

Poorly-sorted biosparites make up the great bulk of the member, although locally, near the base, moderately-sorted biosparites may be present and in one case a poorly-washed biosparite was noted. Occasional small sandy lenses similar to those noted at the type locality are present elsewhere and are usually associated with slightly better-sorted material. Seams which dip more steeply than other seams at a particular locality give the appearance of following cross-bedding, but confirmation of their cross-bedded nature is difficult to obtain.

In thin section, terrigenous detritus is rare and that which is present is almost entirely subrounded, medium-sand-sized quartz. The skeletal constituents are dominantly polyzoan, but minor amounts of echinodermal, foraminiferal, and algal fragments are usually present (Pl. 4, 1). These grains are very closely packed and exhibit microstylolitic contacts in a number of cases. Sparry calcite cement is common in all types of cavity, while micrite is usually confined to a few skeletal chambers.

Member D is overlain by Member E over much of the area. The contact is sharp at some localities but more often is gradational over an interval of 2–3ft. In the latter case sorting increases vertically, the number of grain contacts decreases (because of looser packing), and a correspondingly larger amount of intergranular cement is found.

MEMBER E: Type description: At the type locality, Member E is represented by 10ft of white, sorted, polyzoan biosparite which weathers in outcrop in an irregularly cavernous fashion. Cross-bedding is present and is shown by the angular discordance between seams.

The contact with Member F is sharp.

Distribution and content: Member E is composed of moderately-sorted to well-sorted polyzoan biosparites which are poor in terrigenous material. In field outcrop they are defined by their light colour and irregular weathering (Pl. 2, Fig. 2). This form of weathering appears to be related to the ease with which sparry calcite cement can be leached from the rock, leaving behind a weak framework of grain-supported skeletal fragments. At some outcrops it is evident that there are patches or lenses that have never been completely filled with cement and these, no doubt, contribute to the irregularity of the weathered surface. Seams are invariably present and are regularly spaced though irregular weathering may conceal them from the casual glance.

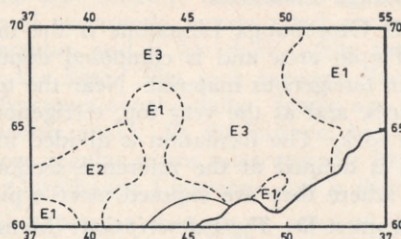
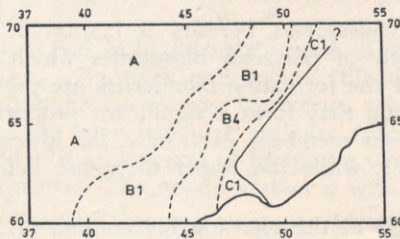


FIG. 12.—Approximate areal distribution of facies at the base of the Orahiri Limestone.

FIG. 13.—Approximate areal distribution of the facies of Member E.

Three facies are recognised and their areal distribution is shown in Fig. 13.

Facies E1: The loosely packed, well sorted, rounded biosparites that were observed at the type locality are found at a number of other localities and are grouped as Facies E1. As at the type locality, these biosparites occasionally show cross-bedding, but no preferred current direction could be determined. At two localities cross-bedded units showed opposing dips.