



**Figure 12.** Palaeocurrent vectors for quartz sandstone (R<sub>1</sub>s'') of dominantly lithic sandstone sequence.

(a) Woods Lake. Mean vector calculated for cross-bedding, ripple lamination and festoon axes measurements of relative unit magnitude.

$N=20$ ,  $\theta=246.4^\circ$ ,  $MVA=16.8$ ,  $MVA/N=0.84$

(b) Ellinthorpe Plains. Measurements of cross-bedding, primary current and ripple cross-lamination, and inferred festoons. Data locations: 292448 (191, 223, 248°); 295442 (3, 43, 213°); 251489 (3, 13, 328°); 262410 (83, 215°)

indicates palaeocurrents towards the south-west and east. A similar relationship occurs closer to Lake Sorell [227412], and massive dark mudstone at about the same height occurs a few hundred metres to the south (R<sub>b</sub>).

Quartz sandstone, including laminated types and some exhibiting longitudinal sedimentary structures, occurs closely associated with lithic sandstone at Woods Lake [000386]. Palaeocurrents depositing the quartz sandstone were flowing, on average, towards the south-west (fig. 12).

#### LITHIC SANDSTONE (R<sub>1</sub>s')

Interbedded lithic sandstone and lutite, about 70–100 m thick, overly the basal quartz sandstone (R<sub>1</sub>s'') on Table Mountain. Outcrops are predominantly of fine-grained sandstone and

siltstone, often showing low-angle cross-bedding or ripple cross-lamination. Some coarser sandstone beds and a little grey mudstone are also present. The sandstone and coarse siltstone tend to be creamy to buff weathering, usually without prominent grey lithic grains. A brown speckled appearance is common, caused by brown fine-grained cement. In thin sections, fine-grained volcanic? rock fragments are estimated to form 10–15%, monocrystalline quartz 15–20%, feldspar grains and overgrowths 20–35%, but other lithic grains, including chert and quartzite, predominate. Biotite is usually present, and apatite rosettes are occasionally common.

Fragmentary plant fragments are abundant on some horizons but identifiable leaves have not been found. Muddy beds tend to be green-grey or yellow when weathered, and grey carbonaceous beds are usually thin and subordinate. Scattered, usually vertical burrows a few millimetres in diameter, occur in some beds. The rocks are regarded as a correlate of the lower lithic sandstone and lutite sequence (R<sub>1</sub>s'') of the Oatlands Quadrangle (Forsyth, 1984a), and some sandstone lithologies are identical to beds in the Tiers Formation at Poatina.

Part of the interval (about 16 m) is exposed in the bed of the River Clyde west of Table Mountain [034247]. Lutite and sandstone occur in equal proportions, the three thickest sandstone units being 1.5–2 m thick with planar, low and steep angle cross-bedding, and featureless beds. The coarsest sandstone unit is of medium grain size and contains a few small pebbles of metamorphic rock, unlike rocks found in north-eastern Tasmania (N. J. Turner, E. Williams, pers. comm.). The other units exhibit festoon cross-bedding, indicating palaeocurrents towards 285° and 345°. Some thick units of medium interbedded yellow to khaki sandstone and siltstone occur with thin grey shale interbeds. Units of interbedded khaki and light to medium-grey siltstone occur in places with thin interbeds to laminae of sandstone. Numerous cylindrical and strap-like plant? remains, 2×100 mm in dimension, occur on some horizons.

Microfloras contain prominent taeniata bisaccates including *Protohaploxylinus* sp. cf. *jacobi*, indicating palynocorrelation with the lower lithic sandstone and lutite sequence (R<sub>1</sub>s'') of the Oatlands Quadrangle (Forsyth, 1984a). Other lithocorrelates occur in the Mike Howes Marsh area [209225, 219246], west of Antill Ponds [303273], and possibly near the Verwood Road [275458]. Near the last locality a drill hole (RG48) intersected lithic sandstone and lutite but microfloras are lacking. Lithocorrelates may be inferred to be present at other localities on the basis of their probable stratigraphic position, for example those outcrops apparently underlying quartz sandstone south of Verwood Road [251430, 267408], in the Blackman River [279368], and on the downthrown side of faults near Old Mans Head [180270]. Carbonate concretions and rare *Dicroidium* leaves were found at one of the localities south of Verwood Road [263408].

In the area south and west of Currajong Hills [280240] rocks indicated R<sub>1</sub>s' and R<sub>1</sub>s'? on the map include siltstone, quartz-rich lithic sandstone, and lithic sandstone without prominent dark grains, and pass up into thick-bedded volcanic lithic sandstone (R<sub>1</sub>g). These sequences may overlie the upper quartz sandstone horizon.

Rocks exposed west of Woodbury [298294] and south-east of Tunbridge consist predominantly of lithic siltstone and lesser sandstone [352334, 357330, 361327]. Precise assignment of these rocks in the sequence is not indicated. Lithic sandstone grading into volcanic-lithic sandstone was intersected in several shallow bores on Ellinthorpe Plains and further west [RG47, 251464; RG50, 260447; RG40, 303462; RG42, 312454]. In all bores *Semiretisporis denmeadi* or