

N by the classic Kjeldahl method. A modified method, based on a preliminary reduction with hydriodic acid and phosphorus, has been developed and tested out successfully on ten 2, 4-dinitrophenylhydrazones which failed to give a correct value otherwise.

Preliminary exploration has also been done in applying the method to other compounds. Three guanidines, an azobenzene, a nitrosamine, and a few representatives of other types, previously reported in the literature as giving poor results by the Kjeldahl method, have been analyzed successfully. Three semicarbazones and certain 6-membered rings containing nitrogen gave low results with both procedures.

M. Sc.

GEOLOGY

NORMAN RUDOLF SCHINDLER

GEOLOGY OF THE WAITE-ACKERMAN-MONTGOMERY PROPERTY,  
DUPRAT AND DUFRESNOY TOWNSHIPS, QUEBEC.

The Waite-Ackerman-Montgomery group of claims is situated eleven miles north west of Noranda, Quebec.

The geology of the area consists of a complex assemblage of dyke rocks intruded into Keewatin lavas. The youngest intrusive is probably of Keweenaw age. The sequence as worked out from contact relationships is given in the following table. The fourfold division is a genetic one, based on similarity in age and lithological characters. Detailed petrographic descriptions of each rock type are given, together with a discussion on differentiation and rock alterations.

An outline of the structure of the area is included, and its importance in the localization of the ore bodies is stressed.

The ore is a massive sulphide replacement in andesite. The metallization is probably genetically related to the Dufault Lake granodiorite, considered to be post-Temiskaming and pre-Cobalt in age.

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|------------|--|-----------|
| Intrusives | Diabase 6 (Gabbro).  | Series 4. |
|            | Diabase 5.<br>Granite (Soda granite).<br>Feldspar porphyry.<br>Diorite and quartz diorite. |           |
|            | Diabase 4.<br>Diabase 3.<br>Quartz porphyry.<br>Diabase 2a.<br>Diabase 2.<br>Diabase 1a.   | Series 2. |
|            | Diabase 1.   |           |
| Volcanics  | Andesite.<br>Rhyolite.   | Series 1. |

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AGRICULTURAL CHEMISTRY

GEOFFREY THORP SHAW

THE EFFECT OF CHEMICAL TREATMENTS ON THE  
COLLOIDAL PROPERTIES OF PODSOL SOILS.

Upland Appalachian podsol soils of Quebec have been studied through chemical treatments to determine factors governing conditions arising from the accumulation of semi-decomposed sour organic matter. Deductions have been drawn from base exchange relationships which link up the low soil fertility with the base exchange system, the properties of which are a result of this organic accumulation. Iron and aluminum were found to be in a readily available state but could not be released as exchangeable cations. Investigations in the laboratory were carried out to modify the organic matter through chemical treatments and to overcome the conditions it had produced in the soil. Alkali treatments as sodium carbonate appeared to give the most effective response.