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EXCAVATIONS AT SHAG POINT (J43/11) NORTH OTAGO: A SUMMARY REPORT

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Introduction

The University of Otago archaeological field school was conducted for two weeks beginning 14 February, during which a third and final season was completed at Shag Point. Our objectives were to define more precisely the boundaries of the north and south middens and expand the area excavations in these two locales (Figure 1). Some 17 m^2 were excavated in 1998 (Weisler 1998), 35 m^2 in 1999 and 44 m^2 this past season for a total of 96 m^2 resulting in the removal of 21.51 m^3 of deposits: 18.55 m^3 of cultural sediments and 2.96 m^3 from sterile layers. Trotter (1970:471) reported that turf was removed from Shag Point in the early 1950s for bowling greens and tennis courts and our transect excavations defined areas of sterile deposits in units S30E1 to S30E40, N50W1 to N50W30 and S50E23, with very sparse cultural material – and no developed cultural layer – in units N40W1, S1W30, S30W45 and S50W30 (Figure 1). There were no truncated cultural deposits in these units and it may be that little, if any, midden and artefacts were ever located in these areas. It is likely that the two main areas of cultural deposits depicted on the site map reflect the extent of the concentrated middens – the accumulated refuse resulting from small groups of people visiting the area repeatedly for short periods of time.

Seven radiocarbon age determinations (processed by the University of Waikato dating lab) provide early 15th to early 16th century occupation dates for the south midden and a mid-16th to 18th century use of the northern extent. In concert with the archaeological data from the Archaic village at Shag River mouth (Anderson *et al.* 1996), cultural deposits at both sites span the greater length of prehistory along coastal North Otago. The Shag Point data, then, provides an excellent opportunity for determining changes in material cultural

and subsistence practices, as well as comparing the internal layout (activity areas) at these two temporally distinct middens (Figure 2).

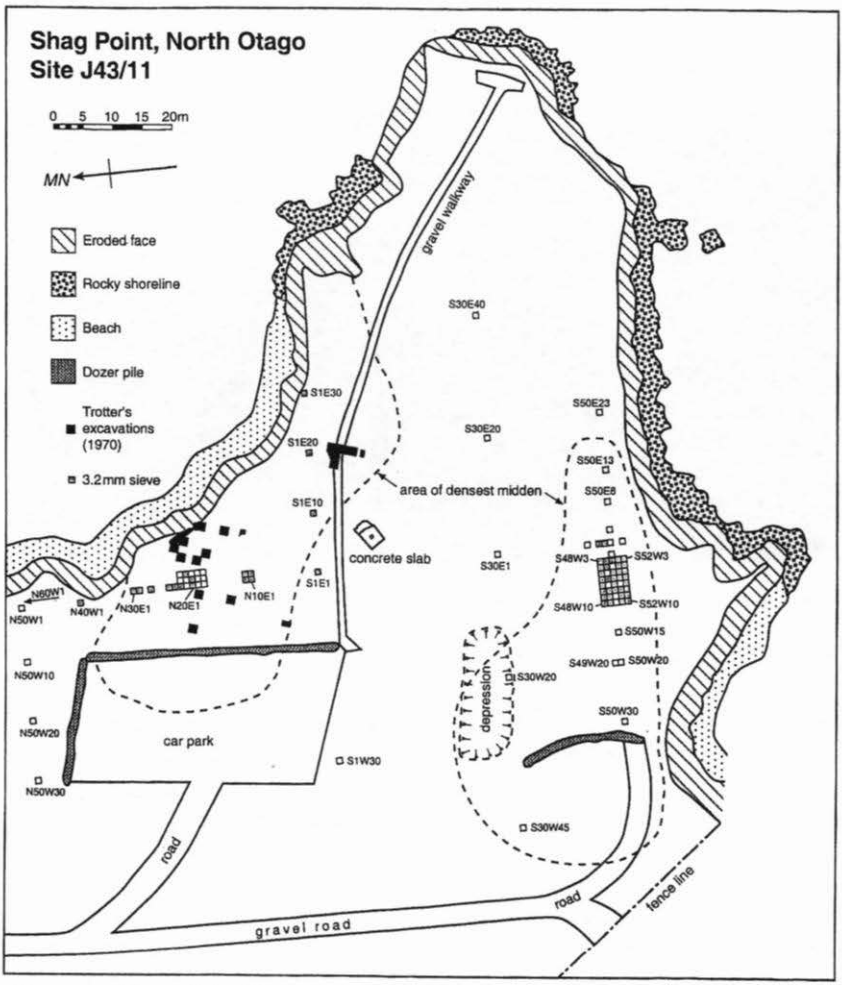

Figure 1. Map of the Shag Point site.

Methods

During the 1998 field season excavations proceeded in 5 cm spits within 1 m^2 units since we were unfamiliar with the stratigraphy and wanted to keep fine vertical control within the layers. For the 1999 and 2000 field seasons, the turf was carefully removed by spade down to the dense root zone, thereby exposing

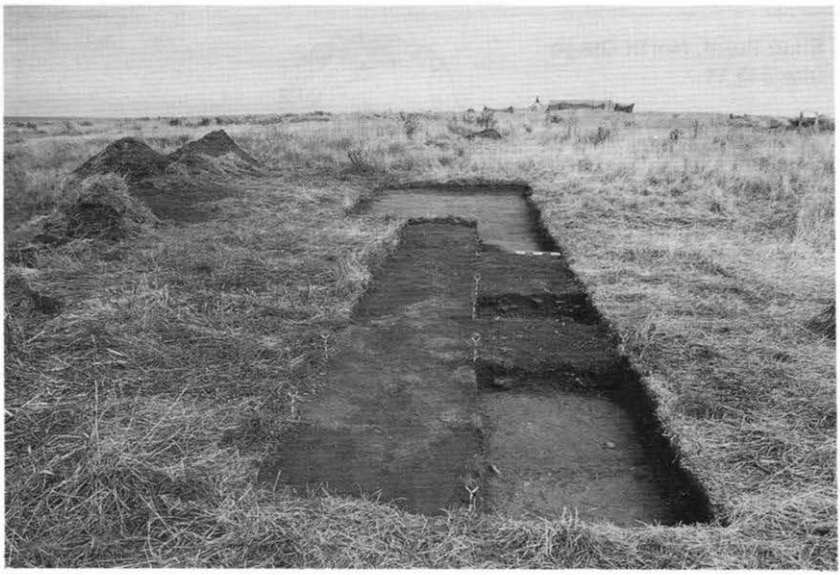

Figure 2. View of the north excavations with unit N30E1 in right foreground. The shelter, 80 m distant, marks the south area excavations. View south. (Photo: M. Weisler).

the A horizon (Figure 3). This layer was excavated by trowel and the sediments were dry-sieved with 6.4 mm screens since it was almost completely sterile save a few pieces of marine shell and occasional artefacts – all displaced by post-depositional processes (such as root disturbance) from the cultural layer immediately below. The 15 cm thick cultural layer – consisting of varying densities of shellfish, bones, artefacts and fire-altered rock about 15 cm thick – was carefully trowelled and all artefacts found in situ, as well as many diagnostic bones, were plotted on excavation level records (an example of the form we used is illustrated in Weisler and Somerville-Ryan 1996:Fig. 3). Generally, the cultural layer was divided into one or two spits depending on overall thickness. Sediments from the cultural layer were dry-sieved through stacked 6.4 mm and 3.2 mm screens. The 6.4 mm cultural material was sorted in the field and shell, charcoal, bone and lithic debitage were bagged separately by spit. Formal artefacts (such as fishhook points, hammerstones, etc.) were bagged individually. Field sorting facilitated lab work and also reduced the amount of post-excavation breakage as relatively heavy objects were not packed

with fragile items as could be the case with unsorted midden. Sediment in the 3.2 mm sieves was brushed to facilitate the removal of fine sediments through the screen and the retained residue was placed in 25-litre plastic bins for water-sieving off-site (in the council's work yard in Palmerston, about 15 minutes south of Shag Point). The washed sediment was laid out in trays to dry, then re-bagged according to unit and spit (Figure 4). After the excavation, this bulk sediment was returned to the University of Otago archaeology labs for careful sorting. It must be said that sorting 3.2 mm material in a well-lit, comfortable lab results in far better recovery that dry-sieving and sorting material under field conditions – no matter how nice the weather. It took 11 stage 4 students just over 1000 hours to remove artefacts, bones and fish otoliths from the 3.2 mm material resulting from the past field season. This does not include the time spent checking their work. To say the least, this is an extremely labour-intensive process, but the recovery of nearly 500 otoliths, hundreds of obsidian flakes, whole and fragmentary small two piece bait fishhook points and other diminutive artefacts seems warranted.

Figure 3. View south-west of the area excavations in progress at the south midden. The south profile along the S52 units (left distance) shows the shallow nature of the excavations. The Shag River mouth site is about 1 km distant at the far shore. (Photo: M. Weisler).

Figure 4. Stage 4 students being instructed on the water-sieving procedure. Note the 25-litre containers with unprocessed sediment on the right and washed sediment drying in shallow trays in the foreground. (Photo: M. Weisler).

Results

The lab work is ongoing and some brief comments are made here. The non-fish fauna consists primarily of the bones of adult and juvenile fur seals (*Arctocephalus forsteri*), sea lions (*Phocarctus hookeri*), Pacific rats (*Rattus exulans*) and Polynesian dogs (*Canis familiaris*), with historically introduced species including rabbit (*Oryctolagus cuniculus*), sheep (*Ovis aries*) and cattle (*Bos taurus*). Trevor Worthy is in the process of identifying the bird bones. After the 1998 field season, I reported that barracouta was by far the dominant taxon with much lesser amounts of red cod bones (Weisler 1998:209). This was based on an excavated sample of 17 m^2. We now have a sample of 96 m^2 and the species richness (amount of bones identified to a particular taxon) has changed substantially. From the entire excavation, a total of 114,565 fish bones were retained in the 6.4 mm sieves, and of the 6393 fish bones identified to family at the south excavation, less than half are of barracouta. A full reporting of the fauna will be presented in due course, but the nearly 500 fish otoliths recovered thus far will provide a much fuller understanding of prehistoric fish

catches by the people that occupied Shag Point (see also Weisler *et al.* 1999). The recovery of otoliths was greatly facilitated by water sieving the cultural deposits through 3.2 mm screens and sorting the residue in the lab.

The shellfish from the 1998 and 1999 excavations have been identified by Chris Wheadon who will finish analysing all the molluscs for his MA thesis. Some 54.6 kg of shellfish were recovered during the first two field seasons with a total MNI of 9170. Pipi (*Paphies australis*) accounts for 80.2% of all shellfish by MNI (minimum number of individuals), but only 40% by weight. However, Cat's Eye (*Turbo smaragdus*) accounts for only 8.2% of the assemblage by MNI, but contributes slightly more weight than pipi at 40.9%. The implications of these findings for shellfish quantification will be explored in Wheadon's thesis.

Whether from defined combustion features or found dispersed throughout the cultural deposits, all charcoal retained in the 6.4 mm sieves was bagged and weighed in the lab. A total of 12469.8 gms has been inventoried and a sample will be removed for identification by Rod Wallace (University of Auckland). Identified wood taxa from ovens will determine the species selected for fuel, while differences between the temporally distinct north and south areas of the site may inform on the changing abundance and diversity of shrubs and trees in and around the vicinity of Shag Point.

An important, yet often overlooked, constituent of nearly all prehistoric habitation deposits is fire-altered rock. Of various shapes, sizes and composition, cobbles for use in oven cooking were collected along the rocky shore surrounding Shag Point and probably from inland areas as well. While a seemingly nondescript artefact class, oven stones were selected prehistorically according to their size, heat-retaining properties and their ability to withstand multiple firings without cracking. A total of 5323 fire-altered rocks weighing 727.7 kg were identified in the field. Only voucher specimens were retained for petrographic description. Relatively larger fire-altered rocks were recovered from the north area of the site, associated with plentiful sea mammal remains. Smaller cooking stones were recovered with abundant fish remains in the south area. The size differences of oven stones may reflect the need for larger and hotter ovens for cooking sea mammals versus fish, a more frequent re-use of oven stones in the south area causing overall stone size to diminish, or a combination of both.

Obsidian was recovered from both the north and south areas of the site and thus far includes 682 pieces weighing 257.8 gms. Specimen weights range from 0.01 to 10.01 gms (mean = 0.38 gms). Without water sieving the excavated sediment with 3.2 mm screens and sorting under controlled conditions in the lab, it is doubtful that much obsidian would have been recovered since only 6 specimens weighed more than 1 gm. A detailed report on the obsidian and other lithic debitage from all three field seasons will be reported later this year in an honour's thesis by Jody Knowles. Peter Sheppard and Martin Jones (both, University of Auckland) will be conducting geochemical and petrographic analyses to determine the geologic sources of the obsidian, while hydration studies may also be completed.

We have not finished cataloguing the portable artefacts from the three field seasons, but most formal tools are associated with fishing and include fishhooks, manufacturing debris and a line sinker. Following Hjarno's classification (1967), there are several barracouta points of type A.1 and a notched example (A.2). One unperforated lure point (type B) has also been inventoried. The most common type – perhaps accounting for more than 75% of the fishhook assemblage – are points of two piece bait hooks. In the Shag Point assemblage, these type C points were commonly made from sea bird bone, but moa and seal may have been used including a rare example in nephrite. These small and large barbed type C points display a range of variability in length, thickness, cross section and number of outer notches (Figure 5). A single large, one piece bait hook (type D) fragment consists of the point and bend with a remnant of an outer barb; several other bend fragments from large hooks are included as well. Wood working artefacts, the second major class of tools, include finished and reworked adzes and chisels of nephrite and basalt. Other artefacts number a few, large orthoquartzite (silcrete) blades, sandstone abraders, bifacially flaked cobbles (choppers), a bone needle, a tattooing (?) chisel, and a large amount of chalcedony, orthoquartzite, obsidian, basalt and chert debitage.

A total of 28 sediment samples for geoarchaeological analysis were collected from six units: three each from the north and south areas of the site. To date, detailed analysis of particle size and chemistry (including percent organic matter, carbonates and pH) has been completed for 11 samples from three units and will be reported elsewhere. However, sediment pH is generally neutral and should not contribute substantially to bone decomposition. High organic matter in a subsurface layer in unit S50E23 confirmed my field observations of a buried A horizon (or palaeo-soil surface). This may be related to a pre-

occupation fired layer observed well below the cultural deposit in unit S52W3. Identification of charcoal particles and dating of this burn layer will be completed and may provide an indication of the vegetation history of Shag Point prior to human habitation.

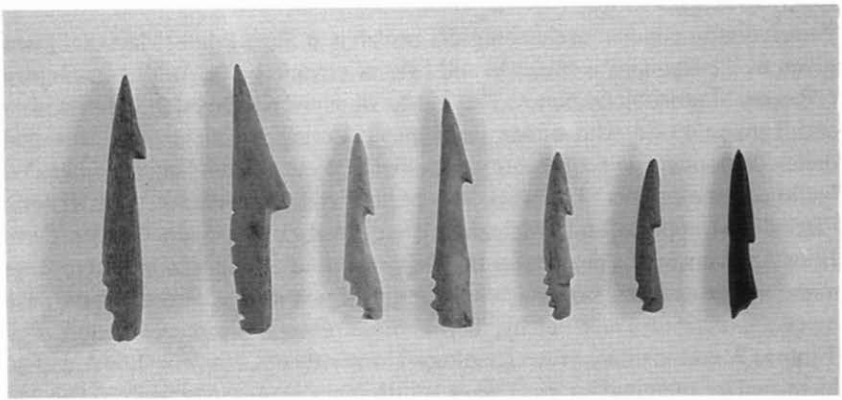

Figure 5. The variation of Hjarno type C, two piece bait hook points from Shag Point. Specimen on far left is 37 mm long. All are made from bone except the nephrite point on the extreme right. (Photo: M. Weisler).

Summary and Future Work

Three field seasons at Shag Point (J43/11) resulted in a total excavated area of 96 m^2 (21.51 m^3) and the definition of discrete cultural deposits at the north and south extent of the site. The southern midden accumulated during the early 15th to early 16th centuries where activities centred around fishing – mostly with two piece bait hooks – and collecting shellfish, primarily pipis. Red cod and barracouta comprised over 90% of the fish caught, with lesser amounts of blue cod, ling, sea perch, spotty and hapuku. Fur seal consumption was the focus of the northern locale during the mid-16th to 18th centuries. Obsidian flakes, greenstone cutting tools, and several large orthoquartzite blades from both habitation areas, points to the maintenance of kin-based exchange networks throughout the occupation.

Pending approval, towards the end of this year I hope to initiate a coastal survey north from the Shag River mouth to the south end of Katiki beach to understand more fully the chronology of settlement and subsistence patterns in this region. In this regard, limited test excavations will be conducted at selected sites to collect dating samples, subsistence remains and other cultural material. This past century has witnessed an emphasis of investigating the large Archaic sites

(rich in artefacts and moa bone), while fine-grained settlement pattern surveys – and excavation of sites from a range of time periods – may add new insights into the prehistory of coastal North Otago.

Acknowledgements

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