FINAL TECHNICAL REPORT  
September 1, 1988, through August 31, 1989  

Project Title: INFORMATION SYSTEM ON ILLINOIS COAL V: DATABASE PROMOTION  
ICCI Project Number: 88/7.1A-6  
Principal Investigator: C. Brian Trask, Illinois State Geological Survey  
Other Investigators: Richard D. Harvey, Illinois State Geological Survey  
Project Monitor: Ken K. Ho, CRSC  

ABSTRACT  
During the 1987-88 contract year, we brought three databases (Information System on Illinois Coal [ISCIC], Illinois Basin Coal Sample Program [IBCSP], and Illinois Coal Bibliography [ICBIB]) together on the Department of Energy and Natural Resources Prime computer and wrote a search procedure that permits users to search any one or all three of the databases by making only one telephone call. The main task during this contract year was to advertise and promote the resulting Coal Information System (CIS) to make it more widely known to researchers and to increase the number of people accessing it.  

We surveyed a total of 287 people from the CRSC mailing list to determine who was using or foresaw a use for CIS. Based on the results of this survey, we prepared a brochure that can be used by the CRSC and ISGS to advertise CIS. We also attended four technical meetings to give talks about CIS, to demonstrate the system, and to distribute literature to interested parties; we demonstrated the system at a seminar at Illinois State Geological Survey.  

Abstracts from three CRSC quarterly reports and the 1988 annual report were added to the ICBIB database, as well as abstracts from the 1988 Contractors’ Technical Conference. The ISCIC database was accessed a total of 90 times during the year to provide information for coal companies and researchers concerning quality of Illinois coal.
EXECUTIVE SUMMARY

During the past few years, three databases have been established to permit people performing research in Illinois Basin coal to easily access information concerning coal quality, coal samples available for research, and results of existing and ongoing research funded by the Center for Research on Sulfur in Coal (CRSC). These databases are Information System on Chemistry of Illinois Coal (ISCIC), Illinois Basin Coal Sample Program (IBCSP), and Illinois Coal Bibliography (ICBIB). In the 1987-88 contract year, we moved all three databases into the CISUSER directory on the Department of Energy and Natural Resources Prime computer in Champaign, where they are housed under one search procedure, the Coal Information System (CIS).

The main purpose of this project was to advertise and promote CIS to make it known nationwide to researchers who might have use for it. We have broken this year's project into four objectives. Achievements by objective follows.

Objective I. Advertise and promote the databases.

During the fall of 1988, CRSC mailed an information circular about CIS to all people receiving the 1988 Annual Report. We also demonstrated CIS at the annual meeting of the Illinois Mining Institute, gave a papers on it at two different technical meetings, and distributed information at one meeting of national extent and one that was international in attendance. We developed a procedures leaflet that can be sent to any person contacting us to gain information on proper procedures for signing onto the Prime computer. We presented a real-time seminar at the ISGS, using an overhead projection monitor so that all persons attending could observe actual computer commands.

Objective II. Survey users of the databases.

After contacting 10 people by telephone to talk with them about the CIS, we designed a questionnaire and tested it on 75 people from the CRSC mailing list. Based on the results of this test, we revised the questionnaire and mailed it to an additional 212 persons. A compilation of results from the questionnaires completed and returned suggest a need for the databases, particularly ISCIC and ICBIB.

Objective III. Develop two-color brochure.

A two color brochure to advertise the CIS has been completed and printed by the Publications, Graphics, and Photography Unit at the Survey.

Objective IV. Maintain the ISCIC and ICBIB databases and provide access for users.

During the contract year, we added abstracts from the 1988 Annual Report, three quarterly reports, and the 1988 Contractor's Technical Conference. In addition, citations of refereed publications listed in the 1987-88 Program Assessment Report were added. Programming changes were made to the ICBIB software.
No new data were available for ISCIC during the contract year. However, a total of 90 people accessed ISCIC to obtain information about the composition of Illinois coal.
OBJECTIVES

This project has four objectives. The tasks to be completed for each objective are as follows:

Objective I. Advertise and promote the databases.
   Task I-1. Revise information circular.
   Task I-2. Mail information circular with CRSC and ISGS mailings.

Objective II. Survey users of the databases.
   Task II-1. Design and print initial questionnaire.
   Task II-2. Mail initial questionnaire.
   Task II-3. Tally results of initial mailing and revise questionnaire.
   Task II-4. Mail final questionnaire.
   Task II-5. Tally results of questionnaire.

Objective III. Develop two-color brochure.
   Task III-1. Design brochure.
   Task III-2. Print brochure.

Objective IV. Maintain the ISCIC and ICBIB databases and provide access for users.
   Task IV-1. Compile and enter new data into ISCIC database.
   Task IV-4. Enter citations of refereed publications.
   Task IV-6. Service requests for data and new computer accounts.
INTRODUCTION AND BACKGROUND

This year's contract is a continuation of work to provide a computerized information system about Illinois Basin coal. The databases in this system can be searched interactively by anyone with a modem and personal computer or terminal. During the 1987 contract year, we combined, under one umbrella program, three databases to provide access to information about chemistry of Illinois coal, research involving samples from the Illinois Basin Coal Sample Program, and research funded by the Center for Research on Sulfur in Coal. The purpose of this year's project is to promote the system and to survey users to determine who was using the information and for what purposes.

EXPERIMENTAL PROCEDURES

Promotion of the Coal Information System (CIS) involved several mailings to researchers located in Illinois, and headquartered elsewhere in the country but interested in Illinois coal. We sent one mailing piggy-back with the CRSC 1988 Annual Report. A questionnaire, designed with the aid of the Survey Research Laboratory at the University of Illinois, was tested on 75 people, revised, and mailed to an additional 212 people. We used the services of the Publications, Graphics, and Photography Unit at the State Geological Survey to design a brochure to advertise all three databases. In order to get the most attention possible from persons receiving the brochure, we used a two-color duotone process rather than just black and white. We updated and maintained ISCIC and ICBIB on the Prime computer at the Natural History Survey.

WORK COMPLETED

Objective I. Advertise and promote the databases.

During the fall of 1988, an information circular (Appendix 1) was mailed along with the CRSC 1988 Annual Report. We presented papers at the annual meetings of the Society of Organic Petrology in Dallas, TX, and of the North Central Section, Geological Society of America in Notre Dame, IN. We demonstrated the Coal Information System at the 1988 annual meeting of the Illinois Mining Institute in Mt. Vernon, IL, and at a seminar at the Illinois State Geological Survey in Champaign, IL. Information was distributed at the annual meeting of the Geological Society of America in Denver, CO, and at the International Geological Congress in Washington, DC.

Objective II. Survey users of the databases.

We began our survey with telephone contacts of selected users from the CRSC mailing list. Based on the results of these contacts and discussions, we designed an initial questionnaire with the help of the Survey Research Laboratory at the University of Illinois. As a test, the questionnaire was mailed to 75 people from the CRSC mailing list. Only 17 (23%) of the questionnaires were returned. Based on the results of this test (Appendix 2), we revised the questionnaire and mailed it to an additional 212
persons. Our return on the final mailing was still small, only 60 (or 28%) of people completing and returning it. Appendix 3 summarizes the results of this survey.

In order to see if our survey covered a broad spectrum of potential users, we asked two demographic questions: where is your office located and what type of organization do you work for. Responses came in approximately equal numbers from the Illinois Basin states (Illinois, Indiana, and Kentucky) and from states outside of the Illinois Basin.

Most responses came in about equal amounts from institutions of higher education and from industry. State and Federal government provided slightly fewer responses. The "other" category includes unaffiliated or unspecified research institutes and laboratories, sales, engineers and architects, and various not-for-profit research and funding organizations. We believe that responses reflect a fairly broad spectrum of interests as well as focusing on the major potential users.

The first thing we wanted to find out was how many people really looked at the information circular sent during autumn of 1988 or, in other words, how effective it was in making CIS known. When we asked the question, "Did you know about this on-line system," we found 65% who were aware of it. Apparently the little amount of promotion thus far has been somewhat successful in at least making people aware of the system. But 35% of our public is still unaware of it. Also, the few returns may have come from people who are aware of or need such a system; thus, the sample may be biased.

Of the people who responded "yes," 52% indicated that their reason for not using it was that they had no need yet but would likely have a need in the future. Encouragingly, only 3% indicated that the information was not important for their work.

We then asked a general question about usefulness of the databases in planning or carrying out research. An overwhelming number (85%) of respondents said "yes." Therefore, we believe we have a product that is of use to the research and development community.

To assess the response of this community to the general availability of databases on computers, we asked if they had used computer-based information systems. Only a little over half (57%) have. However, those who have all indicated that they got the information they wanted.

We thought that perhaps a librarian might do searching for them. 68% indicated that librarians do on-line searches for them. However, these probably are restricted to other libraries and technical bibliographies.

We then moved into specific questions about individual databases. Responding to the question concerning geographic variations in coal quality, 2/3 demonstrated an interest in this type of information, which can be obtained from ISCIC.
Though only 23% of respondents use samples from the Illinois Basin Coal Sample Program in their research, 65% obtain coal samples from some other source. The most common sources are coal companies and collections by researchers or colleagues. However, substantial numbers obtain samples from Penn State and Argonne National Laboratory.

Finally, we asked what other kinds of information might be useful in the databases. The main items checked by respondents were quality data on operating coal mines and bibliography of all technical articles on Illinois Basin coals. Mined-out area maps were also requested, and a few wanted historical data on coal mines. "Other" includes such items as structure and reactivity, quantity of coal remaining, drill hole data, and a list of coal loading docks.

As a result of this survey, we believe there is an interest in continuing with and expanding data available in the CIS. We think there is a great need for further publicity to let potential users know of the types of information available and the uses that the information may be put to. We know that, as more and more people use the system, additional interest in it and more ideas for novel uses will be generated.

**Objective III. Develop two-color brochure.**

The two-color brochure was designed by the Publications, Graphics, and Photography Unit at the State Geological Survey. 2000 copies have been printed and shipped to CRSC for distribution. An additional 200 copies were retained at the ISGS for distribution to interested parties desiring to use the system.

**Objective IV. Maintain the ISCIC and ICBIB databases and provide access for users.**

During the year, abstracts from the following CRSC publications were added to the ICBIB database:

- 1988 Annual Report
- 1988-89 First, Second, and Third Quarterly Reports

In addition, citations of refereed papers published in non-CRSC publications were added, and several corrections were made to the software.

We accessed ISCIC 35 times to answer questions about the composition of Illinois coal and to supply information to other people who desired not to use the database themselves. Five different coal companies used ISCIC several times. The database was accessed a total of 90 times during the year; this represents an increase in usage of 230% since last year.

No new data became available for addition to the database.
APPENDIX 1
Information Circular

COAL INFORMATION SYSTEM AVAILABLE ON-LINE

Three computerized information systems (data bases) on Illinois coal can now be accessed from remote stations via telephone:

* Information System on Chemistry of Illinois Coals (ISCIC)
* Illinois Basin Coal Sample Program (IBCSP)
* Illinois Coal Bibliography (ICBIB)

The three data bases reside on a mini-computer in Champaign, Illinois, and can be accessed remotely with a personal computer equipped with a modem and telephone software. On-line options enable you to easily retrieve and down-load data to a remote station. Alternatively, the Survey staff will access the system for you and a printed listing of the data requested will be sent to you by mail.

**ISCIC**

provides proximate and ultimate analyses and other standardized test results on Illinois coal. Results are available on more than 2800 samples that were collected during the past 75 years from active mines throughout the Illinois coal field. Only a few samples are from currently active mines. Most samples are channel or composite channel types. Twenty-four different seams are represented from mines in 59 counties.

Data can be retrieved by locations, seams, or sample types; and/or by analytical results.

Retrieved data can be sorted in a variety of ways, and the mean and typical range of analytical results can be calculated.

Contact Richard Harvey (217-244-0836) to obtain more information and remote access codes.

**IBCSP**

provides information about previous and current projects in which samples from the Illinois Basin Coal Sample Program are being investigated. The data base also contains a wide variety of chemical and petrographic data on each of the samples that are available from the "sample bank" part of the program:

* Standard analyses
* Equilibrium moisture
* Minor & Trace elements
* Ash composition
* Ash fusibility
* Maceral composition
* Mean reflectance
* Pyrite size & assoc.
* Mineral composition
* Grindability

Contact Carl Kruse (217-333-5161) for more information or Richard Harvey to obtain remote access codes.

**ICBIB**

provides bibliographic references and abstracts of reports and publications for each research project funded through the Center for Research on Sulfur in Coal. In addition, citations are included wherein the authors discuss test results on coal samples obtained from the Illinois Basin Coal Sample Program. Abstracts of quarterly and final reports and of technical conference proceedings are available from this source.

ICBIB serves investigators of coal sciences and technologies, especially those who are concerned with Illinois Basin coal.

Contact Brian Trask (217-244-2421) to obtain more information and remote access codes.
Type of business:

12 research
   6 college/university
   2 research institute
   2 industry
   1 other (specify) UTILITY

1 exploration
   0 industry
   1 consultant
   0 other (specify)

7 government
   4 federal
   3 state
   0 other (specify)

1 other (specify) CONSULTANTS TO THE COAL INDUSTRY

1. Have you previously read or heard about the on-line databases at the Illinois State Geological Survey that are supported by the Center for Research on Sulfur in Coal?

   13 yes
   5 no

2. These databases were designed to provide useful information to people exploring for or doing research on Illinois Basin coals. They are intended for use by persons in academia, industry, and government. Please note the reason that you have not had the opportunity to use the databases?

   2 no computer accessible
   1 no telecommunications capability
   0 expense of long-distance telephone call
   8 information not important for my work
   10 other (specify) NO NEED YET-4; NOT AWARE OF IT-2; NO TELEPHONE #-1; HAVE SIMILAR DATA-2

3. Are the three databases described in the brochure of use to you or anyone else in your organization or department in planning for or carrying out research projects on coal?

   17 yes
   0 no

4. Have you used other on-line databases?

   6 yes

   If yes, did you get the information you wanted?

   6 yes
0 no

11 no

5. Does your organization’s or department’s librarian do on-line searches for you?

   13 yes
   4 no

6. Does your organization or department have interest in the geographic variations of coal quality in the Illinois Basin?

   14 yes
   3 no

7. Are you doing research on samples from the Illinois Basin Coal Sample Program, a source for uniform samples of coal maintained at the Illinois Geological Survey?

   7 yes
   10 no

8. Do you obtain coal samples from other sources?

   15 yes

   If yes, from which of the following sources?

       4 Argonne National Laboratory Premium Coal Sample Program
       9 supplied by a coal company
       8 collected by you or your colleagues at a mine
       1 other (specify)  PENN STATE COAL BANK

   2 no
9. Are there others in your organization or department who might have use for the information that is presently included in our on-line systems?

8 yes: names? _______ addresses? _______

_________  __________

9 no

10. Are there other kinds of information related to coal, not included in the Coal Information System databases, that you would be interested in if you had access? (for example, quality data on operating coal mines, historical data on Illinois coal mines, mined-out area maps)

8 yes (specify) QUALITY DATA-3; HISTORICAL DATA-3;

MINED-OUT AREA MAPS-1; BIBLIOGRAPHY OF

ALL TECHNICAL ARTICLES ON ALL ILLINOIS

COALS-2; EXPEND DATA BANK TO INCLUDE

INDIANA AND WESTERN KENTUCKY-1;

CHLORINE, TRACE ELEMENTS, WASHABILITY,

POTENTIAL-1

9 no
APPENDIX 3

RESULTS OF FINAL QUESTIONNAIRE

Location of office (city, state): 28 Illinois Basin states
31 Outside of Illinois Basin
1 unknown

Type of organization:
17 college/university
16 industry
3 private consultant
13 government
11 other

1. Have you previously read or heard about the on-line data bases at the Illinois State Geological Survey that are supported by the Center for Research on Sulfur in Coal?

39 yes
21 no

2. These data bases were designed to provide useful information to people exploring for or doing research on Illinois Basin coals. They are intended to give assistance to persons working on topics related to coal. Please note the reason that you have not had the opportunity to use the data bases?

1 no computer accessible
4 no telecommunications capability (modem or software)
6 information not important for my work
42 no need yet; likely future need
4 similar data already available
10 other (specify) Didn’t know about it; no time; didn’t know whom to contact; busy on own database

3. Are the three data bases described in the brochure of use to you or anyone else in your organization or department in planning for or carrying out research projects on coal?

51 yes
8 no
4. Have you used other on-line data bases?

☐ 34 yes
   If yes, did you get the information you wanted?
   31 yes
   0 no
   3 unknown

 26 no

5. Does your organization's or department's librarian do on-line searches for you?

  41 yes
  18 no
  1 unknown

6. Does your organization or department have interest in the geographic variations of coal quality in the Illinois Basin?

  40 yes
  20 no

7. Are you doing research on samples from the Illinois Basin Coal Sample Program, a source for uniform samples of coal maintained at the Illinois Geological Survey?

  14 yes
  45 no

☐ 8. Do you obtain coal samples from other sources?

  39 yes
  If yes, from which of the following sources?

   12 Argonne National Laboratory Premium Coal Sample Program
   14 Penn State Coal Bank
   29 supplied by a coal company or utility
   20 collected by you or your colleagues at a mine
   4 other (specify) PETC; CLIENTS; ANY; DOE

  21 no
9. Are there other kinds of information related to coal, not included in the Coal Information System databases, that you would be interested in if you had access?

34 yes (please specify):

18 quality data on operating coal mines
5 historical data on Illinois coal mines
7 mined-out area maps
17 bibliography of all technical articles on Illinois Basin coal
7 other (please specify): INFORMATION ON STRUCTURE AND REACTIVITY; INFORMATION ON COAL MINERS; COAL CLEANING PERFORMANCE DATA; DEPOSITION, EROSION, CORROSION PROPERTIES; DRILL HOLE DATA; QUANTITY OF COAL REMAINING; LIST OF COAL LOADING DOCKS

23 no
3 unknown
PROcedures to use the
Coal Information System at the Illinois State Geological Survey
Champaign, Illinois 61820

Contact: Dick Harvey, 217-244-0836
Brian Trask, 217-244-2421
Rolf Wilson, 217-244-2514
Carl Kruse, 217-333-5161

Connect Settings: Telephone Nos. (Champaign, IL):
Baud rate - 1200 or 2400 217-333-4466
Parity - N -333-9259
Data bits - 7 -244-0330 (1200 baud only)
Stop bits - 1 -244-0188 (1200 baud only)
Echo on - N

Start Communications by entering: Login_CisUser (means a space)
The computer prompts:
Password?
Enter the password obtained from one on the contact persons,
The computer then prompts:
Project ID?
Enter CRSC

After the welcome and other superfluous messages that follow, you will finally get the computer's prompt: OK?

Switch your keyboard to Caps Lock

Start the CIS program by entering: R_CIS

Hints: 1. The computer is working when your cursor is flashing.
2. Later, if you enter Y (for yes) to a print query, the table(s) will be printed at the ISGS and mailed to you.

The CIS menu is:

Welcome to the Coal Information Systems
Established by the
Illinois Geological Survey
With assistance from the
Center for Research on Sulfur in Coal

Selections
1. Chemical Analyses of Illinois Coals
2. Illinois Basin Coal Sample Program
3. Illinois Coal Bibliography
4. exit

Warning:

Selection 4 quits the program and immediately logs you off the computer.
CIS SELECTION 1. CHEMICAL ANALYSES OF ILLINOIS COALS (ISCIC)

Foreword: You will not be able to clearly read the chemical data you retrieve on your monitor, the output table is too wide. Plan to off-load the data to your station and print it on your wide printer, or in compressed or sideways mode on a standard printer. Refer to the attached list of codes to decipher the sample type codes that appear for each sample in the table.

Enter your name, organization, and telephone, as prompted.

Hint: Ignore the first statement that appears on your monitor: "ENTER COMMAND>RUN ISCIC".

The following questions will appear in sequence. Enter as prompted:

Hint: If, in response to one of the following, you choose to enter -1 (to exit the question) enter <cr> only once. Monitor the number of samples (# records) that are selected and indicated on your screen.

DO YOU WANT TO SELECT BY COUNTY ? (Y/N)
Enter 0 (zero) to see list of county code numbers.

DO YOU WANT TO SELECT BY TOWNSHIP ? (Y/N)
Enter the number, followed by the direction (N or S, etc.).
You must know the township #, direction, range # and direction.

DO YOU WANT TO SELECT BY SEAM ? (Y/N)
Enter 0 (zero) to see the list of seam codes.

DO YOU WANT TO SELECT BY SAMPLE TYPE ? (Y/N)
One will normally enter N to this question. Enter C for only channel and related types. Enter B for only bench samples. Each bench rep-represents only one layer (bench) from the seam. Enter W for washed samples (float-sink of a given density).

DO YOU WANT TO SELECT BY CHEMICAL VALUES ? (Y/N)
Use the TAB key to move the cursor to the particular chemical property desired. GT means greater than, LT means less than.

You now have an opportunity to do the selections over again if you do not like the number of samples (records) you got on the first try. Remember, it takes about 5 seconds to download data for each sample.

SORT MENU
1 BY SEAM, THEN COUNTY, TOWNSHIP-SECTION, LABNO
2 BY MINE, THEN SEAM, COUNTY, TOWNSHIP-SECTION, LABNO
3 BY COMPANY, THEN MINE, LABNO

STATISTICS MENU
1 AS RECEIVED
2 DRY
3 DRY, ASH-FREE
4 DRY, MINERAL-MATTER-FREE
5 MOIST, MINERAL-MATTER-FREE
6 NONE

The results of the statistical calculations are appended to the table of results for the samples you selected. You now can setup to download the table of selected data to your station. After the data are scrolled to your screen you are returned to the CIS menu. If you want to stop the scrolling of data to your screen enter '"P'. This dumps you out of the program and in the Prime operating system. To start again, you will need to enter the commands: CA <cr>, RLS -ALL <cr>, TIDY <cr>; then R CIS.
CIS SELECTION 2. ILLINOIS BASIN COAL SAMPLE PROGRAM (IBCSP)

Enter your name, organization, telephone, and the date as prompted.

The IBCSP menu is:

ILLINOIS BASIN COAL SAMPLE PROGRAM
1. STANDARD CHEMICAL DATA
2. TRACE ELEMENT DATA
3. PETROGRAPHIC DATA
4. MINERAL MATTER DATA
5. ASH COMPOSITION
6. ASH FUSION AND GRINDABILITY
7. PYRITE CHARACTERIZATION
8. PROJECT DESCRIPTIONS

Choose one >:

Hints: If your choice is 1 through 7 the sample menu (see below) comes up to allow you to select which sample you want the data for. The data for several samples are displayed together on the screen for certain on these choices.

If you choose 2 (TRACE ELEMENT DATA) be alert to use Ctrl-S to freeze a screen-full of data on your terminal; Ctrl-Q starts it again.

Choice 8 (PROJECT DESCRIPTIONS) first gives a listing of the persons in alphabetical order (and addresses) who are using one or more of the samples. Enter the number for the person you are interested to learn the title and objectives of his/her research project; or you may move to the next page of persons and continue as desired.

Sample Menu:

<table>
<thead>
<tr>
<th>Sample no.</th>
<th>Product</th>
<th>Seam</th>
<th>Location</th>
<th>Unique characters</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mine-washed</td>
<td>Herrin</td>
<td>W. Central IL</td>
<td>High organic S</td>
</tr>
<tr>
<td>2</td>
<td>Mine-washed</td>
<td>Colchester</td>
<td>Western IL</td>
<td>Low ash, high PyrS</td>
</tr>
<tr>
<td>3</td>
<td>Mine-washed</td>
<td>80%Spf,20%Her</td>
<td>Southern IL</td>
<td>Highest rank (hvBb)</td>
</tr>
<tr>
<td>4</td>
<td>Run-of-mine</td>
<td>Herrin</td>
<td>Southwestern IL</td>
<td>Highest ash (38.1)</td>
</tr>
<tr>
<td>5</td>
<td>Channel</td>
<td>Herrin</td>
<td>Southwestern IL</td>
<td>Least oxidized</td>
</tr>
<tr>
<td>6</td>
<td>Mine-washed</td>
<td>Springfield</td>
<td>Southwestern IN</td>
<td>Indiana hvBb coal</td>
</tr>
<tr>
<td>7</td>
<td>Special</td>
<td>Herrin</td>
<td>Central IL</td>
<td>Lg range: S isotopes</td>
</tr>
<tr>
<td>8</td>
<td>Deep clean</td>
<td>80%Her,20%Spf</td>
<td>Southern IL</td>
<td>Advanced froth flotn</td>
</tr>
<tr>
<td>9</td>
<td>Mine-washed</td>
<td>Herrin</td>
<td>Southern IL</td>
<td>Lo ash (3.8),Hi Cl</td>
</tr>
</tbody>
</table>

Choose a sample >:

Hint: An option is provided at the bottom of each screen of data to:

1 - LIST MORE INFORMATION - returns you to the IBCSP menu.
2 - EXIT - returns you to the CIS menu.
CIS SELECTION 3. ILLINOIS COAL BIBLIOGRAPHY (ICB)

Enter your name, organization, and telephone number as prompted.

The program goes through a routine to help you identify the type of terminal you are emulating. Please answer the questions you are prompted with.

The initial ICB menu is:

ENTRIES BY HEADING CHOSEN SO FAR:
1. CITATIONS 0
2. AUTHORS 0
3. PROJECTS 0
4. PRINCIPAL INVESTIGATORS 0
5. RESEARCH AREAS 0
6. FILES 0

The main ICB menu is:

CRSC BIBLIOGRAPHIC INFORMATION MENU

OPTIONS ARE:
1    START OVER
2    SELECT FILE
3    SELECT RESEARCH AREA
4    SELECT PRINCIPAL INVESTIGATOR
5    SELECT PROJECT
6    SELECT AUTHOR
7    SELECT CITATION
8    DISPLAY CHOSEN CITATIONS
9    DISPLAY CHOSEN ABSTRACTS
99   EXIT BIBLIOGRAPHIC DATA BASE

Additional instructions are being prepared for this selection.
CODES FOR VARIOUS TYPES OF SAMPLES

For use with output tables from ISCIC

<table>
<thead>
<tr>
<th>Channel type samples</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FC</strong> Channel of unit or seam, impurities &gt; 3/8&quot; present, but excluded</td>
<td></td>
</tr>
<tr>
<td><strong>IC</strong> Channel of unit or seam, impurities &gt; 3/8&quot; present and included</td>
<td></td>
</tr>
<tr>
<td><strong>PC</strong> Channel of unit or seam, impurities &gt; 3/8&quot; not present</td>
<td></td>
</tr>
<tr>
<td><strong>DFC</strong> Drill core of unit or seam, impurities &gt; 3/8&quot; present but excluded</td>
<td></td>
</tr>
<tr>
<td><strong>DIC</strong> Drill core of unit or seam, impurities &gt; 3/8&quot; present in sample</td>
<td></td>
</tr>
<tr>
<td><strong>DPC</strong> Drill core of unit or seam, impurities &gt; 3/8&quot; not present</td>
<td></td>
</tr>
<tr>
<td><strong>DC</strong> Drill core sample, see details in the remarks</td>
<td></td>
</tr>
<tr>
<td><strong>CFC</strong> Composite channel samples, impurities &gt; 3/8&quot; present but excluded</td>
<td></td>
</tr>
<tr>
<td><strong>CIC</strong> Composite of channel samples, impurities &gt; 3/8&quot; present in sample</td>
<td></td>
</tr>
<tr>
<td><strong>CPC</strong> Composite of channel samples, impurities &gt; 3/8&quot; not present</td>
<td></td>
</tr>
<tr>
<td><strong>CB</strong> Composite of bench or block samples, see details in remarks</td>
<td></td>
</tr>
<tr>
<td><strong>CDC</strong> Composite of drill core samples, see details in the remarks</td>
<td></td>
</tr>
<tr>
<td><strong>CC</strong> Composite of column samples</td>
<td></td>
</tr>
<tr>
<td><strong>C</strong> Column sample, all impurities included if present.</td>
<td></td>
</tr>
</tbody>
</table>

Bench type samples ("B") - i stands for integers 1 (top bench) to 9

| BFi   | Channel of bench i, impurities > 3/8" present but excluded |   |
| BII   | Channel of bench i, impurities > 3/8" present in sample |   |
| BPi   | Channel of bench i, impurities > 3/8" not present |   |
| Bi    | Bench sample of i, impurities not described. |   |
| B     | Bench sample, unknown bench number. |   |

Remaining types of samples (representation of questionable value unless explicit details are given in the remarks).

| GB    | Grab sample, see details in the remarks |   |
| LAB   | Laboratory generated sample. See remarks for more details |   |
| RM    | Run of mine sample. |   |
| RP    | Run of preparation plant, see details in the remarks. |   |
| SP    | Special sample, see details in the remarks. |   |
| WI    | "Washed" rock of a specified density fraction, i fractions in the set. |   |