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THE DISTRIBUTION AND EXTENT OF QUARRY PITS  
NEAR KAIAPOI, CANTERBURY

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The "pits and gravel-strewn surfaces" (Stack, 1906:185) at Woodend near Kaiapoi are frequently mentioned in discussions of the archaeological evidence for kumara growing. Such references are all based, ultimately, on Stack's meagre published comments. Unfortunately some of the discussion has gone well beyond what Stack actually wrote. It is often assumed, for example, that the Kaiapoi gravel-added soils were "very extensive". Recently, having examined a set of early aerial photographs of the area (RN120/51-52 taken on 6 June 1942), I suggested that the soils were in fact "not very extensive" (Walton, 1982:25). This note documents what is known of the distribution and extent of the quarry pits or borrow pits (and hence, indirectly, the gravel-added soils). The information is derived from aerial photo interpretation (although I have since seen site S76/149 on the ground).

On the aerial photographs the quarry pits appear as large, irregular-shaped, often very steep sided, hollows. Such pits occur in four, or possibly five, restricted areas. These areas are labelled A to E on the figure. Since these areas were identified two have been independently recorded by Michael Trotter in the N.Z.A.A. Site Recording Scheme and have been assigned site numbers S76/149 and S76/150. The site Record Forms confirm the aerial photo interpretation.

Areas A (S76/150) and B (S76/149) each consist of two pits. Area C contains one pit (there is another possible pit, ploughed out, nearby). Area D contains two pits and four smaller hollows that may, or may not, be quarry pits. Area E has a large sprawling pit and three smaller hollows. It is this last area that I have some doubts about. It is possible that this is a later quarry. It is certainly adjacent to a large quarry that is obviously of very recent origin.

The quarry pits are found in a particular setting: on or, in one case, adjacent to young stream deposits. These deposits have been mapped as Waimakariri very stony sand and very stony sandy loam (40g) by Kear, Gibbs and Miller (1967). Soils adjacent to the quarry pits are Paparua sandy loam (30), Templeton silt loam on sandy loam (31a), Wakanui sandy loam (33d), and Kaiapoi shallow sandy loam (41c). Presumably one or more of these were the soils that were modified. The scale at which the soils were mapped (1:126,720) is too coarse to be more definite.

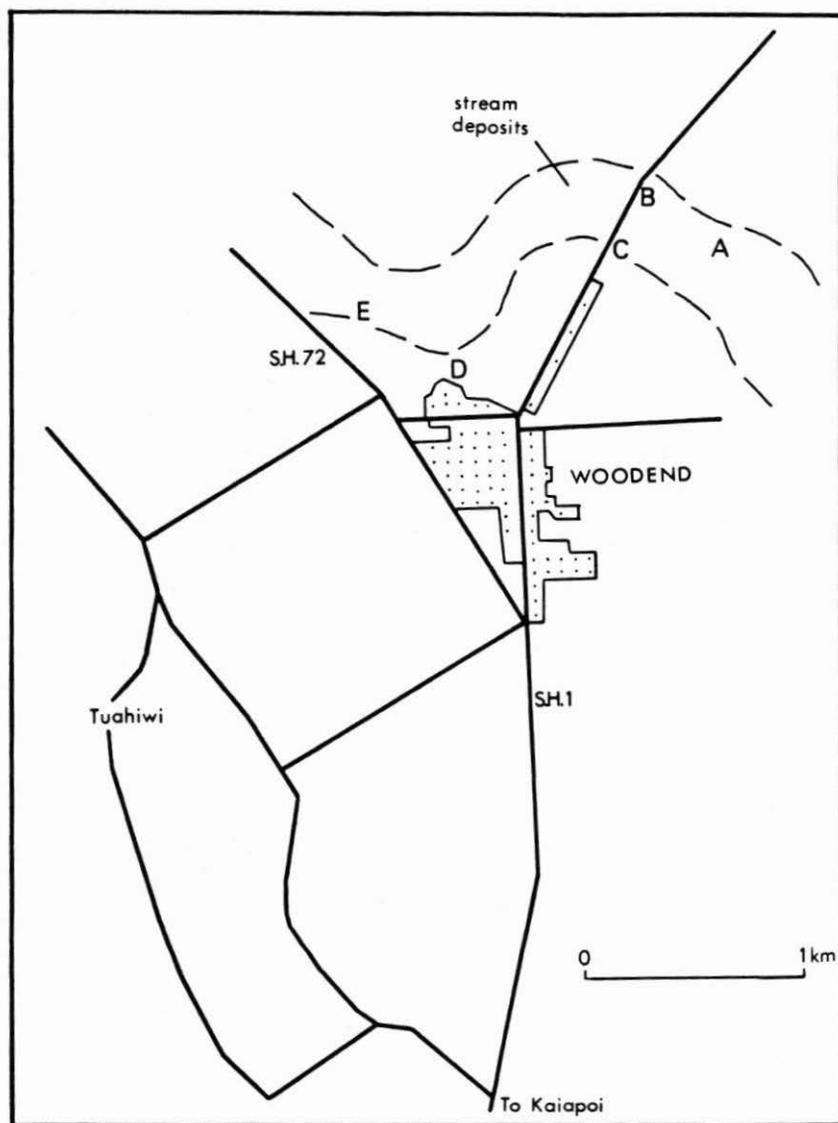


FIGURE 1. Location of quarry pits at Woodend near Kaiapoi.

To give some idea of the size and extent of the quarry pits some measurements were taken from the aerial photographs. One of the largest quarry pits (which is in Area A) is of the order of 40 m long and 15 m wide. The areas in which quarry pits are found are quite circumscribed: a rectangle drawn around Area D on the aerial photographs would enclose an area 110 m by 30 m on the ground (about a third of a hectare). This is for the area within which the features occur not for the actual area covered by quarry pits. The actual area of quarry pits is, therefore, considerably less than a third of a hectare.

"Possible" quarry pits have been recorded at Tuahwi adjacent to Woodend (see S76/9) but this identification is not supported by aerial photo interpretation.

The limited extent of quarry pits indicates that only a very small area of gravel-added soils is present. This would be measured in hectares rather than tens of hectares.

#### References

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| Kear, B.S., H.S. Gibbs<br>and R.B. Miller | 1967 | Soils of the downs and plains,<br>Canterbury and Otago, New Zealand.<br><u>Soil Bureau Bulletin</u> , 14. |
| Stack, J.W.                               | 1906 | <u>The Sacking of Kaiapohia</u> . Christ-<br>church, Whitcombe and Tombs.                                 |
| Walton, A.                                | 1982 | Rethinking made soils. <u>N.Z.A.A.</u><br><u>Newsletter</u> , 25:16-29.                                   |