♻EPA

WATERS
Well Activities Tracking, Evaluation and Reporting System

Version 2.0

User Guide

Compliance & Enforcement • Inventory • MIT • Permit • Inspection • Compliance & Enforcement • Inventory • MIT • Permit • Inspection • Compliance & Enforcement • Inventory • MIT • Permit • Inspection • Compliance & Enforcement • Inventory • MIT • Permit • Inspection • Compliance & Enforcement • Inventory • Inspection • Compliance • Inventory • MIT • Permit • & Enforcement • Inspection ment • Inspection • Inventory • MIT • pliance & Enf Permit • Inspe cement • Inventory • Com- pliance & En MIT • Permit • Inspection nce & Enforce- ment • Inventory • MIT • Permit • Inspection • Compliance & Enforcement • Inventory • MIT • Permit • Inspection • Compliance & Enforcement • Inventory • MIT • Permit • Inspection • Compliance & Enforcement • Inventory • MIT • Permit • Inspection • Com- pliance & Enforcement • Inventory • MIT •

INSTALLATION PACKAGE

The basic WATERS installation package contains the following:

- One WATERS Program Diskette (EPA 813-C-93-001)
- One GIS Data Diskette (see specific EPA order numbers below)
- One User Guide (EPA 813-B-93-002, October 1993)

If you wish to use the optional WATERS Mapping System (WMS), you must also obtain a MapInfo™ runtime module. The runtime module includes several diskettes, installation instructions, and user documentation.

Until February 28, 1994, a runtime module may be purchased at a <u>reduced</u> price for the WATERS application from the following MapInfo™ authorized developer for $335.75 a copy (current price is $695.00). **Payment must accompany order.**

American Management Systems, Inc.
1777 North Kent Street
Arlington, Virginia 22209
Attn: Mr. Jerry Golley

After February 1994, runtime modules may be purchased at the regular price through any authorized developer.

The specific order numbers for the GIS Data Diskette by EPA Region and State are listed below.

Region	States Included	EPA Publication Number
I	CT,ME,MA,NH,RI,VT	813-C-93-002
II	NJ,NY,PR,VI	813-C-93-003
III	DE,DC,MD,PA,VA,WV	813-C-93-004
IV	AL,FL,GA,KY,MS,NC,SC,TN	813-C-93-005
V	IL,IN,MI,MN,OH,WI	813-C-93-006
VI	AR,LA,NM,OK,TX	813-C-93-007
VII	IA,KS,MO,NE	813-C-93-008
VIII	CO,MT,ND,SD,UT,WY	813-C-93-009
IX	AZ,CA,HI,NV,AS,GU,	813-C-93-010
X	AK,ID,OR,WA	813-C-93-011

WATERS Mapping System Installation Addendum

(This is an addendum to *Chapter III: Installation and Start-up* of the WATERS User Guide)

To install the MapInfo™ Runtime Module, follow the directions below.

Step 1.   Insert the RUNTIME DISK 1 in Drive A.   Then type <u>A.Install</u>.

Step 2.   When you are asked, *Do you wish to install the MapInfo™ Runtime Software?*, select <u>yes</u>.

Step 3.   When asked to confirm the destination path, select <u>no</u>, and then type <u>C:\WATERS\RT</u>.

Step 4.   You are instructed to insert Program Disk 1 and press ENTER to begin installation.   Then prompted for Program Disk 2 and the Drivers Diskette.

Step 5.   When asked, *Do you want to see the READ.ME file?*, select <u>no</u>.

Step 6.   When asked *Do you wish to specify your hardware configuration?*, select <u>yes</u>.

Step 7.   Select the Display, Input, and Output Device.

Step 8.   When asked *Do you wish to load any data?*, select <u>no</u>.

One of the files created when installing the MapInfo™ Runtime Module is the CGI.CFG file. A copy of this file should always be available for the WATERS Mapping System. The file is created from Steps 6-7 above and is the configuration file pointed to by the CGIPATH DOS variable.

When CGI.CFG is not found, an error message is displayed. In such cases, the CGI.CFG file may not have been created during installation or device configuration was incorrectly assigned. To correct the problem, add <u>CGIPATH=C:\WATERS\RT</u> to the AUTOEXEC.BAT file, and then reboot your machine.

After installation of the MapInfo™ Runtime Module, the GIS startup displays a warning message indicating that the following files were not found:

- MAPINFO Help file
- Pointfile CITY

To prevent these warnings messages from occurring, use a text editor (such as EDIT) to modify the WMS.CNF file located in the WATERS directory. Two changes need to be made to this file:

1)   Delete: /H MAPINFO.HLP
2)   Change: /P D:\WATERS\MAPDATA\CITY
3)   To: /P C:\WATERS\MAPDATA\CITY
     where C: is the drive WATERS was installed.

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standard reports to support State/DI program management and operation needs.

The reports may contain information for a single well, a group of wells, or all the wells. These reports enable you to take full advantage of WATERS' query capabilities to determine which wells should be included in a report. Some reports also allow you to choose the time frame, enabling you to print current reports for management purposes, or past reports for reference purposes. The Custom Report feature allows you to create ad hoc reports.

EPA designed the WATERS user interface to minimize the amount of time you will need to learn and begin to use the system. It includes a number of visual effects to help you understand what the system is doing. It also includes pull-down menus, dialog boxes, and on-line help.

You can easily add to or edit the well data contained in the system. In addition, by searching for the contents of a specific field (or group of fields), you can retrieve information about a well or group of wells.

Version 2.0 Highlights

While WATERS Version 1.0 was designed to track only Class II wells, WATERS 2.0 accommodates all UIC wells, as well as non-UIC wells. Other new features of WATERS 2.0 include:

- cross-folder searching
- the ability to add pages and data elements
- LAN compatibility
- mapping capabilities with GIS functions
- ad hoc reporting
- enhanced copying capabilities
- enhanced well schematic drawn to scale
- enhanced features to save and delete queries

Acknowledgments

The basis of the Version 1.0 prototype of the Well
Activities Tracking, Evaluation and Reporting Systems
(WATERS) released in October 1991 was the effort of
the Data Management Workgroup which met
during 1989 to develop a minimum data set for the
Underground Injection Control (UIC) program. Many
advanced features and functions are incorporated
in Version 2.0, which reflects many of the comments
and suggestions from potential users and the insight
of the development team. Enhancements include
LAN compatibility, a GIS module, and increased
reporting capabilities (including the 7520 forms).

Contract support for the development of WATERS,
the accompanying documentation as well as the
UIC information management system was provided
by American Management Systems, Inc. of
Arlington, Virginia.

Comments on this document or on the WATERS
program should be directed in writing to:

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II. User Guide Overview

This User Guide discusses the features and capabilities of WATERS and provides guidance for using the system. It is organized so that you have two references for WATERS: the chapters and the training script (Appendix A). The chapters describe functions and features, while the training script provides step-by-step examples of many WATERS features.

All new users should review the training script before using WATERS. Users familiar with WATERS can use the script as a reference. When appropriate, the chapters will provide the page numbers of corresponding examples in the training script. Similarly, the training script will cite the corresponding chapter that has more in-depth explanations of each function.

Organization

The User Guide is organized as follows:

- Chapter III discusses the installation package, system requirements, installation, program start-up, and deleting test data.

- Chapter IV briefly discusses the basic components of WATERS: database modules (referred to as folders), menus, and navigation.

- Chapter V discusses WATERS' folders for UIC and non-UIC wells.

- Chapter VI discusses WATERS' menus.

- Chapter VII discusses WATERS' query capabilities.

- Chapter VIII describes the reports available in WATERS.

- Chapter IX describes the optional WATER Mapping System (WMS).

- Chapter X discusses the WATERS Screen Editor, which allows users to add screens and data elements to folders.

- Chapter XI summarizes the help available for WATERS users.

- Appendix A is a training script that provides step-by-step instructions for many WATERS features.

- Appendix B contains the WATERS database and field descriptions.

Formatting Conventions

The WATERS User Guide follows several formatting conventions, which are listed below:

- Text you type into the system is underlined (i.e., type Install A:).

- Buttons you must press appear as boxes (i.e., press ⌷ Return ⌷) .

- References to specific data element names are in quotes (i.e., enter Y or N in the "Rule Authorized" field).

- Prompts and messages from the system appear in a different font (i.e., C:\WATERS).

- Items of particular interest are identified as tips.

III. Installation and Start-Up

This chapter describes how to install WATERS on your PC or LAN and start the program.

Installation Package

The basic WATERS installation package contains the following: one program diskette and one geographic information system (GIS) data diskette. If you wish to use the optional WATERS Mapping System (WMS), you must also obtain a MapInfo runtime module from EPA Headquarters or MapInfo Corporation. The runtime module includes several diskettes, installation instructions, and user documentation.

The WATERS program diskette contains four programs:

- The WATERS program

  This program includes the basic data entry and query functions, a test database, and the ability to print reports and produce a well schematic.

- The Screen Editor program

  The Screen Editor enables you to add pages and fields to the core WATERS system.

- The WATERS Mapping System (WMS)

  WMS is an optional program that produces maps of the geographic areas surrounding wells tracked in WATERS.

- The WMS Layers program

  The Layers program enables you to add, remove, and change the style of geographic features in WMS maps.

The GIS data diskette contains your region's geographical data, which WMS uses to plot maps. You must have a MapInfo runtime module to operate the WMS program. However, you can install the WMS program prior to obtaining the runtime module.

TIP: You can obtain a MapInfo runtime module by contacting the WATERS Project Manager at EPA Headquarters.

The WATERS program diskette and the GIS diskette are labeled differently so you can easily distinguish the two. The program diskette depicts a well schematic and the title PROGRAM DISKETTE above the EPA logo. The GIS data diskette depicts a compass, the title GIS DATA DISKETTE above the EPA logo, and your region number in the upper right corner.

WATERS System Requirements

This section describes WATERS' hardware and software requirements. Specifically, WATERS Version 2.0 requires:

- An IBM or compatible 286 machine (a 386 machine or higher is recommended)

- 640K RAM with 570K free

- At least 3 megabytes (MB) of free hard disk space

- An extended keyboard

- An HP Laser Jet II or III or compatible printer

- A color monitor for correct screen interpretation

- DOS version 3.30 or greater (version 5.0 or greater is preferable)

See Chapter IX for WMS systems requirements.

**Installing
WATERS**

This section describes how to install WATERS and its associated programs on a PC or a LAN, and how to delete the test data. Generally, the drive which accepts diskettes is the A or B drive. Your hard drive is usually the C drive. For simplicity, this chapter will assume that your A drive receives the WATERS diskettes, and your hard drive is the C drive.

Before installing WATERS, be sure that your computer meets the system requirements discussed above.

TIP: If you have trouble loading WATERS, refer to Chapter XI for additional DOS-related installation hints.

Follow the steps below to install WATERS, the Screen Editor, WMS, and the GIS data on an individual PC or a local area network.

Step 1:   Insert the WATERS program disk into your A drive.

Step 2:   Type A: Press ⎣ **Return** ⎦.

Step 3:   Type Install A: C: and press ⎣ **Return** ⎦.

The INSTALL program will create a directory on your C drive named WATERS, and will then copy the WATERS program and temporary database files to the WATERS directory.

Step 4:   WATERS will ask: Would you like to install the WATERS Mapping System now? (Y/N). To install WMS, type Y, press ⎣ **Return** ⎦, and go to step 5. If you do not want to install WMS, type N, press ⎣ **Return** ⎦, and go to step 7.

Step 5:   When the system finishes installing the WMS program files, it will prompt you to enter the diskette containing the GIS data. Eject the WATERS program diskette and insert the GIS data diskette into the A drive and press ⎣ **Return** ⎦.

TIP: The GIS database requires 4 or 5 megabytes of memory. If you are not sure you want to use WMS, you can install the GIS data diskette and the MapInfo runtime module at a later date. To do so, insert your program diskette into your A drive and type WMSUPD A:C: at the A:\ prompt. Then, follow the program's instructions to install the GIS data and the MapInfo runtime module.

Step 6:
After the data has been installed, the system displays a screen of information describing the remaining steps you must take to make WMS operational. You must:

- Install the MapInfo runtime module according to the instructions enclosed with the software

- Edit your autoexec.bat file to include the location of the runtime module in your path

- Edit your autoexec.bat file to set the CGIPATH to that of the runtime module.

For more details, see Chapter IX.

Step 7:
Remove the diskette from your A drive.

WATERS is now available on your C drive. You may start WATERS and experiment with the test data, or delete the test data and enter your own data.

If you are installing WATERS on a LAN, please continue through step 11 to assign WATERS to the network directory you choose.

Step 8:
To ensure WATERS can run properly on your system, edit your config.sys file to set Files= value to 83. See Chapter XI for more details.

Step 9:
Copy WATERS into the appropriate network directory.

Step 10:
Delete WATERS from your local hard drive.

Step 11:   Type <u>Del *.mem</u> at the DOS prompt for the network
drive to signal the network server that the data is
not on your hard drive.

TIP: For LAN users, the network directory your LAN
administrator chooses will replace the C:\WATERS
prompt.

Network administrators should inform users of how to
access WATERS on their particular network.

**Starting
WATERS**

Follow these steps each time you want to start
WATERS:

Step 1:   Type <u>C:</u> (or specify the appropriate network drive)
and press ⌐ **Return** ⌐.

Step 2:   Type <u>CD\WATERS</u> and press ⌐ **Return** ⌐.

You are now in the WATERS directory, as indicated
by the C:\WATERS prompt on your screen.

Step 3:   You will only need to perform this step the first time
you start WATERS. It will prompt you to Please
enter the full path to the data. Press
⌐ **Return** ⌐ if you have followed the installation
directions in this chapter and are not accessing
WATERS on a network. This signals to the computer
that the data path is C:\WATERS. However, if you
are a PC user and you did not follow the instructions
described above, or you are using WATERS on a
LAN, the data may be in a directory other than
C:\WATERS. Type the path to that directory and
press ⌐ **Return** ⌐.

Step 4:   Type <u>WATERS</u> at the C:WATERS prompt and press
⌐ **Return** ⌐.

You have just instructed your computer to load
WATERS. While it is loading, a start-up screen with
the name of the program will appear on your
monitor.

TIP: The first time you load WATERS, and following the use of the Screen Editor, the loading process will take longer because WATERS must create indexes for all of your files.

Once WATERS is completely loaded, you will see the Permits screen shown below in Exhibit III - 1. The system displays the first well in the database (sorted by the "Well ID"). If there is no data in the database, the screen will display a blank record.

Exhibit III - 1: Permits Screen

```
┌─────┬─────┬───────┬──────┬──────────────WATERS State System═══════════════════╗  ┌─┐ ┌─┬─┐
│File │ Edit│ Query │ Help │ ════════════                                        │  │←│ │·│→│
├─────┴─────┴───────┴──────┴───────────────────────────────────────────────────┤  └─┘ └─┴─┘
│  ┌─────────┐ ┌───────────┐ ┌────────────┐ ┌──────┐ ┌──────────┐ ┌───────────┐ │
│  │ Permits │ │ Inventory │ │ Inspection │ │  MIT │ │ Compl/Enf│ │ Operations│ │
│  └─────────┘ └───────────┘ └────────────┘ └──────┘ └──────────┘ └───────────┘ │ ┌──PgUp
│   ┌─ Op:  Columbus Energy Corp. ─────────────────────UT02337 ──────┐          │ ║░░▓
│  O│  Rule Authorized          N                                     │          │ ┌─┐
│  O│                                                                 │          │ │2│
│  O│  Application Number           867585  Well Identifier  UT02337  │          │ └─┘
│  O│  Permit Number           UT8975647W   Type of Well Prmtd Converted│        │ │3│
│  O│  Type of Well Permit     Individual   Class            2         │          │└─┘
│  O│  No. of Wells/Permit     1            Type             2H Liquid Hydroc     │ │4│
│  O│                                                                 │          │ └─┘
│  O│  Application Date        1967/04/05   Technical Review  1967/01/15│         │
│  O│  Date Permit Issued      1967/07/26   Public Notice     1967/06/18│         │
│  O│  Date Permit Effective   1967/08/25   Public Hearing    1967/07/17│         │
│  O│  Date Permit Modified    1969/07/07   Permit Term        5 Years  │         │
│  O│  Type of Permit Mod      Permit Tra   Expiration        1993/03/17│         │
│  O│                                                                 │          │
│  O│  Date Plugged/Abandoned    /   /      Date Permit Denied   /   /  │         │
│  O│  Commercial Facility     N            Date Withdrawn       /   /  │         │ PgDn
│   └─────────────────────────────────────────────────────────────────┘         │
│  ┌─────┐ ┌─────────┐ ┌───────────┐                                             │
│  │ UIC │ │ Non-UIC │ │ File Menu  │                                            │
│  └─────┘ └─────────┘ └───────────┘                                             │
└────────────────────────────────────────────────────────────────────────────────┘
```

Deleting Test Data

The test database that is automatically installed with WATERS will be very useful to you while you are learning how to use the system. However, when you are ready to begin entering your own data into WATERS, you must delete the test data. Follow these steps:

Step 1: At the DOS prompt, type C: and then press [Return].

Step 2: Type Cd\WATERS and press [Return].

On your screen, C:\WATERS will appear. This is called the C:\WATERS prompt. It indicates that you are in the WATERS directory.

Step 3:   Type Utility Delete and press ⌷ Return ⌷.

This command executes a program to delete all existing data in all of the WATERS databases. Before doing so, it will prompt you to confirm that you wish to delete the records.

Type Y to continue.

TIP: If you use the Utility Delete program after you begin adding your own data, you will delete your own data!

Step 4:   Type C:\WATERS and press ⌷ Return ⌷. You have now returned to the C:\WATERS prompt.

You are now ready to enter your own data into WATERS.

TIP: Back up your WATERS data regularly. While the programs can be reinstalled from disks, your data could be lost in the event of a hard disk failure or some other problem. See Chapter VI for instructions on how to use the backup function.

IV. The Basics of WATERS

Folders

WATERS contains two modules of data: one for :C wells and one for non-UIC wells. The data are separated into folders according to UIC progrc ·. activities. There are six folders for UIC wells and one for non-UIC wells. The UIC folders are: Permits, Inventory, Inspection, Mechanical Integrity Tests (MIT), Compliance/Enforcement, and Operation: The non-UIC folder contains both permits and inventory information. A folder contains a screer ɔr a series of screens with data about individual wells. Each folder is identified by tabs or labels that appear near the top of the screen. All tabs are visible regardless of which folder you are currently accessing.

To access the UIC data, type U̲. To access non-UIC data, type N̲. Once in the UIC dataset, select a folder by typing the highlighted letter of its title (i.e., P̲ for Permits). When you access the non-UIC data, you automatically access its one folder. Just as you can flip through sheets of paper to see the contents of a paper folder, you can flip through screens to view the contents of the computer folder. WATERS' visual effects appear to slide the screens into place.

Each well has only one Permits and Inventory record, each containing multiple pages of data elements. In contrast, the other folders have only one page of data elements but may contain multiple records for each well. Use the number keys or ⌊ Page Up ⌋ and ⌊Page Down⌋ to move between pages; they will appear to move horizontally across the screen.

Menus   Four menus contain WATERS functions for operating
the system. Their names are always visible in the
upper left corner of the screen. They are as follows:

Menu	Functions
File Menu	Systems administration, information and control functions.
Edit Menu	Database modification functions.
Query Menu	Query and reporting functions.
Help Menu	Help text file.

The functions in these menus are described in more
detail in Chapter VI.

Sample Screen

The exhibit below highlights the key components of WATERS' user interface.

Exhibit IV-1: Sample Screen
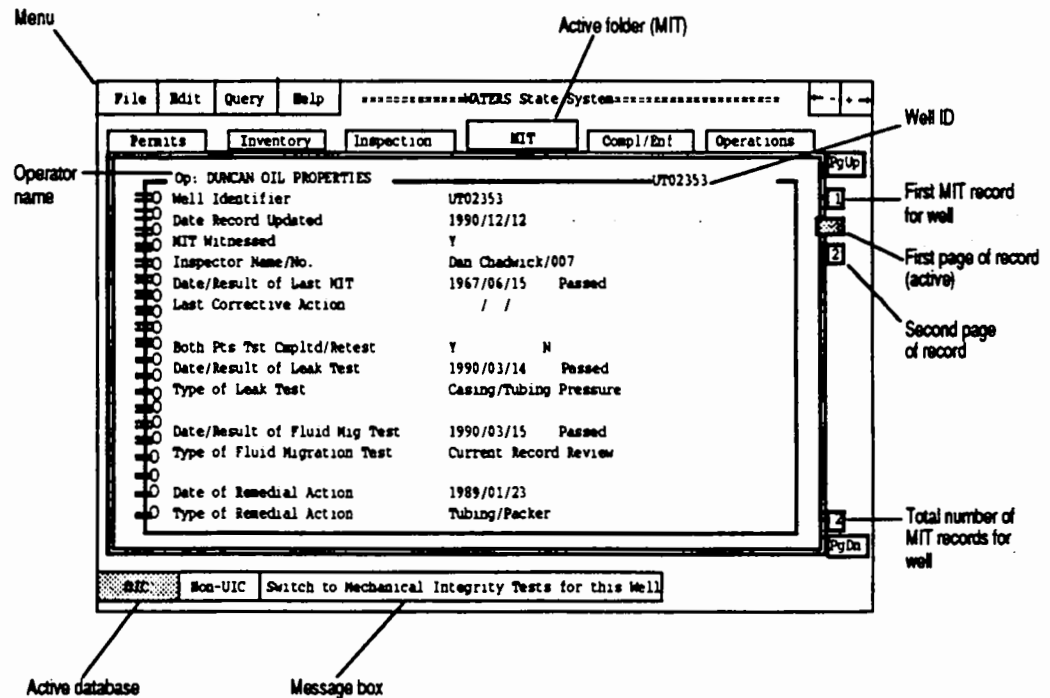
·Navigation

You navigate in WATERS by using your keyboard. Generally, pressing and releasing a key performs an action once. Holding the key repeats an action. For instance, if you hold the [Page Down] key, WATERS will continue to flip through multiple pages of a folder until you stop pressing [Page Down].

Letter and Number Keys

You can use the number and letter keys to navigate through WATERS.

A through Z

Press the highlighted letter of any title, menu item, or folder name to access that item. For example, press P to move to the Permits folder or press I to move to the Inventory folder. Pressing E will bring up the Edit menu. Letter keys will work from any point in the system except when you are editing a record, constructing a query, or building a custom report. You must finish editing the record, or complete the query or custom report before you are able to use the letter keys to navigate the system. If you wish, you can use the ⌷ Escape ⌷ key to cancel your editing, querying, or custom report session.

Number Keys

You may also use the number keys to navigate through WATERS.
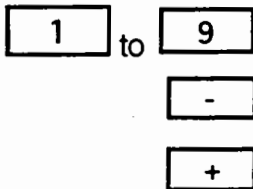
⌷ 1 ⌷ to ⌷ 9 ⌷   Flips through multiple pages of a folder.

⌷ - ⌷   Moves to the previous record in the current folder.

⌷ + ⌷   Moves to the next record in the current folder.

Function Keys

⌷ Page Up ⌷

You can use a number of function keys to navigate your way through WATERS.

Flips through pages of a folder in reverse order to show the previous page or screen. For example, the Inventory folder has six pages. If you are on the fifth page, press ⌷ Page Up ⌷ to get to the fourth page. You can also use the number keys to move between pages.

If you are on the first page in the folder, ⌷ Page Up ⌷ will move to the last page of the previous folder. For example, if you are on page one in the Inventory folder, ⌷ Page Up ⌷ will move you to the last page in the Permits folder. You cannot use ⌷ Page Up ⌷ if you are on the first page in the Permits folder.

Page Down	Flips through multiple pages of a folder to show the next page or screen. For example, the Inventory folder has six pages. If you are on the second page, press **Page Down** to get to the third page. You can also use the number keys move between pages.
	If you are on the last page in the folder, **Page Down** will move you to the first page of the next folder. For example: If you are on page six in the Inventory folder, **Page Down** will move you to page one in the Inspections folder.
Escape	Returns you to the main menu. This function key is useful if you decide not to select a menu option. For example when you access a menu, you can use **Escape** to return to the main menu if you decide not to select any of the menu options. Removes a pop-up window when a cancel option is available.
Return	Selects a title or item when it is highlighted. Moves the cursor to the next field you can enter or edit during data entry, find, and custom report mode. You can also use the tab key to move to the next field.
Enter	Selects a title or item when it is highlighted (same as return).
	Moves the cursor to the next field you can enter or edit during data entry, find, and custom report mode. You can also use the tab key to move to the next field.
F1	Accesses on-line help.
F2	Accesses the link menu.
F3	Switches folders when constructing a link and when searching across folders.
F4	Marks fields for inclusion in custom reports.
F5	Displays criteria for link.

[←] and [→]   Highlights the appropriate menu or folder. Press [Return] to select that item.

[↑] and [↓]   Moves you vertically through menu options and fields in the edit, query, and custom report mode. Press [Return] to select that item.

Commands   There are also a series of control-character commands that can also help you make your way through WATERS.

[Control] - W   Displays a dialog box when you have entered, edited, or copied a record. This box allows you to save, cancel, or edit the record.

                Displays a dialog box when you have entered search criteria. This box allows you to submit, clear, or edit the query criteria.

                You may also use [Control] - [End].

[Control] -   Displays a dialog box when you have entered,
[End]   edited, or copied a record. This box allows you to save, cancel, or edit the record.

                Displays a dialog box when you have entered search criteria. This box allows you to submit, clear, or edit the query criteria. You may also use [Control] - W.

V. WATERS Folders

This chapter describes all the folders in WATERS, giving data elements, validity checks, and other details and requirements for both UIC and non-UIC wells. For UIC data, the chapter also describes how the folders are related.

UIC Folders

The six UIC folders in the WATERS system are inter-related because most UIC wells that you track will have data in all folders. WATERS enables you to relate the events in a folder (e.g., the inspections records in the Inspection folder) to the wells to which they apply. Each well must have one (and only one) record in the Permits and Inventory folders. These folders hold much of the basic information about the well that seldom changes, such as permit conditions, location, construction, and ownership. This data is stored on multiple pages or screens, which you can access using the [Page Up] , [Page Down] , or number keys.

In contrast, the Inspection, MIT, Compliance/ Enforcement and Operations folders may contain multiple records for each well. This is because these folders track recurring events for a well, such as inspections, MITs, violations, and enforcement actions. Each of these records is only one page in length.

TIP: You can add pages to records in the Inspection, MIT, Compliance/Enforcement and Operations folders by using the Screen Editor. (The Screen Editor is discussed in Chapter VIII.)

Each time an event occurs for a specific well, you can add a record to the system. A well's unique ID

links these events to the basic well information in the Permits and Inventory folders.

WATERS' user-friendly interface enables you to quickly and easily move between folders for a specific well. You can also move through a specific folder to view information about multiple events or multiple wells. When you switch to a different folder, you will see the data for the same well you were viewing in the previous folder. For the folders with the potential for multiple well records, you can also move between well records in the folders to see data on individual events related to that well. While in any folder, you can move to the next well by using the ⎿ + ⏌ and ⎿ - ⏌ keys.

When you move from folder to folder, you might try to view a folder that contains no information for the current well. If this happens, WATERS will display a blank record in that folder with the Well ID in the top right corner. You can instruct WATERS to change to another folder by pressing the appropriate letter in its title, or you can view a different well in the current folder by pressing the ⎿ + ⏌ and ⎿ - ⏌ keys (or using the Query menu options to select a well).

TIP: To print an individual page of any folder, display that page of the folder on the screen and press ⎿ **Print Screen** ⏌

The sections that follow describe each folder in detail.

Single Record Folders

There are two single record folders in WATERS – the Permits folder and the Inventory folder.

Permits

The Permits folder consists of four pages of data elements. The first page contains well identification and permit application data elements. The second page contains data elements on the well's allowed operating parameters and permit conditions. The third page contains financial responsibility data, and the fourth page contains free-form comments. WATERS automatically enters this folder upon start-up. Type P to get to the Permits folder if you are working in any of the other UIC folders.

Since permits are the starting point of UIC tracking and monitoring activities, the Permits folder has several requirements and features to ensure that WATERS adequately supports program functions. These requirements are:

1. Each well MUST have a Permits record. WATERS will not allow you to enter information into the other folders until you have entered Permits data for that well.

2. Every well MUST have a unique Well ID. This is the key WATERS uses to track each well and to link each event (i.e., violations, enforcement actions, inspections) to a specific well.

3. For rule authorized wells, the only open fields on the first page are "Well Identifier", "Type", "Date Plugged", and "Commercial Facility".

4. For wells requiring a permit, you can enter data into any of the open fields on page one. You cannot save the well record unless you enter the following fields:

   • "Rule Authorized"

   • "Permits Well ID"

5. WATERS automatically calculates the field "No. of Wells/Permit". It determines how many wells have the same permit number and displays that value. When you add additional wells under that

area permit, WATERS automatically updates this field.

6. The "Well ID" and the "Operator Organization" are displayed at the top of the screen regardless of the current folder.

WATERS verifies data when you attempt to save a record. You can enter invalid data; however, WATERS will not allow you to save the record. When you save a new or updated record, some of the data fields are automatically checked for accuracy. An error message appears if there is a discrepancy in the data. When it detects an error, WATERS automatically places the cursor at the appropriate field so you can re-enter the data without having to search for the appropriate field. Error checks for the Permits folder ensure that:

- Required fields are entered (i.e., "Rule Authorized", "Permits Well ID", "Well Class" and "Type").

- The "Permits Well ID" and "Application Number" are unique.

- Salt Water Disposal wells are not "Rule Authorized."

- "Expiration Date" is later than "Date Permit Effective".

- "Date plugged/abandoned" is earlier than the data entry date.

- "Well Class" and "Well Type" match.

- "Latitude" is between -90° 00' 00" and 90° 00' 00".

- "Longitude" is between -180° 00' 00 and 180° 00' 00".

- The minutes value for "latitude" and "longitude" is less than 60'.

- The seconds value for "latitude" and "longitude" is less than 60".

TIP: Dates are in the form of Year/Month/Day. If you try to enter the date in a different form, WATERS will erase it. ...

When you finish entering the well's Permits data, you must save the record in one of the following three ways:

- Press ☐ **Page Up** ☐ until you reach the first Permits screen. Then press ☐ **Page Up** ☐ once more.

- Press ☐ **Page Down** ☐ until you reach the last Permits screen. Press, ☐ **Page Down** ☐ once more.

- Use the ☐ **Control** ☐ - **W** or ☐ **Control** ☐ - ☐ **End** ☐ key sequences.

After you perform one of these actions, a dialog box appears on the screen asking you if you wish to save your changes. Select Yes to save the new information. Select No to delete the information you just added. To return to the screen to make changes, select Cancel. Choose the option by highlighting it and pressing ☐ **Return** ☐.

WATERS automatically creates a record in the Inventory folder when you add a new well to the Permits folder. You should enter the Inventory data after entering the Permits data for a new well. Some. data elements entered in the Permits folder are automatically displayed on screens in the Inventory folder for reference purposes. These fields are: "Well ID", "Permits Number", "Rule Authorized", and "Latitude" and "Longitude" of the well. However, these fields can only be edited in the Permits folder. Any changes are automatically reflected in the Inventory folder.

Inventory

The Inventory folder contains five types of data elements displayed on six pages. They are well identification, owner and operator data, construction data, geological data, and hydrogeological data. To access the Inventory folder, type I.

You cannot copy a well's record from the Inventory folder without copying its Permits record because the Permits and inventory information are interrelated. When you try to use the copy function in the Inventory folder, WATERS will automatically move you to the Permits folder, where you can use the copy function for both folders.

When you are entering or editing data in the Inventory folder, WATERS performs error checks on the data as it did for Permits. The error checks ensure that the data in the Inventory folder are accurate and meet the following requirements:

Construction Information

- The "Date Well Drilled" cannot be earlier than the "Date Permits Issued".

- "Date Well Drilled" must be later than the "Date Permit Effective".

- The "Date of First Injection" cannot be earlier than the "Date Drilled".

- The "Date of First Injection" cannot be earlier than the "Date Permit Effective".

- The "Date of First Injection" cannot be earlier than the "Date Permit Issued".

- "Packer Depth" cannot exceed "Total Depth".

- "Packer Depth" cannot exceed "Plug Back Total Depth".

- "Plug Back Total Depth" cannot exceed Total Depth".

- "Surface Casing Diameter" must be greater than the "Intermediate Casing Diameter".

- "Surface Casing Diameter" must be greater than the Long String Casing Diameter".

- "Surfac∈ Casing Diameter" must be greater than the "T⌶ ⸱g Diameter".

- "Intermediate Casing Diameter" must be greater than the "Long String Casing Diameter".

- "Intermediate Casing Diameter" must be greater than the "Tubing Diameter".

- "Long String Casing Diameter" must be greater than the "Tubing Diameter".

- "Surface Casing Depth" must be greater than. the "Total Depth".

- "Intermediate Casing Depth" must be less than "Total Depth".

- "Long String Casing/Liner Depth" must be less than "Total Depth".

- "Tubing Depth" must be less then "Total Depth".

Geological
Information

- "Injection Interval" must be with⸱⸴ the "Injection Zone".

- "Confining Zone" must be above "Injection Interval".

- "Total Thickness" cannot be less than zero.

Hydrological
Information

- "Thickness of USDW" cannot be less than zero.

- "Intervening Thickness" cannot be less than zero.

Multiple Record Folders

The Inspection, MIT, Compliance/Enforcement, and Operations folders contain only one core page of data elements; however, each may contain multiple records for a specific well, each represented by a single page or screen. For example, wells inspected more than once will have multiple records in the Inspections folder. To add a record to these folders, a Permits record must exist for the well.

Two options are available to determine if there are multiple records for a specific well. First, a number tab will appear along the right margin of the record when there are multiple records for a well. Press Page Up or Page Down to view these separate records. Second, use the List option in the Query menu to browse through all of the existing records. If you see the same well identifier listed more than once, then several records exist for that well. To view a record, highlight it using ▲ and ▼ and press Return .

While there are similarities across these folders, they also have unique features: type of data, method of access, and error checks. The next sections describe these features.

Inspection

The Inspection folder contains the name of the inspector, the date and type of inspection, and the outcome of the inspection.

The error checks ensure that:

• Required fields are entered (i.e., "Well ID" and the "Date of Inspection").

• The combination of "Well ID" and "Date of Inspection" is unique.

MIT

The MIT folder contains the name of the inspector, a record of the well's past tests, current test results, and remedial actions from the current test. WATERS automatically calculates the "Date/Result of Last MIT" and "Last Corrective Action Date" fields in the MIT folder. These fields cannot be edited.

WATERS reviews MIT records with the same "Well Identifier" and retrieves the date and result of the most recent MIT test and the most recent "Date of Remedial Action" from the MIT folder. WATERS also automatically generates the "Multiple Enforcement Actions" field, alerting permit writers to recalcitrant violators. A **Y** in this field indicates that more than one enforcement action was needed to bring this well back into compliance.

Error checks ensure that:

- Required fie:-: are entered (i.e., "Date Record Updated" ar.u the "Well Identifier").

- The combination of the "Date Record Updated" and "Well Identifier" is unique.

- A well passes both the fluid migration and the leak test to have a complete two part test.

Compliance/
Enforcement

The Compliance/Enforcement folder contains data elements for violations, penalties, and enforcement actions. In this folder, the pop-up list for the "Type of Violation" field has violations marked with an asterisk (*). This indicates that these violations are potentially instances of Significant Non-Compliance (SNCs).

- Dates cannot be entered into both the "Date Final" and "Date Withdrawn" fields.

- Required fields are entered:

  1. "Type of Violation Occurred/Verified"

  2. "Date Violation Occurred/Verified"

  3. "Type of Enforcement Action"

4. "Date Enforcement Action Taken"

5. "Well Identifier"

- A combination of the following fields is unique:

1. "Date Violation Occurred/Verified"

2. "Date Enforcement Action Taken"

3. "Well Identifier"

Operations

The Operations folder contains operating status data, and fluid volume, rate, and pressure information. Error checks ensure that:

- Required fields are entered (i.e., "Well Identifier", "Date Status Effective", and the "Owner/Operator Number" fields).

- The combination of the "Well Identifier" and the "Date Status Effective" is unique.

Non-UIC Folder

WATERS tracks a variety of non-UIC wells, including:

- Underground storage tanks

- Production wells

- Monitoring wells

- Drinking water wells

- RCRA facilities

- Superfund sites

- Manufacturing plants

- Industrial complexes.

Non-UIC data is stored in a single folder. It has three pages containing a limited amount of data for well identification, location, owner/operator information, and general comments. To access the non-UIC data, type N or use ◄ and ► to highlight the option and press [Return].

Many of the features of the non-UIC folder are identical to those of the UIC folders. Like the Permits and Inventory folders, the non-UIC folder has multiple pages but only one record per well. You use the same keys to navigate the folder, and have the same menu options (see the next chapter). WATERS also performs error checks in the non-UIC folder.
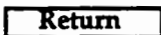
Error checks ensure that:

• Required fields are entered (i.e., "Well Identifier", "Latitude", and "Longitude" fields).

• The "Well Identifier" is unique.

• "Latitude" must be between -90° 00'00'' and 90° 00'00.''

• "Longitude" must be between -180° 00'00'' and 180° 00'00.''

• The minutes value for "latitude" and for "longitude" must be less than 60'.

• The seconds value for "latitude" and for "longitude" must be less than 60".

VI. Menus

This section describes the four menus WATERS uses to administer, maintain and navigate the system: File, Edit, Query and Help. You can select a menu by typing the capitalized/highlighted letter in its title: F for File, E for Edit, Q for Query, and H for Help.

You can also select menu options by using the [↑]

and [↓] to highlight your choice and pressing
| Return |

File Menu

The File menu allows you to customize portions of WATERS' user interface and provides you with quick access to information about the data and the system.

To access this menu, type F. You cannot access the File Menu by typing F if you are editing a record, constructing a query, building a custom report, or viewing another menu. Exhibit VI-1 shows WATERS with the File menu open.

Exhibit VI - 1: File Menu

```
┌────────┬──────┬───────┬──────┐ ═══════════════WATERS State System══════════════════════ │← -│.+→│
│ File   │ Edit │ Query │ Help │                                                         └───┴───┘
├────────┴──────┴───────┴──────┤
│ Version                      │  entory │ Inspection │    MIT    │  Compl/Enf │ Operations │
│ Tally                        ├─────────┴────────────┴───────────┴────────────┴────────────┤PgUp
│ Backup                       │                                             UT02353        │
│ ──────────────────────────── │                                                            │
│ Turn Effects Off             │ ized        N                                              │ 2
│ Set Verify Off               │                                                            │
│ Port Configuration           │ Number        147853    Well Identifier   UT02353          │ 3
│ Clock                        │ er          UT1234A      Type of Well Prmtd Converted       │
│ ──────────────────────────── │ l Permit    Area         Class            2                │ 4
│ Quit                         │ s/Permit      3          Type             2R Enhanced Reco  │
│            Application Date         /   /    Technical Review    /   /                      │
│            Date Permit Issued       /   /    Public Notice       /   /                      │
│            Date Permit Effective    /   /    Public Hearing      /   /                      │
│            Date Permit Modified     /   /    Permit Term       10 Years                      │
│            Type of Permit Mod                Expiration           /   /                      │
│                                                                                              │
│            Date Plugged/Abandoned   /   /    Date Permit Denied   /   /                      │
│            Commercial Facility   N           Date Withdrawn       /   /                      │
│                                                                                         PgDn │
│ UIC │ Non-UIC │ Display Current WATERS Version Reference Number │                            │
```

The File menu contains the following options:

- Version
- Tally
- Backup
- Turn Effects Off/On
- Set Verify Off/On
- Port Configuration
- Clock
- Quit

To select a menu option, use ⬆ and ⬇ to highlight the option you wish to select and then press ⌜ Return ⌟, or press the highlighted letter of the option's title.

The following section describes each of these options in detail.

Version   Displays the current version of WATERS and the release date.

Tally

Counts and displays the number of records in each folder. The Permits and Inventory folders will have the same number of records because an inventory record is created automatically each time a new well is added to the Permits folder. Since each well has only one Permits record, the number of records in the Permits folder is also the number of wells tracked in WATERS.

Tally counts events in the Inspections, MIT, Compliance/Enforcement, and Operations folders. The tally given for each of these folders represents the number of events for all wells.

TIP: The tally may include deleted records if you have not used the UTILITY PACK program since deleting WATERS records. The UTILITY PACK program is described in Chapter XI.

Backup

Creates a backup copy of your WATERS data. You must use a formatted disk to backup data.

Turn Effects Off/On

Turns the visual "effects" (flipping pages and sliding folders) off and on. The default for this option is on. Turning these effects off can increase the speed of navigating through the system. The menu option changes to reflect the current choice. For example, if you have turned off the effects, the menu option reads Turn Effects On. If you turn the effects on, the menu option reads Turn Effects Off.

Set Verify Off/On

Turns verification on and off. The default for this option is on. When verify is turned on, WATERS asks you to confirm your choice any time you delete, edit or save a record. WATERS will not ask you for confirmation if you turn verify off. You can turn verification off when you are making similar changes to many records and do not want to verify each change. The menu option changes to reflect the current choice. If you have turned verify off, the menu option will read Set Verify On. If you turn verify on, the menu option reads Set Verify Off.

Port Configuration   Selects printer port for printing. The default is LPT 1.

Clock   Displays the current date and time of the internal PC clock in a pop-up window.

Quit   Closes WATERS and returns you to DOS.

Edit Menu   The Edit menu contains all of the options to add, modify and delete UIC well data (see Exhibit VI-2).

Exhibit VI - 2: Edit Menu

```
File  [Edit] Query    Help   ------------WATERS State System----------------------  [←-][.→]
       [Add]
Permi  Copy   Inventory | [Inspection] |    MIT    | [Compl/Enf] |  Operations  |
       Edit                                                                        [PgUp]
   Op  Delete   PROPERTIES  ------------------------------------UT02353 ----
        ------  rized      N
        Table
       Application Number        147853    Well Identifier     UT02353          [1]
       Permit Number     UT1234A           Type of Well Prmtd  Converted        [2]
       Type of Well Permit  Area           Class               2                [3]
       No. of Wells/Permit  3              Type                2R Enhanced Reco  [4]

       Application Date      /   /          Technical Review     /  /
       Date Permit Issued    /   /          Public Notice        /  /
       Date Permit Effective /   /          Public Hearing       /  /
       Date Permit Modified  /   /          Permit Term         10 Years
       Type of Permit Mod                   Expiration            /  /

       Date Plugged/Abandoned  /   /        Date Permit Denied    /  /
       Commercial Facility   N              Date Withdrawn        /  /
                                                                               [PgDn]

          [UIC]     Non-UIC  |Add a Record |
```

To access this menu, type **E**. You cannot access the Edit menu by typing **E** if you are editing a record, constructing a query, viewing another menu, or building a custom report. The Edit menu contains the following options:

- Add
- Copy
- Edit
- Delete
- Table

To select a menu option, use ⬆ and ⬇ to highlight the option you want and then press ⌊ **Return** ⌋. You can also press the highlighted letter of its title.

The following section describes each of these options in detail.

Add

Create a blank record into which you can enter new well data. When you select add, the fields you can enter data into turn red. To enter owner,

operator or guarantor data, press ⌊F1⌋ while positioned on these fields to access the Owner, Operator, or Guarantor table, and select the appropriate name. See Appendix A, Section V for detailed instructions on adding records.

TIP: To add or edit a name in the Owner, Operator or Guarantor tables, access the Table option which is discussed below.

Copy

Copies information from a current record to a new record. This feature enables you to avoid retyping data if a well with similar characteristics is already in the database. WATERS displays the fields that can be edited in red. After you copy a record, you must change information in some of the fields to ensure that the record is unique. For instance, in the Permits folder, all wells must have a unique well ID. In the MIT folder there must be a unique well ID and date updated combination. See Appendix A, Section VI for detailed instructions on copying records.

TIP: You cannot copy a well record in the Inventory folder without copying the well's Permits folder record because the Permits and inventory information are interrelated. When you try to use the copy function in the Inventory folder, WATERS will automatically move you back to the Permits folder, where you can use the copy function for both folders.

Edit   Enables you to change the information in the fields
            of an existing record. Use the navigation keys to
            move to the desired field; however, you must use
            the Table function to edit owner, operator, and
            guarantor fields. See Appendix A, Section VII for
            detailed instructions on editing records.

Delete   Deletes a record. When issued from the Permits and
            Inventory folders, this command deletes all the
            records for that well from every folder. When issued
            from the Inspection, MIT, Compliance/Enforcement,
            and Operations folders, it deletes only the specified
            record. The option prompts you to verify your
            choice before deleting. Press Y to delete. Press N or
            [Escape] to abort the deletion. WATERS will not
            ask you to confirm your choice if you have selected
            the Set Verify Off option in the File Menu. See
            Appendix A, Section VIII for detailed instructions
            about using the delete command.

Table   Enables you to edit, add, list, and delete
            owner/operator and guarantor information from a
            lookup table. This information can be edited only by
            using the Table function.

Query Menu   The Query menu contains functions that allow you to
            search for wells by characteristics you specify, and
            produce a variety of reports based on all wells or a
            subset.

            You can access this menu in two ways:

            • Use the [◄] and [►] to highlight the Query
              menu, and press [Return].

            • Type Q. You cannot access Query menu by
              typing Q if you are editing a record, constructing
              a query, building a custom report, or viewing
              another menu.

            Exhibit VI-3 shows WATERS with the Query menu
            open.

Exhibit VI · 3: Query Menu

```
File    Edit   Query    Help   ============WATERS State System=======================  |←  .  |  .→|
         List
Permits  ┌──────────────┐ on  │    MIT    │  Compl/Enf  │  Operations │
         │ Find         │                                               │PgUp│
    DUNCAN│ Clr Find     │                            ─UT02353─         │━━3 │
    Rule Au Explain Criteria                                            │ 2  │
         │ ----------   │                                               │ 1  │
    Applica│ Save Query  │ 3       Well Identifier    UT02353           │ 4  │
    Permit │ Load Query  │2135W    Type of Well Prmtd  Converted         │
    Type of│ Delete Query│         Class              2                  │
    No. of │ Load Custom Report    Type               2R Enhanced Reco   │
         │ Delete Custom Report                                          │
         │ ----------   │         Technical Review    /   /              │
    Applica│ Reports     │    /    Public Notice       /   /              │
    Date Pe│ ----------  │    /    Public Hearing     10 Years           │
    Date Pe│ Well Schematic   /    Permit Term         /   /              │
    Date Pe│ GIS         │    /    Expiration                             │
    Type of└──────────────┘                                              │
                                                    /   /                │
    Date Plugged/Abandoned    /   /    Date Permit Denied   /   /         │
    Commercial Facility     N         Date Withdrawn                      │PgDn│

    UIC    │ Non-UIC │ List Records │
```

The Query menu contains the following options:

- List

- Find

- Clear Find

- Explain Criteria

- Save Query

- Load Query

- Delete Query

- Load Custom·Report

- Delete Custom Report

- Reports

- Well Schematic

- Geographic Information System (GIS)

There are two ways to select a menu option:

*   Use ⬆ and ⬇ to highlight the option you wish to select and then press [Return] .

*   Press the highlighted letter of the menu option's title

TIP: You cannot choose menu options that are not applicable. For example, you cannot select the Delete Query option unless you have first saved a query. Options you cannot select are shaded in the menu, and do not have a letter highlighted in their titles.

The following section describes each of these options in detail.

List   Displays a table of key information about all active well records in the active folder. You can scroll up and down the list using ⬆ and ⬇ or by typing a part of the "Well ID". If you want to see one particular well's records, scroll down to its line and press [Return]. If you want to see several wells' records, press [Control] _ [Enter] when you highlight a record. This will place a check-mark next to the ID number of that well. When you press [Return] you will see the record of the first well you check-marked. Your database will be limited to the check-marked records until you select the Clear Find option explained below.

The table on the following page outlines what information the List option will show when you are in each of the folders:

Folder	Fields Displayed
Permits	"Well ID"
	"Permits Number"
	"Owner/Operator"
Inventory	"Well ID"
	"Permits Number"
	"Owner/Operator"
Inspection	"Well ID"
	"Date of Inspection"
MIT	"Well ID"
	"Date MIT Record Updated"
Compliance/	"Well ID"
Enforcement	"Date Violation Occurred"
	"Type of Violation"
	"Date of Enforcement Action"
	"Type of Enforcement Action"
Operations	"Well ID"
	"Date Operating Status Effective"

TIP: The List function displays the Operator if one exists. If the record does not contain operator information, it lists the Owner. WATERS displays Op: or Ow: before the organization name to indicate which is shown.

See Appendix A, Section F for detailed instructions on using the list function.

Find   Locates records in the current folder based on criteria you specify. You can search in all WATERS fields in which you have entered data and across multiple folders to locate information. For more detailed explanations on the types of queries you can perform, see Chapter VII.

Clear Find

Clears the current query. Use the Clear Find option to regain access to the complete dataset. This option is only available when a query is active. When the Clear Find option is not available, the menu option will be shaded and no letter of its title highlighted. When the Clear Find option appears in the menu, it indicates that you are not working with the entire database.

TIP: When a query is active, the word "Find" appears in the top right corner of you screen.

Explain Criteria

Lists the selection criteria of an active query. When you select this option, a window appears at the top of the screen listing your current selection criteria.

This option is only available when a query is active. When the Explain Criteria option is not available, the menu option will be shaded and no letter is highlighted.

Save Query

Saves an active query. This option is beneficial when you want to retain your search criteria. When you choose the Save Query option, a dialog box appears in the middle of the screen asking you to name the query. The name you choose will also be used in the Load and Delete Query options explained below. As in the Clear Find and Explain Criteria options, you can only save a query after you have performed a search with the Find option.

Load Query

Retrieves and executes a previously saved query. This option lists all saved queries in alphabetical order. You can scan the list of query names and select one to retrieve, which automatically begins a search. Under the Load Query option, WATERS replicates the search steps it does with the Find option.

Delete Query

Deletes a saved query. This option lists all saved queries in alphabetical order. You can scan the list of query names and select one to delete. WATERS asks if you to confirm that you want to delete the query. If you select Yes, your query will be deleted and cannot be retrieved. WATERS will not ask you to confirm your choice if you have selected the Set Verify Off option in the File Menu.

Load Custom Report

Retrieves one of the customized reports previously saved when using the Report menu option. This option lists all saved reports in alphabetical order. You can scan the list of report names and select one to load. Loading the report automatically runs the report so you do not have to recreate the criteria.

Delete Custom Report

Deletes a saved customized report. This option lists all saved reports in alphabetical order. You can scan the list of report names and select one to retrieve. WATERS asks you to confirm the deletion. If you select Yes, the report is deleted and cannot be retrieved. WATERS will not ask you to confirm your choice if you have selected the Set Verify Off option in the File Menu.

Reports

Produces a variety of reports, including EPA's Federal reporting forms, a variety of management reports for local program use, and the ability to design custom (ad hoc) reports. More detailed information on reports can be found in Chapter VIII and in Appendix A, Sections M and N.

Well Schematic

Produces a diagram of the well on your screen. The diagram displays the well's specific measurements, dimensions and hydrogeological data based on the data in its Permits and Inventory folders. You cannot edit the well schematic when it is displayed on your screen. To change a well schematic, you must edit the data in the Permits and Inventory folders.

General Class II construction is used for all well schematics. The well schematic displays up to three

USDWs, two confining zones, and two injection intervals. The specific elements displayed in the well schematic are:

- "Well Owner/Operator Name"

- "Well Identifier"

- "Surface elevation"

- "Range of the USDW"

- "TDS of the USDW"

- "Range of the confining zone"

- "Lithology of the confining zone"

- "Surface casing diameter" (inches), "depth" (feet) and "grade"

- "Inter␣ ␣diate casing diameter" (inches), "depth" (feet), and "grade"

- "Long string casing/liner diameter" (inches), "depth" (feet) and "grade"

- "Tubing diameter (inches), "depth" (feet) and "grade"

- "Packer depth"

- "Total depth"

- "Injection interval" (feet)

TIP: WATERS displays the Operator if one exists, and puts an 'Op:' before the name; otherwise, it displays the Owner and places an 'Ow:' preceding the Owner's name.

You do not need all of these data elements to produce a well schematic. If a well does not have data in certain fields, then this information will not be displayed in the schematic.

The well schematic in WATERS Version 2.0 has several limitations:

- "Plug Back Total Depth" is not displayed.

- No cementing information is displayed.

- WATERS will produce well schematics for all well classes, but the diagrams will follow the standard Class II construction.

For detailed instructions on producing and printing a well schematic, see Appendix A, Section L.

GIS Accesses the optional WATERS Mapping System (WMS). If this option is shaded, you do not have access to WMS. See Chapter IX for more details.

Help Menu The Help menu provides a summary of key WATERS commands and procedures.

You can access this menu in two ways:

1. Use the ◄ and ► to highlight the Help menu, and press ⌊ **Return** ⌋.

2. Type H. You cannot type H to access the help menu when editing a record, constructing a query, building a custom report, or viewing another menu.

Exhibit VI-4 shows WATERS with the Help menu open.

Exhibit VI-4: The Help Menu

```
File    Edit   Query  Help  ===========WATERS State System=================  ← - . →
                     Navigation Keys
                     How Do I...
Permits    Inventory     Inspection      MIT        Compl/Enf      Operations
                                                                              PgUp
      Op:   DUNCAN OIL PROPERTIES                            UT02353
      Rule Authorized         N

      Application Number           147853  Well Identifier      UT02353
      Permit Number         UT1234A        Type of Well Prmtd   Converted
      Type of Well Permit   Area           Class                2
      No. of Wells/Permit   3              Type                 2R Enhanced Reco
                                                                 /  /
      Application Date          /  /       Technical Review      /  /
      Date Permit Issued        /  /       Public Notice         /  /
      Date Permit Effective     /  /       Public Hearing       10 Years
      Date Permit Modified      /  /       Permit Term           /  /
      Type of Permit Mod                   Expiration
                                                                 /  /
      Date Plugged/Abandoned    /  /       Date Permit Denied    /  /
      Commercial Facility    N             Date Withdrawn
                                                                              PgDn

      UIC    Non-UIC  Display Window with All Navigation Keys
```

This menu has two options: Navigation and How do I.... There are two ways to select each option.

- Use ⬆ and ⬇ to highlight the option you wish to select and then press ⎡ **Return** ⎤.

- Press the highlighted letter of the menu option's title.

The following section describes both of these options.

Navigation   Provides a brief synopsis of key navigation commr nds, key sequences and function keys. Char er IV describes all WATERS commands in greater detail.

How Do I...   Provides an overview of WATERS functions and features for easy reference.

VII. Query

WATERS' query capabilities are a powerful data analysis tool that you can use to make more informed decisions and increase your UIC program's effectiveness. Queries enable you to locate and select specific records based on criteria you specify. They identify relationships within your database that ordinarily may not have been noticed, or without WATERS would have been too time-consuming to demonstrate.

You can perform a query using several different Query menu options described in Chapter VI and VIII. You can use the Find option, the New/modify query in the Reports option, or create a custom report through the Reports option.

Regardless of the path you take to start a query, its basic procedures are identical. You use the same format to search individual fields. Each path offers the same two types of queries: single-folder and cross-folder. After you approve the query criteria, WATERS displays the same messages. This chapter will explain the search formats, single-folder and cross-folder queries, and WATERS' query messages.

Search Formats

WATERS allows you to do specialized queries for character, logical, and date fields.

- To find all of the records in which that field is not empty, type an asterisk (*) .

- To find all records in which a field is empty, type a minus sign (-).

- To search for an exact value (e.g., number, date), enter the value in the field. A pop-up window appears that asks you to enter the

ending value in the range. Leave the field blank;
just press ⎣ **Return** ⎦ .

• To search for a range of values (e.g., numbers,
dates), enter the beginning value of the range.
When the pop-up window asks, enter the ending
value.

• To find all of the records in which a particular
date field is empty, type 1901/01/01 into the field.

• To find all of the records in which that date field
contains a value, type 1900/01/01 for the
beginning of the range and 2099/12/31 for the
end of the range.

**Single-Folder
Queries**

In single-folder queries, you search within one or
more fields within the same folder. For example, you
could search in the operations folder for all wells
whose observed "Maximum Injection Pressure" is
1500 psig. For detailed instructions on how to
perform a single-folder query, see Appendix A,
Section G.

**Cross-Folder
Queries**

Cross-folder queries allow you to search in multiple
fields across multiple folders. For example, you could
search for all wells whose observed "Maximum
Injection Pressure" is 1500 psig, but whose "Allowed
Injection Pressure" is 1400 psig. The observed
pressure is a data element in the Operations folder,
while the allowed pressure is an element in the
Permits folder.

Performing a cross-folder query involves several
steps. Enter your search criteria in one folder, just as
you would for single-folder queries. To move to
another folder, use either the ⎣**Page Down**⎦ key or

⎣F3⎦. Pressing ⎣**Page Down**⎦ will move you page by

page through each folder. Pressing ⎣F3⎦ will
produce a pop-up window that lists each folder
name. To select a folder, type the highlighted letter

of the title or use your ⬆ and ⬇ and press

[Return]. Then enter your search criteria in that folder. When you have finished entering the criteria, press [Control] - W to begin the search.

Linking

Ordinary cross-folder queries search for data in multiple folders, but do not compare values of the data elements. However, very often you will need to search for a dependent relationship between two elements. In the example given earlier, the search criteria was wells whose observed injection pressure was 1500 psig, while their allowed "Injection Pressure" was 1400 psig. But it is more valuable to know which wells exceed their allowed injection pressure. You can perform the latter query through linking the values of the allowed "Injection Pressure" in the Permits folder to the observed "Maximum Injection Pressure" in the Operations folder.

The restrictions for linking are listed below:

- A field can be linked to only one other field.

- One of these fields must be in the Permits or Inventory folders.

- The fields must be in separate folders.

- Only fields of the same type can be linked together: character to character, date to date, and numeric to numeric.

To link two fields, move to the first field in the Permits or Inventory folder. To select that field, press [F2]. WATERS places an asterisk next to the field you selected to signify it is part of a link. A pop-up window will appear, listing all folders, with the active folder shaded. Select the second field's folder, which will become active.

Move to the second field and press [F2] again. A new pop-up window lists a series of operators. The message box on the bottom of the screen will explain what each operator signifies. Scroll through

the list using ⬆ and ⬇ to select one operator. If you were to perform the example given earlier, you would select < (less than). A second window will display your link criteria.

If you are linking two dates or two numbers, you will have the option to modify your link further. You can either add or subtract days/numbers from the second field you have linked. Building on the earlier example, you may want to examine only the wells whose injection pressure exceeded the allowed by at least 100 psig. In this case, you would add 100 to the observed "Maximum Injection Pressure". If you · do not want to modify the link, press ⌷ Return ⌷ without entering a value. WATERS will move you back to the Permits or Inventory folder where you began your search.

You can perform as many links in a single query as you would like. You can also delete a link without deleting your query. Press ⌷F5⌷ to see a list of the links. Select the one you want to delete, and press ⌷ Return ⌷. WATERS will ask you to confirm your choice.

WATERS Query Messages

Once you have finished entering all your query criteria, press ⌷ Control ⌷ - W. A pop-up window gives you the option to begin, clear, or edit your search. If you type S, WATERS starts to search for matches to your criteria. While it does so, it displays two new pop-up windows. The first, at the top of the screen, lists the search criteria. The second, in the middle of the screen, gives you an estimate of how much of the search WATERS has completed. See Exhibit VII for an example.

Exhibit VII-1

The window shows the following:

- The pass the search is on

- The total number of passes the search requires

- The number of records processed so far

- The total number of records

- The number of matches found so far.

When WATERS completes a search, the first window still displays the search criteria. The second window displays the total number of matches found. After you press any key, WATERS will display the word FIND in a box at the top right corner of your screen.

WATERS reacts in different ways depending the option you used to perform your query:

- If you use the Find option under the Query menu, WATERS moves to the first record in the database that satisfies the criteria you entered.

- If you use the Load Custom Report option, WATERS will ask where you want the report sent to and execute your choice.

- If you create a custom report or use the New/modify Query option through the Reports option, WATERS will either print or display the report. When you exit a custom report, WATERS will ask if you want to save the report.

TIP: When you are finished with any query, remember to use the Clear Find option under the Query menu. Otherwise, any option you choose after a query will only act on the subset of your data. For example. If you select the List option, the only records listed will be the ones meeting to your search criteria. If you perform a subsequent search. WATERS will only search through the active subset of data.

VIII. Reports

WATERS' reporting function is a unique feature of the
system. WATERS can produce facsimiles of EPA 7520
quarterly reports. It also provides an extensive set of
management reports designed for use at the
program implementation level. You can create
custom reports to meet specific needs. To produce
reports, type Q to access the Query menu and R to
select the Reports option.

Once you have done so, a dialog box with five
windows will appear on your screen (see Exhibit VII-1
below).

Exhibit VIII-1: Reports Menu
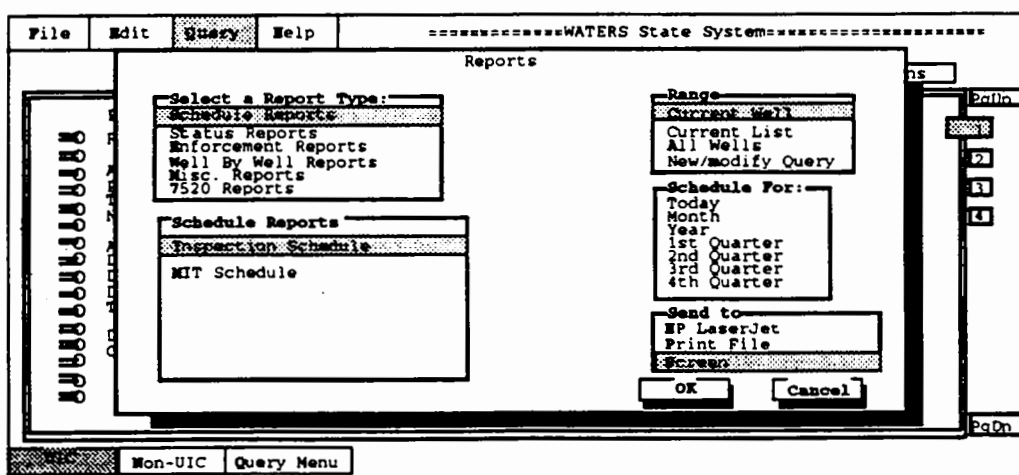
Each window represents a step you will take to
generate a given report. To select any choice in a
window, type the highlighted letter of the title, or use

your ⬆ and ⬇ to highlight the item and press
⌜ **Return** ⌟.

The first window, Select a Report Type, lists the
following six report types:

- Schedule Reports
- Status Reports
- Enforcement Reports
- Well by Well Reports
- Misc. Reports
- 7520 Reports

The second window is dynamic. It lists specific
reports associated with the report type highlighted
in the first window. The next three windows almost
always lists the well range, time frame, and report
destination. A few reports superimpose a different
window over the time frame.

This chapter discusses the standard windows for well
range, time frame, and report destination. It also
describes in detail the report types, the individual
reports associated with each type, and any
changes to the time frame window for particular
reports.

TIP: The definitions for well range, time frame and
report are the same; however, they are not
applicable for all reports. For example, a Well
schematic reports will not have a time frame.
When you select a report, the options that are
not available are shaded.

Common Report
Features

WATERS has a series of reporting features which will
help you build reports to meet specific needs.

Well Range

A well range limits the report to a subset of well records. The four range choices are located in the window titled Range: Current Well, Current List, All Wells, and New/modify Query.

If you select Current Well, your report is limited to the well record that was on your screen before you accessed the Reports option. Current List restricts the report to the wells that meet your query criteria (if you processed a query before accessing the Reports option). All Wells produces a report on the entire database. New/modify query allows you to either enter search criteria to limit your report, or modify your current search criteria without exiting the Reports option.

The procedures for using New/modify query are identical to querying through the Find option. The only difference occurs when you press any key to remove the window displaying the number of matches. Instead of returning to the first record meeting the query criteria, WATERS generates the report you selected.

Time frame

The Schedule For window contains the time frames: Today (current date), Month, Year, and the First through Fourth Quarters of the Fiscal Year you specify.

Report Destination

You have the choice of routing these reports to a printer, sending them to a print file, or viewing them on the screen (the HP LaserJet, Print File, and Screen options respectively).

When you send a report to the HP LaserJet printer, WATERS will print the entire report. You cannot print a portion of a report. The printer must be in HP-PCL mode. You cannot print reports using postscript.

Sending a report to a Print File allows you to print it at a later time. The first time you select Print File in any session, WATERS will ask you to name the print

file. If you select Print File more than once in a session, WATERS will append the report to that file.

When you view reports on the screen, they may be wider than your screen. You can scroll to the left and the right by typing L or R. Type E or G to move across the screen at a slower pace. WATERS displays the reports one screen at a time, allowing you to view the current screen until you are ready to continue or cancel the report. Type "N" to look at the next page. An exit prompt appears at the bottom of each screen.

TIP: There is no command to look at the previous page if you type N to move to the next page.

Report Types

There are several report types available through WATERS.

TIP: Reports that include the Owner and Operator fields list the Operator if one exists; otherwise they list the Owner. Some reports indicate which is listed by printing Op: or Ow: before the organization name.

Schedule Reports

There are two types of Schedule Reports: Inspections Schedule and MIT Schedule. You may choose a schedule for inspections due or overdue today, in the next month, or in the first through fourth quarter. Each are described below.

Inspection Schedule

Lists all routine periodic inspections that are due within a specified time period. Periodic inspections are due one year after the last inspection. If the date of the next inspection is before the current date, the inspection is overdue. The report is sorted by "County".

This report displays the following fields:

- "County"

- "Permit Well ID"

- "Operator Name"

- "Well Type"

This report also provides historical information about the last inspection. It includes:

- date the next inspection is due

- date of the last inspection (periodic or other)

- type of last inspection

- if there was a violation found at the last inspection

- type of enforcement action taken, if any

- if there is an unresolved (i.e., open) violation in the Compliance/Enforcement folder.

Unresolved violations are defined as violations which have nothing entered in the "Date Returned to Compliance" field.

MIT Schedule

Lists all MIT inspections due within the time frame you specify. The frequency of MIT inspections is specified in the Permits folder for each well. MITs can be conducted annually, semi-annually, or every five years. If no frequency is specified, WATERS assumes that the frequency is annual for this report. The report is sorted by "Field Name" (found in the Inventory folder).

This report displays the following fields and information:

- "Permit Well ID"

- "Operator name"

- "Field Name"

- Date of the last MIT

- Result of the last MIT

- "Type of Construction"

- "Operating Status"

- "Date of next MIT "

- If the MIT is overdue

- If the well has an unresolved ("open") violation

An unresolved violation indicates that the well has an unresolved, failed MIT, or an unresolved compliance/enforcement action. The most recent MIT record and all the Compliance/Enforcement records are checked for this report.

Status Reports

WATERS generates a variety of status reports including Injection Status, Folder Summary, and Operating Status Summ ry.

Injection Status

Displays the most recent injection information for each well. The information is sorted by "Permit Well ID". The report displays the following fields:

- "Permit Well ID"

- "Owner/Operator Name"

- "Field Name"

- "Well Type"

- "Fluid Type"

- "Annual Volume"

- "Average Pressure"

- "Maximum Pressure"

- "Maximum Permitted Pressure"

- "Date Operations Record Updated"

All fields are from the Operations folder except the "Permit Well ID" and "Maximum Permitted Pressure" ,which are from the Permits folder.

Folder Summary

Summarizes key data for the active folder. The active folder appears in parentheses next to the menu option. For example, when selected from the Permits database, this report option appears as: "Folder Summary (Permit)." If you select Current Well as the range, a Folder summary of Inspection, MIT, Compliance/Enforcement, and Operations would print all the records for that well in the folder. If you select All Wells, only the most recent records of these folders are selected.

The table on the following page shows what information each Folder Summary Report contains.

Folder Name	Fields Displayed
Permits	"Permit Well ID" "Permits Action" (e.g., Issued, Rule, Modified), "Date of Action" (unless the well is rule authorized, in which case the field contains "Authorized")
Inventory	"Inventory Well ID" "Rule Authorized" "Owner/Operator Name" "Well Description" (of the location)
Inspections	"Inspections Well ID" "Inspector Name" "Date of Inspection" "Type of Inspection" "Violation Discovered?"
MIT	"MIT Well ID" "Inspector Name" "Date of MIT Test" "MIT Witnessed?" "Result of MIT Test"
Compliance-Enforcement	"Compliance/Enforcement Well ID" "SNC?" "Date of Last Compliance Review" "Result of Last Compliance Review"
Operations	"Operations Well ID" "Date Operations Record Updated" "Operating Status" "Date Status Effective" "Annual Volume of Injected Fluid"

Operating Status
Summary

Produces a summary of wells by type and operating status.

Enforcement
Reports

There are five enforcement reports that WATERS can generate, including the Violation and Enforcement Report, the Administrative Order List, the Judicial Order List, the Operator Violation Summary, and Pressure Exceedence Report.

Violation & Enforcement

Prints the most recent violation and enforcement information for each well. The report is sorted by "Field Name".

The report displays the following fields:

- "Permit Well ID"

- "Operator Name"

- "Field Name"

- "Date of Violation"

- "Violation Type"

- "SNC?"

- "Date of Enforcement Action"

- "Type of Enforcement Action"

- "Penalty Assessed" (in dollars)

TIP: In reports that print the Type of Violation field (e.g., Enforcement Status, Area of Review), an asterisk (*) appearing after the type of violation indicates a potential SNC.

Administrative
Order List

Lists all administrative orders (AOs) issued within the time period you specify. It also includes violations resolved as the result of a previously issued AO. For the reporting year, you can select one quarter or the whole year. The default for the reporting year is the current year.

The report includes the following fields:

- "Permit Well ID"

- "Owner/Operator Name"

- "Well Type"

- "Date Enforcement Action Taken"

- "Date Violation Occurred/Verified"

- "Date Returned to Compliance"

- "Docket Number" (first 14 characters)

- "Penalty Assessed" (in dollars)

- "Penalty Collected" (in dollars)

- "SNC?"

- "In Wellhead Protection Area?" (WHP)

- "Type of AO"

Judicial Order List

Lists all judicial orders issued within the time period you specify. It also includes violations resolved as the result of a previously issued judicial order. For the reporting year, you can select one quarter or the whole year. The default for the reporting year is the current year.

The report includes the following fields:

- "Permit Well ID"

- "Owner/Operator Name"

- "Well Type"

- "Date Enforcement Action Taken"

- "Date Violation Occurred/Verified"

- "Date Returned to Compliance"

- "Docket Number" (first 14 characters)

- "Penalty Assessed" (in dollars)

- "Penalty Collected" (in dollars)

- "SNC?"

- "In Wellhead Protection Area?" (WHP)

- "Type of AO"

Operator Violation Summary

Lists violators and the percentage of violations that are SNCs for the past 365 days. Violators are defined as those operators/owners responsible for one or more violation(s) in the past year, not including monitoring and reporting violations. The report is sorted alphabetically by "Owner/Operator", and displays the:

- "Owner/Operator Name"

- total number of wells for which Owner/Operator is responsible

- number of these wells in violation

- percentage of the these violations that are SNCs

Pressure Exceedence

Computes all wells whose most recent recorded pressure (found in the Operations folder) exceeds the allowed pressure (found in the Permits folder). The report displays the:

- "Operations Well ID"

- "Allowed Injection Pressure"

- "Observed Injection Pressure"

- "Date Operations Record Updated"

Well by Well Reports

Each Well by Well Report compiles information on one well. You can select All Wells for a range, but this simply produces multiple reports on individual wells.

Folder Print Report

Prints records from the specified WATERS folders. While in the UIC database, you can print any of the six UIC folders, or choose the entire set of folders. You must be in the non-UIC module to print non-UIC records. You can only send the Folder Print Report to the HP LaserJet. The Print File and Screen options are not available for this report.

Well Highlights

Displays a limited amount of data for an individual well, including Permit information and the most recent Inspection, MIT and Compliance/Enforcement information.

Compliance Report

Produces well-specific compliance/enforcement information. WATERS finds all the violations within the period you specified. The default period is two years. This report includes the:

- "Owner/Operator Name"

- "Permit Number"

- "Date Violation Occurred"

- "Type of Violation"

- "Date Enforcement Action Taken"

Permit Data Report

Summarizes permit data for a particular well. The majority of the data shown comes from page one of the Permits folder. This report also includes the:

- "Owner/Operator Name"

- "Operating Status"

- "Well Construction"

- "Latitude" and "Longitude"

- "Date First Injected"

- "Date Drilled"

Area of Review

Lists all UIC and/or non-UIC wells in the current well's Area of Review (AOR). You can specify the radius of the well's AOR. The default is two miles. You can also choose the type of wells to include in the AOR (i.e., UIC, non-UIC or both).

WATERS compares the "Latitude" and "Longitude" for each well in the system with the "Latitude" and "Longitude" of the current well, and determines which wells fall within the specified radius. WATERS also determines if any well within the radius may be

defective. A well is potentially defective if it meets any of the following conditions:

- the existing surface, intermediate, and long string casings are not cemented

- it has an unresolved compliance/enforcement violation (not including a monitoring or reporting violation)

- the surface casing depth is less than the base depth of USDW

- it failed its most recent MIT test (either part) and has not yet been subject to a remedial action

- its depth penetrates the confining zone of the current well

Well Schematics

Prints the well schematics for all wells you select in the given range. You can print a well schematic when you view it on the screen; however, this report is a fast way to print a batch of wells schematics.

Miscellaneous Reports

WATERS can also generate some custom reports as well as some reports on non-UIC wells.

Custom Report

Allows you to create your own report (i.e., ad hoc report). A custom report can contain almost any combinations of WATERS data elements and can be combined with queries to provide greater flexibility. You can save the report format and the search criteria used to create the report.

TIP: The only fields you cannot use in a custom report are those fields that WATERS calculated. The four calculated fields are:

- "Number of wells/ permit"

- "Date of last MIT"

- "Result of last MIT"

- "Last Corrective Action"

Once you have selected OK in the Reports window, WATERS will open the active folder and display in red all fields available for your report. The commands needed to navigate this screen are the same as those used during editing and querying. While you are selecting the fields, you can also enter any search criteria the report may require. To select a field, press $\boxed{F4}$. To move to another folder, select $\boxed{F3}$.

The fields you select and the order in which you select them determines the report's format. The field names become the report's column headings. The first column is always the Well ID. When you finish viewing or printing the report, WATERS will give you the option to save it.

For a detailed example of creating a custom report, see Appendix A, Section P.

Non-UIC

Provides a brief overview of Permits and Inventory data for non-UIC wells. You can choose this report when you are in the UIC database. However, if you are not in the non-UIC database, you cannot set the report range to the Current Well or Current List, nor can you issue or modify a query. The Non-UIC report displays the following fields:

- "Non-UIC Well ID"
- "Latitude" and "Longitude"
- "Facility Type
- "Finds Number"
- "Permit Number"
- "Permit Type"
- "Date Permit Issued"
- "Date Permit Effective"
- "Legal Contact"

7520 Reports
WATERS also generates all of the reports associated with EPA Form 7520.

Form 7520
Prints all of the forms (EPA 7520-1, 2A, 2B, 3, 4, and 5).

Permit Review & Issuance
Generates Parts I - VII of the Permits Review and Issuance report (EPA 7520-1). Parts VIII and IX must be completed manually. WATERS is not capable of making the subjective decisions on the AOR section of the EPA 7520-1 section, so the program leaves section VIII for you to complete. The AOR (Well by Well) report can help you analyze the AOR and complete the form.

Compliance Evaluation
WATERS prints forms EPA 7520-2A and 2B.

Mechanical Integrity Testing
Prints EPA Form 7520-3. WATERS has more options for MIT tests than the EPA 7520 forms approved by the Office of Management and Budget (OMB). However, the tests in WATERS are in the same order as the tests listed on the OMB approved forms to eliminate any confusion.

Quarterly Exceptions List
Prints EPA Form 7520-4. This report contains a list of all SNCs that have not been addressed by an enforcement action for 90 days or more. The wells remain on the exceptions list until they have returned to compliance. Wells will still appear on the Exceptions List for the quarter in which they return to compliance; the report will also show the date the well returned to compliance. When the report shows "Noncompliant" instead of displaying the date a well returned to compliance, the well has not returned to compliance as of the ending date of the quarter you selected.

Grant Utilization
Prints a blank copy of EPA Form 7520-5: Grant Utilization.

TIP: 7520 reports may not be directed to the screen.

- Use the mouse to highlight the option and press
  ☐ **Return** ☐.

- Type the first capitalized letter of its title.

The following sections describes each WMS menu in detail.

File Menu

The File menu contains basic information about WMS, geographical features, and printing functions. The File menu contains the following options:

- Version

- Layers

- Print

- Quit

These options are described below.

Version

Displays the current version and date of WMS. To remove the message from your screen, press any key.

Layers

Allows you to select the attributes or layers you want to display on the map. The default setup includes layers for cities, rivers, highways, and boundaries for water bodies, counties, states, regions, the U.S., and hydrologic boundaries.

Use this option to turn layers on and off. Active layers have unique symbols displayed in the left column of the menu and the first letter in the titles are capitalized. When you turn a layer off, its symbol will not appear.

TIP: UIC and non-UIC wells are always plotted. You cannot deactivate them with the Layers option.

Press ☐ **Escape** ☐ when you complete your layers selection. WMS will automatically redraw the map.

IX. WATERS Mapping System

Overview

The WATERS Mapping System (WMS) is an optional component of WATERS developed using MapInfo software. WMS displays maps of the geographic areas surrounding the wells tracked in WATERS. You can modify and print these maps to fit your program needs. WMS is a powerful analytical tool because you can use it to explore the spatial relationships of wells that meet conditions you specify through WATERS. As a result, you can identify trends or issues that might not be apparent without a visual display that plots the location of wells. In addition, WMS has two supporting utilities that let you customize it to meet your needs.

Installation and Start-up

This section discusses the system requirements for the GIS module and the necessary installation routines.

System Requirements

WMS has the same basic system requirements as WATERS. In addition to the system requirements identified in Chapter III, the WMS requires:

- a MapInfo for DOS runtime module, and

- a network module for each simultaneous user.

Installation

The WMS program was automatically installed when you installed the WATERS program. WATERS users also receive a diskette with regional data for map layers. WMS data includes cities, rivers, highways, and boundaries for water bodies, counties, states, regions, the U.S., and hydrologic boundaries.

For WMS to be operational, you must also install a MapInfo runtime module. One runtime module and one network module can accommodate two simultaneous users. In other words, the number of network modules needed will depend on how many

users will use the WMS simultaneously. For instance, if you expect three users to access the WMS component at the same time, you will need one runtime module and two network modules. If you expect four users to access the WMS component at the same time, you will need one runtime module and three network modules.

TIP: If you do not have a runtime module, you must obtain one from EPA or purchase one, and install it before attempting to run the WMS.

Identify the path for the runtime module in the DOS environment variable CGIPATH. For example, if the MapInfo runtime module was installed into a directory called C:\WATERS\RT, the following statements are required in the AUTOEXEC.BAT file:

SET CGIPATH=C:\WATERS\RT

PATH=%PATH%;C:\WATERS\RT;

Navigation

You navigate in WMS using your keyboard and/or a mouse.

Letter Keys

Press the capitalized letter of any title, menu item to select an option.

Numeric Keypad

| 1 | to | .9 |

Press a number to select the cursor speed before using the ←, →, ↑, and ↓. Each number corresponds to a cursor distance or speed. Low numbers move the cursor small distances or at a slower speed. High numbers move the cursor larger distances. The default if 4.

Function Keys

There are a variety of function keys that can help you navigate through the WMS.

Escape

Cancels an operation or command. Use the escape key to return to a previous menu. If you are using a mouse, the right mouse button performs the same functions.

When you access WMS from the Query menu in WATERS, all layers are active and bodies of water are filled. An active layer may not be plotted if your map has no examples of the point, line or boundary. For instance, the cities layer includes the 250 largest cities in the U.S. The city layer will not be displayed if the area you plot is not located near one of these cities

TIP: The water layer has two active modes. A body of water can be outlined or filled.

Print   Prints the map displayed on your screen. A printed map has two components. The map is printed on the top half of the page. A legend is printed on the lower half of the page. The legend includes a title, display layer keys, north arrow, and a scale.

When you select the print option, WMS prompts you to enter a title. Then press ⬚Return⬚ to send to the printer. WMS uses the same port configuration as WATERS. To change the port configuration, return to WATERS. Press ⬚Escape⬚ to leave the print option and return to the original map.

Quit   Closes the WMS and returns to the WATERS folder you were on when you selected the GIS option. WMS does not ask you to confirm your choice.

Edit Menu   This menu contains options to modify the current map display. When you access some of the options, the cursor becomes a pair of crosshairs – intersecting perpendicular lines. Using the mouse or ⬅ ➡,
⬆ and ⬇, you can move the crosshairs to identify the location of map items to modify. When crosshairs appear on the screen, you can press F3 to display locational data. Latitude and longitude (in decimal degrees) will appear in the left corner of the screen.

The Edit menu contains the following options:

- Edit

- Magnify

- Zoom

- Pan

- State View

- Last View

- Erase Text

- Label

These options are described below in detail.

Magnify

Enlarges a portion of the map. When you select the Magnify option, the crosshairs intersect at the center of the screen. Use them to draw a box around the area you want to magnify. To draw this box, first move the crosshairs to the first corner of the box to be magnified and press ⎣ **Return** ⎦. Then select the opposite corner of the box and press ⎣ **Return** ⎦.

WMS redraws the map so that the selected area fills your screen. The center point of the block becomes the center of the new map. If the block is longer in one direction than the other, the system will adjust the display of the shorter dimension to account for the fact that the map must be square. Therefore, the resulting map displayed may contain a larger area than that selected by the user.

Return	Selects a menu or option when highlighted.
	Selects a point.
	If you are using a mouse, the right mouse button performs the same functions as **Return**.
Enter	Selects a menu or option when highlighted.
	Selects a location for a map to be drawn.
	If you are using a mouse, the right mouse button performs the same functions as **Enter**.
F3	Displays locational data when you access the Magnify and Pan options in the Edit menu.
◄ ►, ▲ and ▼	Scrolls through the menus, options, and maps. For any movement with arrows, you can also use your mouse.
Crosshairs	Marks points to be modified or explored. Crosshairs consist of two perpendicular lines that intersect. When you select the appropriate options, the crosshairs appear on your screen. You move the crosshairs with either the mouse or the ◄ ►, ▲ and ▼, until the intersecting point is on the feature or area you want to modify or learn more about.
Menus	The WMS produces a map of the geographical area surrounding a well within a specified radius. You can modify and print these maps using the four WMS menus: File, Edit, Query, and Help. You access the menus and options three ways:

- Use the ◄ and ► to highlight the option, and press **Return**.

- Use the mouse to highlight the option and press
  | Return |.

- Type the first capitalized letter of its title.

The following sections describes each WMS menu in detail.

File Menu

The File menu contains basic information about WMS, geographical features, and printing functions. The File menu contains the following options:

- Version

- Layers

- Print

- Quit

These options are described below.

Version

Displays the current version and date of WMS. To remove the message from your screen, press any key.

Layers

Allows you to select the attributes or layers you want to display on the map. The default setup includes layers for cities, rivers, highways, and boundaries for water bodies, counties, states, regions, the U.S., and hydrologic boundaries.

Use this option to turn layers on and off. Active layers have unique symbols displayed in the left column of the menu and the first letter in the titles are capitalized. When you turn a layer off, its symbol will not appear.

TIP: UIC and non-UIC wells are always plotted. You cannot deactivate them with the Layers option.

Press | Escape | when you complete your layers selection. WMS will automatically redraw the map.

When you access WMS from the Query menu in WATERS, all layers are active and bodies of water are filled. An active layer may not be plotted if your map has no examples of the point, line or boundary. For instance, the cities layer includes the 250 largest cities in the U.S. The city layer will not be displayed if the area you plot is not located near one of these cities

TIP: The water layer has two active modes. A body of water can be outlined or filled.

Print

Prints the map displayed on your screen. A printed map has two components. The map is printed on the top half of the page. A legend is printed on the lower half of the page. The legend includes a title, display layer keys, north arrow, and a scale.

When you select the print option, WMS prompts you to enter a title. Then press [**Return**] to send to the printer. WMS uses the same port configuration as WATERS. To change the port configuration, return to WATERS. Press [**Escape**] to leave the print option and return to the original map.

Quit

Closes the WMS and returns to the WATERS folder you were on when you selected the GIS option. WMS does not ask you to confirm your choice.

Edit Menu

This menu contains options to modify the current map display. When you access some of the options, the cursor becomes a pair of crosshairs – intersecting perpendicular lines. Using the mouse or ◄, ►,

▲, and ▼, you can move the crosshairs to identify the location of map items to modify. When

crosshairs appear on the screen, you can press F3 to display locational data. Latitude and longitude (in decimal degrees) will appear in the left corner of the screen.

Press any key to remove the message. Use the Pan option to reposition the map center. Then select the State View option again.

Last View

Displays the previous view of a map after you make changes using the Magnify, Zoom, Pan, or State View options. You cannot display the previous map if you turn off a layer. For example, if you turn off the County layer using the Layers option, Last View will not return to the state map with the County boundaries shown.

TIP: Labels may be erased when using the Last View option to view a larger area. For example, if you use the Zoom option to move from a map of Illinois to the map of the U.S. you cannot see Illinois' labels. When you select Last View to return to the Illinois map, labels are gone.

Erase Text

Erases all labels and automatically redraws the map display.

Label

Allows you to selectively label any active geographical feature. You cannot select features you have made inactive with the Layers option under the File menu. All active features have white titles in the Edit menu. All inactive features are displayed in yellow. Since features are dynamic, you cannot type the first capital letter to select a menu option.

When you select one of the features, the crosshairs appear in the center of the screen. Use the crosshairs to select the feature you want to label and press ⎣ **Return** ⎦. WMS labels the appropriate feature closest to the point you selected. This text is in the same color as the feature itself, so you can easily identify it on your screen. Press ⎣ **Escape** ⎦ to cancel the Label option.

WMS will not write a label in the place you select if:

- The feature you want to label is not located on or near the point you selected.

- The area is crowed with text and there is no room for additional labels.

- The point you select places labels too closely together.

Press any key to continue.

TIP: If labels are removed from view, they will be erased and must be replaced. For example, if you use the Pan option to create a new map that does not show the previous map's labeled features, the labels will be deleted.

Query Menu

This menu enables you to choose a new well to view in WMS or in WATERS, and to retrieve a variety of information and locational data on wells and other features on the map. For all of these options, you select points or areas on your map using the crosshairs.

When you access the Query menu, you will see the following list of the options:

- Query

- Reselect

- Well Info

- Distance

- Lat-Long?

These options are described below in detail.

The Edit menu contains the following options:

- Edit

- Magnify

- Zoom

- Pan

- State View

- Last View

- Erase Text

- Label

These options are described below in detail.

Magnify   Enlarges a portion of the map. When you select the Magnify option, the crosshairs intersect at the center of the screen. Use them to draw a box around the area you want to magnify. To draw this box, first move the crosshairs to the first corner of the box to be magnified and press ⎡ **Return** ⎤. Then select the opposite corner of the box and press ⎡ **Return** ⎤.

WMS redraws the map so that the selected area fills your screen. The center point of the block becomes the center of the new map. If the block is longer in one direction than the other, the system will adjust the display of the shorter dimension to account for the fact that the map must be square. Therefore, the resulting map displayed may contain a larger area than that selected by the user.

Zoom

Changes the scale of the map, while the center remains constant. The map's scale denotes how much space each inch of your screen symbolizes. Therefore, if you change the width your screen represents, you can increase or decrease the area your map covers. If you increase the width, your map covers more miles per inch of your screen (i.e., WMS "zooms out"). If you decrease the width, your map covers fewer miles per inch of your screen (i.e., WMS "zooms in").

When you select this option, a pop-up window at the top of the screen displays the current map width and prompts you to enter a new width. After you press ⌊ **Return** ⌋, WMS redraws the map.

Pan

Changes the center of the map. When you select this option, the crosshairs intersect in the center of the map. Move the crosshairs to select a new center and press ⌊ **Return** ⌋. WMS redraws the map, centering on the point you selected. The scale remains the same. Cancel the Pan option by pressing ⌊ **Escape** ⌋.

TIP: If you cannot see the labels on your original map after you use the Zoom or Pan option, then these labels are deleted. You cannot select the Last View option to recover the labels on your original map.

State View

Enlarges the map on your screen to display the entire state. The center of the current map will determine which state is drawn. For example, if a well is in the Northwest corner of Massachusetts, the center of the map could be in a neighboring state. Therefore the State View option will draw that neighboring state. Use the Pan option to reposition the map center, and select the State View option again.

If the map center is within a body of water, WMS prints the message 'No state boundary found'.

Reselect   Allows you to select a new well to view. You may
                  either redraw the map with that well as its center, or
                  return to WATERS to view that well's records in
                  WATERS' folders. Move the intersecting point of the
                  crosshairs to the well you wish to select. Press
                  [Return] to get the "Well ID" of the new well you
                  selected. You are given three choices: GIS, WATERS,
                  or Cancel. If you choose GIS, the WMS will redraw
                  the map using the well you selected as its center. If
                  you choose WATERS, you will be returned to WATERS
                  positioned on the well record in the folder that was
                  active before you accessed the GIS option.

                  TIP: You cannot retrieve the previous map with Last
                  View after you select a new well.

Well Info   Provides quick access to key data elements stored
                  in WATERS without leaving WMS. Use the crosshairs
                  to select a well and press [Return]. If there are
                  two wells in the point you select, the Well Info option
                  will provide a list of the Well IDs found and require
                  you to select one.

                  A pop-up window appears in the middle of the
                  screen. The first column contains command keys to
                  navigate the window. The second column contains
                  an alphabetical list of field names. The third column
                  contains well data for each of the field names. A
                  complete list of field descriptions is in Appendix B.

                  Select OK to return to the map. Select Print to
                  print the list. Press [Escape] to cancel the Well Info
                  option.

Distance
Calculates the distance between two points. Move the intersection of the crosshairs to select the first point and press ⌐ **Return** ⌐. Then move the crosshairs to the second point and press ⌐ **Return** ⌐. A pop-up window at the top of the screen displays the distance in miles. Press any key to remove the window. Press ⌐ **Escape** ⌐ to remove the crosshairs and deactivate this option.

Lat-Long
Displays the latitude and longitude coordinates of a well you select. Move the crosshairs until the intersecting point is on the well whose coordinates you wish to see, and press ⌐ **Return** ⌐. At the top of your screen, a pop-up window displays the latitude and longitude coordinates of the point you selected. Press any key to remove the window. Press ⌐ **Escape** ⌐ to cancel this option.

Help Menu
The Help menu provides both a legend for your map and explanations of WMS's major functions and procedures. When you access the Help menu, the following options will appear:

- Legend

- How Do I ...

These options are described on the following page.

Legend
Provides a list of WMS symbols and their descriptions. The legend includes symbols for all wells and for all active layers. You can activate and deactivate these layers with the Layers option under the File menu. All active layers and all wells are listed regardless of whether or not they are plotted on your map.

When you finish using the legend, either press ⌐ **Escape** ⌐ or select OK in the top right corner of the legend window.

How Do I ...

Provides an overview of WMS functions and features for easy reference.

WMS Utilities

When you installed WATERS, you not only installed the Screen Editor, but also two utilities for WMS: the Layers Editor and the MOSS2MI Converter. The Layers Editor allows you to change WMS default layers. Through the Layers Editor, you can add and remove layers available to WMS users, and change the style in which the layers are displayed. The MOSS2MI Converter allows you to convert GIS data in the MOSS format to the MapInfo file format. This is part of the process of converting other GIS files into layers in WMS.

Both the Layers Editor and the MOSS2MI converter are designed for experienced WMS users and LAN system administrators. The rest of this chapter will briefly explain the major points of the Layers Editor and the MOSS2MI Converter.

Layers Editor

When you use WMS, you can activate and deactivate the layers. You cannot, however, change the default setting or alter the styles of the layer. However, the Layers Editor, a MapInfo application, allows you to add and remove the layers available to WMS users, change the default setting of the layers, and alter the default style of the layers displayed.

To start the Layers Editor, return to the C:\WATERS prompt and type LAYERS. Once the program is loaded, the opening screen of the Layers Editor will closely resemble the initial WMS screen, with a standard map and four menus in the top line. However, the Layers Editor title replaces the WMS title, and the Query menu is replaced by the Style menu. Most menu options in the Layers Editor are identical to the WMS options. The Edit menu, however, has additional options and the style menu is new. This section will only discuss these new features.
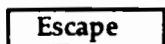
Edit Menu

The Layers Editor's Edit menu allows you to modify the current map display, just as the WMS menu did. However, there are two new options: Add Layer and Remove Layer.
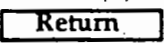
Add Layer

Makes a new layer available to WMS users. When you select this option, you have three kinds of layers you can chose from: boundaries, lines, and points. Boundaries are completely enclosed, larger blocks of land or water; (e.g., a lake, a county). Lines include highways and rivers. Points can represent smaller portions of land such as cities.

After you select the type of layer to add, the Layers Editor presents a list of databases that you navigate by using your mouse or ⬅, ➡, ⬆, and ⬇. Select the database for the new layer, and another list will display all the fields of that database. Select the appropriate field. WMS will access this field to plot the layer. Press ⎣ Escape ⎤ and the Layers Editor will automatically redraw the map to include the new layer. The Layers Editor will also assign the new layer a unique style. Use the Style menu to create a new default style for the layer.

Remove Layer

Removes a layer currently available to WMS users. When you select this option, a list of all the layers in WMS appears. To remove one, highlight it and press ⎣ Return ⎤. The Layers Editor will automatically redraw the map, and the WMS users will no longer be able to activate or deactivate that layer.

TIP: If you want to retrieve a layer, you will have to use the Add Layer option to redefine the database and field of the layer.

Style Menu

The Style menu allows you to change a layer's display (activated or not), and the color of its symbol and/or label. When you select the Style menu option, it displays a list of all the available WMS layers. If the layer is currently activated, it is capitalized and its symbol is displayed in the right column.

Press [**Return**] when you have highlighted the layer whose style you want to change. You will see a new window with three options for each layer: Display, Symbol, and Text Color. The current options are displayed in a box to the right of these options. You select the option by using your mouse or by using the [↑] and [↓] to move the box and pressing [**Return**]. A list of the available choices for that option will be displayed in the middle of the screen.

To navigate this list, use your mouse or [↑] and [↓] to select the HOME, PG UP, PG DN, and END boxes to the left of the list.

Each of the three options are described in detail below.

Display

Changes the current display. Each layer has at least two Display options: outlined (OUT), or off. The boundary layers have an additional option: filled (FIL). To change the setting in the Display option, click on the box until you see the setting you want.

TIP: If you select NONE for a boundary's filled symbol, you cannot select a filled display (FIL).

Symbol

Changes the symbol for boundaries and points. Lines can only be displayed as lines and you cannot change the color. Boundaries can have different colors and patterns for the outline and filled displays. The outline symbol is in the left box, while the filled symbol is in the right. Points can have different symbols and colors. Page down to the end of the list and select NONE if you do not want to specify a pattern or color. If you select NONE for a boundary's filled symbol, you cannot select a filled display (FIL).

Text Color

Changes the color of any labels on the map. If you select NONE, and try to label a map, no labels will print.

When you have completed your changes, press [Escape] and the Layers Editor will redraw the map. When you exit the Layers Editor, the styles you have chosen for each layer become the default setting of WMS.

MOSS2MI Converter

The MOSS2MI Converter is used to convert the MOSS data format to the MapInfo Import File format. The MOSS file format is a standard GIS export format. Map layers from other GIS systems, such as ARC/INFO and ATLAS Pro, can be exported to the MOSS ASCII file format and converted for use in the WMS with this utility. The general steps to accomplish this conversion are outlined below:

Step 1:

Create a MOSS file from your preexisting GIS

- From ARC/INFO™ use the ARCMOSS command

- From ATLAS Pro™ use the Export to Text Command

Step 2:

Use the converter to translate the MOSS file to the MapInfo Import File Format.

- For Boundaries the format is a .MBI file

- For Lines the format is a .MMI file

- For Points the format is a .DBF file

Step 3: Use MapInfo's IMPORT utility to convert the Boundary or Line to a WMS map layer.

- For Boundaries the utility is called BDYIMP.EXE

- For Lines the utility is called MAPIMP.EXE

The MapInfo Import utilities required for step 3 are <u>not</u> provided in the WATERS package. States can borrow them from EPA Headquarters or can purchase them from MapInfo Corporation, 200 Broadway, Troy, NY 12180, (800) 627-4968. The MapFile Import Utility and Boundary Import Utility are packaged together by MapInfo for a price of $495.00.

If the utilities are borrowed from EPA, they should be used and immediately returned. The utilities are protected by copyright laws and must be deleted from the borrower's machine once translation is complete. By deleting your copy, you are allowing the legal use of the borrowed software for other state agencies.

The MOSS2MI Utility was installed along with the WATERS, Screen Editor, WMS, and LAYERS software. If the input file does not exist or the WMS.PER file was not found, an error message is displayed and operation stops. If the output file already exists, you have the option to overwrite it.

The MOSS2MI.EXE file has the following syntax:

```
MOSS2MI <BDY|LINE|PNT> <moss_file>
<output_file> [ color ] [ pattern ]
```

The first parameter is a keyword—either BDY for boundary conversion, LINE for Line conversion, or PNT for point conversion. The angle brackets (<>) in the syntax line indicate that the parameter is required, and the square brackets ([ ]) indicate the parameter is optional. The optional color and

pattern parameters are used for line conversions only. Legal color and pattern parameters are listed below. When not provided, the default color is YELLOW and the default pattern in SOLID.

Color	Line Type
BLACK	SOLID
WHITE	LONG-DASH
RED	DOTTED
GREEN	DASH-DOT
BLUE	MEDIUM-DASH
YELLOW	DASH-DOT-DOT
CYAN	SHORT-DASH
PURPLE	
ORANGE	
MAGENTA	
LIGHT-GREEN	
BROWN	
ROYAL-BLUE	
LIGHT-PURPLE	
LIGHT-YELLOW	
PINK	

TIP: Since line segments symbols are defined during the import process, it is not possible to change the color or symbol of a Line layer in the Layers Editor. However, the color and pattern for boundary layers is configured and changed from within the Layers Editor.

The table below lists the default layers in WMS.

Color	Layer	Description
Red	CITY	The 250 largest cities in the U.S.
Blue	WATER	Lakes and large rivers extracted from the USGS river reach file
Cyn	HUC	Hydrologic Unit Code boundaries defined by the major drainage basins
White	STATE	48 contiguous states in the U.S.
Purple	County	County boundaries
Blue	RIVER	Rivers from the river reach file classified as pollution monitored
Yellow	HIWAY	U.S. Highways

X. WATERS Screen Editor

WATERS contains all required and suggested data elements contained in the UIC Program's Minimum Data Set (MDS), as stipulated in Guidance #68. However, EPA's Underground Injection Control Branch (UICB) recognizes that many primacy and DI programs have more extensive data management requirements. Consequently, UICB designed the WATERS Screen Editor so you can tailor WATERS to fit your own program's needs.

With the Screen Editor, you can add new pages to existing folders and define additional data elements for WATERS to track. You cannot, however, add new folders or alter core pages – they contain information from the Minimum Data Set which must remain consistent for all WATERS users. This chapter describes the use of the WATERS Screen Editor.

Core Pages

WATERS has fifteen core pages which contain information from the Minimum Data Set. You cannot add new folders or alter core pages. These "core" pages and folders must be preserved in order to compile the EPA Form 7520 reports, and track all of the MDS. For a list of the core pages, see the Page Names table on the following page.

The core pages which cannot be edited include:

- pages 1-4 in the Permits folder

- pages 1-6 in the Inventory folder

- page 1 in the Inspections folder

- page 1 in the MIT folder

- page 1 in the Compliance/Enforcement folder

- page 1 in the Operations folder

- page 1 in the non-UIC folder

Page Names

The Screen Editor assigns page names to all pages in WATERS. These page names include a reference to the folder name and a page number. The Screen Editor uses this naming convention when saving new pages. Below is a list of core pages and page names. The Screen Editor will generate additional page names in the sequence in which you create them.

WATERS Page	Page Name
Permits, page 1	PERM_1
Permits, page 2	PERM_2
Permits, page 3	PERM_3
Permits, page 4	PERM_4
Inventory, page 1	INV_1
Inventory, page 2	INV_2
Inventory, page 3	INV_3
Inventory, page 4	INV_4
Inventory, page 5	INV_5
Inventory, page 6	INV_6
Inspections, page 1	INSP_1
MIT, page 1	MIT_1
Compliance/ Enforcement, page 1	COMP_1
Operations, page 1	OPER_1
Non-UIC, page 1	NONUIC_1

Starting the Screen Editor

The Screen Editor can only be loaded and used when you are in DOS at the C:\WATERS prompt. (You cannot use the Screen Editor to add pages or fields while in WATERS, or while other users are accessing WATERS on a network.) If you are at the C: prompt, type CD/Waters and press ⌐ **Return** ⌐. Then type Scrnedit and press ⌐ **Return** ⌐.

> **TIP:** The Screen Editor may request that you to enter the data path if the Screen Editor program is not stored in the same directory as WATERS. If you followed the installation instructions in Chapter III, then the Screen Editor is in the same directory as WATERS.

While your system loads the Screen Editor, a screen will appear that is almost identical to the WATERS start-up screen. The letters "SE" will blink at the bottom of the screen which signifies that the Screen Editor is loading.

Once the Screen Editor is loaded, you will see a screen that resembles WATERS' folders. The majority of the screen represents a blank page of an unnamed folder (the "adding" screen). (This is where all of the editing of WATERS screens will take place.) At the top left are the menus: File, Edit, Fields, and Color. When you select a menu or option, at the bottom of the screen will be the menu or option's description. Numbers in the top right corner correspond to the page and line location of your cursor.

> **TIP:** When you add a new page to folders that can have multiple records, a special tab notation lets you differentiate between the page you are on, and the particular record you are viewing. See Chapter IV for an example.

Menus

There are four menus in the Screen Editor: File, Edit, Fields, and Color. To access these menus, you need to move out of the adding screen by pressing the [Alt] key and the highlighted letter of the menu you wish to access.

File Menu

The File menu has several options that allow you to retrieve existing pages in WATERS, and either save or delete the changes you have made through other menus.

The File menu has five options:

- Load Page

- Save Page

- Save Page As

- Delete Page

- Quit

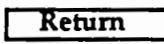You can access these options the same way you access menu options in WATERS.

- Use [↑] and [↓] to highlight the option you wish to select and then press [Return].

- Press the highlighted letter of the menu option's title.

TIP: You cannot choose menu options that are not applicable. For example, you cannot select the Delete Page option unless you have loaded or saved a page. Options you cannot select are shaded in the menu, and do not have a letter highlighted in their titles.

The following section describes each of these options in detail.

Load Page

The "Load Page" function retrieves core and adds pages from any WATERS folder so you can edit existing pages. When you access this option, you will see a pop-up list of WATERS pages grouped by folder. To select a page, highlight its name by either using your ⬆ and ⬇ and press ⟦ **Return** ⟧. Once a page is loaded, it looks exactly like it would in WATERS.

TIP: If you load a core page, you can only save color changes. For example, if you load Perm_1 and try to add a field, you will not be able to save the page as the core page Perm_1.

Save Page

The Save Page option saves updates to pages created with the Screen Editor. If the current page has a name, you can select the Save Page option. A page is named if you loaded an existing page or previously saved the page. If the page has a name, the Screen Editor displays it in the top right corner of the screen. If the page is unnamed, then the Screen Editor automatically reroutes you to the Save Page As option, which is discussed below. After using the Save Page option, the Screen Editor returns you to the field you were on when you selected the option.

Save Page As

The Save Page As option names a new page and saves it in a folder. .

When you select the Save Page As option, the Screen Editor asks you to choose a database if you have not already done so through other menu options (see the Select Database option under the Edit menu). A new window then displays the list of page names for that database. The left column identifies three types of pages: core, used, and available. Used pages are pages that have been added to WATERS using the Screen Editor. If you select a used page, you will replace that page with the one you are trying to save. An available page is the next empty page in the database. When the list

of page names appears, the next available page is highlighted in red.

You can use this function to save a page in two different folders. For example, you may want to add the same page of inspection data elements to both the MIT and Inspections folder. First make the changes or additions in one folder. Save them with the Save Page option discussed above. Then use the Save Page As option to save it to the second folder.

Delete Page

The Delete Page option deletes the page displayed on your screen. You will get a message to confirm your choice. When you select this option, the Screen Editor will ask you to confirm that you want to delete the page. If so, select yes.

TIP: You cannot delete any core pages in WATERS. Core pages contain information from the Minimum Data Set.

Quit

The Quit option ends the session with the Screen Editor and returns you to the DOS prompt. To start WATERS, type WATERS and press ⬛ **Return** ⬛ .

TIP: After using the Screen Editor, WATERS will take longer to load because the database indexes must be rebuilt.
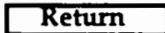
Edit Menu

The Edit menu contains options that allow you to alter, move, erase or clear entire blocks of the screen you are creating. You can also add special features and characters to the screen

The Edit menu has five options:

- Move Area
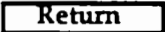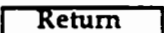- Erase Area
- Clear Screen
- Draw Box/Line

- Ascii Character

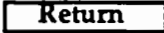You can access these options the same way you access menu options in WATERS:

- Use ⬆ and ⬇ to highlight the option you wish to select and then press ⬚ **Return** ⬚ .

- Press the highlighted letter of the menu option's title.

The sections below explain each of the options in the Edit menu.

Move Area

The Move Area option moves blocks of text on a page. There are two stages in repositioning a block – determining the parameters of the block to be moved, and moving it. Place your cursor in the upper left corner of the block you want to draw. Then select the Move Area option. A small sample block appears on the screen in place of the cursor. Change the dimensions of this block by using the cursor keys listed in the message box in the lower left corner of the screen. Press ⬚ **Return** ⬚ when you finish re-configuring the block to cover the area you want to move. Use the same cursor keys to move the block you have just defined to its new position. Use the same command keys to place the block and press ⬚ **Return** ⬚.

Erase Area

The Erase Area option erases whatever block you define. (The Erase Area option behaves like the Move Area option.) This option is useful when you want to delete a portion of a page. Place your cursor in the upper left corner of the block you want to draw. Then select the Erase Area option. A small sample block appears on the screen in place of the cursor. Change the dimensions of this block by using the cursor keys listed in the message box in the lower left corner of the screen. Press ⬚ **Return** ⬚ to erase the area.

TIP: You cannot choose menu options that are not applicable. Options not applicable are shaded and no letters are highlighted. You must have text on the screen in order to select either the Move or Erase Area options.

Clear Screen

The Clear Screen option clears all text on the screen.

Draw Box/Line

The Draw Box/Line option draws a line or a box in the designated space. To draw either a box or a line, place your cursor in the left end or corner of the line or box you want to draw. Select the Draw Box/Line option, and select either a single or double line style. A small segment of this line style will appear at the left end of the line you want to draw. To turn this segment into a line or box, use the cursor keys at the bottom of the screen. When you are finished drawing, press ⌐ Return ⌐.

Ascii Character

The Ascii Character option displays an Ascii character on the screen where designated. Ascii characters cannot be created using the standard keyboard. For example, you could not type a check mark (✓) or ⬆ and ⬇. To create an Ascii character, move your cursor to the spot where you want to place the character. Then select the Ascii Character option, which will display all the available symbols. Position the cursor on the symbol you want and press ⌐ Return ⌐ to select it and position it on the screen.

Fields Menu

The Fields menu allows you to create, modify, or revise fields. Fields contain the well-specific information for a particular data element. For example, "Rule Authorized" is a specific data element on page one of the Permits folder. The space where you type Y or N is the first field of the Permits folder.

The Fields menu has these options:

• Select Database

- Insert Field

- Create Field

- Move Field

- Erase Field

- Revise Field

You can access these options the same way you access menu options in WATERS:

- Use ⬆ and ⬇ to highlight the option you wish to select and then press [**Return**].

- Press the highlighted letter of the menu option's title.

As with the File and the Edit menus, you cannot choose options that are not applicable. Options that are not applicable will be shaded, and no letter will be highlighted.

The sections below explain each of the options.

Select Database

The Select Database option allows you to select a database when creating or inserting fields. You should select a database before you select the Create Field or Insert Field options. Below is a list of folder names and the corresponding databases.

Folder Name	Database
Permits	PERMIT
Inventory	PERMIT
Inspection	INSPECT
MIT	MECHTEST
Compliance/ Enforcement	COMPLY
Operations	OPERATE
Non-UIC	NONUIC

If you want to add fields to a particular folder, choose its corresponding database.

If you have used Insert Field, Create Field, or Load Page, then the Select Database option is not applicable. It will be shaded in the menu, and the "S" will not be highlighted.

Insert Field

The Insert Field option inserts existing fields onto a new page. Use the Select Database option to specify the database locations for the field(s) you want to insert. If you do not make this designation before using the Insert Field option, a pop-up window will display the database names for you. You must select a database before continuing with the Insert Field option.

After you choose a database, a new window will appear with a list of database field names and descriptions. Highlight the field name you want to insert and press ⌐ **Return** ⌐. The Screen Editor places that field where your cursor was prior to selecting this option.

TIP: When you insert a field, you are not just inserting its format and color from WATERS; you are also inserting the well-specific data on your new page.

Create Field

The Create Field option allows you to create and define a new field. Before creating a field, you must designate a database using the Select Database option. If you do not select a database through the Select Database option, the Create Field option will generate a pop-up window that lists the available databases. After you have chosen a database, a new window lists the following field attributes:

- Field Name

- Long Field Name

- Type

- Length

- Decimal

- Display Format

- Required

- Field Color

Field Name

The Field Name is the official name of the new field. This is the name used to identify the fields in the WATERS database. This name must start with a letter and have no spaces. The body of the name can have letters A to Z and numbers 1 to 9. You cannot save two fields with the same name.

TIP: Once you have saved a field name, you cannot alter it with the Revise Field option. You can only delete the field.

Long Field Name

The *Long Field Name* is the description of the field. Unlike the *Field Name*, the *Long Field Name* does not have to be continuous. Describe the field as accurately as possible, because the description will be used later. For example, when you create custom reports, these field descriptions would head the data columns; when you press F1 , these descriptions would appear in the pop-up help window.

Type:

The *Type* attribute specifies the type of field: numeric, logical, date, or character.

Length

The *Length* defines the length of the field. Each field type has different length limitations. See the table below:

Type	Length
Numeric	1 to 25
Logical	1
Date	8
Character	1 to 74

The length of a field includes the space for decimal points in numeric fields. However, length does not include commas for numeric fields, or slashes (/) for date fields.

Decimal

The *Decimal* describes the number of allowable decimals in the numeric fields. This is applicable for numeric fields only. The default is 0.

Display Format

The *Display Format* describes the format you want the field to appear on the screen in, if any. Press

$\boxed{\text{F1}}$ for a list of all formats applicable for the field type you selected earlier. Once you select a format, an example of it appears to the right of the Display Format option. You can leave this blank.

Required

A *Required* designation identifies fields as required. Once a field is designated as required, you must fill the new field in order to save a record in WATERS. For example, "Rule Authorized" is a required field.

Field Color

The *field color* function allows you to choose the color you want a particular field to be. Press the

$\boxed{\text{F1}}$ key to designate a color for a particular field. For more detailed instructions on how to use the color chart, refer to the Color menu section.

To create your field, specify the characteristics you want and press $\boxed{\text{Control}}$ - W to save. In order to save, you must specify the field name, type, length, and whether or not it is a required field in WATERS. The Screen Editor places your new field where your cursor was prior to selecting the option.

TIP: For examples of field names and long field names, access the Insert Field option, or turn to Appendix B.

Move Field

The Move Field option repositions fields on a page. Use this option if you want to move a single field. If you have several fields to move, use the Move Area option instead. To select the field you want to move, place your cursor in that field before you select this option. Once you access the Move Field option, use the ◄, ►, ▲ and ▼ to move the field and press ⌈ **Return** ⌋ to place it.

Erase Field

The Erase Field option erases the field name and all the attributes you designate prior to selecting the option. A pop-up window will ask you to confirm that you want to delete this field.

Revise Field

The Revise Field option displays the list of field attributes available for editing. If you try to revise a field you have added, you can change all attributes except the database designation. (You can only change the color of core fields.)

To revise a field, place your cursor in the field to be revised. Once you access the Revise Field option, you will see the list of field attributes available for editing. Make the necessary changes, and press ⌈ **Return** ⌋.

Color Menu

The color menu allows you to alter the background and foreground default colors of any single page, and all the fields on a single page. This page can be part of the core page or your own additional pages. The colors of a page and its fields are unique and specific to that page. To change all the pages in WATERS to different colors, you must change the colors of each individual page.

TIP: The Color menu will change the colors of fields with the default color. However, you can assign certain fields specific colors with the Create Field and Revise Field options. These specific field colors will not change when you use the Color menu option. For example, if you make the "Well ID" field yellow, and the default color of the other fields is red, then the Color menu will only change the red fields to a new color.

The Fields menu has two options: Screen and Fields. You can access these options the same way you access menu options in WATERS.

1. Use ⬆ and ⬇ to highlight the option you wish to select and then press ⎡ **Return** ⎤.

2. Press the highlighted letter of the menu option's title.

Color Chart

When you select either option, the same window appears with a color chart for both the foreground and background. To switch between the foreground and background colors, use the ⬅

and ➡. To select a color in either column, you have two options:

• Use your ⬆ and ⬇ to move the triangle to the color you want

• Type the capitalized letter adjacent to the color you want.

At the top of the window, the Color Selection Example box lets you see how different combinations look. When you have marked both the foreground and background colors you want, press ⎡ **Return** ⎤.

XI. HELP

If you have problems running WATERS, there are two sources of on-line help: the WATERS and WMS Help menus, and WATERS on-line help. The Help menu provides a synopsis of key commands and procedures. On-line help describes fields, or if applicable, lists their data entry codes when you are entering, editing, copying or querying a record.

Since the Help menu has already been described in Chapter VI, this chapter focuses on on-line help and DOS trouble-shooting tips.

On-line Help

WATERS on-line help provides users with field descriptions or pop-up lists of data entry codes for use in performing queries or using the Edit, Add, Copy options. To access on-line help, place your cursor on the field in question and press ⃞F1⃞ .

Many WATERS fields, such as "Permit Number" and "State", do not have established data entry codes. For these fields, the on-line help displays a pop-up window containing the appropriate field descriptions. You can press any key to remove the window.

Fields that are restricted to a set of defined values, such as "We Class" and "Type", will display a pop-up list. Exhibit XI-1 below is an example of a pop-up data entry code list.

Exhibit XI-1

```
↑  Up   Fld   ←   Left Char/Fld   PgDn   Next Page                F1    Help
↓  Down Fld    →   Rght Char/Fld   Esc    Exit without changes     Ins   Toggle Over
```

```
Permits    │ Inventory │ │ Inspection │   MIT    │ Compl/Ref │   Operations │
                                                                                        PgUp

      Op:   DUNCAN OIL PROPERTIES                              UT02353
      Rule Authorized        N                                                          1

      Application Number          147853     Well Identifier     UT02353              2
      Permit Number               UT12343    Type of Well Prmtd  Converted
      Type of Well Permit         Area       Class               2                     3
      No. of Wells/Permit          3         Type ┌─Type:──────────────────────┐       4
                                                   │ 2A Annular Injection        │
                                                   │ 2D Salt Water Disposal      │
      Application Date            /  /        Tech │ 2H Liquid Hydrocarbon Storage│
      Date Permit Issued         /  /        Publ │ 2R Enhanced Recovery         │
      Date Permit Effective      /  /        Publ │ 2X Other Class II            │
      Date Permit Modified       /  /        Perm └──────────────────────────────┘
      Type of Permit Mod         ?           Expi

      Date Plugged/Abandoned     /  /        Date Permit Denied      /  /
      Commercial Facility        ?.          Date Withdrawn          /  /
                                                                                        PgDn

  UIC   │ Non-UIC │ Edit Menu │
```

When the on-line help produces a pop-up list, you have two ways to select a code. You can either type the highlighted letter, or use ⬆ and ⬇ to highlight the option and press ⌞ Return ⌟. If you select a letter that is not a valid option (not a listed code), there will be no response. In order to return to the data entry screen without selecting an option press ⌞ Escape ⌟ .

The pop-up list is a tool to help you in the data entry process, not a necessary step to add, edit, copy or query a record. If you already know the code, you can simply enter it. However, even when you know the appropriate codes, using the pop-up lists is faster whenever the codes are more than two letters. To select a code from the pop-up list, you only need to type the single highlighted letter.

For example, press ⌞F1⌟ in the Frequency of MIT Tests field on the second page of the Permits folder. You will see the options Annually, Semi-Annually, Every 5 Years, and Other. Type A, S, E, or O to choose an option. WATERS automatically writes the full two-letter code on the screen.

You also have the option of typing the first two letters of the option in order to select it (i.e., AN for annually). Again, WATERS displays the full field value on the screen.

DOS Trouble-Shooting Tips

DOS commands can be used to alter your computer's configuration so that   can accommodate the WATERS prog` . m requirements. There are three trouble-shooting tips about DOS that may help you use WATERS more easily. They are the SHARE program, the UTILITY PACK program, and File Handles.

File Handles

If you are having difficulty running WATERS, the most common problem is insufficient memory dedicated to the WATERS program. If you do not have enough memory to open the necessary WATERS files, your system can send you many different and confusing messages while running WATERS or WMS. For a list of these messages, see the table on the following page.

What	Details
WATERS message	DOS Error 4: Too many open files (no file handles left). Increase FILES= in c:\config.sys and/or File Handles= in c:\shell.cfg.
WMS messages	Unable to open file
	Error reading file
	Error opening WMS.NUM
	Error reading WMS.NUM

高

There are three ways to change the amount of memory allocated to run WATERS. Each are explained below, in the order you should try them.

Option 1: Check your
c:\config.sys file.

The config.sys file controls the number of files that can be open at one time. To run WATERS, you need at least 83 file handles. To check your config.sys file, follow these steps:

Step 1: Quit WATERS and return to DOS. You should see c:\ on your screen.

Step 2: Type edit c:\config.sys and press ⌐ **Return** ⌐.

Step 3: If the number at the end of the Files = line is less than 83, edit the line so it reads Files = 83.

Step 4: Start WATERS. If you are still having memory problems, see option two below.

Option 2: Check your
network directory.

The shell.cfg file in your PC network directory allows you to open a certain number of files. To check the file handles in shell.cfg, follow these steps:

Step 1: Quit WATERS and return to the DOS prompt.

Step 2: Type edit c:\shell.cfg and press ⌐ **Return** ⌐.

Step 3: If the number at the end of the File Handles = 77 line is less than 77, edit the line so it reads File Handles = 77.

Step 4: Start WATERS again. If this does not work, see option three below.

Option 3: Consult your
LAN administrator.

The LAN administrator may not have allocated enough file handles to open the files you specified in your config.sys or shell.cfg files. To run WATERS, your LAN administrator will have to increase the number of file handles available.

The SHARE
Program

SHARE is a component of DOS that allocates file space for file-sharing information. It is recommended that you do not run the programs at the same time, since combined with WATERS, it can produce erratic results. However, DOS 4.0 automatically loads SHARE, so this may be unavoidably. Regardless, if you do run SHARE while using WATERS, you should increase the capacity of the SHARE program by typing /F: and the increased number of bytes SHARE needs. There is no hard-and-fast rule for the number of bytes needed, but the longer the WATERS path name, the more space SHARE requires. Refer to your DOS documentation for more details on SHARE.

UTILITY PACK
program

When you delete records in WATERS, your hard drive still marks the space these deleted records took up as occupied and the Tally option counts the deleted records. It will continue to do so until you use the UTILITY PACK program. This program will "re-pack" that disk space, i.e. compress the records of all database files by permanently removing the deleted records. UTILITY PACK frees up disk space and can even increasing system speed. Therefore, it is a good idea to use the UTILITY PACK program once every one to three months. The more records you delete from WATERS the more often you should re-pack your database.

To repack, type Utility Pack at the C:\WATERS prompt. If by mistake youtype Utility , the program will ask if you want to delete or pack. Type P.

TIP: It is critical that you do not type D because you will delete all your data!

The UTILITY PACK program also deletes WATERS' internal index files. When you load WATERS next, it will automatically reindex the database. Like the first time WATERS was loaded on your machine, the loading process will take longer than it normally does.

Appendix A. WATERS Training Script

This training script gives you step-by-step instructions for many WATERS features. All new WATERS users should review the entire script before starting to enter well data into the system. After you become an experienced WATERS user, this script will serve as a handy reference tool.

Topics covered in the script include:

- Moving Between Folders
- Moving Between Pages of a Folder
- Adding a New Well to WATERS
- Copying a Record
- Editing a Record
- Listing a Record
- Finding a Record
- Saving a Query
- Loading a Query
- Deleting a Query
- Deleting a Record
- Printing a Well Schematic
- Producing 7520 Reports
- Producing a Custom Report
- Quitting WATERS

Each section tells you which keys to press and what options to select to complete a particular function.

The script also contains many examples of WATERS screens to further assist you in learning to navigate and use the system effectively.

This script shows you how to perform most WATERS functions. To simplify the script and avoid redundancy, each function is usually described for only one folder. However, you can use these functions in all of the folders. If there are any notable differences among the folders, they will be discussed at the end of each section.

A. Moving Between UIC Folders

WATERS contains six separate UIC folders that store different sets of data elements. When WATERS starts, you are in the Permits folder. To see all of the data for a particular UIC well, you need to be able to move freely between folders. In this example, you will move from the Permits to the Inventory folder.
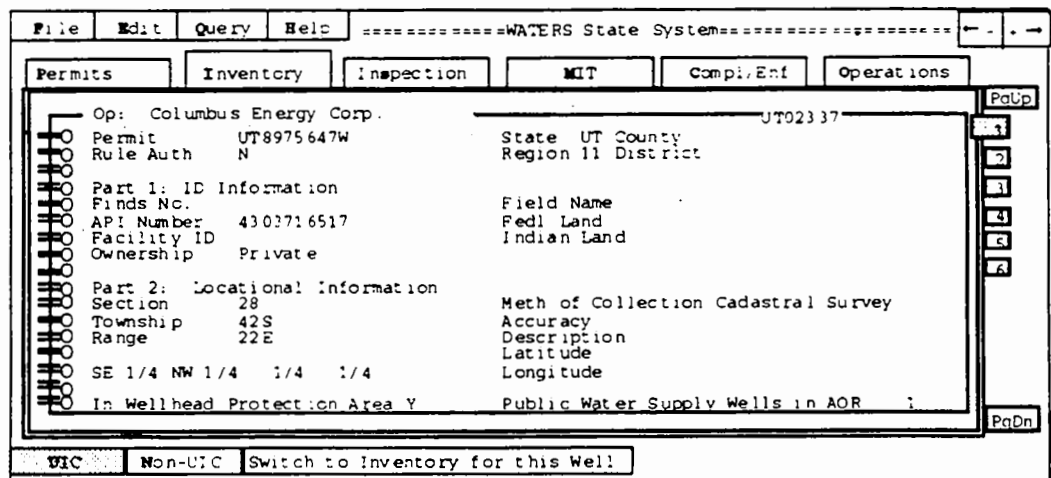
Step 1: Access the Inventory folder. There are two ways to do so:

- Type I, the highlighted letter for the Inventory folder.

- Use the ◄ and ► to highlight the Inventory folder. Then press [**Return**].

With either method, the screen below appears. Notice the taller box for the Inventory folder. The taller box indicates that the folder is active. Also note that the number 1 on the right side of the screen is in a red box that is wider box than the other page tabs. This indicates that you are on page one.

Exhibit A-1

```
 File    Edit    Query    Help    ==========WATERS State System================  ← .  . →

 Permits       Inventory    Inspection      MIT       Compl/Ent    Operations
                                                                                    PgUp
     ┌── Op:  Columbus Energy Corp. ───────────────────────UT02337──
   O  │ Permit       UT8975647W              State  UT County               1
   O  │ Rule Auth    N                       Region 11 District
   O  │                                                                      2
   O  │ Part 1: ID Information
   O  │ Finds No.                            Field Name                      3
   O  │ API Number   4303716517              Fedl Land
   O  │ Facility ID                          Indian Land                     4
   O  │ Ownership    Private
   O  │                                                                      5
   O  │ Part 2: Locational Information
   O  │ Section      28                      Meth of Collection Cadastral Survey   6
   O  │ Township     42S                     Accuracy
   O  │ Range        22E                     Description
   O  │                                      Latitude
   O  │ SE 1/4 NW 1/4   1/4    1/4           Longitude
   O  │ In Wellhead Protection Area Y        Public Water Supply Wells in AOR   1
                                                                                    PgDn

     UIC    Non-UIC  Switch to Inventory for this Well
```

Step 2: Type P to return to the Permits folder.

You can see from the screen below that you have moved back to the first page of the Permits folder (the Permits box is taller and the number 1 is both in a wider red box).

Exhibit A-2

```
·File    Edit    Query    Help    ========= =====WATERS State System======= ======== =======    ← -   · →

Permits      [ Inventory  ] Inspection      MIT        Compl/Enf   Operations
 ┌── Op:  Columbus Energy Corp. ────────────────────UTO 2337 ──────            PgUp
 ‡O   Rule Authorized        N                                                  1
 ‡O                                                                             2
 ‡O   Application Number        867555   Well Identifier     UT02337            3
 ‡O   Permit Number            UT897564W  Type of Well Prmt d Converted         4
 ‡O   Type of Well Permit      Individual  Class               2
 ‡O   No. of Wells/Permit         1       Type                2H Liquid Hydroc
 ‡O
 ‡O   Application Date         1967.04.05  Technical Review    1967/01/15
 ‡O   Date Permit Issued       1967.07.26  Public Notice       1967/06/18
 ‡O   Date Permit Effective    1967.08.25  Public Hearing      1967/07/17
 ‡O   Date Permit Modified     1969.07.17  Permit Term          5 Years
 ‡O   Type of Permit Mod       Permit Tra  Expiration          1993/03/17
 ‡O
 ‡O   Date Plugged/Abandoned               Date Permit Denied    /  /
 ‡O   Commercial Facility      N           Date Withdrawn        /  /
 └───────────────────────────────────────────────────────────────            PgDn

 UIC      ▶   UIC   |  itch to Permit for this well
```

You can move among all six UIC folders using this process. In addition, if you wish to view all of the screens in all of the folders, start with page 1 of the Permits folder and press [Page Down]. WATERS takes you through all of the folders sequentially, allowing you to see each page of each folder.

B. Moving Between Pages of a Folder

This section describes how to navigate between multiple pages of data elements in a folder.

This example starts in the Permits folder, which is in Exhibit B-1 below. Note the numbers on the right side of the page. The number 1 is highlighted and in a wider red box, indicating that you are currently on page 1.

Exhibit B-1

```
┌──────┬──────┬───────┬──────┬────────────────WATERS State System=============================┬── ── ┬ · →┐
│ File │ Edit │ Query │ Help │                                                                 │      │     │
├──────┴──────┴───────┴──────┴─────────────────────────────────────────────────────────────────┴─────┴─────┤
│ ┌─────────┐   ┌───────────┐ ┌────────────┐    ┌────────┐   ┌──────────┐ ┌───────────┐                    │
│ │ Permits │   │ Inventory │ │ Inspection │    │  MIT   │   │ Compl/Enf│ │ Operations│            ┌────┐  │
│ └─────────┘                                                                                      │PgUp│  │
│   ┌─ Op:  Columbus Energy Corp. ─────────────────────────UT02337 ────────────┐                  ├────┤  │
│  ╪O  Rule Authorized        N                                                 │                  │  1 │  │
│  ╪O                                                                           │                  ├────┤  │
│  ╪O  Application Number          867585  Well Identifier    UT02337           │                  │  2 │  │
│  ╪O  Permit Number           UT8975647W  Type of Well Prmtd Converted         │                  ├────┤  │
│  ╪O  Type of Well Permit     Individual  Class              2                 │                  │  3 │  │
│  ╪O  No. of Wells/Permit          1      Type               2H Liquid Hydroc  │                  ├────┤  │
│  ╪O                                                                           │                  │  4 │  │
│  ╪O  Application Date         1967/04/05  Technical Review   1967/01/15        │                  └────┘  │
│  ╪O  Date Permit Issued       1967/07/26  Public Notice      1967/06/18        │                          │
│  ╪O  Date Permit Effective    1967/08/25  Public Hearing     1967/07/17        │                          │
│  ╪O  Date Permit Modified     1969/07/07  Permit Term        5 Years           │                          │
│  ╪O  Type of Permit Mod       Permit Tra  Expiration         1993/03/17         │                          │
│  ╪O                                                                           │                          │
│  ╪O  Date Plugged/Abandoned      /  /      Date Permit Denied     /  /          │                          │
│  ╪O  Commercial Facility      N           Date Withdrawn         /  /          │                          │
│  ╪O                                                                           │                  ┌────┐  │
│   └───────────────────────────────────────────────────────────────────────────┘                  │PgDn│  │
│ ┌──────┬─────────┬──────────────────────────────────┐                                           └────┘  │
│ │ UIC  │ Non-UIC │ Switch to Permit for This Well   │                                                   │
│ └──────┴─────────┴──────────────────────────────────┘                                                   │
└──────────────────────────────────────────────────────────────────────────────────────────────────────┘
```

Step 1: Type 2 or press ⎡Page Down⎤.

This moves you from page one to page two. Your screen will look like Exhibit B-2. The page contents have changed. Now the number 2 is in a wider red box.

Exhibit B-2

```
 File    Edit    Query    Help   ========= ======WATERS State System==== ====== ===== ===== | ← - | • → |

  Permits          Inventory      Inspection       MIT        Compl/Enf      Operations
                                                                                            PgUp
        Op:  Columbus Energy Corp.                                     UTO 2337              1
        Frequency of MIT Tests          Annually                                            2
        Well Coordinates Lat/Long       37°10'49.3158" / 109°33'20.3061"                    3
        Latitude/Longitude Date         1937/02/03                                          4


        Injection Data
                Injection Pressure      500 psig
                Injection Rate/Measure  450 bbls/day


        Recording Frequency
                Injection Pressure      Weekly
                Flow Rate               Monthly
                Injection Volume        Monthly
                                                                                            PgDn

      UIC      Non-UIC   Switch to Permit for this Well
```

Step 2:   Type 1 or press Page Up to move back to the first
           page of the Permits folder.

Step 3:   To move to page 3 or 4, select one of those numbers
           or use the Page Down key.

           Try changing pages using the number keys,
            Page Up   and Page Down until you are
           comfortable with the process.

           Moving from page to page in the Inventory folder
           involves exactly the same process. The only
           difference is that the Inventory folder contains six
           pages rather than four.

C. Adding a New Well to WATERS

When you need to enter data for a new well into WATERS, use the Add function. The first folder you should enter new well data into is the Permits folder. WATERS will not allow you to enter data for a well in other folders unless the Permits folder contains a record for that well. When you add a permit record, an inventory record is automatically created. After entering data in the Permits folder, you should then enter data into the Inventory folder.

This example explains how to add a new well record to the Permits folder.

Step 1: Type P to move to the first page of the Permits folder. The label for Permits folder will be highlighted like the screen below.

Step 2: Type E to access the Edit menu. Exhibit C-1 below shows Edit menu options. The Add function is located under the Edit menu.

Exhibit C-1

| File | Edit | Query | Help | ============WATERS State System====================== | ← · | · → |

```
          Add
 Perm.    Copy      Inject.     Inspection      MIT     Compl. Ent    Operations
          Edit                                                                        PgUp
   Op     Delete     PROPERTIES                                    UT02353
 ±O      ------     rited          N
 ±O       Table
 ±O      Application Number          147853      Well Identifier     UT02353
 ±O      Permit Number       UTI234A             Type of Well Prmtd  Converted
 ±O      Type of Well Permit  Area               Class               2
 ±O      No. of Wells/Permit    3                Type                2R Enhanced Reco
 ±O
 ±O      Application Date      /    /            Technical Review      /   /
 ±O      Date Permit Issued    /    /            Public Notice         /   /
 ±O      Date Permit Effective /    /            Public Hearing        /   /
 ±O      Date Permit Modified  /    /            Permit Term        10 Years
 ±O      Type of Permit Mod                      Expiration            /   /
 ±O
 ±O      Date Plugged/Abandoned  /   /           Date Permit Denied    /   /
 ±O      Commercial Facility    N                Date Withdrawn        /   /
 ±O                                                                                   PgDn

    UIC      Non-UIC   Add a Record
```

Step 3:   Choose the Add option by typing A or by pressing
▲ and ▼ to highlight Add and then pressing
[Return]. When you select the Add option, you
get a blank screen like Exhibit C-2. You can enter
data into the red fields or spaces. You must enter
data into the pink fields in order to save the record.

Exhibit C-2


```
↑  Up   Fld   ←   Left Char/Fld   PgDn   Next Page          F1    Help
↓  Down Fld   →   Rght Char/Fld   Esc    Exit without changes Ins   Toggle Over
Permits      Inventory    Inspection      MIT        Compl/Enf     Operations           PgUp

     Rule Authorized

     Application Number                    Well Identifier
     Permit Number                         Type of Well Prmtd
     Type of Well Permit                   Class
     No. of Wells/Permit                   Type

     Application Date          /   /       Technical Review
     Date Permit Issued        /   /       Public Notice
     Date Permit Effective     /   /       Public Hearing            /   /
     Date Permit Modified      /   /       Permit Term       Years
     Type of Permit Mod                    Expiration                /   /

     Date Plugged/Abandoned    /   /       Date Permit Denied        /   /
     Commercial Facility                   Date Withdrawn            /   /     PgDn

 UIC    Non-UIC  Edit Menu
```


Step 4:   Enter a Y or a N in the "Rule Authorized" field, and
then enter data in the remaining red or pink fields.

Step 5:   When you finish entering data on the first page,
press [Page Down] to move to the second page.
Continue entering information and pressing
[Page Down] until you have reached the fourth page.

Step 6:   Save your new record when you finish entering data
on all pages. To save the record, press [Page Down]
or [Control] - W. A menu appears presenting you
with three choices: Save, Discard, or Edit. See
Exhibit C-3 for an example.

Exhibit C-3

Type S for save or use the ⬅ and ➡ keys to highlight the Save option and press ⌈ **Return** ⌋.

Step 7:   Once you have created a record in the Permits folder, you can begin to add records to the other folders. Follow steps 1 through 6 above to select a folder, execute the Add function, and enter data into the open fields displayed in red.

D. Copying a Record

Copying   ell record is an easy process that can save datc   iry time. This function copies the information in the current well record into a new record so you do not have to retype data for a well with similar characteristics.

You can use the copy function to copy well information in all folders except the Inventory folder. When you try to use the copy function while in the Inventory folder, WATERS automatically moves you to the Permits folder to execute the copy function. And when you copy a record in the Permits folder, WATERS automatically copies the Inventory folder of the well.

In this example, you will copy a well record in the Inspections folder.

Step 1:   Type ╛ to choose the Inspection folder.

Step 2:   Type E to access the Edit menu.

Step 3:   Type C to access the Copy option. The copy function will be highlighted as it is in Exhibit D-1.

Exhibit D-1

```
File   Edit   Query   Re.c   ::=============WATERS State System==================:  |— -  |. —
       Add
Permi  Copy    Invent    : eror:on      MIT     Compl/Enf    Operations
       Edit                                                                        PgUp
   Op: Delete  OIL PROPERTIES                                     UT02353
       -----   ifier         UT02353
       Table   d Updated     1992/08/12
       Inspector Name/No.    Joe C./9897

       Date of Inspection    1992/06/17
       Type of Inspection    CR Compliant Response

       Complaint Resolution  well contaminated
       Time Required          2 days

       Emergency Resolution
       Time Required            days

       Viol. Discvd/Present  ?
       Action Taken          Operator to Correct (non-violation)
                                                                                 PgDn

   UIC      Non-UIC   Copy Current Record
```

Step 4:   Change the necessary data to make the new record unique. The fields in pink (in this example, "Well ID" and "Date of Inspection") are fields you must change. Those in red are ones you can, but are not required, to change. See Exhibit D-2.

Exhibit D-2


```
↑  Up    Fld   ←   Left Char/Fld  PgDn    Next Page              F1    Help
↓  Down Fld   →   Rght Char/Fld  Esc     Exit without changes  Ins   Toggle Over
  Permits  |  Inventory  | Inspection |  MIT  |  Compl/Enf  | Operations |
                                                                          PgUp
       Op:   DUNCAN OIL PROPERTIES                        ─UT0380 ─
   O   Well Identifier       UT0380
   O   Date Record Updated   1992/08/12
   O   Inspector Name/No.    Joe C./9897
   O
   O   Date of Inspection    1992/06/17
   O   Type of Inspection    CR Compliant Response
   O
   O   Complaint Resolution  well contaminated
   O   Time Required         2 days
   O
   O   Emergency Resolution
   O   Time Required         days
   O
   O   Viol. Discvd/Present  ,
   O   Action Taken          Operator to Correct (non-violation)
                                                                          PgDn
  UIC  |  Non-UIC  | Edit Menu |
```

Step 5:   When you are finished, press Page Down or Control - W. As shown in Exhibit D-3, a pop-up window presents you with three choices: Save, Discard, or Edit.

Exhibit D-3

```
↑  Up    Fld   ←   Left 'Char /Fl d   PgDn   Next Page                 F1    Help
↓  Down  Fld   →   Rght Char /Fl d   Esc    Exit without changes     Ins   Toggle Over
┌─ Permits ─┐ ┌─ Inventory ─┐ │ Inspection │ ┌─ MIT ─┐ ┌─ Compl /En: ─┐ ┌─ Operations ─┐
                                                                                    ┌PgUp┐
    ┌── Op :  DUNCAN OIL PROPERTIES ──────────────────UTO 380 ──────┐
    O  Well Identifier           UTO380
    O  Date Record Updated        1992/08/12
    O  Inspector Name/No.          Joe C. /3897
    O          ┌────────────────────────────────────────────┐
    O  Date of Ins│  Save changes                                │
    O  Type of Ins│                                              │
    O             │  ┌─────────┐    ┌─────────┐   ┌─────────┐   │
    O  Complaint R│  │> Save   │    │ Discard │   │  Edit   │   │
    O  Time Requir│  └─────────┘    └─────────┘   └─────────┘   │
    O             └────────────────────────────────────────────┘
    O  Emergency Resolution
    O  Time Required                    days
    O
    O  Viol. Discvd/Present      ?
    O  Action Taken              Operator to Correct (non-violation)
                                                                                    ┌PgDn┐
┌─ UIC ─┐ ┌ Non-UIC ┐ ┌ Edit Menu ┐
```

Type **S** for save or use the [←] and [→] keys to highlight the Save option and press [**Return**].

E. Editing a Record

This function allows you to correct mistakes and to update records as information changes. In this example you will edit a record in the Inventory folder.

Step 1: Type **I** to choose the Inventory folder, which is shown in Exhibit E-1.

Exhibit E-1

Step 2: Type **E** to access the Edit menu.

Step 3: Edit the appropriate fields. You can change the information in any red field.

Your screen will look like Exhibit E-2 on the following page.

Exhibit E-2

```
 File   Edit   Query   Help    ========WATERS State System=================  |<- -| |· ->|
 Permits        Inventory    Inspection      MIT      Compl/Enf    Operations
                                                                                      PgUp
   ── Op:  Columbus Energy Corp.                              ──UT02337──
  ≠O  Permit      UT8975647W         State     County     037
  ≠O  Rule Auth   N                  Region    District    22                           2
  ≠O                                                                                    3
  ≠O  Part 1:  ID Information                                                           4
  ≠O  Finds No.                      Field Name     AKAH                                5
  ≠O  API Number                     Fedl Land      N                                   6
  ≠O  Facility ID                    Indian Land    N
  ≠O  Ownership     Private
  ≠O
  ≠O  Part 2:  Locational Information
  ≠O  Section       28               Meth of Collection   Cadastral Survey
  ≠O  Township                       Accuracy        10
  ≠O  Range                          Description
  ≠O                                 Latitude        37°10'49.3158"
  ≠O   1/4   1/4   1/4   1/4          Longitude       109°33'20.3061"               PgDn
  ≠O
  ≠O  In Wellhead Protection Area    Public Water Supply Wells in AOR
 UIC    Non-UIC  Edit Menu
```

Step 4:   When you are finished, save your changes by pressing [Page Down] on the sixth page, [Page Up] on the first page, or pressing [Control] - W. A pop-up window presents you with three choices: Save, Discard, or Edit. Type S for save or use the [◄] and [►] keys to highlight the Save option and press [Return].

F. Listing a Record

Listing records enables you to see a summary of all the records in a particular folder and lets you choose a particular record to view in more detail. The same process is used for listing records in all of the folders. However, the output varies across folders.

This example shows how to list the records in the Compliance/ Enforcement folder.

Step 1: Type $\underline{C}$ to choose the Compliance/Enforcement folder.

Step 2: Type $\underline{Q}$ to select the Query menu.

Step 3: Type $\underline{L}$ or press ⬆ and ⬇ to highlight the "List" option and press [**Return**].

Step 4: A list of all the records in the Compliance/Enforcement folder appears. See Exhibit F-1 for an example. You can scroll through the records using the ⬆ and ⬇ keys.

Exhibit F-1

```
 File    Edit    Query    Help    ========== ====WATERS State System========== ===== =====   ◄ -  - →

┌──────────────────────────────────────────────────────────────────────────────┐ PgUp
 ✓ UT02337      Occurred       Type of Violation   Enforce        Type of Enforce
 ─────────────────────────────────────────────────────────────────────────────
   UT02337      1990/09/01     Pressure and/or     1990/11/02     CR  Criminal Ref
   UT02337      1990/09/01     Violation of Po     1990/11/02     CR  Criminal Ref
   UT02337      1989/01/01     Mechanical Inte     1989/02/03     UO  Unilateral C
   UT02340      1987/10/09     USDW Contaminat     1987/10/09     SI  Shut-in
   UT02340      1982/09/18     Falsification*      1982/10/15     UO  Unilateral C
   UT02346      1993/05/16     Permit Violatio     1993/06/18     AO  Administrati
   UT02346      1979/05/23     Mechanical Inte     1980/01/15     CR  Criminal Ref
   UT02347      1989/08/19     Operation and M     1989/08/23     AO  Administrati
   UT02348      1993/02/15     Casing and Ceme     1993/02/15     UO  Unilateral O
   UT02349      1987/12/12     Casing and Ceme     1990/12/12     CO  Consent Orde
   UT02350      1990/03/25     USDW Contaminat     1990/08/16     SI  Shut-in
   UT02352      1992/07/15     Monitoring and      1993/01/11     AO  Administrati
   UT02352      1991/03/01     Operation and M     1992/08/01     JO  Judicial Ord
   UT02352      1985/03/18     Casing and Ceme     1985/07/10     PS  Pipeline Sev
   UT02353      1992/07/17     Falsification*      1992/08/31     CV  Civil Referr
   UT02636      1990/04/11     Mechanical Inte     1991/10/09     CD  Consent Decr
   UT02636      1990/04/01     USDW Contaminat     1990/07/01     UO  Unilateral O
   UT02678      1984/09/12     Mechanical Inte     1985/12/30     CD  Consent Decr
└──────────────────────────────────────────────────────────────────────────────┘ PgDn

  UIC  -  Non-UIC  Query Menu
```

Step 5: Scroll through the records by typing part of the well ID's or using the ⬆ and ⬇ keys. When you find the record you wish to select, press [**Return**]. WATERS displays the Compliance/Enforcement data for the selected record.

G. Finding a Record

This function enables you to select a record, (or group of records) meeting criteria you specify. It is useful if you are trying to locate a set of wells with similar characteristics. The procedures for the Find option are the same for all folders. This example uses the Operations folders.

Step 1:   Type Q to choose the Operations folder.

Step 2:   Type Q to access the Query menu.

Step 3:   Type F to select the Find option.

Step 4:   Type your search criteria in the appropriate fields. All searchable fields are in red. In this example, type an asterisk (*) in the "Operating Status" field; your screen should look like the one below. This asterisk indicates that you want to select any record with a value in the that field.

Exhibit G-1

Step 5:   Type [Page Up] or [Control] - W. A pop-up window asks you to verify your query. It presents you with three choices: Search, Clear, or Edit. See Exhibit G-2 for an example.

Exhibit G-2

```
↑  Up   Fld  ←   Left Char/Fld  PgDn  Next Page              F1    Help
↓  Down Fld  →   Rght Char/Fld  Esc   Exit without changes   Ins   Toggle Over
┌─────────┐┌───────────┐┌───────────┐┌─────────┐┌──────────┐┌────────────┐
│ Permits ││ Inventory ││ Inspection││   MIT   ││ Compl/Enf││ Operations │
└─────────┘└───────────┘└───────────┘└─────────┘└──────────┘└────────────┘
                                                                        ┌PgUp┐

        ⊨O  Well Identifier
        ⊨O  Date Updated
        ⊨O  Operating Status      •    /  /
        ⊨O  Status Effective           /  /
        ⊨O
        ⊨O        Inject  ┌─Begin search──────────────────┐  ulus Pressure
        ⊨O                │                               │    (psig)
        ⊨O  Minimum       │  ▷Search      Clear      Edit │
        ⊨O  Average       │                               │
        ⊨O  Maximum       └───────────────────────────────┘
        ⊨O
        ⊨O  Annual Volume of
        ⊨O  Injected Fluid        barrels
        ⊨O  Fluid Type
        ⊨O
        ⊨O
        ⊨O
                                                                        ┌PgDn┐
┌────────┐┌─────────┐┌────────────┐
│  UIC   ││ Non-UIC ││ Query Menu │
└────────┘└─────────┘└────────────┘
```

Type **S** or use the ◀ and ▶ keys to highlight the
Search option and press **Return**.

Exhibit G-3

```
┌──────┐┌──────┐┌───────┐┌──────┐
│ File ││ Edit ││ Query ││ Help │=============WATERS State System===================  ← -  - →
└──────┘└──────┘└───────┘└──────┘
┌─────────┐┌───────────┐┌───────────┐┌─────────┐┌──────────┐┌────────────┐
│ Permits ││ Inventory ││ Inspection││   MIT   ││ Compl/Enf││ Operations │
└─────────┘└───────────┘└───────────┘└─────────┘└──────────┘└────────────┘
                                                                        ┌PgUp┐
     Explanation of Query Criteria

   Operating Status is not empty

  ⊨O  Well Identifier
  ⊨O  Date Updated            /  /
  ⊨O  Operating Status    •
  ⊨O  Status Effective        /  /
  ⊨O
  ⊨O        Injection      ┌────────────────────────┐ on Rate    Annulus Pressure
  ⊨O                (ps    │ Pass        1/1        │ /day)        (psig)
  ⊨O  Minimum              │ Processing  45/472     │
  ⊨O  Average              │ Matches     39         │
  ⊨O  Maximum              │   <Esc> to Cancel      │
  ⊨O                       └────────────────────────┘
  ⊨O  Annual Volume of
  ⊨O  Injected Fluid           barrels
  ⊨O  Fluid Type
                                                                        ┌PgDn┐
┌────────┐┌─────────┐┌────────────┐
│  UIC   ││ Non-UIC ││ Query Menu │
└────────┘└─────────┘└────────────┘
```

Step 6:   WATERS indicates that it is searching for matches. When the search is complete, the number of records that match your criteria appears in the middle of the screen.

Step 7:   Press any key to move to the Operations folder of the first record. In the top right corner of the screen, notice that the word Find appears. See Exhibit G-4 for an example. The word find indicates that you only have access to the records found in your search.

Exhibit G-4

To review the records, use the [+] and [-] keys. You will only be able to see the records that meet your search criteria.

Step 8:   When you are finished reviewing the records, you should clear the search to regain access to all the records in the folder. To start, type Q to enter the Query menu.

Step 9:   Type C to access the Clear Find function. Your database is no longer limited to the records in your query.

H. Saving a Query

Saving a query allows you to run the same query without reentering all your search criteria. It also is a convenient way to save an explanation of your search criteria.

In this example, you will save the query you ran in Section H, which searched for any record with a value in the "Operating Status" field of the Operations folder.

Step 1: Follow the steps in Section G to run the sample query.

Step 2: Type Q to access the Query menu. Press [**Return**].

Step 3: Type S to access the Save Query option. Your screen should look like Exhibit H-1. Press [**Return**].

Exhibit H-1

Step 4: Type Operating Status in the red field. This will be the name of the query.

Step 5: Press [**Return**]. You have saved the query.

I. Loading a Query

When you want to access one of your saved queries, you use the Load Query option. This example builds on the query you ran in Section G and saved in Section H. Therefore, please work through those two sections before you attempt this one.

Step 1: Type Q to access the Query menu.

Step 2: Type ɑ to access the Load Query option.

Step 3: Highlight the query named Operating Status, as it is in Exhibit I-1. You have two ways to do so:

- Use your ▲ and ▼

- Type the first few letters of the title: ope

Exhibit I-1

Step 4: Press [**Return**]. As shown in Exhibit I-2, two dialog boxes will appear in the middle of the screen, displaying :

- Criteria for the query

- Pass WATERS is on

- Amount of records processed

- Total amount of records in the database

- Amount of matches found so far.

Exhibit I-2

Then WATERS shows the total number of records that match your query criteria.

Step 5:   Press any key to see the first of these records.

J. Deleting a Query

When you want to delete one of your saved queries, use this option. For this example, you will build on the query in Section G and saved in Section H. Work through those sections before you attempt this one.

Step 1: Type Q to access the Query menu.

Step 2: Type D to select the Delete Query option.

Step 3: Highlight the query named Operating Status, as it is in Exhibit J-1. You have two ways to do so:

- Use your ⬆ and ⬇

- Type the first few letters of the title: <u>ope</u>

Exhibit J-1

```
 File  | Edit | Query | Help  |==========WATERS State System=================| ← - |. →
Select Query(s) to Delete w/Ctrl-Enter--Hit Enter to Begin Query          |
✓OPE                                  Query Header                    |erations |
All Class II Individual Permits       Class = 2, Type of Well Permit        |         |PgUp
All Wells Operated by Phillips        Operator # contains "PLP03"           |
Op:  Mobil                            Operator # contains "MOB04"           |          1
Operating Status                      Operating Status is not empty         |          2
                                                                            ed        3
Rule = Y                              Rule Authorized contains "Y"                     4
                                                                            ced Re
       O  Application Date        /   /      Technical Review     /   /
      O   Date Permit Issued      /   /      Public Notice        /   /
      O   Date Permit Effective   /   /      Public Hearing       /   /
      O   Date Permit Modified    /   /      Permit Term      10 Years
      O   Type of Permit Mod                 Expiration           /   /
      O
      O   Date Plugged/Abandoned  /   /      Date Permit Denied   /   /
      O   Commercial Facility   N             Date Withdrawn       /   /
                                                                            PgDn
    UIC   |  Non-UIC  |Query Menu|
```

Step 4: Press [**Return**]. In the middle of the screen a pop-up window will ask you to confirm that you want to delete this query. Type Y for yes.

K. Deleting a Record

The delete function enables you to permanently delete records from your database. In this example, you will delete a record from the MIT folder.

Step 1: Type M to access the MIT folder.

Step 2: Find the record you wish to delete, either through the List function or the Find function (sections F & G of this chapter, respectively). The Delete option deletes the record in the folder that is active on your screen.

Step 3: Type E to access the Edit menu.

Step 4: Type D to choose the Delete option. Your screen will look like Exhibit K-1 below.

Exhibit K-1

Step 5: A pop-up window shown in Exhibit K-2 asks you to confirm that you want to delete this record. To choose Yes, type Y or use the ⬅ and ➡ to highlight the yes option and press ⬛ Return ⬛.

Exhibit K-2

```
┌─────────────────────────────────────────────────────────────────────────┐ ┌───┬───┐
│ File  Edit   Query   Help    ============WATERS State System===============│ │← -│• →│
│                                                                           │ └───┴───┘
│┌──────────┐ ┌──────────────┐ ┌────────────┐   MIT      ┌─────────┐ ┌──────────┐
││ Permits  │ │  Inventory   │ │ Inspection │            │ Compl/Enf│ │Operations│
│├──────────┴─────────────────┴────────────┴───────────┴──────────┴──────────┤ PgUp
││ ┌── Op: DUNCAN OIL PROPERTIES ──────────────────────────UT02353 ──────────┐ │
││ ‡O Well Identifier              UT02353                                    │ │
││ ‡O Date Record Updated          1990/12/12                                 │ │
││ ‡O MIT Witnessed                Y                                          │ │
││ ‡O Inspector Name/No.           Macho Enforce /645                         │ │
││ ‡O Date/Result of L┌──────────────────────────────────┐ed                 │ │
││ ‡O Last Corrective │ Are you sure you want to delete?  │                   │ │
││ ‡O              Both│     ┌─────────┐     ┌─────────┐  │                   │ │
││ ‡O Both Pts Tst Cmp│     │   Yes   │     │   No    │  │                   │ │
││ ‡O Date/Result of L└──────────────────────────────────┘ed                 │ │
││ ‡O Type of Leak Test            Casing/Tubing Pressure                     │ │
││ ‡O                                                                         │ │
││ ‡O Date/Result of Fluid Mig Test  1990/03/15    Passed                     │ │
││ ‡O Type of Fluid Migration Test   Current Record Review                    │ │
││ ‡O                                                                         │ │
││ ‡O Date of Remedial Action        1989/01/23                              │ │
││ ‡O Type of Remedial Action        Tubing/Packer                           │ │
││ └───────────────────────────────────────────────────────────────────────┘ │ PgDn
││ ┌──────┐ ┌─────────┐ ┌─────────┐                                          │
││ │ UIC  │ │ Non-UIC │ │Edit Menu│                                          │
│└──────────────────────────────────────────────────────────────────────────┘
```

Deleting a record from the Permits folder works the same way. However, deleting the Permit record for a well automatically deletes all of that well's records in the other folders.

L. Printing a
Well Schematic

There are two ways to print a well schematic: through the Reports option of the Query menu, or you can print it while viewing one, which is what you will do in this example.

Step 1:   Type Q to access the Query menu.

Step 2:   Type W to access the Well Schematic option.

At the top left corner of the well schematic, the record number of the current well will appear.

Step 3:   Type P to print the well schematic.

The word 'printing' will appear at the top of your screen. At the same time, screen colors will change: the confining zone turns white, and all the letters turn black. When the screen flashes and the 'printing' message disappears, your well schematic has finished printing.

M. EPA 7520 Reports

This option enables you to generate EPA 7520 reports for your Class II wells. These reports are computer-generated facsimiles of the OMB-approved EPA 7520 forms. You can generate EPA 7520 reports from any folder. In this example, you will print a Permit Review and Issuance report (EPA 7520-1).

Step 1:   Type Q to select the Query menu.

Step 2:   Type R to access the Reports option, and a dialogue box appears with five windows. Each window is a consecutive step in completing a report. Exhibit M-1 shows the Reports dialogue box.

Exhibit M-1
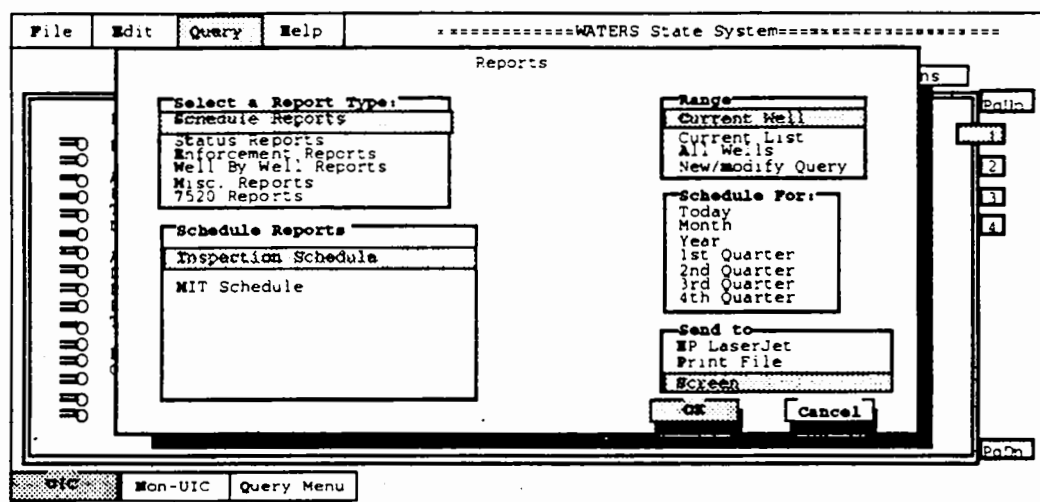
Step 3:   Type Z to select 7520 reports. In the second window of the Reports dialogue box, all the 7520 reports available are listed.

Step 4:   Type P to choose the Permit Review and Issuance report.

Step 5:   WATERS then prompts you for the year. Type 1993 and press [**Return**].

Step 6:   Press [**Return**] again. In a 7520 report, you cannot report on a subset of the wells in your database. You can only select a well range of All Wells.

Step 7:   Next you are prompted for the time period within your selected year. To generate a report for the first quarter, type 1 or use the ⬆ and ⬇ to highlight the number 1.

Step 8:   Press [**Return**]. You can only print 7520 forms, not view them on your screen or print them later.

Your screen will look like Exhibit M-2.

Exhibit M-2

Step 9:   A menu box in the lower left corner lets you approve the report or cancel it. Use your ⬅ and ➡ to highlight OK and press [**Return**]. WATERS will now print the report.

N. Creating a Custom Report

When you want to generate a report, check WATERS standard reports to see if one meets your reporting requirements. If not, you can create a customized report on fields you have entered data into in WATERS.

These elements become the columns of your report, and the order in which you select them determines the order of the columns. In addition to choosing and ordering the data elements, you can build a query into the report. In this example, you will select elements of the Operations folder, and view only wells that have a value in the "Operating Status" field.

Step 1: Type Q to move to the Operations folder.

Step 2: Type Q to access the Query menu.

Step 3: Type R to access the Reports option. Your screen will look like Exhibit N-1 below.

Exhibit N-1
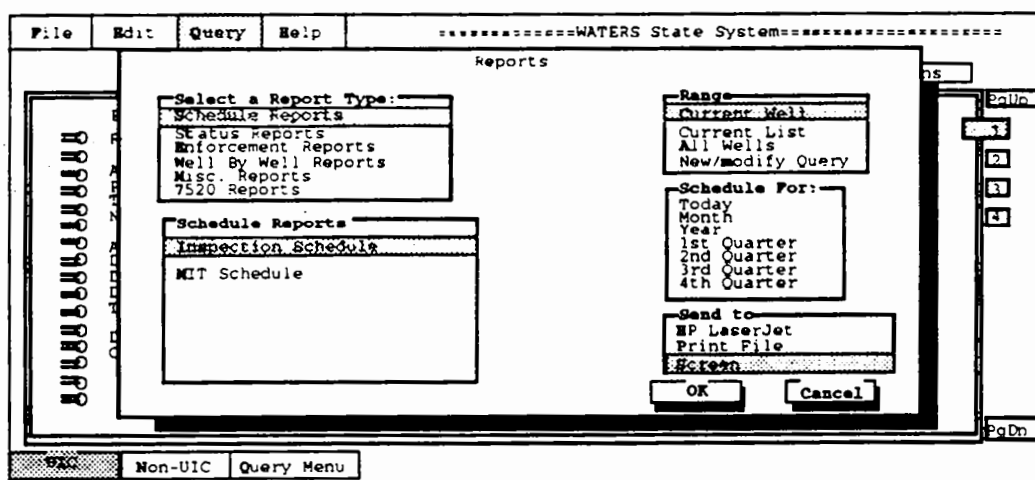
Step 4:

Select Misc. Reports by typing M̲ or press ⬆ and

⬇ to highlight Misc. Reports and press [**Return**].

Step 5:

Select Custom Report by typing C̲ or press ⬆ and

⬇ to highlight Custom Report and press [**Return**].

Step 6:

Choose All Wells for the report range by typing A̲ or

press ⬆ and ⬇ to highlight All Wells and press
[**Return**].

Step 7:

Choose the screen as the destination of the report.

To do so, type S̲ or press ⬆ and ⬇ to highlight
Screen and press [**Return**]. Your screen should
look like Exhibit N-2.

Exhibit N-2
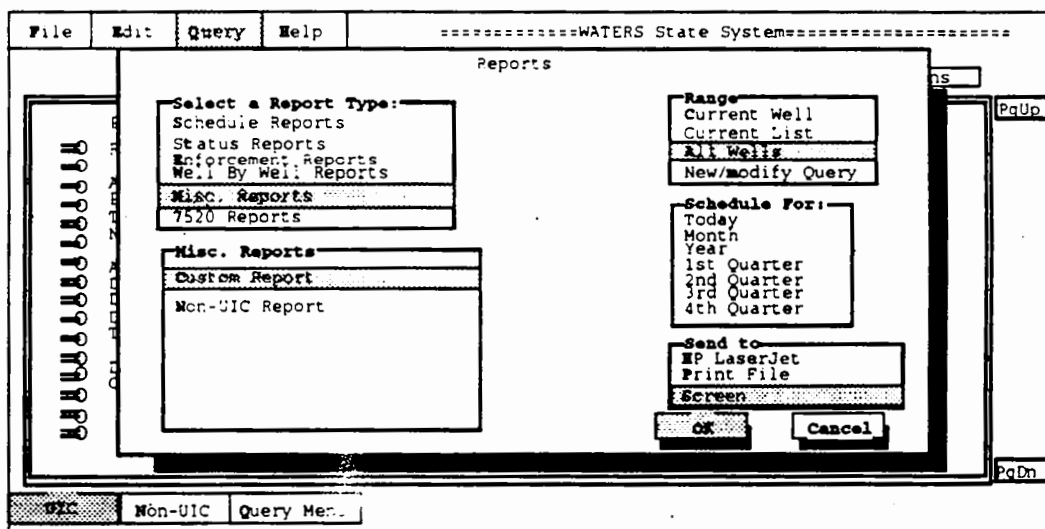
Step 8:   Press [**Return**] to select the OK box. You are now
            in the Operations folder, and the fields in which you
            can select as report columns and/or search are
            displayed in red.

Step 9:   Move to the "Date Status Effective" field and press
            [F4]. You have selected "Date Status Effective" as
            the second column in your custom report. You will
            see a 2 on the left side of the field. The first column is
            automatically the Well ID, as denoted by the 1 next
            to that field.

Step 10:   Move to the "Operating Status" field.

Step 11:   Type an asterisk (*) in the "Operating Status" field.
            This asterisks indicates that you want to select any
            record with a value in the status field.

Step 12:   Press [F4] to make the "Operating Status" field the
            third column of your report. A 3 will appear to the
            left of the field.

Step 13:   Move to the "Date Updated" field and press [F4].
            Your screen should look like Exhibit N-3 below.
            Notice that the "Date Updated" has a 4 next to it.

Exhibit N-3

```
↑  Up   Fld  ←   Left Char/Fld  PgDn  · Next Page              F1    Help
↓  Down Fld  →   Rght Char/Fld  Esc    Exit without changes   Ins   Toggle Over

  Permits  |  Inventory  |  Inspection  |  MIT  |  Compl/Enf  |  Operations
                                                                               PgUp

   Well Identifier      1
   Date Updated         4
   Operating Status     3
   Status Effective     2

                    Injection Pressure      Injection Rate      Annulus Pressure
                        (psig)                 (bbls/day)           (psig)

   Minimum
   Average
   Maximum


   Annual Volume of
   Injected Fluid              barrels
   Fluid Type                                                                  PgDn


 F4 to add or remove a field from Custom Report  Width 88 of 176 characters
```

Step 14:   Press [Control] - W. A pop-up window displays three choices: Search, Clear, and Edit. Type ⎵S to begin the que:ṿ for the custom report.

Step 15:   While WATERS indicates that it is searching for matches and how far along in the process it is. When the searcʜ is complete, the number of matches found will appear in a new pop-up window. Press any key to see your custom report.

Notice that the report lists the data in columns with the field descriptions in the order you selected the fields: "Well Identifier", "Date Status Effective", "Operating Status", and "Date Record Updated". To navigate the report, use the command keys listed at the bottom of your screen.

Step 16:   When you finish looking at the report, type E to exit. A pop-up window will give you the option to save the report. If you do not intend to use a report again, type N. If you do intend to use a report again, type Y and then name the report. You can use the Load Query option to retrieve and run this report, and the Delete Query option to delete it.

O. Quitting WATERS

This function allows you to leave the WATERS system.

Step 1:   Type E to select the File menu.

Step 2:   Type Q to select the quit option.

Exhibit O-1

Step 3:

A pop-up window will ask you to confirm that you want to quit. Use ⬅ and ➡ and press [Return] to select Yes. WATERS returns you to the C:\WATERS prompt.

Appendix B. WATERS Data Dictionary

This appendix contains a list of all of the data elements included in WATERS. WATERS consists of five databases:

- Permit

- Inspection

- Mechtest

- Comply

- Operate

In general, the data elements are arranged in the databases according to the folder of which they are a part. However, the data elements in the Permit and Inventory folders are combined into one database (Permit).

The columns are labelled as follows:

FT: Field Type (N = Number, C = Character, and D = Date)

FL: Field Length

FD: Field Decimal (number of decimal points)

R: Required Data Element (Y/N)

No.	Title	FIELD_NAME	FT	FL	FD	R
	Calculated Fields					
1	Date of Last Corrective Action	LASTCACT	D	8	0	
2	Date of Last MIT	DATEMIT	D	8	0	
3	Injection Interval A Net Feet	ZONEAINT	N	5	0	
4	Injection Interval B Net Feet	ZONEBINT	N	5	0	
5	Intervening Thickness of USDW	INTVTHICK	N	4	0	
6	Number of Wells per Permit	APWN	N	3	0	
7	Permit Term Description	TERMDESC	C	4	0	
8	Result of Last MIT	RESULTMIT	C	1	0	
9	Thickness of Lower-most USDW	THICKBLOCK	N	4	0	
	COMPLY					
1	Compl/Enf Well Identifier	WELLID	C	15	0	Y
2	Compliance Schedule Written	CSWRITE	C	1	0	
3	Date Compl/Enf Record Updated	DATERU	D	8	0	
4	Date Compl/Enf Withdrawn	DWITHDRW	D	8	0	
5	Date Compliance Required	DATECR	D	8	0	
6	Date Comply/Enf Final	DFINAL	D	8	0	
7	Date Enforcement Action Taken	DATEEAT	D	8	0	Y
8	Date of Notification	DATENOTE	D	8	0	
9	Date Penalty Assessed	DATEASSD	D	8	0	
10	Date Penalty Collected	DATECOLL	D	8	0	
11	Date Returned to Compliance	DATERET	D	8	0	
12	Date Vio Occurred/Verified	DATOCCRD	D	8	0	Y
13	Docket Number	EAID	C	15	0	
14	Last Compliance Result	LCRESULT	C	1	0	
15	Last Compliance Review	LASTCR	D	8	0	
16	Multiple Enforcement Actions	MULTEA	C	1	0	
17	Penalty Amount Assessed	ASSESSED	N	6	0	
18	Penalty Amount Collected	COLLCTED	N	6	0	
19	Significant Non-Compliance	SNC	C	1	0	
20	Type of Enforcement Action	TYPEEAT	C	2	0	Y
21	Type of Notification	TYPENOTE	C	2	0	
22	Type Vio Occurred/Verified	TYPEVRFD	C	2	0	Y
	GUARNTR					
1	Guarantor Address	GADDR	C	30	0	
2	Guarantor City	GCITY	C	15	0	
3	Guarantor Name	GNAME	C	30	0	
4	Guarantor Number	GNUM	C	5	0	Y
5	Guarantor Phone Number	GPHONE	N	10	0	
6	Guarantor State	GSTATE	C	2	0	
7	Guarantor Zip Code	GZIP	N	9	0	

No.	Title	FIELD_NAME	FT	FL	FD	R
	INSPECT					
1	Action Taken	ACTION	C	2	0	
2	Complaint Resolution	COMPLAINT	C	20	0	
3	Date Inspection Record Updated	DATERU	D	8	0	
4	Date of Inspection	DATEINSP	D	8	0	Y
5	Emergency Resolution	EMERGENCY	C	20	0	
6	Inspect Well Identifier	WELLID	C	15	0	Y
7	Inspector Name	INSPNAME	C	20	0	
8	Time Required for EMR Resolut.	ERTIME	N	2	0	
9	Time Required for Resolution	CRTIME	N	2	0	
10	Type of Inspection	TYPEINSP	C	2	0	
11	Violation Discovered/Present	VIOLATION	C	1	0	
	MAP					
1	Map Well Identifier	WELLID	C	15	0	Y
2	Type of Well	TYPECODE	N	2	0	
3	XCOORD for MAP data base	XCOORD	N	11		
4	YCOORD for MAP data base	YCOORD	N	11		
	MECHTEST					
1	Both Point Tests Completed	BPTCOMP	C	1	0	
2	Both Point Tests Retest	BPRETEST	C	1	0	
3	Date MIT Record Updated	DATERUP	D	8	0	Y
4	Date of Fluid Migration Test	DATEFMT	D	8	0	
5	Date of Leak Test	DATELT	D	8	0	
6	Date of Remedial Action	DATERA	D	8	0	
7	Inspector Name	INSPTNAME	C	20	0	
8	MIT Well Identifier	WELLID	C	15	0	Y
9	MIT Witness	MITWITNES	C	1	0	
10	Result of Fluid Migration Test	RESULTFMT	C	1	0	
11	Result of Leak Test	RESULTLT	C	1	0	
12	Type of Fluid Migration Test	TYPEFMT	C	2	0	
13	Type of Leak Test	TYPELT	C	2	0	
14	Type of Remedial Action	TYPERA	C	2	0	
	NONUIC					
1	Comment Field	COM1	C	60	0	
2	Comment Field	COM2	C	60	0	
3	Comment Field	COM3	C	60	0	
4	Date Permit Effective	EFFECTVE	D	8	0	
5	Date Permit Issued	ISSUED	D	8	0	
6	Finds Number	FINDS	C	12	0	
7	Latitude	LAT	N	12	4	Y

No.	Title	FIELD_NAME	FT	FL	FD	R
8	Legal Contact	LEGAL	C	2	0	
9	Longitude	LONG	N	13	4	Y
10	NONUIC Well Identifier	WELLID	C	15	0	Y
11	Numeric Type of Facility	NFACTYPE	N	1		
12	Numeric Type of Permit	NPERMTYPE	N	1		
13	Operator Number	OPNUM	C	5	0	
14	Owner Number	ONUM	C	5	0	
15	Permit Number	PERMIT	C	10	0	
16	Problems Field	PROB1	C	60	0	
17	Problems Field	PROB2	C	60	0	
18	Problems Field	PROB3	C	60	0	
19	Total Depth	TDEPTH	N	5	0	Y
20	Type of Facility	FACTYPE	C	2	0	
21	Type of Permit	PERMTYPE	C	1	0	
22	Well Description	WELLDESC	C	30	0	
23	XCOORD	XCOORD	N	11		
24	YCOORD	YCOORD	N	11		

OPERATE

No.	Title	FIELD_NAME	FT	FL	FD	R
1	Annual Volume Injected Fluid	IFLUID	N	6	0	
2	Average Annulus Pressure	APAVG	N	4	0	
3	Average Injection Pressure	IPAVG	N	4	0	
4	Average Injection Rate	IRAVG	N	4	0	
5	Date Operation Record Updated	DATEUPD	D	8	0	
6	Date Status Effective	DATESTAT	D	8	0	Y
7	Maximum Annulus Pressure	APMAX	N	4	0	
8	Maximum Injection Pressure	IPMAX	N	4	0	
9	Maximum Injection Rate	IRMAX	N	4	0	
10	Minimum Annulus Pressure	APMIN	N	4	0	
11	Minimum Injection Pressure	IPMIN	N	4	0	
12	Minimum Injection Rate	IRMIN	N	4	0	
13	Operate Well Identifier	WELLID	C	15	0	Y
14	Operating Status	OPSTAT	C	2	0	
15	Type of Fluid	FLUIDTYPE	C	2	0	

OPERATOR

No.	Title	FIELD_NAME	FT	FL	FD	R
1	Operator Address	OPADDR	C	30	0	
2	Operator City	OPCITY	C	15	0	
3	Operator Contact	OPCONTACT	C	30	0	
4	Operator Name	OPNAME	C	30	0	
5	Operator Number	OPNUM	C	5	0	Y

No.	Title	FIELD_NAME	FT	FL	FD	R
6	Operator Organization	OPORG	C	30	0	
7	Operator Phone Number	OPHONE	N	10	0	
8	Operator State	OPSTATE	C	2	0	
9	Operator Zip Code	OPZIP	N	9	0	
	OWNER					
1	Owner Address	OADDR	C	30	0	
2	Owner City	OCITY	C	15	0	
3	Owner Contact	OCONTACT	C	30	0	
4	Owner Name	ONAME	C	30	0	
5	Owner Number	ONUM	C	5	0	Y
6	Owner Organization	OORG	C	30	0	
7	Owner Phone Number	OPHONE	N	10	0	
8	Owner State	OSTATE	C	2	0	
9	Owner Zip Code	OZIP	N	9	0	
	PERMIT					
1	Above USDW Depth	USDWDPTH	N	4	0	
2	Above USDW Name	USDWNAME	C	20	0	
3	Above USDW TDS	USDWTDS	N	4	0	
4	Above USDW Thickness	USDWTHCK	N	4	0	
5	Accuracy of the Location	ACCURACY	N	3	0	
6	Altitude Date	ALTDATE	D	8	0	
7	Altitude Method	ALTMETH	C	1	0	
8	Amount of Coverage	AMTCOV	N	6	0	
9	Annulus Fluid	ANNULUS	C	2	0	
10	API Number	API	C	10	0	
11	Application Date	APPDATE	D	8	0	
12	Base Depth of USDW	IBASDPTH	N	4	0	
13	Below USDW Depth	USDWDTH2	N	4	0	
14	Below USDW Name	USDWNAME2	C	20	0	
15	Below USDW TDS	USDWTDS2	N	4	0	
16	Below USDW Thickness	USDWTHK2	N	4	0	
17	Blanket Coverage	BCOVER	C	1	0	
18	Class	CLASS	N	1	0	
19	Comment Field	COM1	C	60	0	
20	Comment Field	COM2	C	60	0	
21	Comment Field	COM3	C	60	0	
22	Commercial Facility (Y/N)	CFACILITY	C	1	0	
23	Completion Type	COMPLETET	C	2	0	

No.	Title	FIELD_NAME	FT	FL	FD	R
24	Confin Zone A Effect Porosity	CZEPA	N	3	0	
25	Confin Zone A Fracture Press.	CZFPA	N	4	0	
26	Confin Zone B Effect Porosity	CZEPB	N	3	0	
27	Confin Zone B Fracture Press.	CZFPB	N	4	0	
28	Confin Zone Geological Name A	CZGNA	C	20	0	
29	Confin Zone Geological Name B	CZGNB	C	20	0	
30	Confin Zone Perm A(10th Power)	CZPA10	N	3	0	
31	Confin Zone Perm B(10th Power)	CZPB10	N	3	0	
32	Confining Zone A From	ACZONFRM	N	5	0	
33	Confining Zone A Lithology	CZLA	C	20	0	
34	Confining Zone A To	ACZONETO	N	5	0	
35	Confining Zone B From	BCZONFRM	N	5	0	
36	Confining Zone B Lithology	CZLB	C	20	0	
37	Confining Zone B To	BCZONETO	N	5	0	
38	Confining Zone Permeability B	CZPB	N	4	0	
39	Confining Zone Permeab. y A	CZPA	N	4	0	
40	County of Well	COUNTY	C	3	0	
41	Date Demonstration Last Review	DEMREV	D	8	0	
42	Date of First Injection	DATEIB	D	8	0	
43	Date Permit Denied	DENIED	D	8	0	
44	Date Permit Effective	EFFECTVE	D	8	0	
45	Date Permit Issued	ISSUED	D	8	0	
46	Date Permit Modified	MODIFIED	D	8	0	
47	Date Permit Withdrawn	WITHDRWN	D	8	0	
48	Date Plugged/Abandoned	ABANDON	D	8	0	
49	Date Well Drilled	DATEWELL	D	8	0	
50	Demonstration Expiration Date	DEMEXP	D	8	0	
51	Depth Measurement	DPTHMEAS	C	1	0	
52	Depth of TDS	DTDS	N	4	0	
53	Description of the Well	DESCRIBE	C	20	0	
54	District of Well	DISTRICT	C	20	0	
55	Effective Porosity A	EPA	N	3	0	
56	Effective Porosity B	EPB	N	3	0	
57	Estimated Plugging Costs	PLUGCOST	N	6	0	
58	Exempted Aquifer A (Y/N)	ACFR	C	1	0	
59	Exempted Aquifer B (Y/N)	BCFR	C	1	0	
60	Facility Identification	FACID	C	15	0	
61	Federal Land (Y/N)	FEDERAL	C	1	0	
62	Field Name	FIELDX	C	20	0	
63	Finds Number	FINDS	C	12	0	

No.	Title	FIELD_NAME	FT	FL	FD	R
64	Flow Rate	FRCODE	C	1	0	
65	Fracture Pressure A	FPA	N	4	0	
66	Fracture Pressure B	FPB	N	4	0	
67	Frequency of MIT Tests	MITCODE	C	2	0	
68	Guarantor Number	GNUM	C	5	0	
69	Indian Land (Y/N)	INDIAN	C	1	0	
70	Inject Zone Geological Name A	GNA	C	20	0	
71	Inject Zone Geological Name B	GNB	C	20	0	
72	Injection Interval Bottom A	AZONEBOT	N	5	0	
73	Injection Interval Bottom B	BZONEBOT	N	5	0	
74	Injection Interval Top A	AZONETOP	N	5	0	
75	Injection Interval Top B	BZONETOP	N	5	0	
76	Injection Pressure	IPCODE	C	1	0	
77	Injection Pressure	IPRESS	N	4	0	
78	Injection Rate Measure	IRATE	N	4	0	
79	Injection Volume	IVCODE	C	1	0	
80	Injection Zone A From	AZONFROM	N	5	0	
81	Injection Zone A To	AZONETO	N	5	0	
82	Injection Zone B From	BZONFROM	N	5	0	
83	Injection Zone B To	BZONETO	N	5	0	
84	Injection Zone Lithology A	IZLA	C	20	0	
85	Injection Zone Lithology B	IZLB	C	20	0	
86	Intermediate Casing Cemented	ICEMENTED	C	1	0	
87	Intermediate Casing Depth	IDEPTH	N	4	0	
88	Intermediate Casing Diameter	IDIAMETR	N	7	3	
89	Intermediate Casing Grade	IGRADE	C	4	0	
90	Intervening Thickness of TDS	ITDS	N	4	0	
91	Latitude/Longitude Date	COORDDATE	D	8	0	
92	Legal Contact	LEGAL	C	2	0	
93	Long String Casing Cement	LSCEMENTD	C	1	0	
94	Long String Casing Depth	LSDEPTH	N	4	0	
95	Long String Casing Diameter	LSDIAMTR	N	7	3	
96	Long String Casing Grade	LSGRADE	C	4	0	
97	Measuring Pnt of Surface Elev	MEASPNT	C	1	0	
98	Method of Collection	METHOD	C	2	0	
99	Name of Lower-most USDW	INAME	C	20	0	
100	National Refer Datum for Alt	NRDALT	C	2	0	
101	Number of Wells Considered BC	NWBC	N	4	0	
102	OCZ Geological Name of A	GNZONEA	C	20	0	
103	OCZ Geological Name of B	GNZONEB	C	20	0	

No.	Title	FIELD_NAME	FT	FL	FD	R
104	OCZ Total Thickness A	TTZONEA	N	4	0	
105	OCZ Total Thickness B	TTZONEB	N	4	0	
106	Operator Number	OPNUM	C	5	0	
107	Other Confining Zones Lith. A	OCZONEA	C	20	0	
108	Other Confining Zones Lith. B	OCZONEB	C	20	0	
109	Owner Number	ONUM	C	5	0	
110	Ownership of the Well	OWNERSHIP	C	2	0	
111	Packer (Y/N)	PACKER	C	1	0	
112	Packer Depth	PACKERD	N	5	0	
113	Permeability A	PA	N	4	0	
114	Permeability A (10th Power)	PA10	N	3	0	
115	Permeability B	PB	N	4	0	
116	Permeability B (10th Power)	PB10	N	3	0	
117	Permit Application Number	APPNUM	N	12	0	
118	Permit Expiration Date	EXPIRE	D	8	0	
119	Permit Number	PERMIT	C	10	0	
120	Permit Term	TERM	N	2	0	
121	Permit Well Identifier	WELLID	C	15	0	Y
122	Plug Back Total Depth	PLUGBACK	N	5	0	
123	Pub. Water Supply Wells in AOR	PWS	N	3	0	
124	Public Hearing Date	PHDATE	D	8	0	
125	Public Notice Date	PNDATE	D	8	0	
126	Quarter Four	Q4	C	2	0	
127	Quarter One	Q1	C	2	0	
128	Quarter Three	Q3	C	2	0	
129	Quarter Two	Q2	C	2	0	
130	Range	RANGE	C	3	0	
131	Region of Well	REGION	C	2	0	
132	Rule Authorized	RULE	C	1	0	Y
133	Section	SECTION	C	2	0	
134	State of Well	STATE	C	2	0	
135	Surface Casing Cemented (Y/N)	SCEMENTED	C	1	0	
136	Surface Casing Depth	SDEPTH	N	4	0	
137	Surface Casing Diameter	SDIAMETR	N	7	3	
138	Surface Casing Grade	SGRADE	C	4	0	
139	Surface Elevation	SURFACE	N	4	0	
140	TDS Method One	TDSMETHOD	C	2	0	
141	TDS Method Two	TDSMETHD2	C	2	0	
142	Technical Review Date	TRDATE	D	8	0	
143	Top Depth of USDW	ITOPDPTH	N	4	0	

No.	Title	FIELD_NAME	FT	FL	FD	R
144	Total Depth	TDEPTH	N	5	0	
145	Township	TOWNSHIP	C	3	0	
146	Tubing Depth	TUDEPTH	N	4	0	
147	Tubing Diameter	TDIAMETR	N	7	3	
148	Tubing Grade	TGRADE	C	4	0	
149	Type of Construction	TYPECON	C	2	0	
150	Type of Demonstration	TDCODE	C	3	0	
151	Type of Permit Modification	MODCODE	C	2	0	
152	Type of Well	TYPECODE	C	4	0	
153	Type of Well Permit	TYPEWELL	C	1	0	
154	Type of Well Permitted	WELLTYPE	C	1	0	Y
155	Well Coordinates (Latitude)	LAT	N	12	4	
156	Well Coordinates (Longitude)	LONG	N	13	4	
157	Well Logs Run	WELLLOG	C	1	0	
158	Wellhead Protection Area (Y/N)	WPA	C	1	0	

QUERYDB

No.	Title	FIELD_NAME	FT	FL	FD	R
1	Query Description	QLOCEXP	C	256		
2	Query Header	QHEADER	C	500		
3	Query Name	QNAME	C	40		

ADHOCDB

No.	Title	FIELD_NAME	FT	FL	FD	R
1	Custom Report Description	ALOCEXP	C	256		
2	Custom Report Fields	AFLDS	C	256		
3	Custom Report Header	AHEADER	C	500		
4	Custom Report Name	ANAME	C	40		
5	Custom Report One Well Only	AONE	N	1		