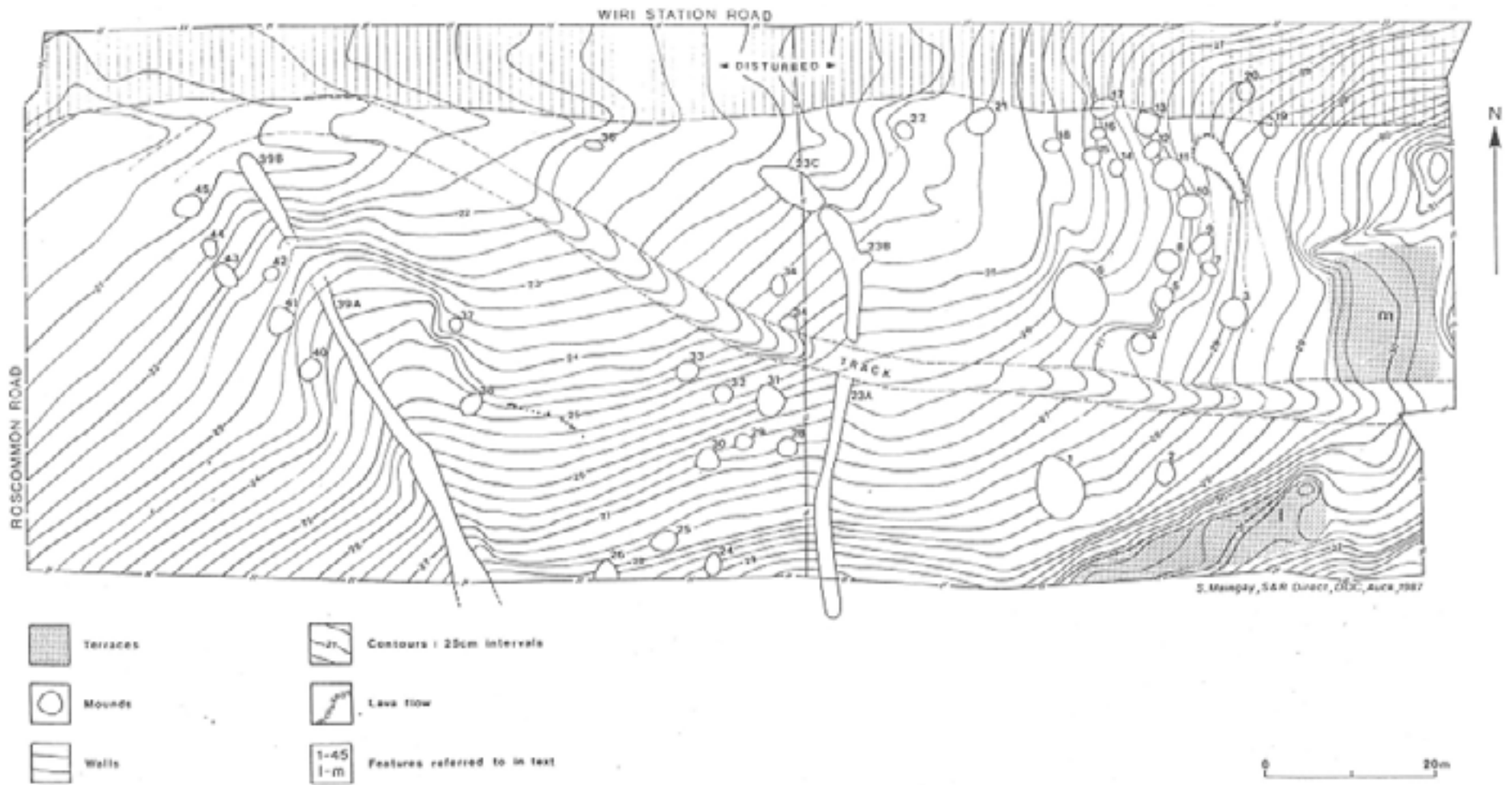


FIGURE 4. Wiri Mountain: Area B – Archaeological Sites

Westwards the area is by Roscommon Road and to the north it cut off from the Wiri Railway Site by Wiri Station Road. A 10-15 strip of the mapped area along the northern fence has been disturbed. To the east is a house (Fig. 2). No archaeological features are visible further to the east. A former farm track runs more or less diagonally across the survey area from near the south-eastern corner.

Three types of surface, archaeological features are present in this area. These are terraces, earth-and-stone mounds and walls. Details of these latter two categories of features are given in the appendix.

The first terrace (Fig 4:1) is in the southeastern corner of the survey area where the ground starts to rise steeply up the side of the cone. This terrace slopes gradually from east to west, dropping away slightly at both ends. The eastern end of rim of the terrace is slightly raised, as was the rim of the terrace excavated by Sullivan (Sullivan 1975a:13). The edge of this terrace was built up with scoria, but it did not seem to have been cut back into the slope as was the case on the terrace described by Sullivan. The second terrace (Fig 4:m) lies just north of terrace 1. It is about 150 m² and flat. There is no surface evidence to suggest that it had been modified and it would appear to be a natural terrace formed by the flow of the lava.

The two walls (Fig 4:23 and 39) are both downslope walls. Wall 23 starts just to the south of the mapped area, some five metres higher up the cone. The southern end of the wall is cut by an old track but originally it probably ran off a small lava spur still visible above the track. The wall is broken by the track running through the mapped area and the more southerly part is badly damaged and barely visible in places. The northern end turns slightly to the west and ends in a mound-like knob.

Wall 39 runs down the centre of a sloping lava ridge. It has a gap towards its northern end, at a slope-break, and its lower end is truncated by the track and the disturbed ground along the northern fence. The construction of these walls is probably similar to those described by Sullivan (1975a) with larger scoria rocks at the sides and a smaller scoria core.

Forty-three earth and stone mounds were recorded. The majority are in three groups, tending to cluster on the steeper ground. A similar tendency was evident on the adjacent Wiri Railway Site et al: Fig 4). In general the mounds in the current survey area are similar to those at the Wiri Railway Site in visible surface characteristics -size, stone size, and apparant variations in earth/stone ratios. However Taiaroa (n.d.) in reporting excavations at the Wiri Oil Terminal site notes that the visible surface characteristics of mounds do not necessarily relate to the internal structure and that mounds of differing surface characteristics can have very similar internal structures.

Evidence from the Wiri Railway site and elsewhere also indicates that internal structural differences of mounds, which may relate to functional differences, are often not visible as surface evidence. For example the mounds excavated at the Wiri Railway Site had a distinct, modified inner soil core (J Coates pers. comm. 1987), whilst at Crater Hill (R11/698) the two excavated mounds on the slopes had pockets of soil at the upper and lower edges (Foster, Sewell and Veart 1985). At site R11/1301, East Tamaki, mounds were excavated without either of these features but with consistantly more stone used in their construction (P Douglas pers. comm.).

There are a few mounds at the Wiri Mountain site that are visibly different. These are mounds 1, 6 and 9 -12. Mounds 1 and 6 are larger than other mounds recorded in the Wiri area. From surface evidence it is not possible to tell if they also differ in construction technique or possible use. Mounds 9 -12 lie very close together on a small steep scarp. Their tops are flat and barely rise above the level of the top of the scarp. The stones used at the base of these mounds, at the bottom of the scarp are larger (>0.3m) than those apparent in the rest of these structures. It is possible that these mounds were the front of a built-up terrace constructed by a similar method to the mounds. They are all badly damaged by cattle trampling. The state of damage precludes any definite statement as to whether they were mounds or the remains of a terrace.

It is of note that there are no mounds to the west of the ridge containing wall 33. The 1939 photographs show no mounds in this area. If there were mounds originally present here they were before that time.

5. DISCUSSION AND CONCLUSIONS

The two areas where archaeological remains are still present are distinct from each other and represent differing aspects of the prehistoric occupation of Wiri Mountain. Both areas are of scientific interest.

Area A is the only remaining part of the upper reaches of the cone, where domestic occupation is likely to have occurred. Sullivan found archaeological deposits on the terrace she excavated which she interpreted as habitation evidence, but with only very limited evidence of any structures. Excavated evidence of above-ground structures and buildings is very elusive on Auckland's cone pa, where scoria is the substratum. It is possible that evidence of structures is present in this area. Thus, here, there is a possibility of furthering our knowledge of the life of the pa's occupants, their economy and details of their structures and buildings. Additional Radiocarbon dates would further enhance Sullivan's sequence.

Apart from the two seasons at Maungataketake, for which only one very brief report has been published (McKinlay 1974), and Sullivan's pioneering excavation at Wiri Mountain (Sulliva 1975a), almost no information about the archaeology of the South Auckland cone Pa is available. If the last remnants of these Pa are to be destroyed the fullest scientific investigation of the surviving archaeological deposits should be required.

Area B represents the transitional zone between the Pa and the lava-field gardens. Terrace 1 has similarities with that excavated by Sullivan, whilst terrace m, although interpreted as natural may have been used for gardening or even domestic activities. Although the mounds have a surface similarity to those excavated at the Wiri Oil

terminal and Railway sites, such similarity cannot be taken to indicate either structural or functional similarity. They are constructed largely on slopes and may be more similar, for example, to the Crater Hill mounds and represent a different functional class, or different period of use to those in the lava-field gardens.

Although there have been a number of excavations in the Wiri lava-field garden systems, only a relatively small sample of mounds has been excavated. None of those excavated have been in the transitional zone represented here, although Sullivan did investigate slope-gardens without mounds on the side of the cone. The results of the excavations so far have demonstrated the considerable complexity of the lava-field garden systems and their structures, neither of which are yet fully understood. Only the sampling of a wide range of garden structures in all the varying zones of the lava fields could allow a reasonably full history of prehistoric gardening in the volcanic fields of South Auckland to be constructed.

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43p.

APPENDIX

WIRI MOUNTAIN -EARTH AND STONE STRUCTURES

<u>No.</u>	<u>Dimensions (m)</u>			<u>Type</u>	<u>Comment</u>
	L	W	H		
1	7.8	5.6	0.88	Mound	Large. Many small stones c.5cm diameter visible. Larger rocks up to 30cm+.
2	2.0	1.2	0.18	Mound	Damaged. Few stones visible. Stone size average (10-20cm).
3	3.0	2.0	0.26	Mound	On scarp edges. Few stones visible of average size.
4	2.1	2.0	0.25	Mound	On scarp. Stones 15cm+.
5	2.8	2.0	0.39	Mound	On scarp. Well preserved. Many rocks 25cm+.
6	8.0	6.2	1.14	Mound	Very large on top of lava knoll. Many rocks 5-30cm.
7	2.1	1.6	0.24	Mound	Small. Few rocks visible 10cm+.
8	2.6	2.4	0.21	Mound	Well preserved. Few rocks visible 15cm+.
9	2.6	2.4	0.33	Mound	Badly damaged. On scarp edge. Rocks 30 cm+ at base of scarp and 15-20 at top.
10	3.4	3.0	0.25	Mound	As above
11	4.0	3.6	0.20	Mound	As above
12	2.2	2.2	0.24	Mound	As above
13	3.6	2.8	0.38	Mound	Badly damaged. On lava flow. Few rocks visible of average size.
14	2.0	1.8	0.15	Mound	Few rocks visible only at edge. 10-15cm+.
15	2.2	2.0	0.13	Mound	As above

<u>No.</u>	<u>Dimensions (m)</u>			<u>Type</u>	<u>Comment</u>
	L	W	H		
16	1.8	1.4	0.26	Mound	On scarp edge. Badly damaged. Rocks 25cm+ at base.
17	3.0	2.1	0.28	Mound	Very badly damaged. Rocks 15cm+.
18	2.0	1.6	0.24	Mound	Few rocks visible on top 10-15cm+.
19	2.5	1.8	0.29	Mound	Damaged. Rocks 20 cm+.
20	2.0	1.04	0.24	Mound	Badly damaged especially north side. Few rocks 15cm+.
21	4.0	2.7	0.33	Mound	North side badly damaged. Rocks 20cm+.
22	2.2	2.0	0.18	Mound	(?)few large rocks visible. Possibly weathered top of lava outcrop.
23A	28	1.5	0.10- 0.25	Wall	Starts 5m south of map boundary. Lowest 15m very badly damaged. Barely visible rocks 50cm+.
23B	16.0	2.0	0.20	Wall	Rocks up to 30cm. Separated from 23 A by track.
23C	9.0	2.8	0.20	Wall	End of wall. West end mound-like rocks 20-30cm.
24	2.3	2.0	0.25	Mound	On steep scarp. Few rocks 10-20cm.
25	3.0	2.0	0.28	Mound	Few rocks 10cm+.
26	3.9	2.9	0.40	Mound	On steep scarp. Few rocks 10-20cm.
27	2.2	1.8	0.26	Mound	Rocks 10-20cm.
28	2.1	2.0	0.12	Mound	Few rocks 10cm+.
29	2.1	1.2	0.11	Mound	As above.
30	2.8	2.7	0.35	Mound	Rocks 10-20cm.

<u>No.</u>	<u>Dimensions (m)</u>			<u>Type</u>	<u>Comment</u>
	L	W	H		
31	4.0	3.4	0.34	Mound	Rocks average 10-15cm.
32	2.3	2.1	0.20	Mound	Very few rocks visible - 15cm+.
33	2.7	2.2	0.18	Mound	Rocks 20-25 cm.
34	2.4	1.6+	0.27	Mound	Damaged.
35	2.7	1.9	0.10	Mound	Damaged. Very few rocks 10cm+.
36	2.5	0.9	0.10	Mound	Stones average 10cm. Few 20cm+.
37	1.6	1.1	0.22	Mound	Rocks 10-15cm.
38	3.1	2.6	0.33	Mound	Rocks 10-20cm.
39A	38.0	1.7	0.31	Wall	Rocks 15-20cm diameter.
39B	11.0	1.5	0.28	Wall	As above.
40	2.6	2.2	0.18	Mound	On scarp edge. Few rocks average 10cm.
41	3.2	2.9	0.40	Mound	As above.
42	1.7	1.5	0.12	Mound	Rocks average 15cm.
43	3.0	2.0	0.32	Mound	Rocks average 15cm.
44	2.0	1.7	0.35	Mound	Few rocks - 15cm+.
45	3.3	2.7	0.18	Mound	Few rocks - 10cm+