NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

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AN ARCHAIC SITE
JACKETTS ISLAND SOUTH, TASMAN BAY, NEW ZEALAND

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Abstract

The surface features of a prehistoric settlement site on the western shore of Tasman Bay are mapped, and artefacts recovered from it are illustrated and described. Fishing equipment, some of moa bone, and metasomatised argillite tools were manufactured on the site. Archaic period occupation is indicated by comparison with other evidence from Nelson Province.

INTRODUCTION

Jacketts Island separates the tidal Moutere Inlet from the open sea (Fig. 1) and is made up of a series of raised beach ridges. It is part of the gently-curving western Tasman Bay shoreline, formed by progradation between the steep Separation Point granite coast to the north and the Moutere Gravel cliffs southward from the Kina peninsula. The fine sand and gravelly sand soils of the island are weakly developed, and support pines, gorse, broom and grasses. Nelson Mineral Belt rock types are not present among the greywackes, quartzites, sandstones, and slates of the beach deposits. Fresh water is absent. Fish (flounder, kahawai and snapper) and shellfish (particularly protected soft shore species) are abundant in the vicinity.

A prehistoric habitation site (Fig. 1, grid 409439, site number S14/24, midden/ovens/working area) occupies the south-western protuberance of the island. This area is almost flat, raised about one metre above high water level. A deep sheltered channel, navigable by small boat at all stages of the tide and suitable for fishing, lies adjacent from the north-west round to the south-east; along this margin marine erosion is active. The artefact potential

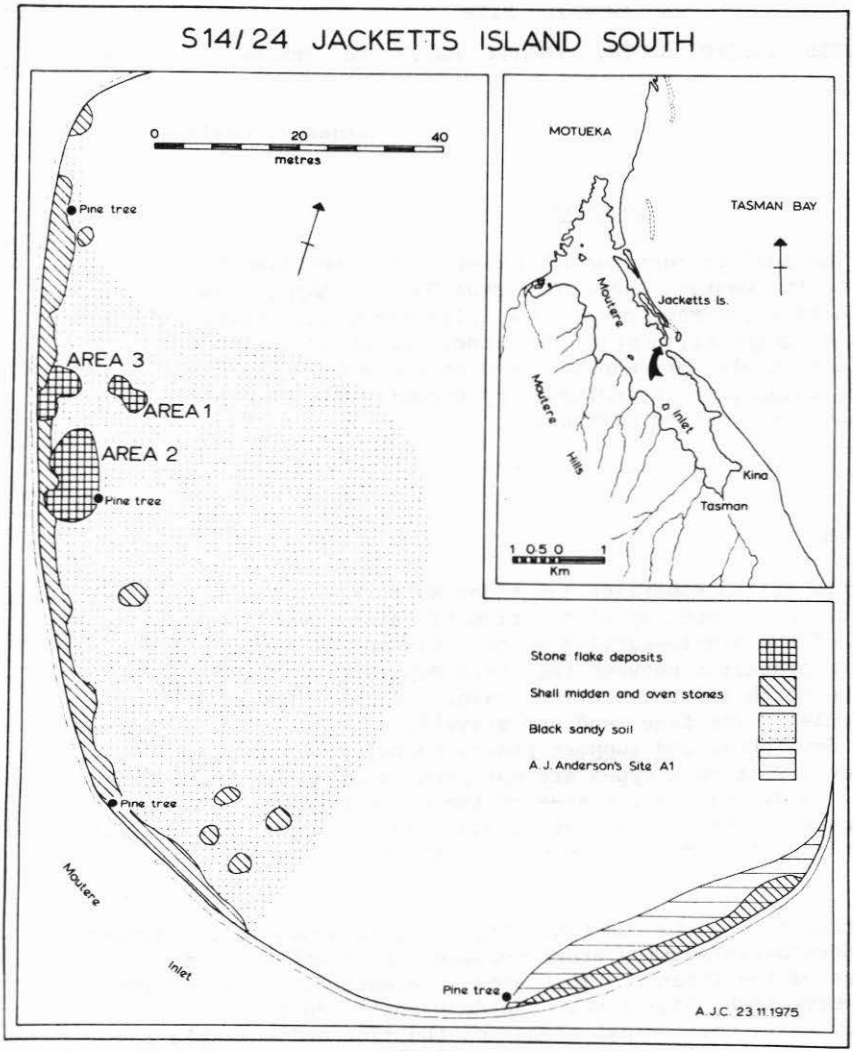
S14/24 JACKETTS ISLAND SOUTH
0
20
40
metres
Pine tree
AREA 3
AREA 1
AREA 2
Pine tree
Pine tree
Moutere
Inlet
Pine tree
MOTUEKA
TASMAN BAY
Jacketts Is.
Moutere
Moutere
Hills
Inlet
Kina
Tasman
1 0 5 0 1
Km
Stone flake deposits
Shell midden and oven stones
Black sandy soil
A. J. Anderson's Site A1
A.J.C. 23.11.1975

Fig.1

of the location is well known, and a recent visit showed that fossicking activity, prevalent over many decades, has continued into 1976. The only previous archaeological enquiry to identify the site (Anderson, 1966, 46-54, Fig. 23) examined its midden evidence and suggested that it was one of a series of temporary seasonal fishing and shellfishing camps.

The surface of the site was examined in November 1975. Burnt and fractured ovenstones, commonly 5 to 12 cm across, selected from local beach deposits, littered the stony foreshore. A dense complicated series of midden and oven deposits, eroding, shovelled and slumping, were almost continuously conspicuous in the high tide bluff. These deposits evidently continued inland, where they were exposed in places by disturbance and deflation. Three exposed areas (1, 2 and 3, Fig. 1) carried concentrations of stone flakes, almost entirely of metasomatised argillite. These may be part of one severely disturbed working area. Elsewhere in the interior the grass-covered surface was hummocky, probably because of fossicking rather than prehistoric features. The soil where visible was black and greasy, with ovenstones, and is likely to be occupation residue. The mapped division between the large western and smaller southern parts of the site may be illusory: post-occupation surface sand accumulation was evident in southern and eastern areas. No sub-surface examination was undertaken. Some midden and stone flake material (now lodged in the Nelson Provincial Museum) was removed from eroding areas for further study.

During the late 1960s, Mr Bill Hassall of Riwaka often visited the site and from it acquired artefacts which are now housed in his private museum. His activities (carefully described to the present writer) were confined to a semicircular area 25 metres across, defined by the eroding beach front to the west and the beginnings of a stony deposit to the north and east. Digging exposed a single occupation layer of "burnt fatty sand" 7 to 30 cm. deep immediately beneath the surface vegetation, underlain by natural gravelly sand. A considerable number of artefacts, evenly spread within this layer, were recovered, and large numbers of metasomatised argillite flakes were observed. The place appears to have been a working area, since no midden, or bones other than artefacts, were found in the area dug.

The artefacts from S14/24 are of significant interest and allow conclusions to be reached about the nature of the occupation. Descriptions, illustrations, and interpretations therefore follow. The original pencil drawings and comments on illustrated items are now lodged in the Nelson Provincial Museum.

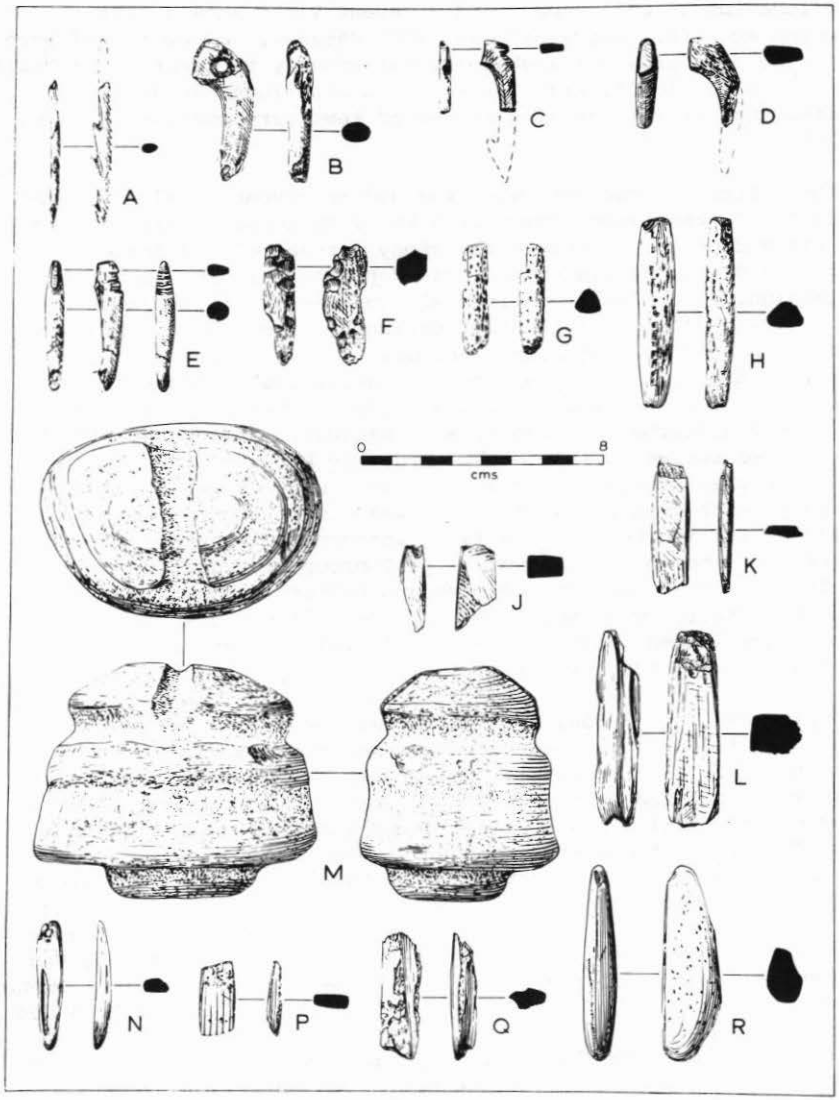

Fig. 2

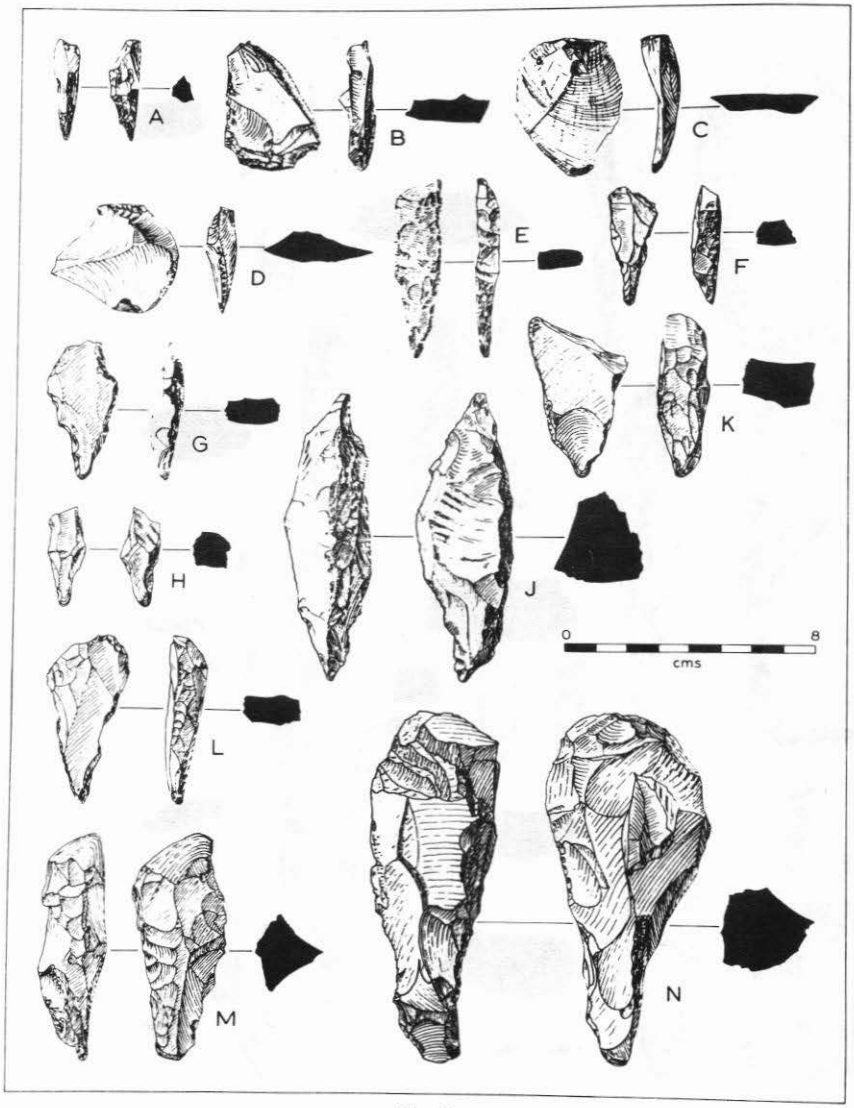

Fig. 3

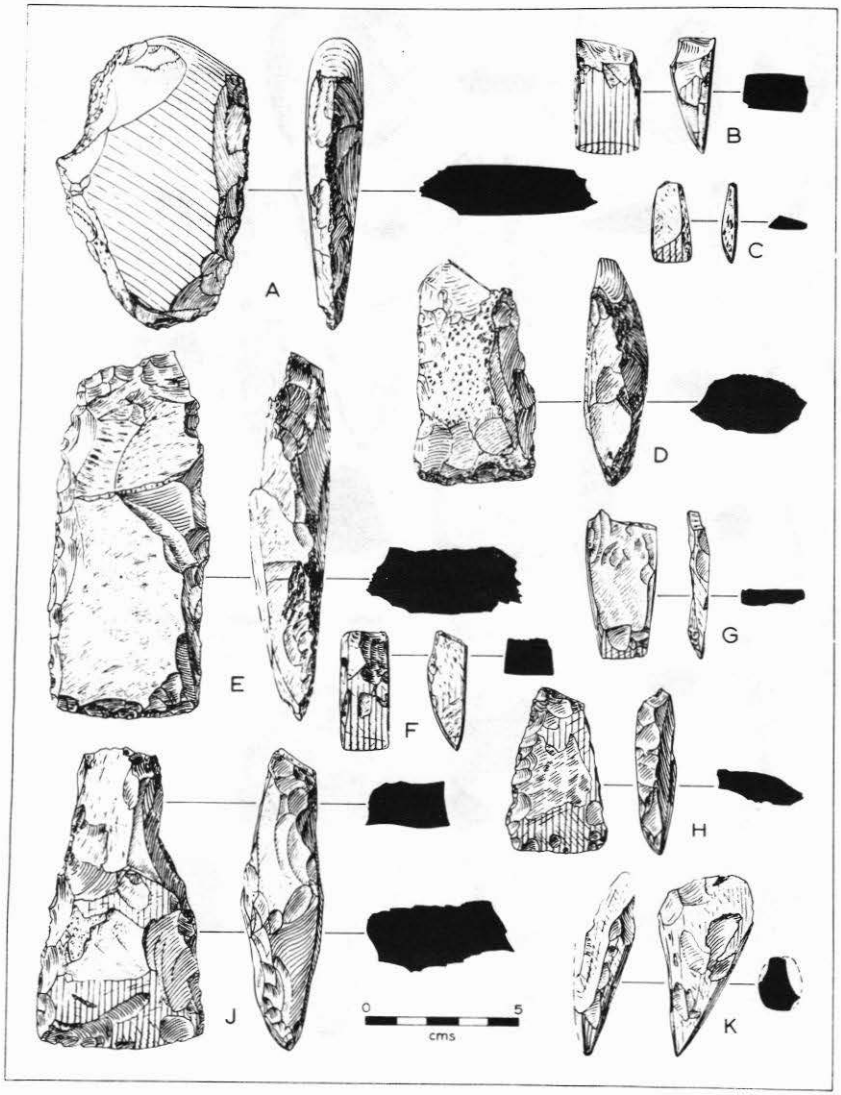

Fig 4

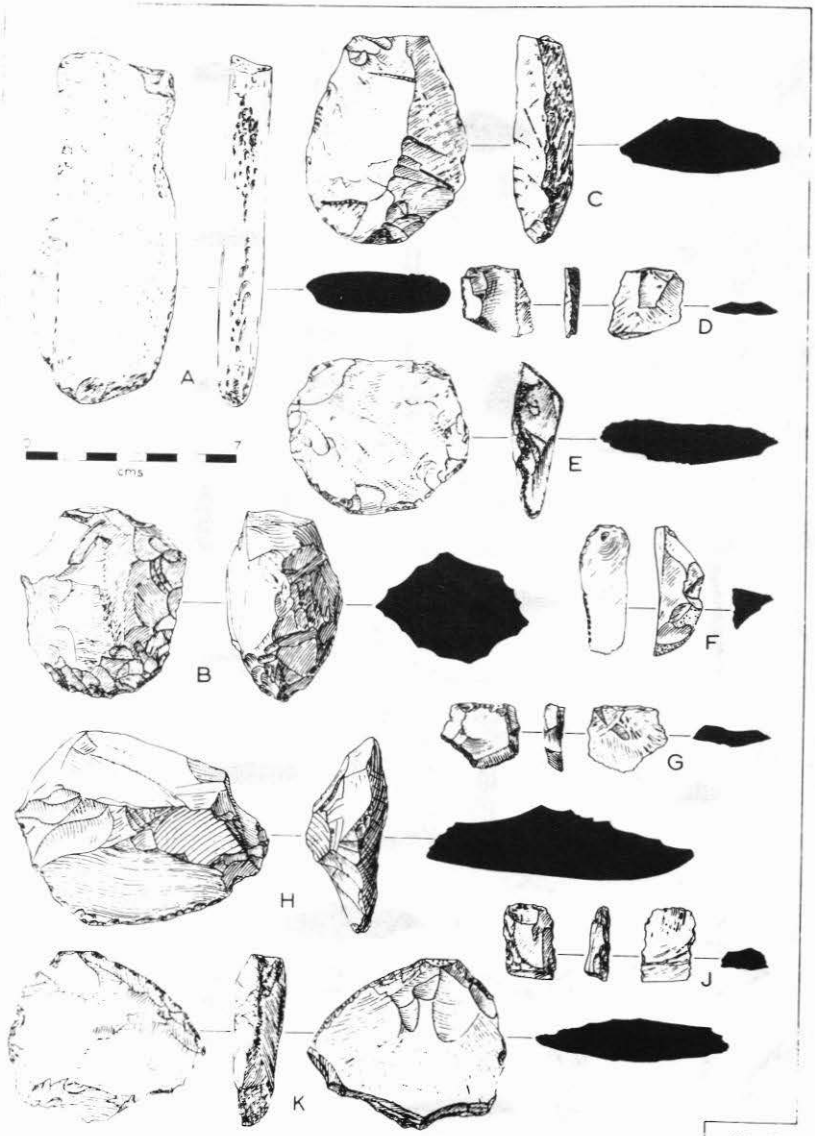

Fig 5

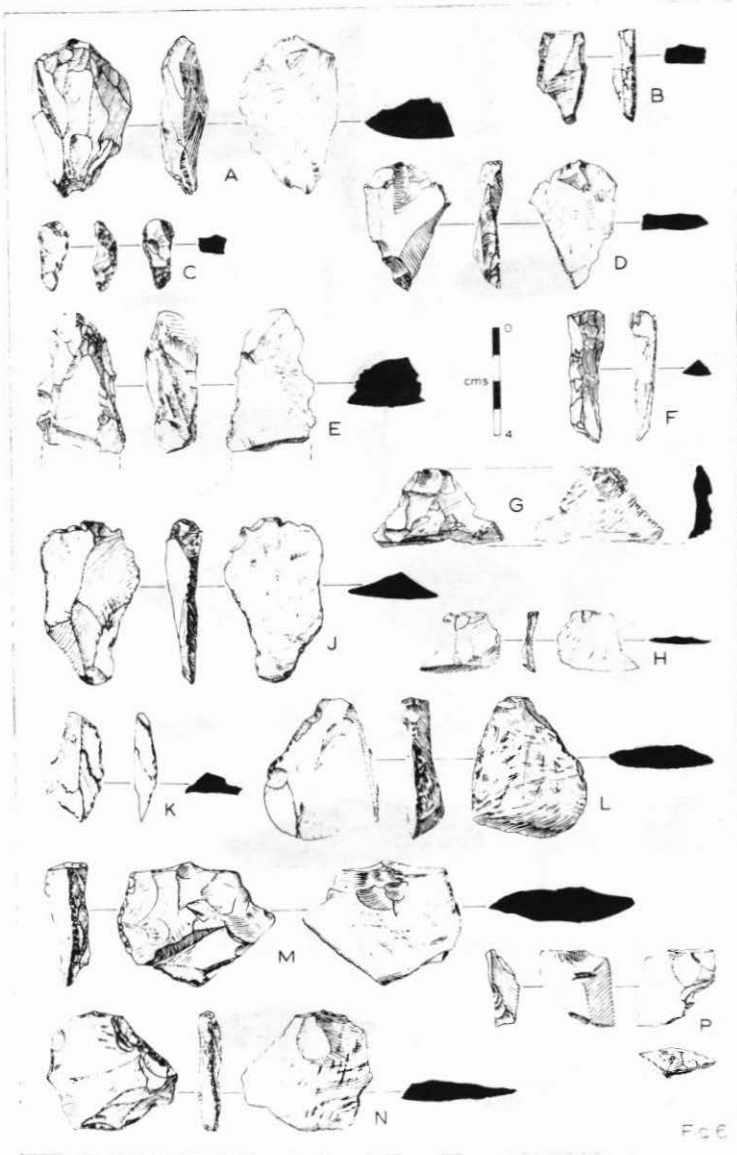

Fig 6

Table 1. Metasomatised Argillite Flakes from Site S14/24

Category	Area 1	Area 2	Area 3	Totals	
Waste products					
Primary					
Conchoidal flakes	5	0	0	5	
Shatter flakes	4	0	1	5	10
Intermediate					
Conchoidal flakes	57	11	11	79	
Shatter flakes	11	2	2	15	94
Secondary					
Conchoidal flakes	7	6	3	16	
Shatter flakes	8	7	5	20	36
Reprocessed					
Conchoidal flakes	4	1	2		7
Tools					
Points	3	1	1		5
Edge tools	11	1	2		14
TOTALS	110	29	27		166

THE HASSALL ARTEFACTS

The single spear point of mollymawk or albatross bone (Fig. 2, A) is carefully grooved and has slight binding wear beyond the third barb.

Bone fishing equipment appears to be mainly fragments of two-piece bait hooks: (1) a perforated piece (Fig. 2, B) in moa bone, probably a shank section (similar to some from Tahunanui across the bay: Millar, 1971, Fig. 2, 629, 111); (2) a notched piece with curved attachment surface (Fig. 2, C), in either human or dog bone; (3) an unfinished example (Fig. 2, D) in moa bone; (4) a hook section with multiple lashing grooves (Fig. 2, E), in moa bone; and (5) two very small broken fragments. A waste tab (Fig. 2, F) in moa bone has hour-glass drilling down one edge only, suggesting the manufacture of part of a two-piece hook. This tab shows that bone blanks were prepared with ground flat surfaces prior to drilling, after which shapes were completed by further grinding (marks still visible, e.g. Fig. 2, B, D). Lashing grooves were roughly cut but perforations were carefully executed. Of the manufacturing tools required for these processes, flakes and drill points (see below and discussion) and a schistose sandstone abrader (Fig. 5, A) and file (Fig. 2, R) are present. The latter is similar to those from the Wairarapa for which fish-hook filing is the suggested function (Leach, 1976, 76, 206, Fig. 17).

Stone fishing equipment includes a small lure hook shank with broken perforation (Fig. 2, G), in fine schistose sandstone, and eight pieces, thought to be unfinished lure hook shanks, in schist (Fig. 2, H), sandstone (Fig. 2, J, K), and talk (Fig. 2, L), five of them broken. Rectalinear cross-sections predominate. Construction methods represented are planar splitting (e.g. Fig. 2, K), sawing (e.g. Fig. 2, K, L), grinding (e.g. Fig. 2, H, J), and drilling (Fig. 2, G). Also present is a curious sandstone weight with pecked grooves (Fig. 2, M), for fishing line or net.

Nephrite artefacts comprise (1) a pendant with a worn perforation (Fg. 2, N), in pastel green stone, a concave area on one face suggesting that it may be a modified chisel; (2) a small adze in dark green stone (Fig. 2, P; cf. Tahunanui: Millar, 1971, Fig. 1, 338); (3) a worked fragment with scarf sawing and polishing (Fig. 2, Q), and small pieces polished (4) and scarf-sawn (5). There are also two nephrite water-rolled stones less than 5 cm. across.

Six obsidian flakes in fine quality dark grey colour-veined material were found: a point (Fig. 3, A), three flake tools (Fig. 3, B, C, D, striking platform angles respectively 80°, 75°, and 75°) each bearing slight evidence of use, and two debris fragments.

Metasomatised argillite artefacts include points, choppers, flake edge-tools, and adzes. The points are of two types: (1) flake points (Fig. 3, E, F, G, H, K, L, cf. the Tahunanui drill points: Millar, 1971, 168), all secondarily flaked and all (apart from Fig. 3, F) showing clear evidence of extensive point wear; and (2) core points (Fig. 3, J, M, N), the first double-ended and all unused. Two crudely-made tools (Figs 4, A and 5, B) appear to be choppers or rough scrapers. The edge tools from conchoidal flakes (Fig. 5, C, E, H, K, striking platform angles 85°, ?, 85°, and 90°) have edges secondarily flaked and worn smooth through use. Their similarity of size suggests deliberate flaking from prepared cores (note a hammer-dressed striking platform, Fig. 5, K). The adzes, used (Fig. 4, B, C, F, G, H, J, K) and rough-cut (Fig. 4, D, E), vary in size and blade form, at least one being a flake adze (Fig. 4, C). The metasomatised argillite material is usually fine in quality but ranges widely in colour, light grey veined and black being common. The presence of water-rolled cortices (Figs. 3, M, N; 4, A; 5, H, E) indicates the use of secondary (redeposited) raw material.

Other items in the collection are kokowai and angular fragments of grossularite, a rock which would have provided efficient saws and scrapers. Worthy of note is a Carcharodon shark tooth, the root of which is decayed. Such shark teeth, drilled through the roots for stringing together as necklaces, are not uncommon in South Island Archaic contexts (Duff, 1956, 84, 130).

THE 1975 SUFACE COLLECTION

One hundred and sixty-six argillite fragments were collected from the surface of areas 1, 2 and 3 (Fig. 1). They are categorised in Table 1. One hundred and forty are debris from tool manufacture. The terms primary, intermediate, and secondary are defined elsewhere (Challis, forthcoming). Whereas area 1 has a higher count of primary flakes and tools, areas 2 and 3 have relatively more secondary flakes. It may be that at least part of area 1 was a dump formed by fossickers, since most flakes were taken from a superficial heap less than 30 cm. across.

The primary flakes are cortical, blocky, and angular, with scarred ventral surfaces and cleavage often following lines of weakness. The intermediate flakes are also considerably scarred and some are cortical and angular, but bulbs of percussion and bulbar scars are better defined than on primary flakes and reticulate scar patterns are present on dorsal surfaces. Striking platform angles are commonly between 75 and 95°. Some flakes show prior working of an opposite edge or apex (Fig. 6, F, G, H) and are probably from adze manufacture. Secondary flakes are small, thin, and generally unscarred. A significant number of flakes bear the polished or hammer-dressed facets of previously finished adzes, demonstrating repair or reprocessing. Of the 41 cortical pieces, 39 were water-rolled. The presence of primary flakes strongly suggests that the raw material was transported to the site.

Tools in metasomatised argillite include a cortical primary flake with both lateral margins worn smooth by lengthwise grinding use as a knife (Fig. 6, L). Points from conchoidal flakes (Fig. 6, A, B, C, D, E) are well represented, their tips when complete being worn and in one case discoloured light creamy grey (Fig. 6, D). Edge tools from conchoidal flakes show a variety of forms: some may be blade-like (Fig. 5, D, G, J) and others discoidal (Fig. 6, M, N), but it is not entirely clear whether they were deliberately struck or whether they are from conveniently-shaped waste pieces (as could be Fig. 6, J, P). One edge-tool is from a shatter flake (Fig. 6, K), and another (Fig. 5, F) is from a fragment of hammer-dressed and polished adze, showing the reuse of material.

Other stone in the 1975 collection comprises one small unused shatter flake of green obsidian, four small sharp angular worked pieces of clear quartz, and eight unused schistose greywacke spalls from water-rolled stones. Quartz is common on other sites in Tasman Bay (Millar, 1971, 166) but its use is not obvious. Greywacke spalls similar to those found would have been convenient knives and files.

820 g. of midden was taken from the eroding beach front 12 m. south of area 2. Easily identifiable pieces of marine shell made up 415 g. (Numbers were 116 pipi, *Amphidesma Australe;* 55 mudsnail *Amphibola crenata;* 37 mussel, *Mytilus planulatus;* and 28 cockle, *Chione stutchburyi*.)

Some shell was crushed. Several mudsnail specimens were very small (6 mm. across). Among 40 tiny fragments of bone, snapper and possibly other fish, bird species, probably dog, and possibly rat were represented.

DISCUSSION

A variety of stone materials was utilised by the occupants of site S14/24. Schistose sandstone and greywacke are available in the beach deposits close at hand. Clear quartz is present in reefs in the Separation Point granite outcrops further north. Since most of its cortices are water-rolled (as at Tahunanui: Millar, 1971, 171), the metasomatised argillite apparently derives from the river systems which drain the Nelson Mineral Belt. Grossularite is a rock often found in conjunction with metasomatised argillite. Different coloured obsidians and nephrites may suggest the use of several respectively North and South Island sources.

A large proportion of the artefacts is associated with fishing and the making of associated equipment. The unfinished hook (Fig. 2, D), moa bone tab (Fig. 2, F), drill points (e.g. Fig. 3, G, H), file (Fig. 2, R) and unfinished stone lure shanks (Fig. 2, H, K) indicate that manufactur of hook pieces took place on the site. Quantities of metasomatised argillite working debris suggest the making of points and flake tools from transported raw material. Tools with narrow edge angles (e.g. Figs 5, D; 6, J, K) may have been used in bone working. The considerable bifacial edge wear of the knife (Fig. 6, L) and other larger flakes (Figs 5, C, E, H, K; 6, M: cutters and bifacially utilised scrapers) suggests use in a sandy or otherwise abrasive environment (fish dressing ?). Two of the obsidian flakes (Fig. 3, C, D) would have efficiently gutted fish (see Morwood, 1974, 25). Concave edges of argillite flake tools (e.g. Fig. 6, N, P) may represent the working of wooden shafts for fishing or other equipment (note Jones, 1972, 163-164).

Other traits indicate a wider range of activities: for example, the presence of bird bones and a spear point (Fig. 2, A), and worked greenstone pieces (Fig. 2, Q). Heavy woodworking and the preparation of appropriate tools is suggested by the used and rough-out adzes (Fig. 4) and flakes from adze repair or reprocessing. Midden and ovenstone deposits are large compared with others in the district. Long-term rather than short-term occupation, albeit probably seasonal because of the apparent predominance of fishing and shell-fishing, is therefore to be envisaged.

Artefactual correlation with other coastal sites in Nelson Province is close. The rectilinear-sectioned stone lure-hook shanks, drill points, file, sawn greenstone, and kokowai can be matched at the 'moa-hunter' site at the Heaphy River mouth (S7/1, Wilkes and Scarlett, 1967, 201-7). The Archaic site at Tahunanui (S20/2) produced, in addition to many other items of similarity already mentioned, metasomatised argillite adzes which in their predominant quadrangularity and the role of hammer-dressing resemble those from Jacketts Island (Millar, 1971, 167). The hitherto little-known site at Rotokura, Cable Bay (S14/1; Millar, 1967, 10-12), contained both Classic (layer 2A) and Archaic (layers 2B, 4, and 6) contexts rich in artefacts, many of which from layers 2B and 4 are in detail very like the bone and stone items from Jacketts Island. The Archaic nature of the material culture of site S14/24 is clearly demonstrated.

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REFERENCES

ANDERSON, A. J. 1966. Maori Occupation Sites in Back Beach Deposits around Tasman Bay. Unpublished M.A. thesis, University of Canterbury.

CHALLIS, A. J. (Forthcoming) 'Metasomatised Argillite Artefacts from Pah Point, Riwaka, New Zealand', Journal of the Polynesian Society.

DUFF, R. 1956. The Moa-Hunter Period of Maori Culture, (2nd ed.). Wellington, Govt Printer.

JONES, K. L. 1972. Prehistoric Polynesian Stone Technology. Unpublished M.A. thesis, University of Otago.

LEACH, B. F. 1976. Prehistoric Communities in Palliser Bay, New Zealand. Unpublished Ph.D. thesis, University of Otago.

MILLAR, D. G. L. 1967. 'Recent Archaeological Excavations in the Northern Part of the South Island', Journal of the Nelson Historical Society, 11 (2), 5-12.

MILLAR, D. G. L. 1971. 'Excavation of an Archaic Site at Tahunanui, S20/2, Nelson', NZAA Newsletter, 14 (4), 161-172.

MORWOOD, M. J. 1974. Experiments with obsidian: functional and typological implications. Unpublished M.A. thesis, University of Auckland.

WILKES, O. R. and SCARLETT, R. J. 1967. 'Excavations of a Moa-hunter Site at the Mouth of the Heaphy River', Records of the Canterbury Museum, VIII (3), 181-212.