



CONCLUSION

Gindy and Sultan (1978) showed that grain-size analysis from thin section can be successfully applied to the study of carbonate rocks. A method of grain-size measurement has been presented that avoids some of the disadvantages inherent in the use of thin sections and exploits the relative ease whereby acetate peels can be prepared for the examination of carbonate rocks.

REFERENCES

FLUGEL, E., 1982, *Microfacies analysis of limestones*: Berlin, Springer-Verlag, 633 p.

GINDY, A. M., AND SULTAN, I. Z., 1978, *Thin-section mechanical analysis of a Miocene coquina from Salum, Egypt*: *Jour. Sed. Petrology*, v. 48, p. 513-517.

GUTTERIDGE, P., 1983, *Sedimentological study of the Eyam Limestone Formation of the east-central part of the Derbyshire Dome* [unpubl. Ph.D. thesis]: Univ. of Manchester, England, 320 p.

HARRELL, J., 1981, Measurement errors in the thin section analysis of grain packing: *Jour. Sed. Petrology*, v. 51, p. 674-676.

KATZ, A., AND FRIEDMAN, G. M., 1965, The preparation of stained acetate peels for the study of carbonate rocks: *Jour. Sed. Petrology*, v. 35, p. 248-249.

KELLERHALS, R., SHAW, J., AND ARORA, V. K., 1975, On grain size from thin sections: *Jour. Geol.*, v. 83, p. 79-96.

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Advantages over the use of thin sections

The method has the following advantages over the use of thin sections:

- (1) The procedure is quick and simple and is less expensive than the use of thin sections.
- (2) The method provides a print which is an enlargement of the original print and so grain size can be measured more accurately than from thin sections.
- (3) Since peels provide a two-dimensional section through the rock, this method does not suffer from the effects of grain elongation described by Howard (1971) which may be a source of error in grain-size measurement.
- (4) Prints can be made of much larger surfaces than is possible with thin sections which is advantageous in two ways. A much larger number of grains can be sampled for statistics and, thus, a representative sample is more likely to be obtained. Also, this method can be used in the study of coarse-grained sediment where prints are of such a size that they would be unmanageable on a conventional thin section.
- (5) Preparation of the print does not require a mechanical microscope and can easily be achieved by hand.

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INTRODUCTION

The use of thin sections is essential in making grain-size measurements on sedimentary rocks. However, the use of thin sections is not always the most appropriate method for grain-size measurement from carbonate rocks. A method of grain-size measurement from acetate peels is described in this paper. The method was developed by Howard (1971) during a study of Lower Carboniferous limestones (Gutteridge 1983).

METHOD

Peels are made from a rock of a known grain size and are prepared as described by Gindy and Sultan (1978). It is not necessary to stain the peels. However, the use of a stain provides an enhanced contrast of the grains. To avoid bias in measurement arising from preferential grain orientation, rock specimens should be sectioned in a consistent direction. The peels should be sectioned in a plane parallel to bedding.

Mount the peel together with an opaque slide on a glass slide. Draw on the peel or a piece of card the necessary markings to show length between two glass plates and place an enlargement of the peel on the photographic paper. This will produce a negative print of the peel with the scale bar appearing as a white shadow. The degree of magnification can be determined by measuring the enlargement of the scale bar on the peel print.

Grain size can be measured from this print by means of a planimeter or microscope with a graduated eye piece. The use of a planimeter is recommended so that the grain-size measurement can be converted to millimeters of grain size by taking account of the magnification.