

## MINERALOGICAL SOCIETY (LONDON)

A meeting of the Society was held on Thursday, March 23, 1950, in the apartments of the Geological Society of London, Burlington House, Piccadilly, W. 1 (by kind permission). The following papers were read:

(1) THE CLINOPYROXENES OF THE SKAERGAARD INTRUSION, E. GREENLAND.

By Mr. I. D. Muir.

A chemical and optical study has been made of the clinopyroxenes from the Layered Series of this intrusion. Fifteen new analyses of pyroxenes are presented. The augites form a long series ranging from normal diopsidic types in the lowest exposed rocks, to extremely iron-rich types, ferroaugites with practically no magnesia, in the extreme differentiates. Abrupt changes in the lime content of the clinopyroxenes are correlated with the absence of olivine in the Middle Gabbros and with its later reappearance in the Ferrogabbros. In the latest stages two distinct trends have been recognized, one being for the normal ferroaugites and the other for clinopyroxenes formed by inversion from iron-wollastonite. The replacements of the various ions in the pyroxene structure are discussed and an attempt has been made to correlate the optical properties of pyroxenes with their chemical composition.

(2) THE USE OF DIAMOND-IMPREGNATED TOOLS FOR ROCK-SLICING.

By Dr. K. C. Dunham.

A summary is given of the performance of diamond-impregnated cut-off discs and grinding laps during the past three years in the laboratories of the Petrographical Department of the Geological Survey and Museum. Details of a high-speed cutting machine incorporating a 12-inch 'Neven' copper-bonded diamond-impregnated saw, constructed by Government Training Centre, Letchworth, are included. A commercial machine based on this prototype will be exhibited.

(3) A SPECIFIC GRAVITY BALANCE.

By Sir James Walton.

The instrument described differs from an ordinary balance in that the arms instead of moving only a few degrees have to describe an arc of 90°, and the position of the centre of gravity has to be altered. The balance is suitable for specimens of 0.2 to 8.0 grams and enables a reading of specific gravity sufficiently accurate for most diagnostic purposes to be obtained in 1 to 2 minutes; it is particularly suitable for gemstones. Direct readings of weight are also obtainable.

(4) COLLOPHANE IN THAMES GRAVEL.

By Dr. G. F. Claringbull and Mr. S. E. Ellis.

A lenticle of fine sand in flood-plain gravel at the Concert Hall section, Waterloo (south bank of the Thames), yields a heavy residue containing collophane with a refractive index ranging from 1.53 to 1.62 and varying from isotropic to biaxial. Its origin (whether fossil or concretionary) is discussed.

The following papers were taken as read:—

(1) SOME UNUSUAL ALKALI-FELDSPARS IN THE CENTRAL AUSTRALIAN CHARNOCKITIC ROCKS.

By Mr. A. F. Wilson.

Two new analyses are discussed—one of a twinned microcline micropertthite with mis-

leading optical properties, and the other of a microcline microperthite with no cross-hatched twinning showing on (001). Attention is drawn to the abundance of triclinic untwinned alkali-feldspars in the charnockitic rocks.

Factors controlling inversion of orthoclase and development of twinning are discussed.

(2) FLUORESCENT FELDSPAR AND ZIRCON AS PETROLOGICAL AIDS.

By Mr. A. F. Wilson.

Stages in the feldspathization and magmatic injection of some Precambrian sediments may be demonstrated by a study of the fluorescence of potash feldspar and zircon. In certain crushed areas, mapping is facilitated by careful use of fluorescence.

A plea is made for widespread, but discriminating, use of the phenomenon, as an aid in correlation.

*(Titles and abstracts kindly submitted by G. F. Claringbull, General Secretary.)*