

COMPUTER UNIT

by

Harjit Missan
Geochemistry-Geophysics Section

The Computer Unit is responsible for maintaining and archiving geological databases that have been created as a result of projects carried out by the staff of the Mineral Development Division. In addition, the Computer Unit is developing programs for use by geologists for analyzing data.

HARDWARE SUPPORT

The mainframe computer used to meet the needs of the Division is the AMDAHL 5860 at Higgins Line (NLCS), which is accessed through three high speed terminals. In addition, two microcomputers, a Tektronix 4054 Graphic System and a Texas Instrument Professional Computer are used for analyzing small to medium sized databases.

SOFTWARE SUPPORT

a) Mainframe (Amdahl 5860)

For large databases that are maintained on the mainframe, the following software systems are used:

- i) SPSS-X and SAS - used mostly for geochemical and lithochemical databases
- ii) GRASP - used for the Mineral Occurrence Data System (MODS)
- iii) SIR - used for the Aggregate Resource Databank

b) Microcomputers (Tektronix and Texas Instrument PC)

The microcomputers are used essentially for small to medium sized databases that have been downloaded from the mainframe. The most widely used programs are MICRO-GRASP and CIPW.

STAFF SUPPORT

The Computer Unit comprises three people: the Unit Head and two programmers. One of the responsibilities of the staff is to help geologists computerize their data and train them in the use of computers for data analysis.

USES OF THE COMPUTER SYSTEMS

Over the past year, extensive work has been done on the various geological, geochemical, mineral deposit and aggregate resource databanks that are being developed. The mainframe computer has been used to produce reports and map plots, e.g. location of sample points, spatial distribution of various chemical elements. In addition, a program called SURFACE II was used to display geochemical data in contoured form and in three dimensional perspective, thus enhancing the characteristics of the data.

Because of the ease of use of the program MICRO-GRASP, the microcomputers were used very extensively by geologists. The system was used for data analysis and for displaying data in graphical form, e.g. Ternary diagrams and Harker variation diagrams were plotted as aids in the interpretation of the data.

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