tory course in soil mechanics, we would have fewer papers in which geological phenomena are attributed to horizontal thrusting or expansion in volume; and, also, they might better appreciate the value of experimental, as well as observational, evidence in the solution of geological problems.

STEPHEN TABER

Department of Geology, Mineralogy, and Geography
University of South Carolina

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Use of Silicones in Preparation of Samples for Radioactivity Measurement

IN THE preparation of counting samples by evaporation of aliquots of solutions, difficulty is often encountered in obtaining uniform size and position of the final sample spot, because many solutions tend to creep and to spread irregularly on the planchette while being dried. Silicones may be used in two ways to good advantage in the preparation of such samples.

1) For mounting samples on flat metal planchettes, a small amount of silicone grease[1] is rubbed on the surface of the planchette, and all excess is wiped off with a cleansing tissue. The planchette is placed on a motor-driven turntable operating at low speed (10–20 rpm), and the sample is applied to the silicone-treated surface from a micropipette. With ordinary care in application, up to 200 μl of solution may be applied to form a "lens" no larger than 0.5″ in diameter. The planchette can then be removed from the turntable and dried under a heat lamp in the ordinary fashion; very little or no extension of the sample area occurs during drying.

2) For mounting samples on microscope cover glasses, the cleaned cover glass is placed on a motor-driven turntable, which is set in motion. A capillary, containing silicone fluid (Dow-Corning #DC804, diluted with an equal volume of ether) or a solution of Canada balsam in xylene, is lowered so as to deposit a circle of the fluid on the surface of the glass; the capillary is held in a fixture consisting of a stopcock held on a ring stand by a clamp so that reproducible circles can be made. The cover glass thus prepared is allowed to dry, the sample is then spread on the area inside the circle and is dried in the usual fashion. The same technique can also be used with flat metal planchettes. The circles made with silicone-ether mixture dry much more rapidly than do those made with balsam.

It has been the writers' experience that the use of silicones as described here simplifies the preparation of counting samples of uniform area and position. Replicate samples thus prepared are almost always found to give counting rates checking each other within the statistical accuracy to which the counting is done.

W. J. WINGO
J. H. GAST
F. L. ALDRICH

Departments of Biochemistry, The University of Texas M. D. Anderson Hospital for Cancer Research, and Baylor University Medical College, Houston

[1] We have found Dow-Corning stopcock grease best for this purpose.

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