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EARLY POLYNESIAN OCCUPATION NEAR WHAKATANE, CENTRAL BAY OF PLENTY

By W. A. Pullar

Now that we can identify Kaharoa Ash on the Rangitaiki Plains with certainty Mr. Jack Golson thought the time opportune to examine the ground for evidence of early, pre-Kaharoa occupation. Kaharoa Ash erupted from Mt. Tarawera about 1100 AD, a date earlier than any settlement site yet carbon-dated in the North Island (and perhaps the South Island as well) and significantly earlier than the traditional landfall of the Fleet canoes in the central Bay of Plenty (1350 AD).

Two sites at Thornton and along the Whakatane-Taurenga highway were selected, one on the farm of Mr. S. C. Spence (N.69/355291) and the other on the land of Mr. W. Moore (N.68/317307). Both of these farms occur on beachlands between the shoreline at the time of the Taupo eruption and that at the time of the Kaharoa eruption. Shorelines are delineated by identifying ashbeds in the mantle covering the beachlands e.g. landward of the Taupo shoreline the mantle consists of Tarawera+Kaharoa+Taupo ashes while seaward the Taupo ash is missing, and landward of the Kaharoa shoreline the ashbeds are collectively Tarawera+Kaharoa and seaward Tarawera ash only. A knowledge of shorelines, therefore, gave some direction to our work particularly in delimiting the area of search.

When mentioning Kaharoa Ash I must make it clear that I am referring to an ash-fall deposit, the material of which was ejected from a volcano as a shower. At Thornton, the bed is no more than 6in. thick, is shower-banded, and white in colour but has few other field diagnostic criteria to identify it, unlike Taupo Pumice which can always be recognised by its coarse, highly vesicular cream coloured lapilli. The bed is overlain by Tarawera Ash and underlain by Taupo Pumice so if we cannot identify Kaharoa Ash on its own criteria we know it can be no other ash because of its position in the stratigraphic column.

The purpose of introducing this detail about Kaharoa Ash is that we derive all of our inferences and interpretations concerning chronology on the position of Kaharoa Ash as an ash-fall bed. This principle is well illustrated on Spence's farm where a 12in. deposit of very fine white pumice (silty sand to silt grade and similar to flour) overlies the Kaharoa ash-fall bed. At first, I thought this deposit to be a part of the Kaharoa shower but later examination of peaty soils at Awakeri showed the fine white pumice to be absent. The white pumice is therefore not the product of an ash-shower but alluvium deposited by the Rangitaiki River and the Waicho Stream a short time after the Kaharoa eruption. As the pumice alluvium has bedding and conforms to and mantles the surfaces of low beach ridges it is likely that it was deposited in a large lake. Between the pumice alluvium and the Kaharoa ash-fall bed is an inch or two of dark brown peaty loam considered to be a thin soil. The thinness

suggests that the pumice was deposited some 10 years after the Kaharoa eruption. The source of the pumice alluvium is not known; it could be derived from Kaharoa Ash but this ash is not noted for fineness at Murupara, Kapuriki, Mangaone, and Matahina all of which are in the Rangitaiki River catchment. Mr. G. D. McFarlane (pers. com.) informs me that his father considered the fine pumice to come from the Whirinaki Stream, a tributary of the Rangitaiki River and conjoining it near Murupara.

Excavations at Spence's Farm

A trial trench was dug in a low sand ridge where Mr. Spence had discovered a midden along with fern root beaters. A brief profile is as follows:

- 6in. shell
- 6in. pumice alluvium
- 6in. soft weathered shell plus greasy earth
- 6in. Kaharoa Ash
- on beach sand

The presence of two cultural layers excited our attention but as the lower one is still above the Kaharoa ash-fall bed we learn no more than that people lived at Thornton after A.D. 1100. The site is worth re-examing in an attempt to allot a time span to both occupations.

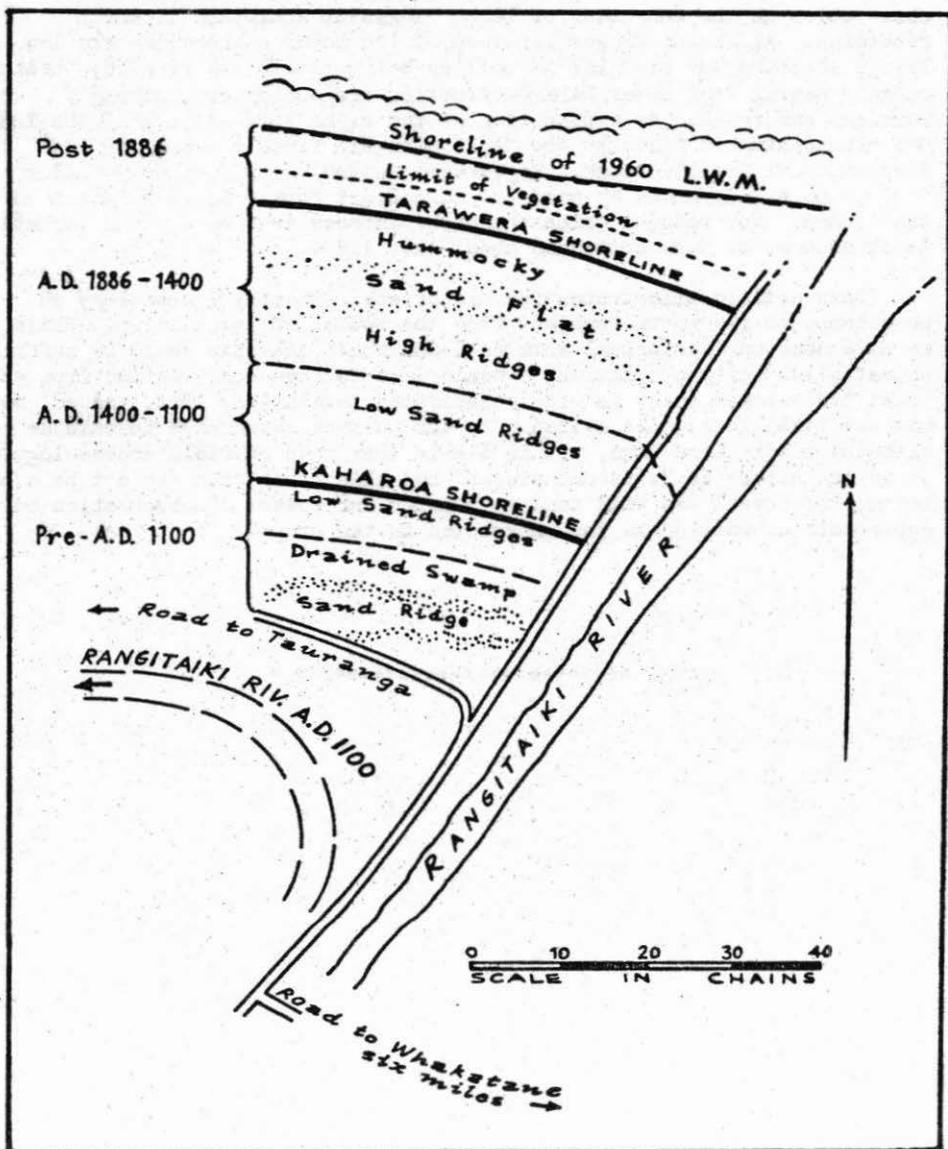
Excavations at Moore's farm

A sand ridge bordering the Whakatane-Tauranga highway was tested by means of small pits. As the land had not been ploughed there was a good chance of finding Kaharoa ash intact and in its proper stratigraphic place in the soil. On farming land, the Tarawera and Kaharoa ashes are often inverted by ploughing and in sand country, the separate ash beds are difficult to distinguish individually because the ash and the sand have a similar field grading. Furthermore, ash beds in the soil are often disturbed by tree roots and tree-throws. From one pit the following profile was described:-

- 3 in. Tarawera Ash (brown)
- 3 in. Kaharoa Ash (white)
- 24in. beach sand with many fragments of charcoal
- 3 in. distinct layer of haangi stones
- 13in. beach sand with iron mottling (fluctuating water table);
little charcoal
- on grey beach sand

The Kaharoa Ash occurs as a distinct covering layer and is the best example of ash mantling on beachlands I have ever seen. There is no doubt that the cultural layer below the Kaharoa Ash represents occupation before A.D. 1100.

That the site is a likely one for human occupation is supported by a reconstruction of the local physiography at the time of the Kaharoa eruption (see Fig.). The sand ridge is high and dry and was close to both the Rangitaiki River and the sea, sources for freshwater and sea foods.



This ridge along which the road runs from the Rangitaiki River to the Tarawera River should be examined further and information sought from farmers as to the character of artefacts discovered.

Beach Ridges

In order to assist in the search for evidence of occupation an observation on the character of beach ridges at Whakatane is worth recording. All beach ridges landward of the Kaharoa shoreline are low lying, isolated and parallel as well as being smooth and rounded; beach ridges, dating from after Kaharoa eruption are continuous, strongly hummocky and rough. An explanation of the rough surface is that the land has been disturbed first by the Maori with his fires and then by the European with his livestock. Vegetation destroyed by fire would allow sand to be easily moved by wind and so convert former beach ridges into sand dunes. For reasons which cannot be entered into here, dune formation is considered to have commenced about A.D. 1400.

This article illustrates the use of environmental archaeology in an attempt to remove the subject from the realms of speculation. While we have done our geological work well and while one site would be sufficient to establish early occupation, I would like to have confirmation from at least three other sites in widely separated localities. But, indeed, we may not find other sites suitable to our purpose so we have to make do with the material we have. It is likely that much of field archaeology will be in the nature of "bits and pieces" but this conclusion may not be a bad thing; piecemealness will tend to sharpen our powers of observation to appreciate anomalies and the unexpected in the ground.
