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ROCKY KNOB AND CAT KNOB ARGILLITE QUARRIES
IN THE NELSON MINERAL BELT

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A special study was made of these two quarries as some years ago (1972-73), both were threatened by the operations of pine forestry. Consequently we mapped the working areas and collected surface artefacts, viz hammerstones and roughout adzes. The adzes had either been broken while being shaped or rejected as unsuitable for further working. The Cat Knob site had had a bulldozer through it, which fortunately missed the main working areas, and was planted in pines. Artefacts from here have been lodged with the Nelson Provincial Museum. The Rocky Knob site was burnt over but eventually saved from planting. All material removed has been returned to this site.

Cat Knob (S20/13)

This small quarry is divided into two main areas. (A) A strip 30m long and up to 13m wide running across the slope East to West in Mineral Belt scrub (now mainly stunted manuka). Two intensive working areas lie at the extremities of this strip. (B) Scattered working in semi-bush up to 60m downhill and North of area A. This culminates in a much pig-rooted flaking area of high quality argillite close to an intermittent stream.

No great depth of flaking is evident and the scarcity of hammerstones suggests that the quarry had little use. A notable feature is that the small number of hammerstones found are mainly of igneous origin in contrast to the usual high proportion of softer sandstone. The sources of metasomatized argillite are an outcrop some 3m high and numerous isolated boulders. The stone is variable in texture and colour (although mostly mid-grey) but of good flaking quality.

Adze types:	11 quadrangular four faces worked	(Q4)
	28 quadrangular three faces worked	(Q3)
	15 triangular three faces worked	(T3)
	31 triangular two faces worked	(T2)
	5 lenticular	(L)

Hammerstones: 4 diorite, 2 rodingite (numerous spawls), 2 sandstone,
3 serpentine.

Rocky Knob (S20/11 & S20/12)

A small quarry of dark grey metasomatised argillite. The stone is fine grained with some quartz content. S20/12 is slightly separated from the main quarry being across a stream and about 100m distant. This area of about 15m² has been planted in pines. Nine roughouts and six hammerstones were found here including a probable cache containing three hammerstones.

The main site, S20/11, is situated on a north facing slope running down to a small permanent stream. It is contained in a rectangular area 60m by 40m (which we divided into thirty 8m squares) now fenced with a single wire. Radiata pine planted in 1974 surrounds the quarry which supports sparse growth of stunted manuka, mountain flax, Spanish heath and a patch of gorse. The site is stable with little erosion although there has been some pig-rooting.

Source material consisted mainly of half-buried boulders less than 1 metre in height. Some shaping has been carried out in the vicinity of the smashed source stone. But widely separated flaking areas indicated that cores had been taken aside and worked discretely. One such area in Square D3 was examined closely by removing all material. The depth of flaking was about 100mm:

- (1) On the surface was the remains of a large core 300mm high surrounded by large chunks and large cortical flakes. Amongst this debris were 18 adze roughouts and 5 hammerstones.
- (2) When this had been removed, 11 adzes and 9 hammerstones (including a cache of 4 small, unused) were revealed.
- (3) Below this level were 6 adzes and 4 hammerstones.
- (4) The next level contained 2 adzes.
- (5) The ground level was covered in vast numbers of micro-flakes weighing less than 1 gram. Cortical flakes weighed up to 3 kg. Primary flakes averaged around 200 grams. Secondary flakes around 50 grams. Mean flake breadth was 36mm, c.f. "The Glen" 25mm (Walls, 1979). Platform angles generally less than 90° averaging 65°, c.f. "The Glen" around 90°.

Hammerstones

Situated at an altitude of 500 metres and some 15 kilometres from the coast, the quarry is not naturally endowed with suitable hammerstones. The Lee River, about 400 metres below, was the most likely source of the bulk of hammerstone material which consisted of sandstone. The heaviest hammer from this source would have weighed around 15 kg. Stones of igneous origin could have been found in stream beds closer at hand. The granodiorite boulders however would have been transported from the Nelson Boulder Bank 30 kilometres or more by sea, river and land.

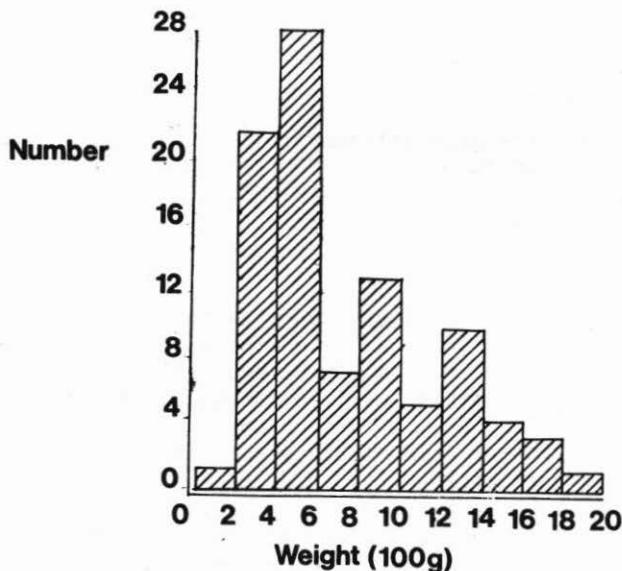


Figure 1. Weights of knapping stones.

Hammerstones ranged in weight from 170 g to over 15 kg with the most numerous around 400 g. This size can be held by the fingers alone of one hand and would be used for secondary flaking. Weights of 900 g and 1300 g were also popular although not so numerous. Both of these sizes could be managed by one hand and were probably used for primary flaking. Only small numbers were found weighing over 2 kg. These would need two hands and would be used in the first stage of breaking up the source rock. Shapes of knapping stones range through spherical, pear shape, cylindrical, ovoid, flat circular, flat oval.

Three instances of caches of hammerstones being hidden were noted. One was of heavy rodingite; a well used hammer placed out of sight under an overhanging rock in Square D2. This would have been a prized tool. A group of four small, unused sandstone knapping stones was secreted under flakes in Square D3 and looked like a clutch of eggs when uncovered. Again, in the small outlier S20/12, three medium-sized sandstone knappers were found cached together under flakes.

In a total of 130 mostly used and broken hammerstones (as well as numerous spawls) were:

112 sandstone	2 rodingite	5 granodiorite
1 diorite	5 breccia	1 'Brook St. volcanics'
3 peridotite	1 serpentinised	argillite

Adzes

The dimensions of adze roughouts can be given in table form.

Type	Number	Average Weight	Range of Weight
Q4	16	2.4 kg	1.0 - 5.8 kg
Q3	81	790 g	20 g - 2.6 kg
T3	59	1.5 kg	110 g - 5.2 kg
T2	68	400 g	60 g - 3.0 kg
L	<u>35</u>	1.3 kg	170 g - 4.8 kg
Total	259		

Lengths for whole adzes ranged from 80mm to 300mm and blade widths from 20mm to 135mm. Comparison may be made with adze numbers from The Glen (S14/20) a late Archaic camp site at the northern end of the Nelson Boulder Bank (Walls, 1979).

	The Glen	Rocky Knob
Q4 }	65%	37%
Q3 }		
T3	30%	23%
T2	4%	26%
L	1%	14%
Total adzes	126	259

Since a high proportion of The Glen argillite is river worn stone it appears that the Nelson quarries such as Rocky Knob were not used at that time. Thus there seems to have been a change from quadrangular to triangular types. The 'hogback' (T3) has remained popular throughout. Only one 2B was found at The Glen whereas many Rocky Knob roughouts of the Q3, T2 or L categories could have produced this type.

Conclusion

The excellent quality of metasomatised argillite here was fully exploited leaving relatively little unused material. The presence of granodiorite hammerstones from the Nelson Boulder Bank indicates use by a Nelson tribe. Comparison with The Glen adzes suggests a late period. The caching of hammerstones points to competition with other local groups which tends to strengthen the argument for late use.

Plans and descriptive notes are deposited with the Nelson Provincial Museum. For locality and grid references of these two quarries see Walls, 1974.

We wish to thank members of our families for their forebearance in tolerating the masses of boxes of flakes, adzes and hammerstones which occupied valuable space for so long.

References

- Walls, J.Y. 1974 Argillite quarries of the Nelson mineral belt. NZAA Newsletter, 17 (1): 37-43.
- Walls, J.Y. 1979 Salvage at The Glen - a late Archaic site in Tasman Bay. NZAA Newsletter, 22 (1): 6-19.