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PRELIMINARY REPORT ON TEST EXCAVATIONS AT A NEWLY DISCOVERED  
MOAHUNTING SITE AT COAL CREEK, CENTRAL OTAGO

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The Coal Creek site (S152/12) is located on the west bank of Coal Creek, at a point approximately 200 m above its confluence with the Clutha River and about a kilometre downstream of the Roxburgh dam.

The site first came to the attention of archaeologists in January 1984 when the landowner, Mr Les Lynnes, brought a nephrite ulu (Fig. 2) and a handful of porcellanite flakes into the Southland Museum for identification. Further discussion revealed the artefacts were uncovered in the course of the establishment of a garden associated with a new house. The museum contacted the Historic Places Trust office in Cromwell and suggested that the site should be examined.

A site inspection revealed two areas of occupation, each covering 60 x 30 m on adjacent alluvial terraces, separated by an 8 m bank. The main visible concentrations, which included pieces of butchered moa bone and worked porcellanite, were exposed in a newly cultivated garden area on the lower terrace. On the upper terrace numerous porcellanite flakes and some cores were evident on the surface. Much of this area (like the lower terrace) had been repeatedly ploughed by former landowners but a small area at the northern end (Area A) later proved to be undisturbed. The ulu was found by the landowner's son in a relatively recent border-dyke ridge on the southern margin of the site.

Despite the extent of the disturbed ground on both terraces, there remained areas, particularly adjacent to the slope, that appeared to be largely unmodified. As the site was likely to be further damaged by cultivation, it was decided to undertake a small series of test excavations. These were conducted under our direction between 28 June and 3 July 1984.

The objectives were to:

1. determine the extent of the site,
2. locate areas with research potential and encourage their preservation,
3. provide the landowners with a clearance for most of their garden area,
4. examine the link between the moa remains and the widespread porcellanite artefacts on the site.

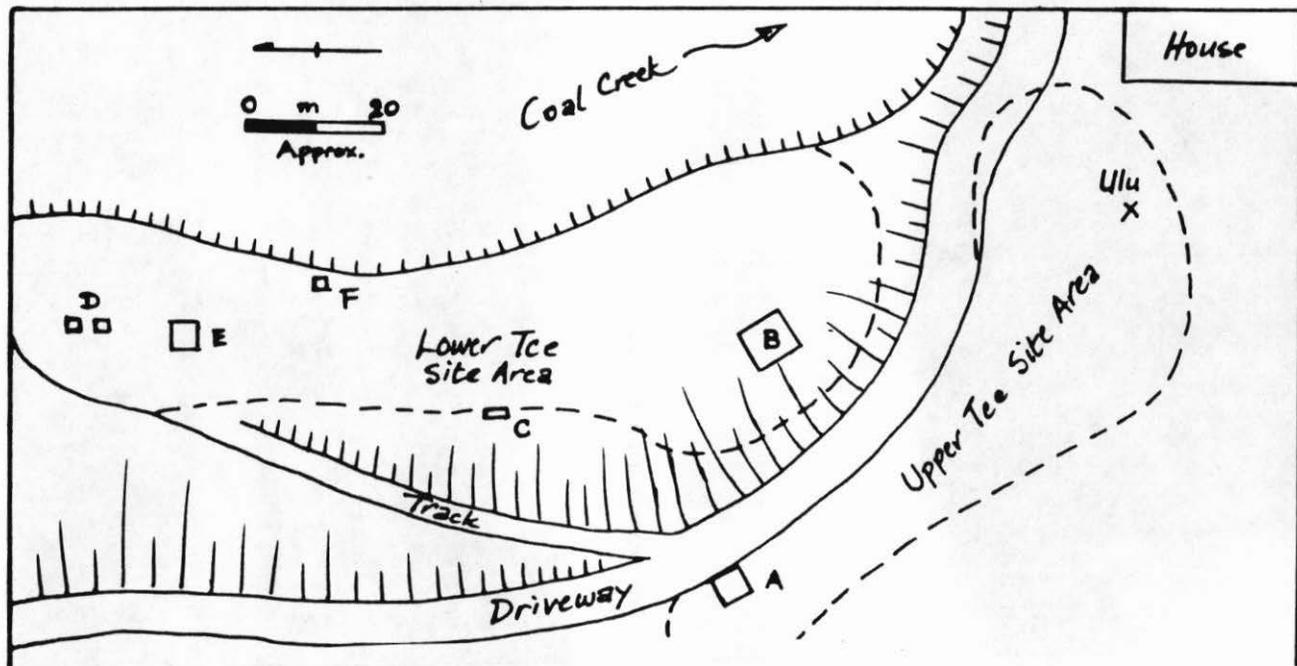


FIGURE 1. Sketch map of Coal Creek moahunting site showing excavation areas.

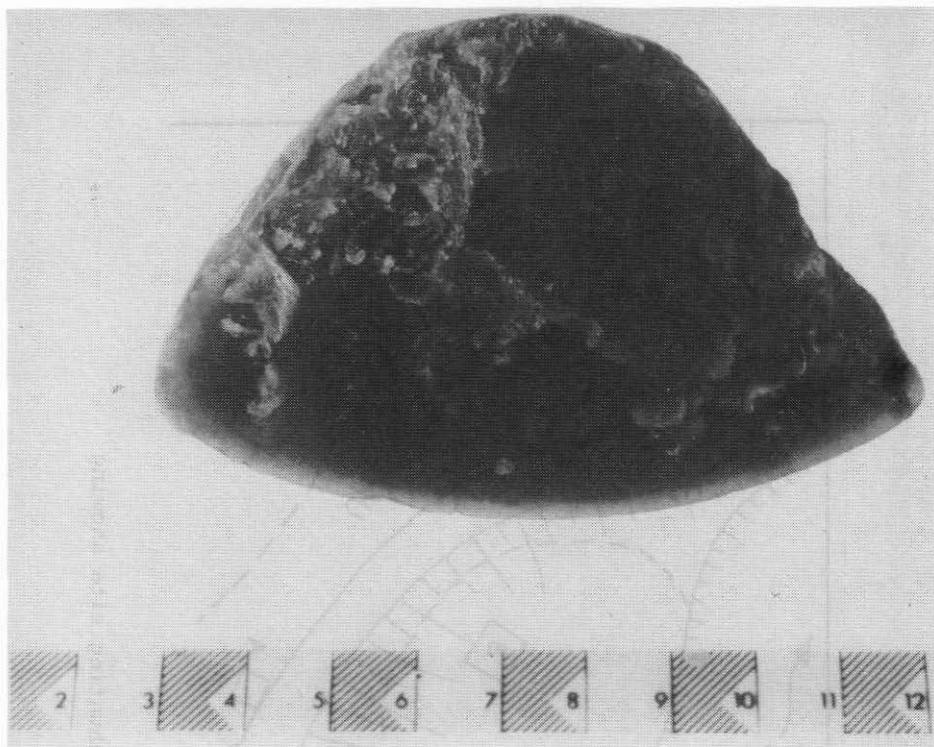


FIGURE 2. The nephrite ulu from Coal Creek.



FIGURE 3. Sheridan Easdale and Andrew Piper excavating Area A.

### The excavations

Following a surface reconnaissance and random test pitting small test excavations were conducted in six areas (see Fig. 1). These were designated A to F respectively.

Area A was a level grassed area beside the drive leading to the farmhouse where testing had revealed a high flake density in a 20 cm deep, dark soil horizon (Layer 1). Excavation of random units within a 6 x 6 m grid exposed a shallow, partially stone filled scoop hearth(?) containing burnt bone and flake debris (Fig. 3). The area appears to have served as a flaking floor, principally for the working of porcellanite cores and a small amount of silcrete.

Area B incorporated the foot of the slope between the upper and lower terraces immediately above the southern end of the modern garden where several pieces of moa bone and the highest density of flakes were exposed. As the area was covered by a dense stand of broom, it was felt that it may have been largely undisturbed. After clearing and test pitting, an area of 7 x 6 m was gridded. Excavation revealed two concentrations of moa bones centred around squares G6 and L10, and an oven feature (which later proved to be historic). A fluxgate gradiometer was used (also in Area A) in an attempt to locate subsurface features but the results proved indifferent (i.e. it 'beeped' in the wrong places).

Both bone concentrations consisted of scatters of disarticulated butchered moa bones amid sparse porcellanite flake debitage. These materials were located principally in Layer 2, a brown soil which became increasingly lighter and more stony with depth. The L10 concentration contained several butchered leg bones, some of which were partially burnt. They appear to be derived from an adjacent cooking/butchering area which has been destroyed by modern cultivation. The G6 concentration was a secondary deposition presumably derived from an unlocated cooking or butchering area further up the slope or on the margin of the upper terrace (this area has been modified by the formation of the farmhouse drive).

Area C designates a small unit located 15 m north-west of Area B and also at the foot of the slope between the terraces. Here, several pieces of butchered moa bone were uncovered by Mrs Lynnes during the establishment of a small herb garden. Testing revealed there were no further significant cultural deposits in the area, but a rather indeterminate greywacke adze-blank(?) was recovered.

Area D encompasses the upstream end of the lower garden flat where test pitting had revealed that there were two cultural

layers. Two one metre square units were excavated here to determine the relative density and nature of the cultural deposits. They revealed that this is the only part of the site where there are two cultural layers separated by sterile floodwash deposits. Because of the depth of the cultural layers and the limited time available, it was decided to leave further investigation here to a later occasion.

Area E became the main focus of the excavation. In this area, the Lynnes had come across several pieces of bone when they dug their garden. Test pits revealed a layer of burnt, fragmented moa bone at a depth of about 25 cm and also large pieces of unburnt, butchered bone. An area of 3 x 2 m was gridded.

Excavation in this area proceeded through three phases. Initially, several large pieces of bone (mainly upper leg bones) were uncovered in the cultivated zone. Beneath this disturbed ground sets of articulated feet (comprising metatarsi and phalanges) and vertebrae and cranial bones were exposed in a circular array around a central deposit of burnt bone and ash (Fig. 4). Amongst the bone were porcellanite artefacts and flakes. Excavation of this deposit led to the eventual exposure of a pit (Fig. 5). In the lower part of the pit there were large pieces of charcoal in a lightly weathered silt. In the upper part were small flecks of charcoal and a few large stones in a matrix of the same material. It is likely that the pit was used as an oven. A few pieces of moa bone and a freshwater mussel shell were found in the upper fill of it but it is difficult to tell whether these reflect the original contents. In any event the fact that unburnt bone lay at the bottom of the overlying bone midden indicates that any burning from below had ceased by the time the bone was deposited.

Area F consisted of a single metre square unit located on the creek margin. Excavation revealed porcellanite debitage and moa bone fragments; a pattern typical of the entire cultivated area on the lower flat.

### Discussion

The Coal Creek site is one of at least six major 'moa-hunter' sites in the middle Clutha catchment. Others include Beaumont (S162/1), Minzion Burn (S153/30), Barclays (S153/1), Millers Flat bridge (S152/2; Holdaway and Foster, 1983) and Obelisk Creek (S143/169). All the sites have been extensively disturbed by farming operations, although representative surface collections have been recovered from all of them. To date, the Coal Creek site is the only one on which excavations have been undertaken, although a systematic surface collection has been made on the Minzion Burn site by Brian Kooyman.



FIGURE 4. Part of moa bone midden at Coal Creek. Note lines of tracheal rings and skull at lower right.



FIGURE 5. Cross-section of pit below Area E moa bone midden, Coal Creek.

Two major activities are clearly evident at Coal Creek - porcellanite working and moa butchering and consumption. The porcellanite was obtained from an outcrop (S152/3) near the Coal Creek lignite deposit (Harliwich's coal pit), which lies less than 400 m from the site. This short haulage distance readily accounts for the considerable quantities of the stone which were conveyed to the site and worked. Porcellanite constitutes over 99% of the recovered stone assemblage. Four other rock types were uncovered in the site: about 20 flakes or broken blades of silcrete, two chips of polished argillite adzes, the greywacke adze-blank(?) and a nephrite ulu. A detailed report on the faunal and lithic material, together with radiocarbon dates, will be published in due course.

#### Acknowledgements

The Coal Creek excavation was the result of co-operation between the landowners, Mr L and Mrs H Lynnes, the Southland Museum, New Zealand Historic Places Trust (Cromwell) and the University of Otago Anthropology Department. The Otepoti Maori Committee gave their approval for the excavation.

Our thanks to Stuart Bedford, Peter Bristow, Sheridan Easdale, Warren Gumbley, Chris Jacomb, Brian Kooyman, Andrew Piper and Alisdair Ross for their assistance and cameraderie; the staff of the N.Z. Electricity Department who made a house available in the Roxburgh hydro village for accommodation and also provided fine meals (in the hydro hostel) which fortified all involved against the hardships of mid-winter excavation in Central Otago.

#### References

- Holdaway, S. and 1983 Lower Clutha Archaeological Survey.  
D. Foster N.Z.H.P.T., Cromwell, 74 pp.