



NEW ZEALAND
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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION NEWSLETTER



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RADIOCARBON DATES FROM TIWAI POINT, SOUTHLAND

G.S. Park
Otago Museum

In 1968 and 1969 salvage excavations were undertaken by the Otago Anthropological Society, on behalf of Southland Museum, at the site of the aluminium smelter being built on Awarua Bay (S181-2/16). Preliminary analysis of material recovered from the site suggested a moa-hunting, fowling, sealing economy, based on exploitation of the local argillite rock resources (Park, 1969). One radiocarbon date was run in 1968, and although this has been referred to in print it has not been formally published.

Following a resurgence of interest in the excavated material in 1976, several members of the Anthropology Department of the University of Otago undertook analyses of various components of the site, and the results of this work will be reported elsewhere. As part of this interest, however, five further samples were submitted for radiocarbon analysis.

Results of the six analyses are as follows:

	Old T1/2	New T1/2	New T1/2*	Archaeological Provenance
NZ2480	442±53	-	-	Tw/B/46/Oven
NZ4466	770±80	790±90	750±80	Tw/B/19-20/2 Scoop hearth
NZ4467	770±60	790±60	750±50	Tw/B/40/1d
NZ4468	700±40	720±40	690±30	Tw/B/60/1c
NZ4469	660±40	670±40	670±30	Tw/X/W23/2/Oven
NZ4470	640±40	650±40	660±30	Tw/X/U23/2

* Corrected for secular effect.

Botanical analysis of the five samples for NZ4466-4470 by Dr B.P.J. Molloy has revealed the following information:

NZ4466	Species present: <u>Podocarpus totara</u> or <u>hallii</u>	76%
	(probably <u>P. totara</u>)	
	<u>Leptospermum scoparium</u>	22%
	<u>Coprosma</u> sp.	2%

Age of sample at death: Totara fragments of variable age; some with up to 12 annual growth rings, some twigs. Other

species are all short life-span material

NZ4467 Species present: Podocarpus totara or hallii 61%
(probably P.totara)
Leptospermum scoparium 25%
Coprosma sp. 8%
Pittosporum sp. 4%
Pseudowintera sp. (probably P.colorata) 2%

Age of sample at death: P.totara a mixture of twigs and older material; other species all short life-span.

NZ4468 Species present: Podocarpus totara or hallii 69%
(probably P. totara)
Leptospermum scoparium 20%
Coprosma sp. 7%
Pittosporum sp. 3%
Pseudowintera sp.(probably P.colorata) 1%

Age of sample at death: As for NZ4467

NZ4469 Species present: Leptospermum scoparium 76%
Podocarpus totara or hallii 20%
(probably P.totara)
Pittosporum sp. 4%

Age of sample at death: Sample dominated by material of short life-span.

NZ4470 Species present: Podocarpus totara or hallii 60%
(probably P.totara)
Leptospermum scoparium 34%
Coprosma sp. 4%
Unidentified 2%

Age of sample at death: as for NZ4467.

The six samples come from the two separate areas of the excavation, some 100 metres apart. NZ2480, 4466, 4467 and 4468 are from Area B, a working floor for argillite and other stone resources. Very little faunal material was found in association with this area. NZ4469 and 4470 are from a second area, X, where an extensive flaking floor was associated with a midden containing shellfish and bird, fish and mammalian bone. In both areas the cultural stratigraphy was relatively simple, and both areas are

interpreted as belonging to a single occupation. Both the excavation and a statistical analysis of the radiocarbon results suggest that the two areas are not significantly separated in time.

The discrepancy between the results for NZ2480 and NZ4466-8 is not easily explained. The close grouping of the three dates NZ4466-8 and their proximity in time to the dates from area X, as well as the temporal characterisation of the site suggested by the faunal analyses all suggest the validity of the thirteenth century dates. It is possible that the oven dated by NZ2480 was an intrusive feature, but this was certainly not detected in the excavation.

The botanical analyses remove the possibility that the older dates are too old by virtue of pertaining to old wood, since most of the samples consisted of wood which was quite young at death. This is confirmed by the similarity between the dates for NZ4469 and NZ4470 where even though the proportions of totara and manuka are reversed the ages are very close.

It is unlikely that the Podocarpus species represented is P. totara, since P. hallii is more common in southern localities like Tiwai Point, and was well represented in the flora seen in 1968 (Hamel 1969 and pers.comm.). All the species represented in the charcoal samples could be found growing on the peninsula, and the choice of species used for firewood is the same as that which would have been made in the 1960s (ibid). The use of manuka and totara in such large proportions reinforces Hamel's comments (1969:152-153) suggesting a previously more forested vegetation for the peninsula, but one which might well have been affected by fire.

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