

zoisite, epidote, sericite and chlorite at the expense of the original felspar. Some of the phenocrysts show a more or less perfect cleavage which is noticeably the case in the Eastmain specimen, although in the more highly altered samples, as those from the vicinity of Missinaibi, little or none can be seen. Occasionally, crystals show macroscopically the lamellation due to polysynthetic twinning, as in some of those in the Murphy Lake diabase, but as a general rule these lamellæ are either absent altogether or so faint that they cannot be detected. The mineral is subtranslucent, varies in lustre from pearly to waxy according to degree of alteration. The hardness varies from $5\frac{1}{2}$ to 6, fusibility about 5, and the specific gravity, according to Mr. R. A. A. Johnston, of the Geological Survey of Canada, varies from 2.725 in the Eastmain specimen to 2.935 in those from Missinaibi. The specific gravity, as would be expected, shows an increase in proportion to the alteration. The microscopic examination in general reveals the fact that in every case the so-called "Huronite" is really a plagioclase near the basic end of the series which has undergone more or less complete "saussuritization." In most instances the development of zoisite, epidote, sericite, chlorite, etc., at the expense of the original felspar has been so abundant as to leave only traces of the original twinning lamellæ and occasionally to destroy all evidence of this structure. Specimens may be obtained from the large number of slides examined, showing a complete gradation of this decomposition from the pure glassy plagioclase (labradorite) composing many of the phenocrysts contained in the diabase from Temagami Lake to the completed Saussurite or Huronite in the porphyritic individuals of the Missinaibi rock. The matrix in which those phenocrysts are embedded is in general a typical diabase of dark greenish or greyish colour which likewise shows a wide difference in degree of alteration under the microscope. The specimens from Bear Island, Lake Temagami, show a very typical and fresh olivine-diabase. With the exception of some of the crystals of olivine, the rock is remarkably free from decomposition, while in the finer grained portion of the rock from Missinaibi all the component minerals have undergone great alteration. The plagioclase is more or less completely "saussuritized," the augite originally present wholly converted to hornblende (uralite) and the ilmenite replaced by the dull