



NEW ZEALAND
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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION NEWSLETTER



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Details of stratification in order of deposition are:

- A. Virgin Clay
- B. Original ground surface, the humus-stained soil containing some midden material.
- C. Mottled clay which was deposited on the original surface to form the wall. It was probably obtained when levelling natural terracettes to make occupational terraces higher up the slope.
- D. Dark soil stratum in the mottled clay. Its interest lies in the fact that it shows the first stage in building the wall.
- E. Lens of midden material - shells, bones, charcoal and burnt stones. This shows the shape of the wall in a further stage of construction.
- F. Mottled clay as 'C' above, but containing concretions (probably calcareous) in top.
- G. Mottled black soil with midden material. Probably most of this, especially that accumulated in the depression, was brought down by the natural erosion of higher slopes.
- H. Dark soil containing practically no occupational material.
- I. Present-day ground surface.

References

1. WILLIAMS, G.J. 1929 *Geology of the Seacliff District*, M.Sc. Thesis, Otago University.
- BENSON, W.N. 1942 'Landslides and Allied Features...', *Trans. Roy. Soc. N.Z.*, 70, 249-263.
2. BENSON, W.N. 1946 'Landslides and their Relation to Engineering in the Dunedin District, N.Z.', *Economic Geology*, 41 (4), 338 and fig. 6.
3. SHARP, C.F.S. 1939 *Landslides and Related Phenomena*, Columbia University Press, 68-69.

A "Quartzite" Source Site at Nenthorn, Central Otago

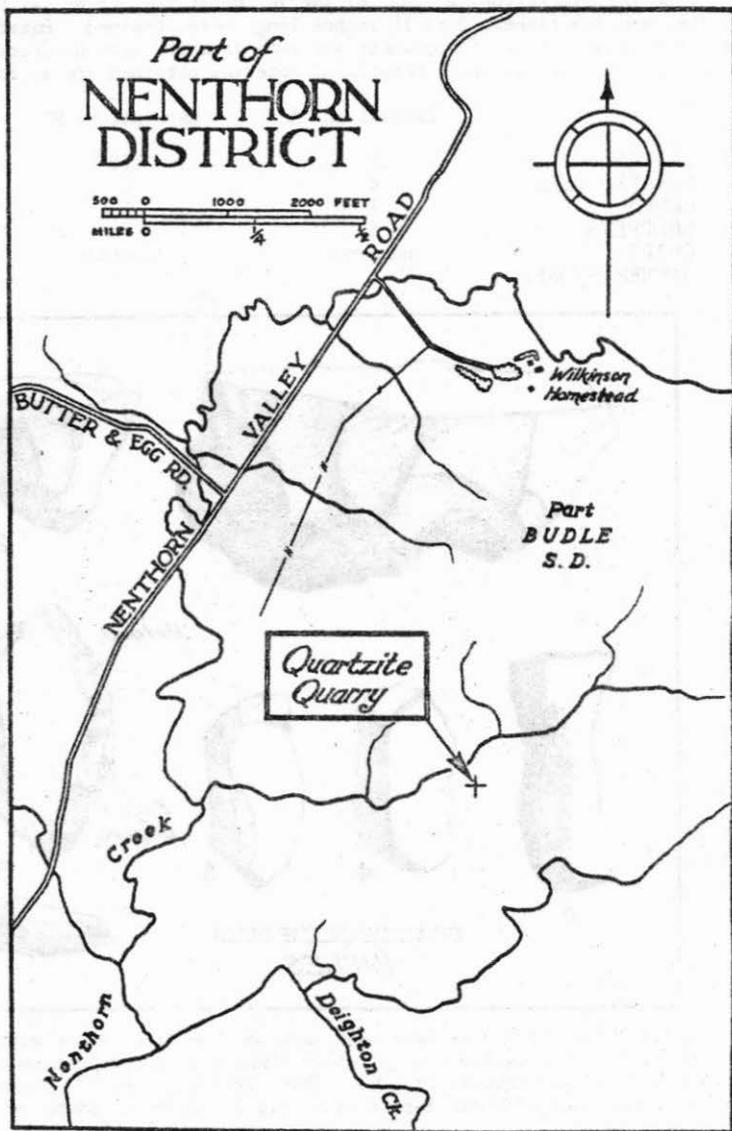
M.M. TROTTER

Although flake implements made from 'quartzite' are a feature of Archaic sites in Murihiku, little is known of the sources of the stone. One such source, an outcrop in the Nenthorn Valley, near Macrae's Flat, west of Dunback, Central Otago (Site no: S145/1)² is briefly described here.

The locality is shown on the sketch map. It is on the property of the Wilkinson family to whom I am much indebted both for drawing my attention to the site in 1956 and for their hospitality on subsequent visits.

There is a variety of grades of stone in the outcrop, caused both by the degree of baking, and the fineness of the original sandstone. Colours vary from white to red. The material chosen for working was mostly hard, fine-grained, and of a buff colour.

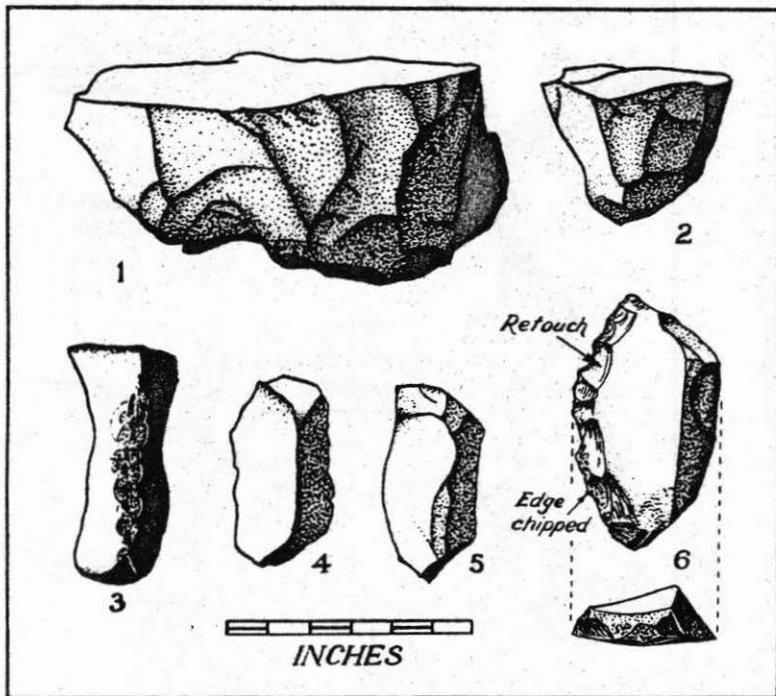
Weathering has effectively broken off lumps of 'quartzite' weighing from a few ounces to several hundredweight. No actual quarrying appears to have taken place here, but small boulders could have been broken into workable sized pieces by dropping or throwing them from the top of the outcrop on to the stone lying below. However, weathering has destroyed any evidence of this having been done.



Numerous flakes of 'quartzite' lie on the surface to the north of the outcrop, and two test excavations here, each of 25 square feet, showed eight inches of virgin black soil lying on mottled clay. Flakes and waste chips were found throughout the black soil, but were concentrated at three to four inches cover. At six to eight inches were several small fragments of charcoal. The clay was sterile, and mottling was due to natural causes.

From the excavation, a total of twelve 'quartzite' cores, with an average weight of 12 lbs, and 345 flakes, 2 to 10 inches long, were obtained. Besides these, a non-representative selection of specimens was made from the many hundreds lying on the surface north of the outcrop. Details of material obtained are as follows:

	Excavation 'A'	Excavation 'B'	Surface
FLAKES	165	170	15
FLAKES, USED	4	6	8
CORES	7	5	2
CHOPPERS	0	0	3
CHIPS	numerous	numerous	few
HAMMER STONES	1	0	1



About 3% of the flakes have been used on the site; those with an acute edge have been used with a sawing action, while those with a more obtuse apex at the cutting edge have had use as scrapers (fig.6). Three artifacts showed considerable usage along the line of the apex of their facets (cf. fig.3) caused by chopping or hammering blows.

From the material recovered, it would appear that it was a common practice to take suitably sized lumps of 'quartzite' to the flat working area just north of the outcrop where careful working with hammer stones produced flakes suitable for use as cutting and scraping implements (figs 4,5). In this area there is a number of large pieces of volcanic rock which could have been used as anvils and hammers. No flakes or rocks were found south of the outcrop.

The majority of the flakes are rather shapeless - without doubt the best flakes would have been carted to coastal occupational sites, or wherever they were needed, and it is perhaps surprising that so many well-formed flakes are left at the site.

A narrow fissure in the outcrop penetrates about fifteen feet in, and although it is just wide enough for a man to get into, an examination (including test excavation in the dust and debris on the floor) revealed only natural flakes, and no sign that it had ever been used.

The Nenthorn Quarry lies near the heads of two valleys which lead to the Waikouaiti and Taieri rivers respectively, and these may possibly comprise access routes from the coast. 'Maori Ovens' may be seen on the nearby hills, and artifacts (adzes, etc) have been found in the area.

There has not yet been any definite identification of Nenthorn 'Quartzite' from occupational sites, although specimens from two coastal sites (at Te Hākapurere, North Otago, and Waikouaiti) appear to be of identical material. The positive identification of 'Quartzite' sources and the examination of other quarries are two important tasks for the future.

References

1. More correctly, 'orthoquartzite'. Cf. LOCKERBIE, L. 1959 'From Moa-Hunter to Classic Maori in Southern New Zealand,' in FREEMAN, J.D. and GEDDES W.R. (eds) *Anthropology in the South Seas*, 83.
2. The area has not yet been covered by the provisional one mile series.

Excavations at Tai Rua, Otago, 1961

P. GATHERCOLE

Brief interim reports on excavations at this coastal Archaic site (NZMS 1, S136, Oamaru, 467512), which have been in progress since January 1958, have appeared in previous issues of the Newsletter. Work was resumed for 3 days only over Easter by some members of the North Otago Scientific and Historical Society and the Otago Anthropological Society. Attention was concentrated on the south-eastern margin, in the area between the Waiānakarua - Kakanui road and the beach, the aim being to look for evidence of post-holes which might be compared with the two possible ones previously discovered on the other side of the road. 12 more of these were found but as they presented no consistent pattern within the limited area excavated, it would be unwise to regard them as necessarily reliable indications of structural evidence.

There is only one main cultural layer in this part of the site, which lies on a clean yellow sand. All of the possible post-holes showed as either cylindrical or inverted cone-shaped dark stains in this sand, with (and this was a new feature) the cultural layer lying directly on top of them. The maximum diameters and depths varied, being between 4½ - 8 ins and 7½ - 12 ins respectively.

Another feature of considerable interest lying beneath the cultural layer was exposed in one square. It consisted, firstly, of 3 layers of dirty, loose sand lying conformably together and apparently comprising the fill of an oval hole, which at this point cut through the clean yellow sand into the underlying clay. When these layers