50 000 lb. in^{-2}) and within the temperature range 140–300 °C. It is conceivable that scawtite in Binhill quarry developed from xonotlite due to localized low CO_2 concentration resulting from a fortuitous igneous chemistry. The latter could result from uralitization, for Allan (1970) pointed out that in the Morven–Cabrach mass uralitization resulted mainly in an increased water content, which he attributed to the newer granites of north Deeside. Some xonotlite veins are conceivably contemporaneous with post-granite-pegmatite xonotlite, gyrolite, laumontite, and prehnite stringers. Tacharanite, which in scawtite-rich areas is post-xonotlite, appears to result from scawtite alteration. If uralitization be the causative agent then similar hydrated calcium silicate assemblages may well be found in other Aberdeenshire gabbros.

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Gardar Filing Interrogation System

G.F.I.S. (Gardar Filing Interrogation System) consists of a library of Gardar rock analyses on magnetic tape and a set of programs that select and process required portions of the data file. The Gardar Province of South Greenland is a Precambrian (1100 to 1300 Myr) alkaline igneous province consisting of supracrustal rocks, a great number of dykes, and a limited number of plutonic complexes. Following suggestions made at the first 'Friends of Gardar' conference (Edinburgh, 1972) the writer investigated the viability of setting up a 'data bank'. It became clear that a fully structured data bank was beyond the scope of the writer in the time available. However, a simple file of analyses and bibliographies that can be searched sequentially has been compiled in Fortran IV using a modified version of the I.C.L. J. operating system.

Each data record consists of a chemical analysis in weight per cent and in cation

proportions, a C.I.P.W. norm, niggli values, a descriptive comment of up to sixty-eight characters, a series of reference parameters, and a set of chemical characteristics. With the exception of the comment all parameters are stored by means of simple digit code and a series of directories. The system could thus be used as a data file for any set of rock analyses by replacing the directories used for location and worker. To facilitate search procedures analyses are stored in a sorted form using three parameters: location, geotype, and fractionation index. Records retrieved from the file will thus be printed out in this ordered form. The data file consists of all analyses of Gardar igneous rocks published or submitted to the writer by co-workers. No restriction has been placed on the completeness or quality of the analyses on the file although limits are imposed before processing in any of the retrieval options, except direct print out.

The file can be searched and records selected using locality, rock type, or any of the seventy chemical parameters. As in the directories, a simple digital code is used with addition of lower and upper acceptance level for any chemical parameter. Five options are presently available to handle retrieval records: print out of selected data records—limit 250; two variable plot; three variable plot; cluster analysis—limit 200; and principal component analysis—limit 200.

The major limitation of the current version of G.F.I.S. is the restriction on the chemical analyses to eleven major elements (Si, Ti, Al, Fe^{3+}, Fe^{2+}, Mn, Mg, Ca, Na, K, P). This was necessary due to the short time available to the writer to make the system operational. However all trace-element data are being collected and will be incorporated into the file. Running costs make it necessary to limit the number of analyses that can be retrieved from the file in full to 250. The statistical reduction options are limited to 200 analyses because of storage requirements. No limit has been imposed on any of the plotting options.

It is estimated there are at present approximately 1500 Gardar analyses of which 1000 have already been incorporated into the file. Fuller details of the file and access to it are available from the writer in the form of G.F.I.S. Manual.

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