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A Microcomputer Program Utilizing a Stratigraphic
Coding System for Data Entry into the National Coal Resources
Data System

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This report is preliminary and has not been reviewed for conformity with USGS editorial standards and stratigraphic nomenclature. Any use of trade names is for descriptive purposes only and does not imply endorsement by the USGS.

PCSCODE, (Personal Computer Stratigraphic Code), is a microcomputer-based program that allows the user to utilize a numerical coding system to represent up to eleven descriptive stratigraphic elements compatible with the National Coal Resources Data System (NCRDS). The use of PCSCODE can result in reduced data entry time and errors while increasing data integrity and database conformity.

PCSCODE is based on the program STRATCODE (Pierce et al, 1987), which is located on the Geologic Division's PRIME minicomputer, and utilizes the same dictionaries to expand the stratigraphic codes into their equivalent English descriptive terms. The dictionaries used represent three geographic areas: the Pittsburgh basin, the southern Appalachians, and the Rocky Mountain area. The dictionaries were developed using the coding system described by Ferm and others (1985), Ferm and Smith (1981), and Ferm and Weisenfluh (1981). These references will provide the user with the codes, coding system use, and pictures representative of each rock type.

Before program execution the user must have created an NCRDS raw data file using the microNCRDS program (O'Connor and SanFilipo, in preparation) or any other procedure that creates an NCRDS compatible raw data file. When entering data the numerical code must be entered in the "wildcard2" field of the NCRDS data format. This code will be used to generate descriptive values for fields corresponding to lithology, lithologic modifier, color, grainsize, grainshape, mineralogy, bedding, contact, fossils, fractures-joints-cleats and comment 2 (figure 1). Any data items that are not covered by a specific

code may be entered in the appropriate fields during data entry. PCSCODE will not replace previously entered data items contained in fields not covered by the code. However, existing data that is covered by the code will be lost in the resulting output file. For example, code 317.0 (figure 1) represents black sandy fireclay. The only fields that will have data placed in them are lith (fcly), lithmod (sdy), and color (blk). An additional descriptor not covered by the code, such as "layered", can be separately entered in the bedding field using microNCRDS or an editor. Since the code contains no value for bedding, "layered" will appear in the output file.

A full listing of the basin dictionaries containing codes and descriptive data can be obtained by printing the files PI.LST, RK.LST, and SA.LST contained on the program disk. Any corrections or proposed additions to the basin dictionaries should be brought to the attention of the STRATCODE data base administrator.

PCSCODE is distributed on a 360k byte, IBM compatible floppy disk containing the following files:

PCSCODE.BAS	the program code.
PCSCODE.BAT	a DOS batch mode command file used to establish the program environment and execute the program.
BANNER.BAS	program banner.
PI.DIC, RK.DIC, SA.DIC	dictionaries for each basin.
PI.LST, RK.LST, SA.LST	a listing of the basin dictionaries.
PI.TAB, RK.TAB, SA.TAB	index tables containing pointers to the data contained in the basin dictionaries.

The user's computer must have a version of the DOS BASIC interpreter. The file PCSCODE.BAT contains the command:

```
C:\BASICA BANNER /F:4 /S:200
```

This directs execution of the BASIC sub-system to the computer's C drive; however, the file can be edited to direct execution to any drive, directory, or sub-directory that the user desires. For example, if the user has placed the basic interpreter in a sub-directory named "DOS," PCSCODE.BAT should be edited to the following:

```
C:\DOS\BASICA BANNER /F:4 /S:200
```

No other files on the program disk should be edited. Improper editing of the files could lead to the corruption of the basin dictionaries and lead to erroneous data in the output files.

To execute PCSCODE insert the program disk into any floppy disk drive and change the default drive specification to the drive containing the program disk. The program must be executed from the same drive and directory for proper execution. To begin the program, type "PCSCODE". The program banner will appear and then disappear after a few seconds. The program will then prompt the user to select a basin (figure 2). At this point the user may select the number corresponding to the desired basin (1 through 3) or enter "4" to exit the program and return to the operating system. Once a basin has been selected the same dictionary will be used for each input file specified. If for any reason the user needs to select another basin, the program must be terminated and re-executed. The program will prompt the user for an input file name; this is the name of the previously

created raw data file. The next prompt will be for the resulting output file name. The name supplied must be different than the input file name or an error will occur. When the output file is completed the user can enter the name of another input file or enter "QUIT" to exit the program.

During program execution any codes that are in the raw data file but not contained in the basin dictionary will appear on the computer display device (see shaded area of figure 2). There are two suggested methods for correcting invalid codes. If the output file is to be used with other microcomputer programs, the incorrect code(s) should be edited in the raw data file and PCSCODE re-executed. If the output file is to be used only for data submission to NCRDS, the codes plus the associated data items can be updated using the NCRDS program, PACER (Krohn et al, 1982).

After PCSCODE has been executed the user's expanded raw data file is ready to be submitted to NCRDS for entry into the master data base. The user should retain a copy of the file so that the data can be manipulated and graphically displayed using a microcomputer. For example, the expanded data file is properly formatted for direct entry into KLOGGER (M. C. Sun, oral commun., 1987). KLOGGER is a microcomputer interface program, available from NCRDS, that uses NCRDS formatted raw data to create command files to be used with LOGGER. LOGGER is a commercially available software package that produces strip log plots on a personal computer.

PCSCODE, used in conjunction with the previously mentioned software, has the potential to help the user create a more

versatile workstation in the field. This program allows data to be directly submitted to NCRDS as well as used as input to other microcomputer-based programs.

To receive a copy of PCSCODE please contact the authors at the addresses listed. A blank floppy disk included with requests would be appreciated.

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284.0	LITH: SH GRNSIZE: BEDDING: COMENT2: W- LS NOD	LITHMOD: GRNSHAPE: CONTACT:	COLOR: RED-GN MINERAL: FJC:
287.0	LITH: CLST GRNSIZE: BEDDING: COMENT2: W- LS NOD	LITHMOD: GRNSHAPE: CONTACT:	COLOR: RED-GN MINERAL: FJC:
300.0	LITH: SH GRNSIZE: BEDDING: COMENT2:	LITHMOD: SDY GRNSHAPE: CONTACT:	COLOR: MINERAL: FJC:
313.0	LITH: SH GRNSIZE: BEDDING: COMENT2: SS STR	LITHMOD: GRNSHAPE: CONTACT:	COLOR: BLK MINERAL: FJC:
314.0	LITH: SH GRNSIZE: BEDDING: MASS COMENT2:	LITHMOD: SDY GRNSHAPE: CONTACT:	COLOR: BLK MINERAL: FJC:
315.0	LITH: SH GRNSIZE: BEDDING: MASS COMENT2: CHRN	LITHMOD: SDY GRNSHAPE: CONTACT:	COLOR: BLK MINERAL: FJC:
316.0	LITH: SH GRNSIZE: BEDDING: CHRN COMENT2:	LITHMOD: SDY GRNSHAPE: CONTACT:	COLOR: BLK MINERAL: FJC:
317.0	LITH: FCLY GRNSIZE: BEDDING: COMENT2:	LITHMOD: SDY GRNSHAPE: CONTACT:	COLOR: BLK MINERAL: FJC:
318.0	LITH: SH GRNSIZE: BEDDING: BRW COMENT2:	LITHMOD: SDY GRNSHAPE: CONTACT:	COLOR: BLK MINERAL: FJC:

Figure 1. Example of basin dictionary listing.

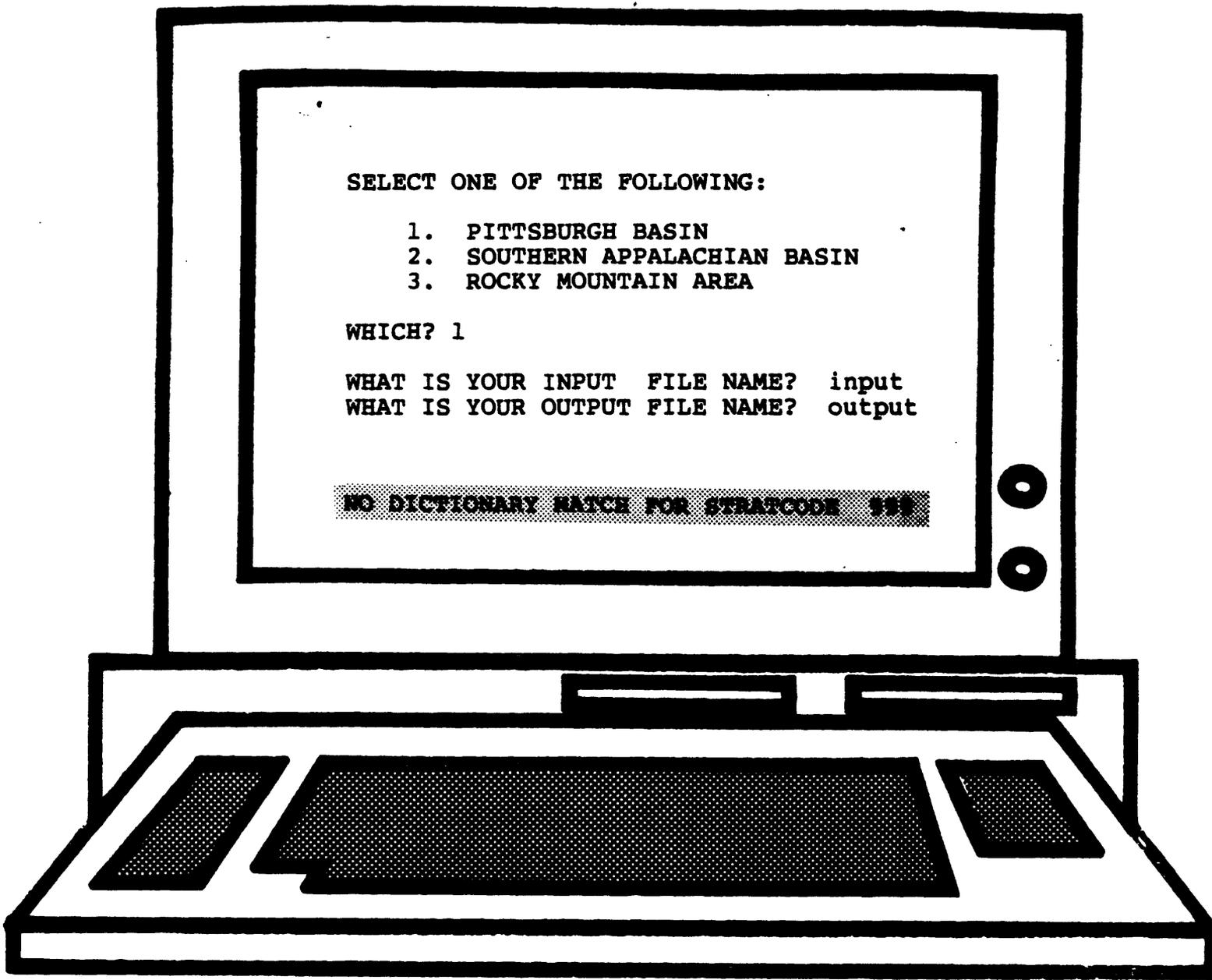


Figure 2. Screen display during PCSCODE execution.

References

- Ferm, J. C., and Smith, G. C., 1981, A guide to cored rocks in the Pittsburgh basin, Department of Geology, University of Kentucky, Lexington, KY, 109 p.
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