



## REPORT ON THE ESTABLISHMENT OF A COMPUTER FILE OF RADIOMETRIC DATES\*

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### INTRODUCTION

During the early part of 1986, a computer file was established consisting of the radiometric dates and ancillary data recorded in a manual file maintained by Dr. R.L. Armstrong of the Department of Geological Sciences, at The University of British Columbia. The great majority of dates are potassium-argon dates, with the remainder being rubidium-strontium, uranium-lead, and a few fission track dates. The number of dates is estimated to be approximately 3000.

### DESCRIPTION OF MANUAL FILE

The manual file maintained by Dr. Armstrong comprises a set of forms in ring binders organized by 1:250 000-scale NTS designations. Three types of form make up the file, one for each of the three major classes of radiometric dates. The design of the forms was influenced by what is included in the United States Geological Survey Radiogenic Age Data Bank and the Geological Survey of Canada geochron file forms. The information recorded includes sample identification and geographic information, source material and analytical data, and the resultant dates and their interpretation. Also included are revised figures for dates to reflect, for example, revised decay constants. In order to obtain all the information available for one locale, it may be necessary to consult several forms since a single form only covers one dating method and dates may have been obtained on different occasions. As a consequence of having information spread over several forms a certain amount of information is duplicated, a fact which was taken into account in the design of the computer file.

### LOGICAL STRUCTURE OF COMPUTER FILE

The computer file consists of a single ("flat") file comprising a number of logical records. Each record is based on the radiometric age dating effort of a particular researcher, at a unique location and

on a single rock type. Each logical record consists of a collection of forms, and each form is a collection of data items. The file is line-oriented with each data item occupying a line; a field name occupies the left side of the line with a data field following on the right. Thus, at a lower level, the structure of the file is quite similar to that used in the NAMELIST concept in FORTRAN or the structure used on the distribution tapes of MINFILE.

In order to reduce redundancy, data items common to the three types of form have been "factored out". These items include identity of collector, rock type, latitude and longitude and description of location. The items that remain within each form are then specific to the kind of analysis involved.

### ACCESS TO AND MODIFICATION OF COMPUTER FILE

Since the file might be put to different uses in different computing environments, it was felt that allowance for flexible access should be part of the design. The present design allows for accessing by a simple text editor, in fact that is in part how the file was created. A simple retrieval should not require a complicated program and with some modification, the file, may be used as an input file to some database management systems.

Modification of the file, such as alteration or the addition of new data, is not difficult. Addition of new data fields and forms is also possible, though such additions may affect how current programs access the file.

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British Columbia Ministry of Energy, Mines and Petroleum Resources, Geological Fieldwork, 1986, Paper 1987-1.