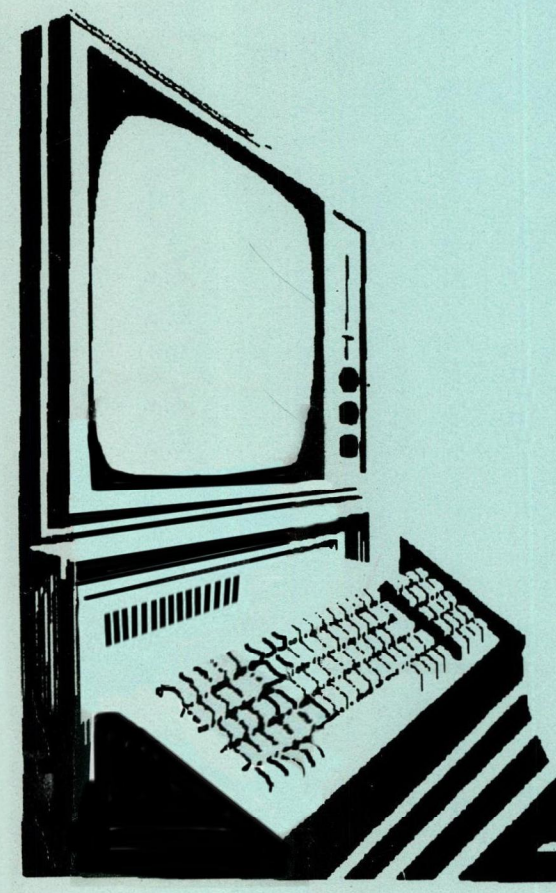
Risk Reduction Engineering Laboratory
Releases Control Branch
Edison, New Jersey 08837

COLIS USER'S GUIDE



Computerized On-line Information System
Technical Information Exchange (TIX)

November 1990

DISCLAIMER

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INTRODUCTION

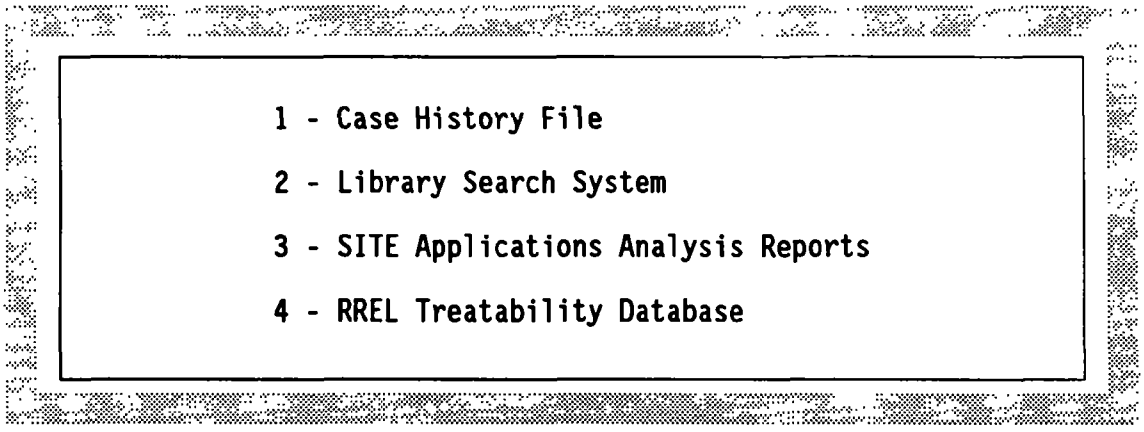
COMPUTERIZED ON-LINE INFORMATION SYSTEM (COLIS)

Welcome to COLIS!

COLIS is a consolidation of several computerized databases that have been developed by the EPA's Risk Reduction Engineering Laboratory (RREL). Information from various sources, such as reports from field personnel and publications in the TIX special collection, are being entered into the system daily. COLIS is steadily evolving as the Laboratory accumulates more information and devises additional computer programs for searching or processing information.

COLIS is maintained by TIX, a specialized Technical Information Exchange that is directed by RREL's Releases Control Branch in Edison, New Jersey. COLIS is only one of several information exchange services provided by TIX.

The programs and databases available as of August 1989 are:



The Case History File contains After-Action Reports (case studies) about corrective actions on leaking underground storage tanks, hazardous waste site removal and remedial actions, and oil or hazardous material spill responses. The reports in the Case History File were submitted by On-Scene Coordinators or Remedial Project Managers or they were condensed by the TIX staff from very detailed contractors' reports.

A series of simple menus allows you to search through the Case History File for incidents that involved specific chemicals, topography, hydrology, cleanup technologies, etc. Twenty-seven different search criteria are currently available.

The Library Search System contains catalog cards and abstracts for documents in the TIX Library. The library offers special collections on oil and hazardous materials spills, underground storage tanks, personnel protection, stormwater, incineration, soil washing, and other EPA research topics and Superfund-related activities. The Library Search programs allow free-form searching through the catalog cards and abstracts.

The SITE system contains the Applications Analysis Reports (AARs) that are prepared on completion of Superfund Innovative Technology Evaluation (SITE) Program projects. They are a valuable source of performance and cost data. This information will assist researchers and Superfund site remediation teams in selecting appropriate techniques for cleanup of hazardous waste sites. This system allows free-form searching through the entire text of the SITE AARs.

The RREL Treatability Database provides access to published peer-reviewed data to assist in determining whether a proposed method of treatment is appropriate for the specific compound present in the solid or liquid waste to be treated.

COLIS is menu-oriented, and on-line help is available at each level of the system.

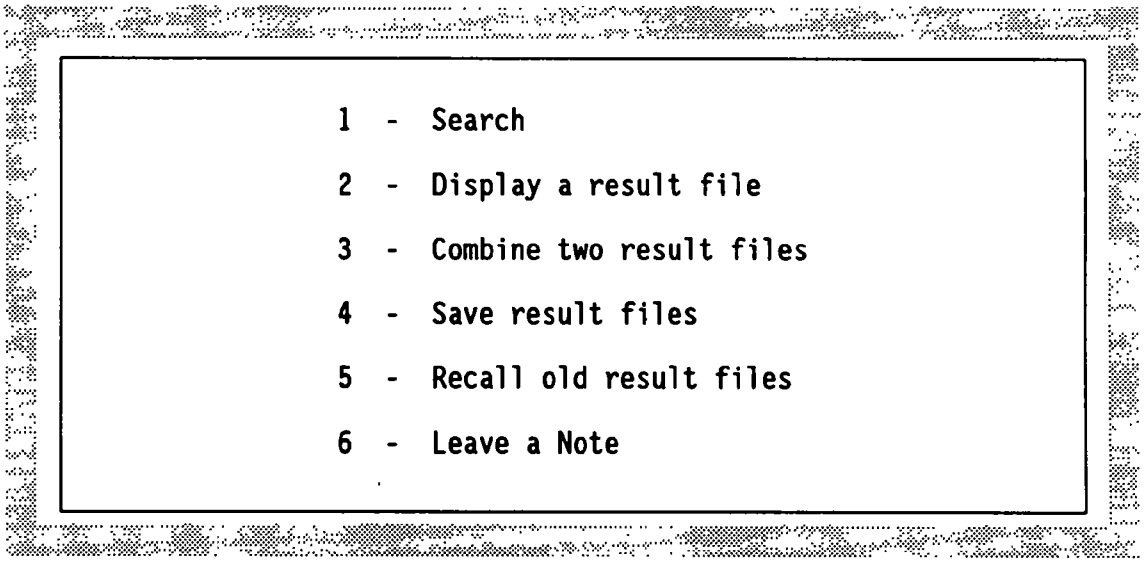
COLIS requires little or no prior computer experience. We recommend that you learn by doing. First read the following sections that cover how to access COLIS and the general descriptions of each option. If you have any additional questions, call TIX at one of the numbers in Appendix A.

THE CASE HISTORY FILE

The Case History File (the File) contains primarily technical information on corrective actions at leaking underground storage tanks, hazardous waste site remedial and removal actions, and spill responses. These are generically referred to as "incidents".

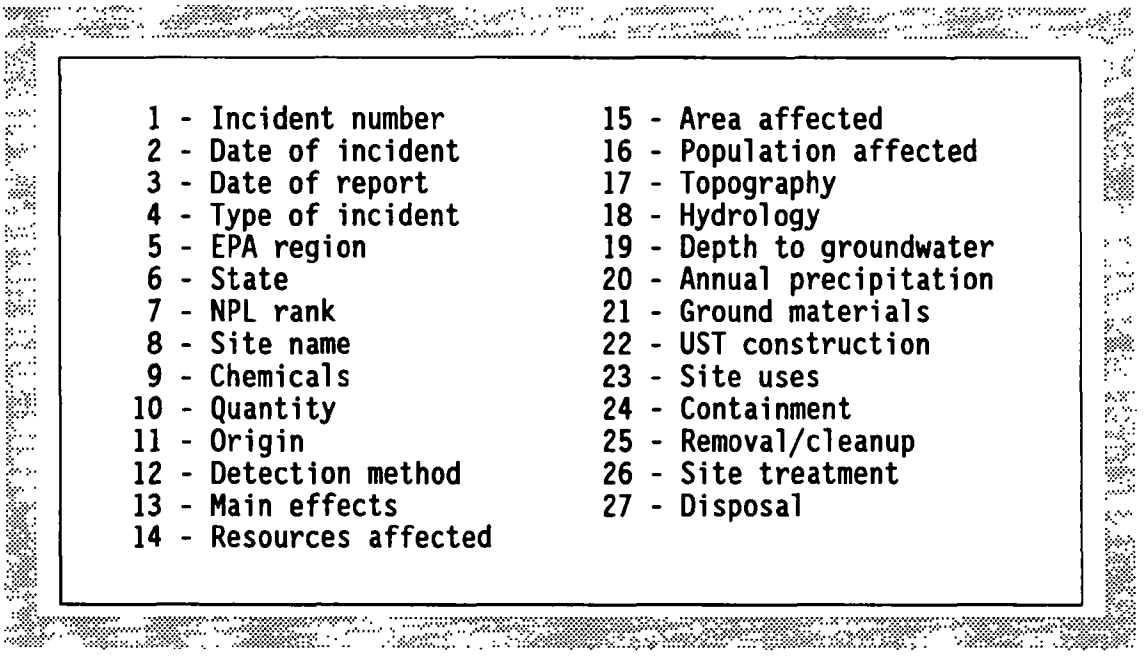
The File has two parts. One part is a collection of computer databases that hold key words or values in 27 different categories. The other part of the File is a collection of 10 sections containing narrative reports for the incidents. The key words or values and the text of the narratives come from After-Action Reports submitted by federal, state, and municipal personnel or their contractors.

The File offers six functions in its main menu:



Search

You begin a search by selecting one of the 27 categories from the search menu:



Then select from another menu that displays options available to you in that category. For example, if you choose the option "quantity", you will get a menu that allows you to enter the lower and upper limits for a range of quantities. If you select "Type of incident", you will be shown a list of 4 types of incidents that have been used in the database.

COLIS keeps track of your intermediate search results so you can build a progressively narrower search. When you specify a search criterion like "UST" for type of incident, COLIS makes a temporary file that contains a list of all the UST incidents. You can create up to 10 of these temporary files. Then COLIS starts recycling them.

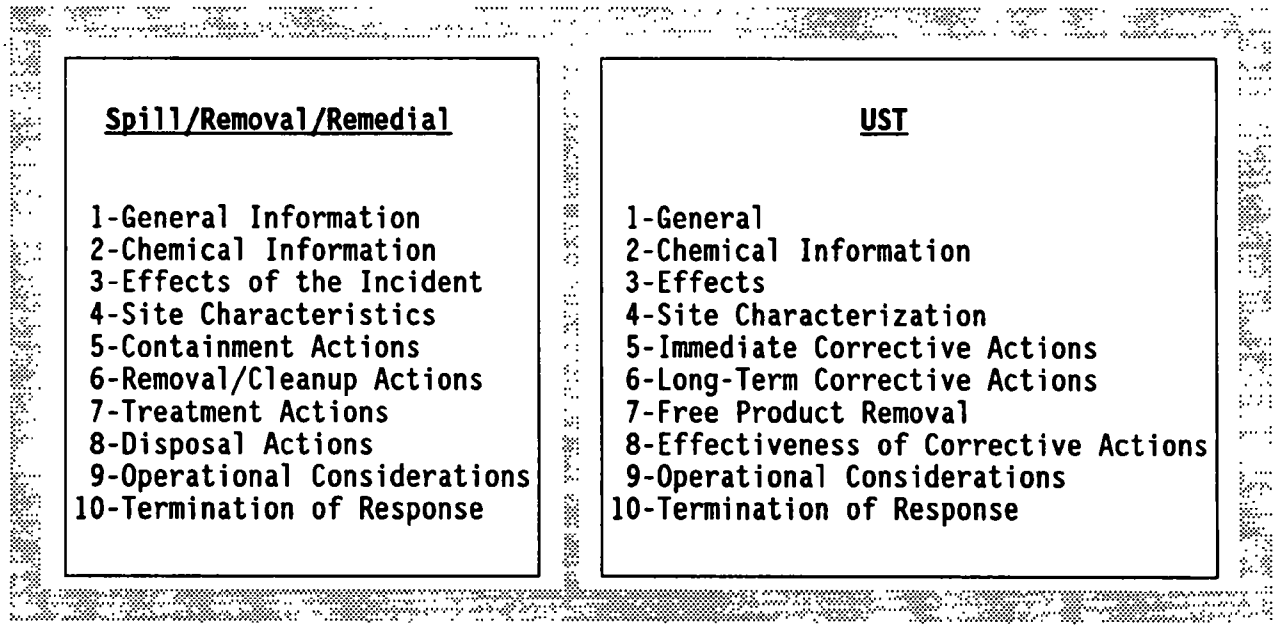
Display a result file

To display a result file, enter a file number from 0 to 9. The File offers two forms of output: an abstract and a narrative report.

The abstract is a one-page summary of data available on one incident. It includes the same items as the list of 27 Available Search Criteria on the Search Menu.

The narrative report consists of the 10 sections listed below. You may view a section of the report by entering its number. Different Tables of Contents are used for spill/removal/remedial actions and for UST corrective actions.

Tables of Contents



Spill/Removal/Remedial

1-General Information
2-Chemical Information
3-Effects of the Incident
4-Site Characteristics
5-Containment Actions
6-Removal/Cleanup Actions
7-Treatment Actions
8-Disposal Actions
9-Operational Considerations
10-Termination of Response

UST

1-General
2-Chemical Information
3-Effects
4-Site Characterization
5-Immediate Corrective Actions
6-Long-Term Corrective Actions
7-Free Product Removal
8-Effectiveness of Corrective Actions
9-Operational Considerations
10-Termination of Response

Combine two result files

You may combine result files to limit or expand your search, depending on the type of logic you select.

A(nd) logic narrows down the search to a smaller number of incidents that have only a few common elements. For example, you may want to find all incidents that were: in **Region 2 AND** involved **USTs**. Note that **AND** logic will find only those elements that satisfy both criteria. Specifying **Region 2 AND Region 3** will produce no finds, because you cannot have both at the same time.

O(r) logic searches for a large number of incidents that do not have common elements. For example, to find all incidents that were in **Region 2** and all incidents that were in **Region 3**, specify: **Region 2 OR Region 3**. One result file will then contain all incidents that occurred in those two Regions.

Save result files

When you complete a search or must interrupt it, you can save your results and recall them at a later date. You will be asked to provide a code name. It must contain 2 to 7 characters (letters and numerals only). The system will inform you that your files have been saved using the code name exactly as you have entered it. Make a note of it in order to use it at a future date to recall your files.

TIX currently allows you to save your files for up to one month. This period is subject to change, to compensate for heavy usage. After one month, TIX will archive users' files to floppy disks. You will still be able to access your files by calling the COLIS System Operator to have them reloaded onto the computer.

Recall old result files

In order to retrieve files that you may have stored earlier, you must provide the code name exactly as you entered it when you saved those files. When your files have been recalled, you may then proceed to work with those files using any of the Case History File functions available in the Main Menu.

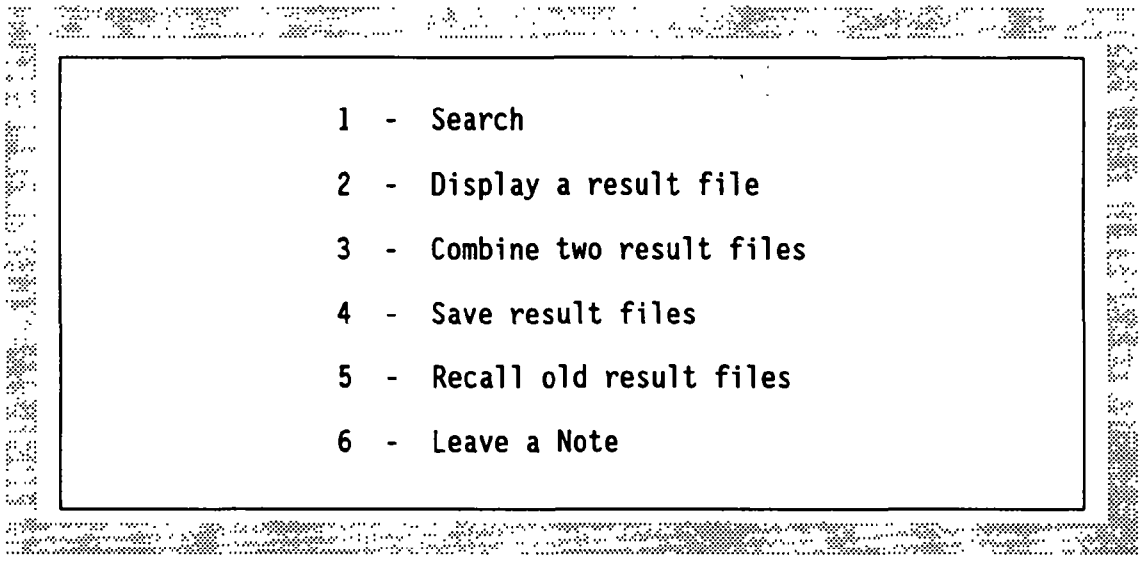
Leave a Note

This function allows you to enter any note, comments, or suggestions to the COLIS System Operator.

THE LIBRARY SEARCH SYSTEM

The Library Search System provides free-form searching through the catalog cards and abstracts of documents in the TIX library. You may conduct your own literature searches using your own key words. You are not limited to standard lists of key words.

The LSS provides the same six functions in the main menu as the Case History File. The six functions are:



Search

The LSS Search Menu is very simple. You merely enter a word (or a number, such as "1984"). The LSS will find all documents whose catalog card or abstract contains your word. The system will tell you how many "hits" it found and will save the list of documents in a result file, if you wish. The number of hits is the number of publications in the database whose catalog card or abstract contains your key word. You may create up to 10 files. Then COLIS starts recycling them.

Display a result file

To display a result file, enter a file number from 0 to 9. The System will display the "catalog cards" of the publications contained in your result file, one by one. You also have an option to view the abstracts by pressing "A" in the bottom menu of the catalog card screen.

Combine two result files

You may combine result files to limit or expand your search, depending on the type of logic you select.

A(nd) logic narrows down the search to a smaller number of publications that have only a few common elements. For example, you may want to find all publications written by **Royer AND** published in the year **1985**.

O(r) logic searches for a large number of publications that do not have common elements, for example, to find all publications that contain the word **tank OR** the word **storage**.

Save result files

When you complete a search or must interrupt it, you can save your results and recall them at a later date. You will be asked to provide a code name. It must contain 2 to 7 characters (letters and numerals only). The system will inform you that your files have been saved using the code name exactly as you have entered it. Make a note of it in order to use it at a future date to recall your files.

TIX currently allows you to save your files for up to one month. This period is subject to change, to compensate for heavy usage. After one month, TIX will archive users' files to floppy disks. You will still be able to access your files by calling the COLIS System Operator to have them reloaded onto the computer.

Recall old result files

In order to retrieve files that you may have stored earlier, you must provide the code name exactly as you entered it when you saved those files. When your files have been recalled, you may then proceed to work with those files using any of the Library Search System functions available in the Main Menu.

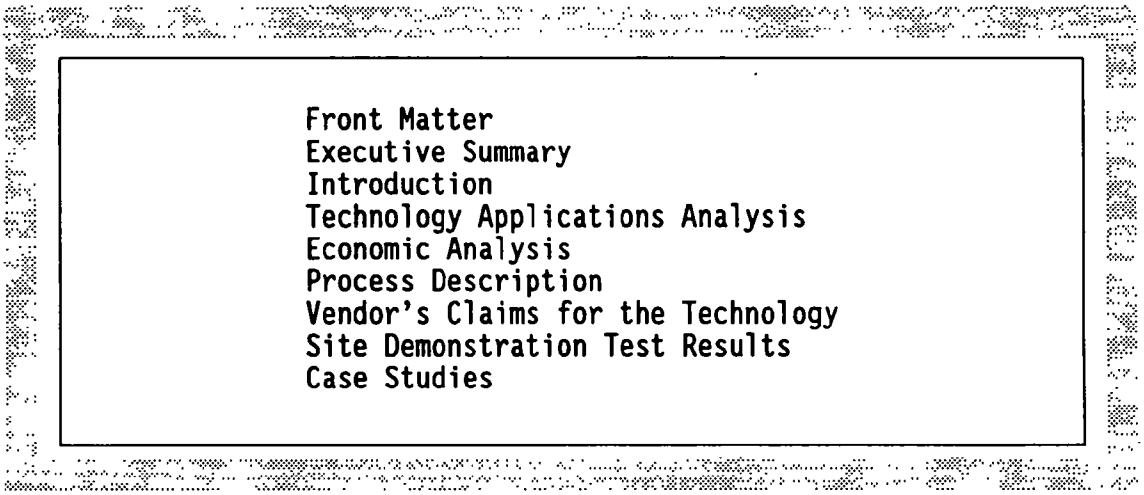
Leave a Note

This function allows you to enter any note, comments, or suggestions to the COLIS System Operator.

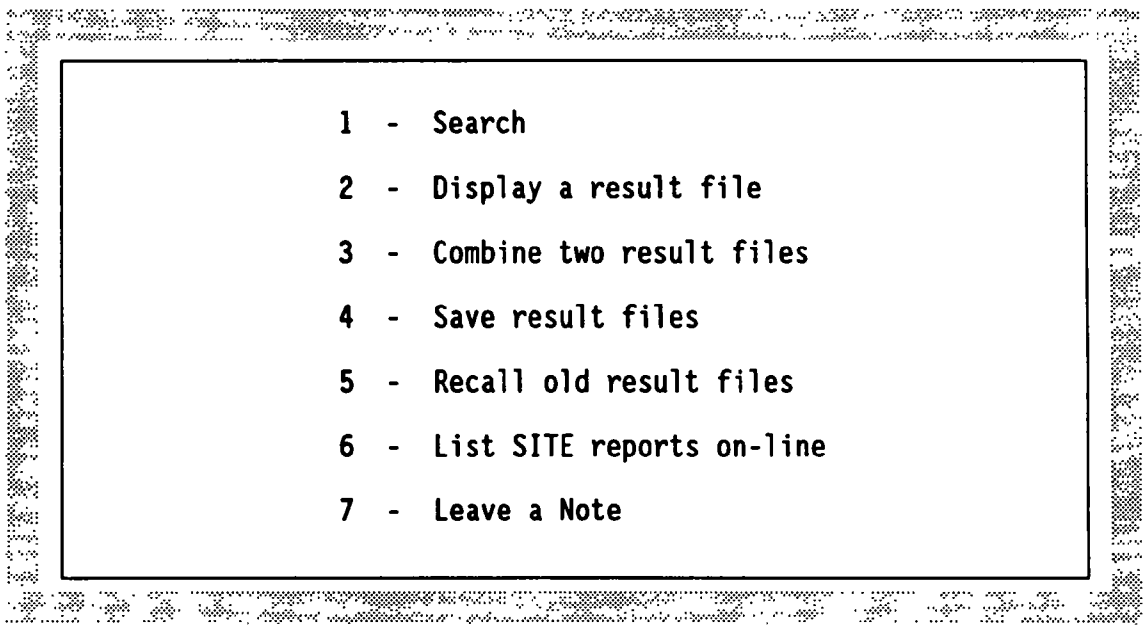
THE SITE APPLICATIONS ANALYSIS REPORTS

The SITE Applications Analysis Reports (AARs) is a database that provides performance and cost information on the technologies evaluated under the Superfund Innovative Technology Evaluation (SITE) Demonstration Program.

As the name implies, this system contains the text of EPA-approved SITE Applications Analysis Reports submitted by contractors. Each report may contain several sections of information:



The SITE AAR system offers seven functions in the main menu:



Search

The SITE AAR Search Menu is very simple. You merely enter a word (or a number, such as "1989"). The number of hits refers to the number of specific reports that have an occurrence of the word, but not the total number of occurrences in all reports. When you enter a key word like "cost", the system creates a temporary file that contains all the reports with this key word. You can create up to 10 of these temporary files. Then COLIS starts recycling them.

Display a result file

Enter a file number from 0 to 9 to display a result file. The system displays the SITE report titles on-line that have an occurrence of the word with their respective COLIS report numbers. If you enter a report number, the system will display a Table of Sections for the report specified with asterisks marking the sections where the key word occurs.

Combine two result files

You may combine result files to limit or expand your search, depending on the type of logic you select.

A(nd) logic narrows down the search to a smaller number of reports that have only a few common elements. For example, you may want to find all reports that have an occurrence of the word **cost AND** the word **cement.**

O(r) logic searches for a large number of reports that do not have common elements, for example, to find all reports that contain the word **cost OR** the word **cement.**

Save result files

When you complete a search or must interrupt it, you can save your results and recall them at a later date. You will be asked to provide a code name. It must contain 2 to 7 characters (letters and numerals only). The system will inform you that your files have been saved using the code name exactly as you have entered it. Make a note of it in order to use it at a future date to recall your files.

TIX currently allows you to save your files for up to one month. This period is subject to change, to compensate for heavy usage. After one month, TIX will archive users' files to floppy disks. You will still be able to access your files by calling the COLIS System Operator to have them reloaded onto the computer.

Recall old result files

In order to retrieve files that you may have stored earlier, you must provide the code name exactly as you entered it when you saved those files. When your files have been recalled, you may then proceed to work with those files using any of the SITE Applications Analysis Reports functions available in the Main Menu.

List SITE reports on-line

The SITE AAR system features an additional option that allows a user to retrieve SITE reports on-line without searching. This option displays a list of all on-line SITE report titles and their respective COLIS report numbers. If you enter a report number, the program will display a Table of Sections for the report specified. In this option, no result files are created.

Leave a Note

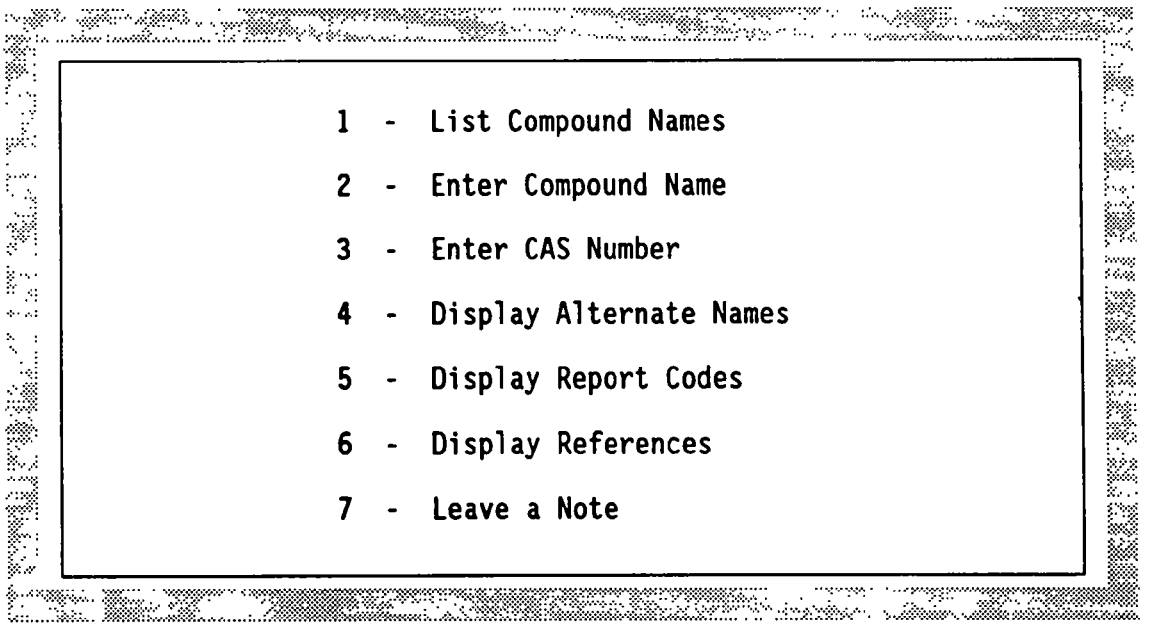
This function allows you to enter any note, comments, or suggestions to the COLIS System Operator.

THE RREL TREATABILITY DATABASE

The RREL Treatability Database (TDB) provides access to published peer-reviewed data regarding alternative treatment technologies for the removal of contaminants from liquid and solid wastes. You are prompted through a series of menus to provide the name of the desired contaminant. Chemical and physical properties of the contaminant are then displayed; treatability data, if it exists, is also displayed.

All data presented in the database is referenced by a four digit number. You can save these numbers at any time in the program and later display abstracts of these saved numbers. This database, originally developed by the Water Engineering Research Laboratory under the direction of Mr. Kenneth A. Dostal, is continuously updated to provide users with the most recent and comprehensive information available.

The TDB provides the following seven functions:



List Compound Names

The TDB **List Compound Names** option is very simple. Enter up to three (3) letters of the compound name. The database searches for the name of the contaminant beginning with these letters and alphabetically lists the available compounds. You may enter (U)p or (D)own to scroll through the list or enter the number corresponding to the desired compound.

The program then displays: (1) the compound name, (2) the primary name of the compound, and (3) whether treatability data exists for the particular compound. You may then choose to continue or return to the main menu to select another compound.

If you choose to continue, the program will display chemical, physical, and existing treatability data for the compound that you selected. You may press (U)p or (D)own to scroll through the data.

Most of the data available in the TDB is referenced by a four digit number sometimes followed by a letter. These numbers can be saved at any time while scrolling through the data. Simply press (S)ave and you are prompted for the number. To view these references, use the **Display References** option of the main menu.

Enter Compound Name

The TDB **Enter Compound Name** option prompts you for the name of the desired compound. The compound must be entered exactly; incorrect spellings and/or erroneous abbreviations will result in the message "Compound Not Found" being displayed. If you are not sure of the correct spelling of the compound, use the **List Compound Names** option to retrieve your information. Once the name is entered correctly, the program behaves as described in the **List Compound Names** option.

Enter CAS Number

The TDB **Enter CAS Number** option prompts you for the CAS number of the desired compound. The number must be entered exactly; misplaced hyphens or erroneous numbers will result in the message "Compound Not Found" being displayed. Once the number is entered correctly, the program behaves as described in the **List Compound Names** option.

Display Alternate Names

The TDB **Display Alternate Names** option displays an alphabetical list of primary names and their corresponding alternate names. CAS numbers and whether treatability data is available are also displayed. Enter the beginning letters of the compound name. The database searches for the primary name of the compound beginning with these letters and alphabetically lists them. You may enter (U)p or (D)own to scroll through the list.

Display Report Codes

The TDB **Display Report Codes** option allows you to view a text file containing abbreviations and codes used in the presentation of the data. You may enter (U)p or (D)own to scroll through this list.

Display References

The **Display References** option allows you to view references previously saved. A list of the saved reference numbers from previous options is displayed. You are then prompted to enter the number of the reference that you wish to view. This number should be typed in without any suffix; if an invalid number is entered, the message "Reference Not Found" will be displayed. When the number is entered correctly, the reference will be presented on the screen and you can press (U)p or (D)own to scroll through it.

Leave a Note

This function allows you to enter any note, comments, or suggestions to the COLIS System Operator.

ACCESSING COLIS

You can access COLIS using a wide variety of equipment. The setup for a typical EPA microcomputer system is presented here. For other systems, see the requirements in Appendix A, or call the COLIS System Operator if you need additional help.

This description assumes that you have the following:

a microcomputer
a modem (1200 or 2400 bps)
the CrossTalk telecommunications program

Make these settings in CrossTalk:

SP 1200 (or 2400, to match your modem)
DA 8
ST 1
PA none
EM VT100
IN off
OU off
NA COLIS
NU 12015484636 <--- You may have to revise this number to one suitable for dialing out from your location. If you are working through a port selector instead of a modem, you will have to make additional special adjustments. The commercial line number is **201-548-4636**. A direct FTS number is not available.

NOTE:

COLIS operates at 1200 and 2400 bits per second. The computer will adjust to your speed automatically.

The terminal emulation (EM) and the IN settings are especially important. Do not forget them. They allow COLIS to have capabilities not available on most bulletin boards.

Save the Crosstalk settings using the command **SAVE COLIS**.

Enter the command **GO**, and wait for your computer to dial COLIS. When COLIS answers the telephone, you will hear the usual modem connection sequence (high-pitched tone, then lower-pitched tone, then white-noise hash). The white noise indicates that you are now connected. Some modems will also display a message like "CONNECT" or "CONNECT 1200" on your screen.

Press **RETURN** (i.e., ENTER) and wait for a few seconds. COLIS will request your password. Type **epa** (in lower case) and press **RETURN**.

If you made an error in typing the password, COLIS will request your password again. Press **RETURN** and COLIS will request you to login. Just type **epa** and press **RETURN**.

Once COLIS accepts your password, it will ask you to enter your terminal type. Press **RETURN** if you are using VT100. Otherwise, enter the terminal type you are using. Then the sign on screen will appear.

APPENDIX A

General Information About TIX

The Technical Information Exchange (TIX)

TIX disseminates specialized technical information on current findings from the U.S. Environmental Protection Agency's research and development program involved with hazardous waste technologies. It provides user access to over 5000 books, journals, technical reports, and audio/visual (A/V) materials on the subject. TIX is contractor-operated, under the direction of the Agency's Releases Control Branch of the Risk Reduction Engineering Laboratory, Edison, New Jersey.

The TIX collection currently emphasizes information involving the evaluation of new and innovative techniques for the cleanup of ecosystems damaged by spills, underground storage tank leaks, uncontrolled waste sites, urban and non-point sources of stormwater run-off, and the identification of environmentally sound methods for the disposal of contaminated wastes associated with cleanup operations. Other information includes products from tests and evaluations of personal protective clothing, breathing apparatus, and other safety equipment and procedures to protect personnel involved in the handling of pesticides and other toxic substances, as well as individuals engaged in emergency response at chemical spills and hazardous waste sites.

Materials can be obtained either by visiting the TIX reference library at Edison, New Jersey, or through its Computerized On-Line Information System, COLIS.

The Computer System

COLIS uses an AST Premium 386 microcomputer with 110-megabyte hard disk drive and Hayes compatible 2400 modems. The modems operate at 1200 and 2400 bits per second and automatically adjusts to the speed used by your modem.

COLIS runs on a multi-user SCO Xenix 2.3.2 operating system and capable of handling a maximum of 8 users at one time. The system is set for 8 data bits per word, 1 stop bit, and no parity. The COLIS database programs are written entirely in Xenix C, accessing dBase III+ data files.

The operation of the database programs requires certain capabilities of your terminal, such as being able to clear the screen, to locate the cursor at any row and column, and to display characters in reverse video. Most modem programs provide these capabilities; they are able to mimic several common sophisticated terminals, like the VT100. COLIS can adapt to different terminal types, so you have considerable latitude in selecting the terminal type you will use. However, you must tell COLIS which terminal you are using when you sign on. If you have any questions on the terminal types that COLIS supports, please call the System Operator at the telephone number listed below.

TIX periodically reloads the entire COLIS database from archived disks to ensure the integrity of the data.

Telephone Numbers

TIX.....201-321-6644
FTS 340-6644

COLIS Computer.....201-548-4636

COLIS System Operator.....201-906-6871
FTS-340-6871

NOTE:

TIX does not record what you do on COLIS, so you have to tell the System Operator when you run into a problem. TIX welcomes your advice, suggestions, and comments. Please share these by selecting the 'Leave a Note' option when using COLIS. For questions that need immediate response, dial one of the above phone numbers.

APPENDIX B

How To Organize A Search

A search is usually organized into several steps that successively narrow down the number of records that meet your criteria.

For example, in the **Case History File**, suppose you want to identify incidents in Region 2 that involved benzene, toluene, or xylene. Your final criterion can be expressed as follows:

(Region 2) AND (benzene OR toluene OR xylene)

Here is a way to conduct this search in the Case History File:

1. Search for incidents that involved benzene.....The computer will store all benzene incidents in file0.

2. Search for incidents that involved toluene.....The computer will store all toluene incidents in file1.

3. Search for incidents that involved xylene.....The computer will store all xylene incidents in file2.

4. Search for incidents in Region 2.....The computer will store all incidents from Region 2 in file3.

5. Combine file0 and file1 using OR logic.....The computer will save incidents that involved benzene or toluene in file4.

6. Combine file2 and file4 using OR logic.....The computer will save incidents that involved benzene or toluene or xylene in file5.

7. Combine file3 and file5 using AND logic.....The computer will save incidents in Region 2 that involved benzene or toluene or xylene in file6.

Display file6 to see your results.

The Library Search System and the **SITE Applications Analysis Reports** use the same procedure in organizing a search.

APPENDIX C

CASE HISTORY FILE KEY WORDS

One part of the Case History File is a collection of computer databases that contain 27 fields (i.e., categories or types of data). When you select one of these 27 available search criteria, COLIS displays the key words or other options available in that category. For convenience in planning your search strategy, we have listed below the codes from which you may choose.

NOTE: Every key word is not necessarily in current use. TIX does not guarantee that you will get a "hit" with every key word.

1 - Incident number

2 - Date of incident
  1969 to date

3 - Date of report
  1983 to date

4 - Type of incident
  1 - remedial action
  2 - removal action
  3 - spill response
  4 - UST corrective action

5 - EPA region
  1 - 10

6 - State
  2/3 letter abbreviation
  of a state/province

7 - NPL rank

8 - Site name
  3 to 10 letters

9 - Chemicals
  CAS #
  DOT #
  3 to 10 letters of a
  substance name

10 - Quantity
  in kilograms

11 - Origin
  1 - airway
  2 - container
  3 - dump
  4 - landfill
  5 - pipeline
  6 - plant
  7 - pond
  8 - railway
  9 - sewer
  10 - storage
  11 - tank
  12 - UST corrosion
  13 - UST piping
  14 - UST install error
  15 - UST overfill
  16 - UST tank
  17 - vehicle
  18 - vessel
  19 - other

12 - Detection method
  1 - external leak detector
  2 - internal leak detector
  3 - inventory records
  4 - sight
  5 - smell
  6 - tank tightness
  7 - taste
  8 - other

13 - Main effects
1 - air pollution
2 - fire/explosion
3 - fish kill
4 - human health
5 - property damage
6 - soil contamination
7 - vegetation kill
8 - water contamination
9 - wildlife kill
10 - other
11 - none

14 - Resources affected
1 - atmosphere
2 - coastal area
3 - drinking aquifer
4 - groundwater
5 - intracoastal area
6 - lake
7 - land
8 - marine (open ocean)
9 - pond
10 - river
11 - stream
12 - unused aquifer
13 - wetlands
14 - other
15 - none

15 - Area affected
in acres

16 - Population affected

17 - Topography
1 - beach
2 - flat land
3 - forest
4 - hills
5 - karst
6 - marine
7 - mountains
8 - ocean port
9 - river port
10 - valley
11 - other

18 - Hydrology
1 - aquifer recharge
2 - confined aquifer
3 - estuary
4 - flood channel
5 - flood plain
6 - fractured bedrock
7 - karst zone
8 - lake/pond
9 - marsh
10 - stream valley
11 - unconfined aquifer
12 - water course
13 - other

19 - Depth to groundwater
in inches

20 - Annual precipitation
in inches

21 - Ground materials
1 - asphalt surface
2 - concrete surface
3 - brush
4 - bedrock
5 - gravel
6 - sandstone
7 - sand
8 - shale
9 - silt
10 - clay
11 - fill
12 - rock
13 - other

22 - UST construction
1 - anchor
2 - coating
3 - concrete
4 - double walled
5 - external cathode
6 - fiberglass (FRP)
7 - gravel backfill
8 - internal cathode
9 - liner
10 - sand backfill
11 - soil backfill
12 - steel
13 - tank support
14 - trap
15 - unknown

23 - Site uses
1 - agricultural
2 - commercial
3 - critical habitat
4 - historic site
5 - indian reservation
6 - industrial
7 - military reservation
8 - parkland
9 - recreation
10 - residential
11 - transportation
12 - unused
13 - other

24 - Containment
1 - boom
2 - cap
3 - cover
4 - dike
5 - divert
6 - liner
7 - plug
8 - sump
9 - trench
10 - containers
11 - groundwater control
12 - isolation
13 - leachate collection
14 - subsurface barrier
15 - vapor collection
16 - other
17 - none

25 - Removal/cleanup
1 - empty tank
2 - repair tank
3 - remove tank
4 - replace tank
5 - repair pipe system
6 - replace pipe system
7 - excavate backfill
8 - excavate other soil
9 - extract groundwater
10 - remove free product
11 - burn
12 - collect leachate
13 - containerize
14 - excavate
15 - flush away
16 - haul away
17 - pump/vac truck
18 - treat on site
19 - other
20 - none

26 - Site treatment
1 - activated carbon
2 - activated sludge
3 - air stripping
4 - biodegradation
5 - chemical
6 - chemical extract.
7 - filtration
8 - flocculation
9 - ion exchange
10 - neutralization
11 - passive remedia.
12 - physical
13 - precipitation
14 - resin adsorption
15 - reverse osmosis
16 - sedimentation
17 - soil washing
18 - solidification
19 - sorbent
20 - stabilization
21 - steam stripping
22 - thermal destruc.
23 - ventilation
24 - vitrification
25 - volatilization
26 - other
27 - none

27 - Disposal
1 - encapsulation
2 - evaporation
3 - incineration
4 - injection well
5 - land farming
6 - landfill
7 - ocean dumping
8 - recycling
9 - other
10 - none