

STUDIES ON THE X-RAY DIFFRACTION, ANALYSIS  
AND GEOCHEMISTRY OF PLAGIOCLASE FROM THE  
MT. DAVIES IGNEOUS INTRUSION.

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Abstract

In a two-fold study of twelve plagioclases from the Mt. Davies intrusion an X-ray determinative curve was calibrated and the chemistry of major elements and trace elements Sr and Ba was studied to illustrate the differentiation of the intrusion.

The calibration is successful, and further, a break in slope points to lattice changes in the plagioclase series at about An<sub>78</sub>.

Differentiation by fractional crystallization is well illustrated by the changes in the chemistry of the plagioclases. The major element distribution is appraised in the light of modern knowledge of the plagioclase crystallography.

Strontium is found to exist almost exclusively in the plagioclase mineral phase of the rocks. The Sr content of the plagioclases increases with decreasing An content, towards the "top" of the intrusion. A discussion of these results in terms of magma concentrations and lattice changes is given.

The Barium content of plagioclase shows a similar trend.