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MAORI UTILISATION OF DRIFTED LIMESTONE  
FROM THE SOUTH WELLINGTON COASTLINE

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INTRODUCTION

When discussing the important rock sources known to the Maori, Elsdon Best made an interesting reference to the collection of a rock type "of yellowish or cream colour" (Best, 1912: 30-31) known as "kohurau" from Cape Turakirae, on the South Wellington coastline. The rock type was described as probably being a quartzite, and an adze from Wellington of this material was identified as a "form of quartzite, with a few feldspar (probable mistake for felsite or felsitic) inclusions and shows many fault lines". This reference to the occurrence of this rock "kohurau" (a term not included in Williams' Maori Dictionary, 1957) at Cape Turakirae has been considered by many to be a curious one, for the rock formation of this coast is the well-known greywacke-argillite succession (with occasional intercalated submarine volcanics) typical of the Wellington region.

In 1963, an interesting series of archaeological and historical notes were published on the South Wellington area, constituting early observations by Peter Beckett. In these, quoting information supplied to him, Beckett (1963: 138) mentions that immediately west of Sinclair Head a rock material was collected by the Maoris for implement making. He states that "it is like grey flint, is flat and branched like some forms of that stone, and is found only in small pieces. It is called sea-foam." This report by Beckett appears to offer a solution to Best's hitherto anomalous record of a quartzite source at Cape Turakirae. In both locations an occurrence of an undoubtedly similar rock type is suggested by the references, but the source appears not to be a primary one *in situ*, but secondary as the material must be derived from beach strandings. This is confirmed by the writer's own observations over a period of years, as a hard, white, foreign, water-transported stone is occasionally cast ashore on the South Wellington coast, particularly west of Sinclair Head, as stated by Beckett.

A further reference to the occurrence of this drifted stone was obtained by Best from the Wairarapa district (Best, 1912: 31). Here it was said to be found only in pieces on the sea beach, and was

described as a flint-like stone of light colour. It was known both as "karaa" and "rehu tai", the latter expression also being applied to sea-foam.

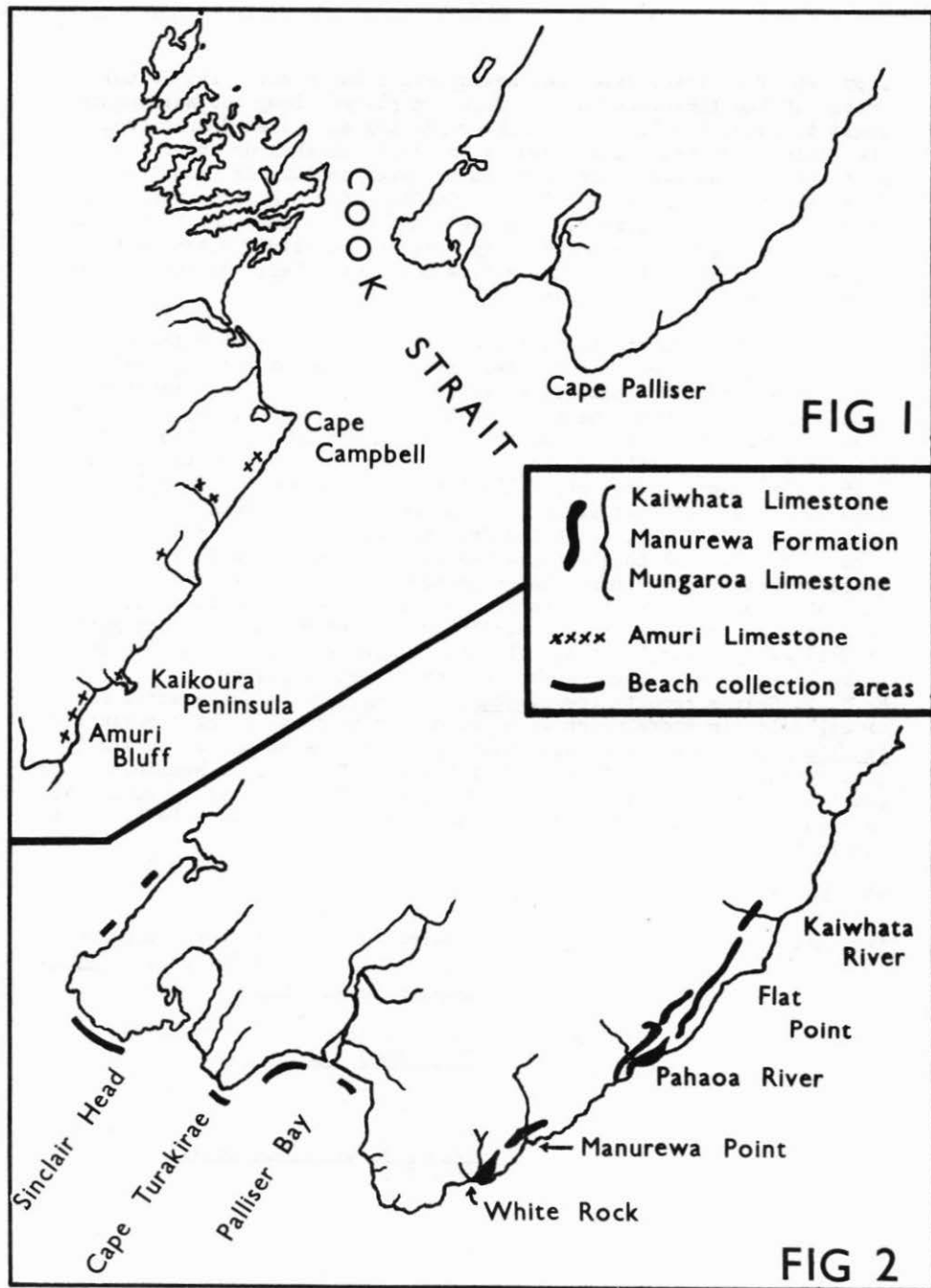
#### THE MATERIAL

An examination of pebbles of this material obtained from various Wellington south coast beaches shows that they range up to about four inches in length, and their light grey to white colour makes them conspicuous amongst the dominant dark greywacke beach pebbles. The material is a light creamy grey to white, hard to flinty calcareous limestone with an acquired powdery weathered (chemical) external layer. Occasional small marine worm borings penetrate the pebbles to a shallow depth. The lithology suggests that they can be readily identified as having been derived from the Amuri Limestone Formation of the South Island (Suggate, 1959) or the equivalent limestone units (which form the probable northern extension of the Amuri Limestone) in the North Island.

The Amuri Limestone of the South Island (of Dannevirke age) is exposed in the Awatere and Clarence Valleys and outcrops in places along the Marlborough coast from Amuri Bluff to Kaikoura and northwards (Fig.1). The North Island correlatives of the Amuri Limestone are the calcareous to porcellanous limestone members of formations that have been named as the Kaiwhata Limestone, Manurewa Formation and Mungaroa Limestone. (They possibly all represent one unit.) These formations are well exposed in section along the Eastern Wairarapa coastline: the Kaiwhata Limestone at Flat Point (Heuvel, 1960: 314), in tributaries of the Kaiwhata River and immediately north of the Pahaoa River mouth (Eade, 1966: 110); the Manurewa Formation at Manurewa Point (Waterhouse and Bradley, 1957: 521) and the Mungaroa Limestone at White Rock and Te Kau Kau Point (ibid. p. 524), (Fig. 2).

All the limestone members of these formations grade through hard grey-white calcareous lithologies into flinty, white, dense procellanous material, often with visible fossil worm tracks and fucoid markings. The more flinty members of the Mungaroa and Kaiwhata Formations are noticeably cut by numerous fine calcite veinlets. The flinty texture of the harder limestone members corresponds with what Best (1912: 30) attempted to describe by felsitic (i.e., cryptocrystalline - mistakenly using "feldspar"), and his reference to "many fault lines" would refer to the many fine veinlets of calcite that occur throughout the rock.

Specimens taken from the beaches west of Sinclair Head, south Wellington coast, are uniformly of the hard calcareous limestone. To date, no specimens of the more flinty veined material, as Best described



from Cape Turakirae, have been noticed this far west. The actual source of the limestone that is found in places along the Wellington coast is conjectural. It either originates as eroded debris from the Marlborough coast and moves or is rafted northwards under the influence of the Canterbury Current or moves southwards from the Wairarapa coast, or both. The possibility of a submarine occurrence cannot be ruled out either. The veined form of limestone that Best mentions could, however, match more closely the flinty material from the Pahaoa River mouth and White Rock than any other, and this origin appears to be more identifiable.

From Best's information, the use of this hard drifted limestone in the Wellington area was for small adzes - the determining factor being the size of the pebbles obtained. Best (1912: 30) described a small adze (in veined limestone) in the Beckett collection, obtained from Miramar (Wellington), and the Dominion Museum has another rough example in the Christie Collection (No. 8005) of unveined limestone with marine borings present, collected from Kilbirnie. A small irregular piece of this stone is also present in the Beckett collection (No. 8312), collected from the Wairaki Stream area (South Coast). Although only a few examples appear to have been preserved, they do support the references of local collection and utilisation of this drifted stone. Small rough grey-white artefacts in this stone could have been easily overlooked by early investigators of Wellington coastal sites. In the Wairarapa, drifted pebbles of this limestone have been recovered from midden sites, and Mr K. R. Cairns reports (pers. comm.) seeing several large adzes of porcellanic limestone which were probably made from material collected in situ from the eastern coast outcrops. In the future it is likely that more artefacts in "kohurau" or "rehu tai" both from Wellington and the Wairarapa will be collected and recognised, as hard porcellanic examples of this limestone are undoubtedly extremely suitable for adze manufacture.

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