

ORPS Direct Access Using Microsoft Query



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ORPS GUI Reference Manual

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Introduction

Purpose of the Course

In this section you will be introduced to the direct access feature of the Occurrence Reporting and Processing System (ORPS). We will discuss the registration process, security issues, and how to set up your PC for ORPS direct access with Microsoft Query. You will learn the basics of Structured Query Language (SQL) and how to use Microsoft Query to directly access ORPS. You will be provided with the ORPS database schema and ORPS direct access templates and given instructions on how to use these tools.

Objectives

Upon completion of this class, you will be able to perform the following activities:

- ▶ State the purpose of ORPS direct access
- ▶ Describe the registration procedure for obtaining ORPS direct access
- ▶ Describe the set-up procedure for ORPS direct access with Microsoft Query
- ▶ Describe the basic elements of Structured Query Language (SQL)
- ▶ Use the SQL Select statement to perform a database query
- ▶ Show how to join database tables
- ▶ Describe the ORPS database structure
- ▶ Describe the Microsoft Query menus and toolbar
- ▶ Link to ORPS with Microsoft Query
- ▶ Create a new query
- ▶ Save a query
- ▶ Modify a query
- ▶ Execute an SQL template from Microsoft Excel

Conventions and Icons

Throughout this guide, certain conventions and icons are used to help you locate and interpret information easily.

- ▶ When you need to type information or select text or an item from a list or menu, the prompt will appear boldface; for example, **something you must type or select**.
- ▶ Names of menus, icons, buttons, selection boxes, files, directories, disk drives, and windows will be shown in bold, uppercase; for example, **THIS SPECIAL TYPEFACE**.
- ▶ References used to direct you to additional information (often to another section in the guide) will be shown in bold italic; for example, ***this special typeface***.
- ▶ To signify syntax statements, Boolean logic operators, names of keys that you need to press, or other miscellaneous items that need to be emphasized will be shown in uppercase italic; for example, *[SHIFT]+[CLICK]*.
- ▶ The following special symbols are used to call your attention to important or special information applicable to the current topic:

NOTE



This icon appears when we are providing you with *additional information* for completing a task or using a feature.

HINT



This icon indicates a *hint, good tip, or shortcut* that you can use when completing a task.



This icon is displayed when we are providing you with *critical information* or to warn you about actions that you *must do* or *must not do*.



This icon indicates we are about to give you *step-by-step procedures* to follow to accomplish a task.



TERMINOLOGY

This icon flags any new terminology that is important for you to know and understand.



This icon flags references to Microsoft Query 2.0 and Microsoft Office 95.

What is ORPS Direct Access?

ORPS Direct Access is the new advanced search capability provided to replace the capabilities that were available with the Visimage software on the HP. In an earlier survey, most advanced ORPS users indicated that direct Structured Query Language (SQL) access to the database would fill their needs. Therefore, ORPS Direct Access is the capability of direct SQL access to ORPS.

The opening of direct SQL access to ORPS allows you to utilize software packages with which you are already familiar (e.g., Microsoft Excel) to obtain data from ORPS. Any software that supports Open DataBase Connectivity (ODBC) can be used to access the ORPS data. This includes software such as Microsoft Access, Excel, and FoxPro, as well as many other packages. As these are commercial software packages, and as the software of choice will vary based on the needs and experience of individual users, you will be responsible for providing your own software for direct access. In many cases, this software already exists on your PC. DOE will provide the necessary software drivers for establishing connectivity to ORPS and will provide guidance on setting up and establishing a connection to the database.

The ORPS GUI database exists in an Oracle environment. If you are currently accessing other Oracle databases (or remote ODBC databases in other environments) you should find the process very similar. The ORPS database structure and other information that is necessary in order to query the ORPS database is found in this guide. In addition, DOE has developed a number of templates that can be used from Microsoft Excel. These templates are representative of the kinds of reports created with Visimage and can be utilized directly by the user to create reports from Microsoft Excel. In addition, the templates can be easily modified to add new fields or search criteria.

NOTE



Since the extended narrative fields reside in a Topic collection rather than in the Oracle database, searching of extended narrative fields is not presently available. However, narrative fields can be retrieved and displayed on reports with direct access capabilities.

NOTE



This guide focuses on Microsoft Query 8.0, a Microsoft Office 97 add-in, and makes references to the Microsoft Query 2.0, a Microsoft Office 95 add-in. Even though other ODBC software can also be used to directly access ORPS data, use of that software is outside the scope of this guide.

Registration

Individuals who are registered ORPS GUI users can register as ORPS Direct Access users by calling the ES&H Helpline at (800) 473-4375. Help desk personnel will setup your ORPS Direct Access account and issue you a system password.

System and Software Requirements

System requirements for ORPS direct access are listed below:

- You must have either a network or modem connection to the Internet.
- You must have software that will support Open Database Connectivity (ODBC), such as Microsoft Query.
- PC users must have a 486 or faster CPU with sufficient memory to support Oracle client software and Microsoft applications such as Excel, Access, and Query (or other software that supports ODBC).
- You must run on a platform that will support ODBC and Oracle networking products (e.g., Windows 95 or NT).
- Network services require SQL Net access (SQLNet1) through port 1521.

Driver Installation

To directly access ORPS data, ODBC drivers and Oracle advanced networking option must be installed and configured on your PC. You can get an install program for Windows 95 or NT either on a CD by calling the TIS Helpline at 800-473-4375 or from the Internet at this url: <https://orps.tis.eh.doe.gov/orps/help/help/direct.htm>. Click on the **Windows 95** hyperlink to download the install file for Windows 95, called **ORPS9Xr4.exe** to your hard drive. Click on the **Windows NT** hyperlink to download the install file for Windows NT, called **ORPSNTr4.exe** to your hard drive. It will require approximately 60 Mg of hard drive space to install the drivers and client utilities.



The **ORPS9Xr4.exe** file takes approximately 30 Mg of disk space; the **ORPSNTr4.exe** file takes approximately 30 Mg of disk space. However, once you run the install program, you can delete the .EXE file to free up space. Furthermore, an additional 30 Mg of disk space is temporarily required while the installation is in process. This space is automatically freed up when the installation is complete. Therefore, before you start the install program, ensure that you have 120-150 Mg of free disk space.



The install program installs Oracle 8 advanced networking option. If you already have Oracle client utilities installed on your PC, **DO NOT** use the install program. Instead, follow the configuration steps in the *Setup for Oracle Drivers* section.

Using the Install Program

Follow these steps to install and configure the drivers and utilities from Windows 95; the steps for NT will be similar:

1. Select **Run** from the Windows 95 **START** menu.
2. In the **OPEN** selection box, type the path **c:\...\ORPS9Xr4.exe** (if installing from your hard drive) or **d:\ORPS9Xr4.exe** (if installing from CD). (If you are not certain what the path is on your hard drive to the file '**SETUP.EXE**', click on the **BROWSE** command button and locate the file.)
3. Click on the **OK** command button in the **RUN** dialog box.
4. The **ORPS Direct SQL Access Setup** program will launch. Follow the prompts to set up direct access.



NOTE When you reboot your computer, a screen may appear that displays updates to your registry. After the updates are completed, you are ready for direct access of ORPS data.



NOTE Once your installation and setup are complete, you can delete the **ORPS9Xr4.exe** (or **ORPSNTr4.exe**) installation file to free up hard drive space.



NOTE If your computer will be used to access ORPS by multiple people and you are running on an NT platform, a Computer Support Person will need to change the system path to accommodate multiple users for direct access.

Setup for Oracle Drivers

Follow these steps only if you already have drivers on your PC. These steps are for Oracle 7. The steps will be similar for other versions of Oracle.

1. From the Windows 95 **START** menu go to the **ORACLE** folder under the **PROGRAMS** menu item and select **SQL Net Easy Configuration** to launch the easy configuration program.
2. Select the **ADD DATABASE ALIAS** radio button from the **SQL *NET EASY CONFIGURATION** dialog box (**Figure 1**). Click on the **OK** command button.

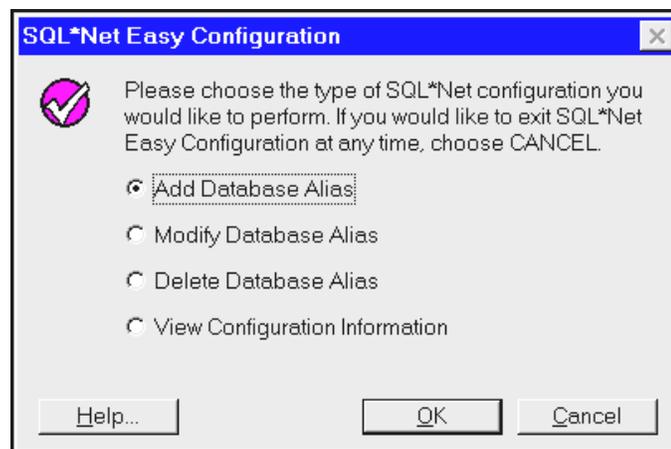


Figure 1 - The **SQL *NET EASY CONFIGURATION** dialog box.

3. From the **CHOOSE DATABASE ALIAS** dialog box (**Figure 2**), type **ORPS1998** in the **DATABASE ALIAS** edit box and click on the **OK** command button.

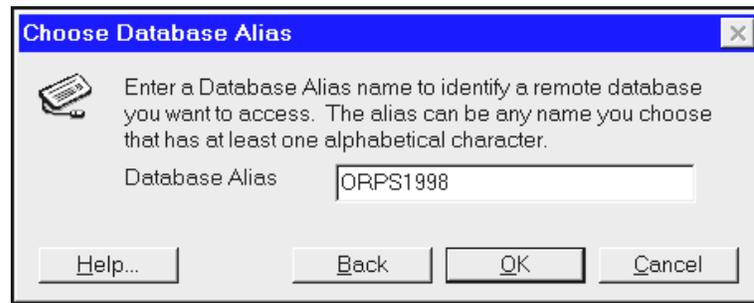


Figure 2 - The **CHOOSE DATABASE ALIAS** dialog box.

4. From the **CHOOSE TCP/IP HOST NAME AND DATABASE INSTANCE** dialog box (**Figure 3**), type **orps.tis.eh.doe.gov** in the **TCP/IP HOST NAME** edit box and **OC** in the **DATABASE INSTANCE** edit box. Click on the **OK** command button.



Figure 3 - The **CHOOSE TCP/IP HOST NAME AND DATABASE INSTANCE** dialog box.

5. Click on the **YES** command button from the **CONFIRM ADDING DATABASE ALIAS** dialog box to confirm the addition of a database alias.
6. Click on the **CANCEL** command button from the **SQL *NET EASY CONFIGURATION** dialog box to exit the Oracle configuration program.

7. From the Windows 95 **START** menu go to the **CONTROL PANEL** folder under the **SETTINGS** menu item and select **ODBC** to access the **ODBC DATA SOURCE ADMINISTRATOR** dialog box (**Figure 4**).

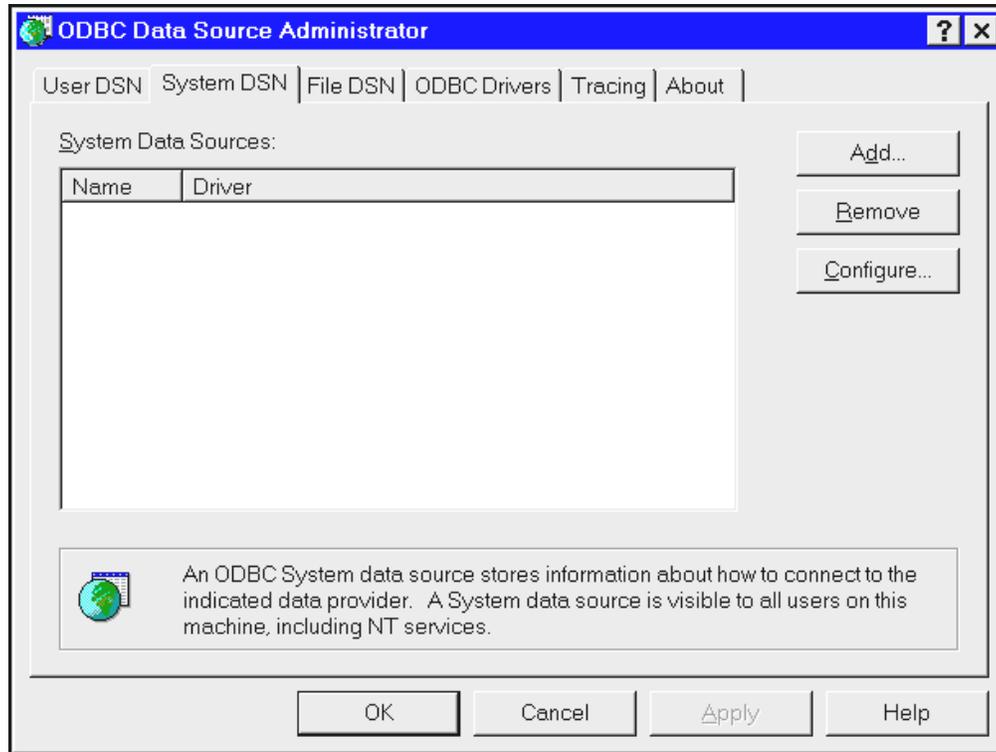


Figure 4 - The **ODBC DATA SOURCE ADMINISTRATOR** dialog box.

8. Select the **SYSTEM DSN** tab and click on the **ADD** command button.
9. Select the **MICROSOFT ODBC FOR ORACLE** driver and click on the **FINISH** command button.

10. From the **MICROSOFT ODBC FOR ORACLE SETUP** dialog box, enter the following information (**Figure 5**):
 - Data Source Name: **ORPS1998**
 - Description: This field is optional
 - User Name: Enter your ORPS assigned User ID
 - Server: **ORPS1998**

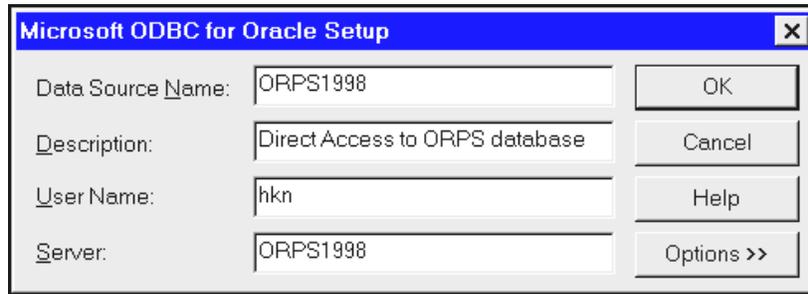


Figure 5 - The **MICROSOFT ODBC FOR ORACLE SETUP** dialog box.

11. Click on the **OK** command button to exit the **MICROSOFT ODBC FOR ORACLE SETUP** dialog box.
12. Click on the **OK** command button to exit the **ODBC DATA SOURCE ADMINISTRATOR** dialog box.

Structured Query Language

What is Structured Query Language (SQL)?

Structured Query Language or SQL (pronounced “sequel”) is the most widely used tool for communicating with a relational database, such as ORPS. A relational database consists of a collection of tables. A table is made of up rows (called records) and columns. Complex instructions are encoded on the client and then transmitted over a modem or network to the server where the instructions are decoded and then executed. SQL allows a user to retrieve information, create tables, delete tables, grant or revoke access to tables, and perform other tasks for full use of a database. As an end-user of ORPS, you will only be permitted to retrieve information from ORPS using the direct access tools. When retrieving information from ORPS with SQL, a virtual table (a set of rows and columns) is always returned.



This section provides high-level general information about SQL. The information may be sufficient if you only directly access ORPS with pre-defined templates. However, if you plan on creating your own queries to retrieve information from ORPS, it is strongly recommended that additional training and supplementary reference material is obtained.

SQL Elements

Statements, Commands and Clauses

SQL statements, commands, and clauses formulate the instructions that are sent to the ORPS server. The SELECT statement allows you to examine the contents of ORPS. Modifying clauses further refine the data specified by a SELECT statement. Modifying clauses are described in the table below.

Modifying Clauses and Functions	Description
FROM	Specifies which table to take data from
WHERE	Filters out rows (records) that do not satisfy a search condition.
GROUP BY	Organizes the selected data into groups
HAVING	Filters out groups that do not satisfy the search condition
ORDER BY	Sorts the results of prior clauses to produce final output

Data Types

In every table, each column stores only a certain type of data. Two data types are stored in ORPS database tables:

- ▶ CHARACTER: columns of this type contain strings of characters.
- ▶ NUMBER: columns of this type contain numbers.

Using the SELECT Statement

In order to use Microsoft Query to directly access ORPS data, you must be able to interpret the SELECT statement and the modifying clauses which act on the selection. To learn about the SELECT statement, we will use the example database, called **TEST**, in **Appendix A**. **TEST** consists of three tables: **OCCURRENCES**, **FACILITY**, and **ACTIVITY**. To facilitate the exercise for this section, the table structures are very simple. The **OCCURRENCES** table contains 22 records and five columns. The **NUMBER** column is the number data type, the remaining columns are character data types. The **FACILITY** table contains three records and two columns, and the **ACTIVITY** table contains five records and two columns. All columns for the **FACILITY** and **ACTIVITY** tables are character data types.

Selecting All of a Table's Records

The syntax for the simplest SELECT statements uses only the FROM modifier. The general form of this SELECT statement is:

```
SELECT <column names>  
FROM <table>
```

For example, to retrieve all of the rows and all of the columns from the **OCCURRENCES** table in **TEST**, you would use this statement:

```
SELECT *  
FROM TEST.OCCURRENCES
```

NOTE



The asterisk (*) is a wildcard meaning everything.

Similarly, to retrieve only the **MANAGER** column from the **OCCURRENCES** table in **TEST**, you would use this statement:

```
SELECT OCCURRENCES.MANAGER
FROM TEST.OCCURRENCES
```

Selecting Some of a Table's Records

If you want to see only some of the records in a table, you must use the **WHERE** modifier. The general form of this **SELECT** statement is:

```
SELECT <column names>
FROM <table>
WHERE <predicate>
```

The table below displays the operators that can be used within a predicate when using Microsoft Query to retrieve information from ORPS.

Operator	Predicate Syntax	Description
equals	<column name> = <value>	This operator selects only records where the value in the specified column equals <value>.
does not equal	<column name> <> <value>	This operator selects only records where the value in the specified column is not equal to <value>.
is greater than	<column name> > <value>	This operator selects only records where the value in the specified column is greater than <value>.
is greater than or equal to	<column name> >= <value>	This operator selects only records where the value in the specified column is greater than or equal to <value>.
is less than	<column name> < <value>	This operator selects only records where the value in the specified column is less than <value>.
is less than or equal to	<column name> <= <value>	This operator selects only records where the value in the specified column is less than or equal to <value>.

Operator	Predicate Syntax	Description
is one of	<i><column name> IN <values></i>	<p><values> consist of one or more values, separated by commas and enclosed in parentheses.</p> <p>This operator selects only records where the value in the specified column is found in <values>.</p>
is not one of	<i><column name> NOT IN <values></i>	<p><values> consist of one or more values, separated by commas and enclosed in parentheses.</p> <p>This operator selects only records where the value in the specified column is not found in <values>.</p>
is between	<i><column name> BETWEEN <value1> AND <value2></i>	This operator selects only records where the value in the specified column is greater than or equal to <value1> and less than or equal to <value2>.
is not between	<i><column name> NOT BETWEEN <value1> AND <value2></i>	This operator selects only records where the value in the specified column is not in the specified range.
like	<i><column name> LIKE <value></i>	<p>This operator can only be used with character columns.</p> <p>This operator selects only records where the value in the specified column equals <value>.</p>
not like	<i><column name> NOT LIKE <value></i>	<p>This operator can only be used with character columns.</p> <p>This operator selects only records where the value in the specified column is not equal to <value>.</p>

Operator	Predicate Syntax	Description
begins with	<i><column name> LIKE <value>%</i>	<p>This operator can only be used with character columns.</p> <p>This operator selects only records where the value in the specified column begins with <value>.</p>
does not begin with	<i><column name> NOT LIKE <value>%</i>	<p>This operator can only be used with character columns.</p> <p>This operator selects only records where the value in the specified column does not begin with <value>.</p>
ends with	<i><column name> LIKE %<value></i>	<p>This operator can only be used with character columns.</p> <p>This operator selects only records where the value in the specified column ends with <value>.</p>
does not end with	<i><column name> NOT LIKE %<value></i>	<p>This operator can only be used with character columns.</p> <p>This operator selects only records where the value in the specified column does not end with <value>.</p>
contains	<i><column name> LIKE %<value>%</i>	<p>This operator can only be used with character columns.</p> <p>This operator selects only records where the value in the specified column contains <value>.</p>
does not contain	<i><column name> NOT LIKE %<value>%</i>	<p>This operator can only be used with character columns.</p> <p>This operator selects only records where the value in the specified column does not contain <value>.</p>

Operator	Predicate Syntax	Description
is Null	<i><column name> IS NULL</i>	This operator selects only records where the value in the specified column contains the value NULL.
is Not Null	<i><column name> NOT NULL</i>	This operator selects only records where the value in the specified column does not contain the value NULL.



The values cited in the predicate must be the same data types. In addition, any specified character value must be enclosed in single quotes.



In SQL, the percent sign (%) is a wildcard that stands for any string of characters, zero or more in length.



In most SQL implementations, the data is case sensitive, i.e., a search for 'value' will only return that form of the word, and not 'Value' or 'VALUE.'



NULL represents the lack of a value in a record. It is **NOT** the numeric value 0 or a blank.

For example, to list all of the records for the **TOWN** facility, you would use this statement:

```
SELECT *
FROM TEST.OCCURRENCES
WHERE OCCURRENCES.FACILITY = 'TOWN'
```

The result of this SELECT statement is displayed in the table below.

NUMBER	FACILITY	ACTIVITY	MANAGER	DATE
1	TOWN	E	JONES	19980112
2	TOWN	B	JONES	19980115
10	TOWN	B	JONES	19980409
13	TOWN	E	JONES	19980506

NUMBER	FACILITY	ACTIVITY	MANAGER	DATE
16	TOWN	A	JONES	19980619
17	TOWN	C	JONES	19980627
22	TOWN	D	JONES	19980814

Exercise 1

1. Write the SQL SELECT statement that selects all records with a date in April or May of 1998. Show all columns on your report.

2. Write the SQL SELECT statement that selects all records for manager "OLSEN." Show only the facility, activity, and discovery date columns on your report.



Multiple column names are separated by commas.

3. Write the SQL SELECT statement that selects all records for facility "TRS" and manager "PETERSON." Show all columns on your report.



Within a WHERE clause, multiple predicates can be joined with the Boolean operators AND, OR, and NOT.

Grouping Selected Data

If you want to organize the selected data into groups, you must use the GROUP BY modifier. The GROUP BY modifier aggregates rows into groups and then sorts the groups into alphabetical order. The general format of this SELECT statement is:

```
SELECT <column names>  
FROM <table>  
WHERE <predicate>  
GROUP BY <column names>
```

The WHERE clause is optional. However, if a WHERE clause is used, it must come before the GROUP BY clause. GROUP BY places restrictions on how we use column names in a query. Specifically, the column names following SELECT must either be part of aggregate functions (e.g., COUNT or AVG) or they must appear as one of the column names in the GROUP BY clause. For example, you can group the **OCCURRENCES** table by manager with the following SELECT statement:

```
SELECT OCCURRENCES.MANAGER, OCCURRENCES.NUMBER,  
OCCURRENCES.DATE  
FROM TEST.OCCURRENCES  
GROUP BY OCCURRENCES.MANAGER, OCCURRENCES.NUMBER,  
OCCURRENCES.DATE
```

The result of this SELECT statement is displayed in the table below.

MANAGER	NUMBER	DATE
JONES	1	19980112
JONES	2	19980115
JONES	10	19980409
JONES	13	19980506
JONES	16	19980619
JONES	17	19980627
JONES	22	19980814
OLSEN	4	19980202
OLSEN	5	19980202
OLSEN	11	19980409
OLSEN	12	19980505
PETERSON	18	19980704
PETERSON	19	19980707

MANAGER	NUMBER	DATE
PETERSON	20	19980718
PETERSON	21	19980807
SMITH	3	19980131
SMITH	6	19980217
SMITH	7	19980301
SMITH	8	19980321
SMITH	9	19980322
SMITH	14	19980526
SMITH	15	19980611

The GROUP BY clause, when used with the SQL COUNT function, can also be used to count the number of records associated with column values. For example, you can count the number of occurrences for each manager with the following SELECT statement:

```
SELECT OCCURRENCES.MANAGER, COUNT(OCCURRENCES.NUMBER) 'COUNT'
FROM TEST.OCCURRENCES
GROUP BY OCCURRENCES.MANAGER
```

Note that the words in parentheses following the COUNT function specifies the column label. The result of this select statement (shown in the table below) includes a user-defined column which displays the count of records associated with each manager.

MANAGER	COUNT
JONES	7
OLSEN	4
PETERSON	4
SMITH	7

The HAVING modifier is used in conjunction with the GROUP BY clause to place restrictions on the groups. The general format for this SELECT statement is:

```
SELECT <column names>
FROM <table>
WHERE <predicate>
GROUP BY <column names>
HAVING <predicate>
```

The HAVING clause works like the WHERE clause, but it is applied to groups rather than to individual records. The same predicates used in the WHERE clause can be used in

the HAVING clause. For example, you can count the number of occurrences for each manager and then display only the groups with more than four records with the following SELECT statement:

```
SELECT OCCURRENCES.MANAGER, COUNT(OCCURRENCES.NUMBER) 'COUNT'  
FROM TEST.OCCURRENCES  
GROUP BY OCCURRENCES.MANAGER  
HAVING (COUNT(OCCURRENCES.NUMBER) > 4)
```

The result of this select statement is shown in the table below.

MANAGER	COUNT
JONES	7
SMITH	7

Exercise 2

1. Write the SQL SELECT statement that groups records by activity. Show columns for activity, facility, and date on your report.

2. Modify the SELECT statement to show the count of records by activity. Label the column "COUNT."

3. Modify the SELECT statement to show only those counts greater than four records.

Ordering Selected Data

While the GROUP BY modifier aggregates rows into groups and then sorts the groups, the ORDER BY modifier sorts individual rows. The general format for this SELECT statement is:

```
SELECT <column names>  
FROM <table>  
WHERE <predicate>  
ORDER BY <column names>
```

The WHERE clause is optional. The ORDER BY clause must be the last clause specified in the SELECT statement. You can specify either an ascending (ASC) or descending (DESC) sort. The default sort order is ascending. The general format for a descending sort is:

```
SELECT <column names>  
FROM <table>  
WHERE <predicate>  
ORDER BY <column names> DESC
```

For example, you could order the rows in the **OCCURRENCES** table by descending date with the following SELECT statement:

```
SELECT *  
FROM TEST.OCCURRENCES  
ORDER BY OCCURRENCES.DATE DESC
```

Exercise 3

Write the SQL SELECT statement that sorts records by facility and then sorts the records in descending order by discovery date. Display only the facility and date columns on your report.

Joining Tables

There may be times when you require information from multiple tables. For example, along with selected information from the **OCURRENCES** table, you may want to include the description of the facility from the **FACILITY** table. This is easy enough to do. You simply list multiple tables in the FROM clause.

```
SELECT *
FROM TEST.OCURRENCES, TEST.FACILITY
```

As displayed in the table below, the result is the Cartesian product of the two source tables.

NUMBER	FACILITY	ACTIVITY	MANAGER	DATE (yyyymmdd)	CODE	DESCRIPTION
1	TOWN	E	JONES	19980112	ATR	Advanced Test Reactor
1	TOWN	E	JONES	19980112	TOWN	In-town Buildings
1	TOWN	E	JONES	19980112	TRS	Tritium Reactor South
2	TOWN	B	JONES	19980115	ATR	Advanced Test Reactor
2	TOWN	B	JONES	19980115	TOWN	In-town Buildings
2	TOWN	B	JONES	19980115	TRS	Tritium Reactor South
3	ATR	B	SMITH	19980131	ATR	Advanced Test Reactor
3	ATR	B	SMITH	19980131	TOWN	In-town Buildings
3	ATR	B	SMITH	19980131	TRS	Tritium Reactor South
4	TRS	C	OLSEN	19980202	ATR	Advanced Test Reactor
4	TRS	C	OLSEN	19980202	TOWN	In-town Buildings
4	TRS	C	OLSEN	19980202	TRS	Tritium Reactor South
5	TRS	E	OLSEN	19980202	ATR	Advanced Test Reactor
5	TRS	E	OLSEN	19980202	TOWN	In-town Buildings
5	TRS	E	OLSEN	19980202	TRS	Tritium Reactor South
6	ATR	A	SMITH	19980217	ATR	Advanced Test Reactor
6	ATR	A	SMITH	19980217	TOWN	In-town Buildings
6	ATR	A	SMITH	19980217	TRS	Tritium Reactor South
7	ATR	A	SMITH	19980301	ATR	Advanced Test Reactor
7	ATR	A	SMITH	19980301	TOWN	In-town Buildings
7	ATR	A	SMITH	19980301	TRS	Tritium Reactor South
8	ATR	D	SMITH	19980321	ATR	Advanced Test Reactor
8	ATR	D	SMITH	19980321	TOWN	In-town Buildings

NUMBER	FACILITY	ACTIVITY	MANAGER	DATE (yyyymmdd)	CODE	DESCRIPTION
8	ATR	D	SMITH	19980321	TRS	Tritium Reactor South
9	ATR	A	SMITH	19980322	ATR	Advanced Test Reactor
9	ATR	A	SMITH	19980322	TOWN	In-town Buildings
9	ATR	A	SMITH	19980322	TRS	Tritium Reactor South
10	TOWN	B	JONES	19980409	ATR	Advanced Test Reactor
10	TOWN	B	JONES	19980409	TOWN	In-town Buildings
10	TOWN	B	JONES	19980409	TRS	Tritium Reactor South
11	TRS	D	OLSEN	19980409	ATR	Advanced Test Reactor
11	TRS	D	OLSEN	19980409	TOWN	In-town Buildings
11	TRS	D	OLSEN	19980409	TRS	Tritium Reactor South
12	TRS	D	OLSEN	19980505	ATR	Advanced Test Reactor
12	TRS	D	OLSEN	19980505	TOWN	In-town Buildings
12	TRS	D	OLSEN	19980505	TRS	Tritium Reactor South
13	TOWN	E	JONES	19980506	ATR	Advanced Test Reactor
13	TOWN	E	JONES	19980506	TOWN	In-town Buildings
13	TOWN	E	JONES	19980506	TRS	Tritium Reactor South
14	ATR	E	SMITH	19980526	ATR	Advanced Test Reactor
14	ATR	E	SMITH	19980526	TOWN	In-town Buildings
14	ATR	E	SMITH	19980526	TRS	Tritium Reactor South
15	ATR	E	SMITH	19980611	ATR	Advanced Test Reactor
15	ATR	E	SMITH	19980611	TOWN	In-town Buildings
15	ATR	E	SMITH	19980611	TRS	Tritium Reactor South
16	TOWN	A	JONES	19980619	ATR	Advanced Test Reactor
16	TOWN	A	JONES	19980619	TOWN	In-town Buildings
16	TOWN	A	JONES	19980619	TRS	Tritium Reactor South
17	TOWN	C	JONES	19980627	ATR	Advanced Test Reactor
17	TOWN	C	JONES	19980627	TOWN	In-town Buildings
17	TOWN	C	JONES	19980627	TRS	Tritium Reactor South
18	TRS	A	PETERSON	19980704	ATR	Advanced Test Reactor
18	TRS	A	PETERSON	19980704	TOWN	In-town Buildings
18	TRS	A	PETERSON	19980704	TRS	Tritium Reactor South
19	TRS	B	PETERSON	19980707	ATR	Advanced Test Reactor
19	TRS	B	PETERSON	19980707	TOWN	In-town Buildings
19	TRS	B	PETERSON	19980707	TRS	Tritium Reactor South

NUMBER	FACILITY	ACTIVITY	MANAGER	DATE (yyyymmdd)	CODE	DESCRIPTION
20	TRS	E	PETERSON	19980718	ATR	Advanced Test Reactor
20	TRS	E	PETERSON	19980718	TOWN	In-town Buildings
20	TRS	E	PETERSON	19980718	TRS	Tritium Reactor South
21	TRS	C	PETERSON	19980807	ATR	Advanced Test Reactor
21	TRS	C	PETERSON	19980807	TOWN	In-town Buildings
21	TRS	C	PETERSON	19980807	TRS	Tritium Reactor South
22	TOWN	D	JONES	19980814	ATR	Advanced Test Reactor
22	TOWN	D	JONES	19980818	TOWN	In-town Buildings
22	TOWN	D	JONES	19980814	TRS	Tritium Reactor South

Generally, this type of result is not very useful. In this case, we only need the table rows where the **FACILITY** column in the **OCCURRENCES** table equal the **FACILITY** column in the **FACILITY** table. To filter out unwanted rows you use the **WHERE** modifier.

```
SELECT *
FROM TEST.OCCURRENCES, TEST.FACILITY
WHERE OCCURRENCES.FACILITY = FACILITY.CODE
```

The results of this SELECT statement are shown in the table below.

NUMBER	FACILITY	ACTIVITY	MANAGER	DATE (yyyymmdd)	CODE	DESCRIPTION
1	TOWN	E	JONES	19980112	TOWN	In-town Buildings
2	TOWN	B	JONES	19980115	TOWN	In-town Buildings
3	ATR	B	SMITH	19980131	ATR	Advanced Test Reactor
4	TRS	C	OLSEN	19980202	TRS	Tritium Reactor South
5	TRS	E	OLSEN	19980202	TRS	Tritium Reactor South
6	ATR	A	SMITH	19980217	ATR	Advanced Test Reactor
7	ATR	A	SMITH	19980301	ATR	Advanced Test Reactor
8	ATR	D	SMITH	19980321	ATR	Advanced Test Reactor
9	ATR	A	SMITH	19980322	ATR	Advanced Test Reactor
10	TOWN	B	JONES	19980409	TOWN	In-town Buildings
11	TRS	D	OLSEN	19980409	TRS	Tritium Reactor South
12	TRS	D	OLSEN	19980505	TRS	Tritium Reactor South
13	TOWN	E	JONES	19980506	TOWN	In-town Buildings
14	ATR	E	SMITH	19980526	ATR	Advanced Test Reactor

NUMBER	FACILITY	ACTIVITY	MANAGER	DATE (yyyymmdd)	CODE	DESCRIPTION
15	ATR	E	SMITH	19980611	ATR	Advanced Test Reactor
16	TOWN	A	JONES	19980619	TOWN	In-town Buildings
17	TOWN	C	JONES	19980627	TOWN	In-town Buildings
18	TRS	A	PETERSON	19980704	TRS	Tritium Reactor South
19	TRS	B	PETERSON	19980707	TRS	Tritium Reactor South
20	TRS	E	PETERSON	19980718	TRS	Tritium Reactor South
21	TRS	C	PETERSON	19980807	TRS	Tritium Reactor South
22	TOWN	D	JONES	19980814	TOWN	In-town Buildings

Exercise 4

Write the SQL SELECT statement that joins the **OCCURRENCES** table and the **ACTIVITY** table and selects only rows from the joined table when the **ACTIVITY** column in the **OCCURRENCES** tables equal the **ACTIVITY** column in the **ACTIVITY** table. Display only activity, description, and date columns on your report.

ORPS Data Structure

Appendix B describes the ORPS GUI database schema (the ORPS GUI tables, with their associated fields). This schema pertains only to tables and fields that are available for direct access. System administration tables and obsolete tables are not available for direct access. In addition, the UCNI flag field and name fields associated with a specific report are not available.

Following the schema is a sample ORPS report. In place of the actual report data, the tables and fields from which the data is obtained is shown. This should be helpful in identifying the data fields that you might wish to include in your own query.

You should be aware that the information presented in this appendix is preliminary and subject to change as the ORPS design progresses. In the past, it has been necessary for the GUI database to mirror the structure of the HP ORPS database, because of the need to keep the two databases synchronized. This has resulted in a somewhat inefficient data structure for the GUI. At the time of the transition from the HP, and/or following the transition, additional changes are anticipated in order to provide a more efficient structure.

An updated ORPS schema will be made available as changes are made, either as a result of structure changes or changes in availability of fields.

Microsoft Query

Microsoft Query is an Microsoft Office add-in that allows you to link directly to a database. You can link to almost any type of database if the correct drivers are installed. With Microsoft Query you can ask questions (called a query) about the data in ORPS and the answer will be returned to you as a set of records (called the result set).

NOTE



The drivers for performing queries of the ORPS Oracle database are installed during the driver installation procedure (See *Driver Installation* under the *Introduction* section of this guide).



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Query

The question or questions asked about data in a database.



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Result Set

The set of records that are returned in response to a query. The records are always returned as a virtual table.

To start Microsoft Query, double-click on the **MICROSOFT QUERY SHORTCUT** on your Windows desktop. The **MICROSOFT QUERY** window (shown in **Figure 6**) appears.

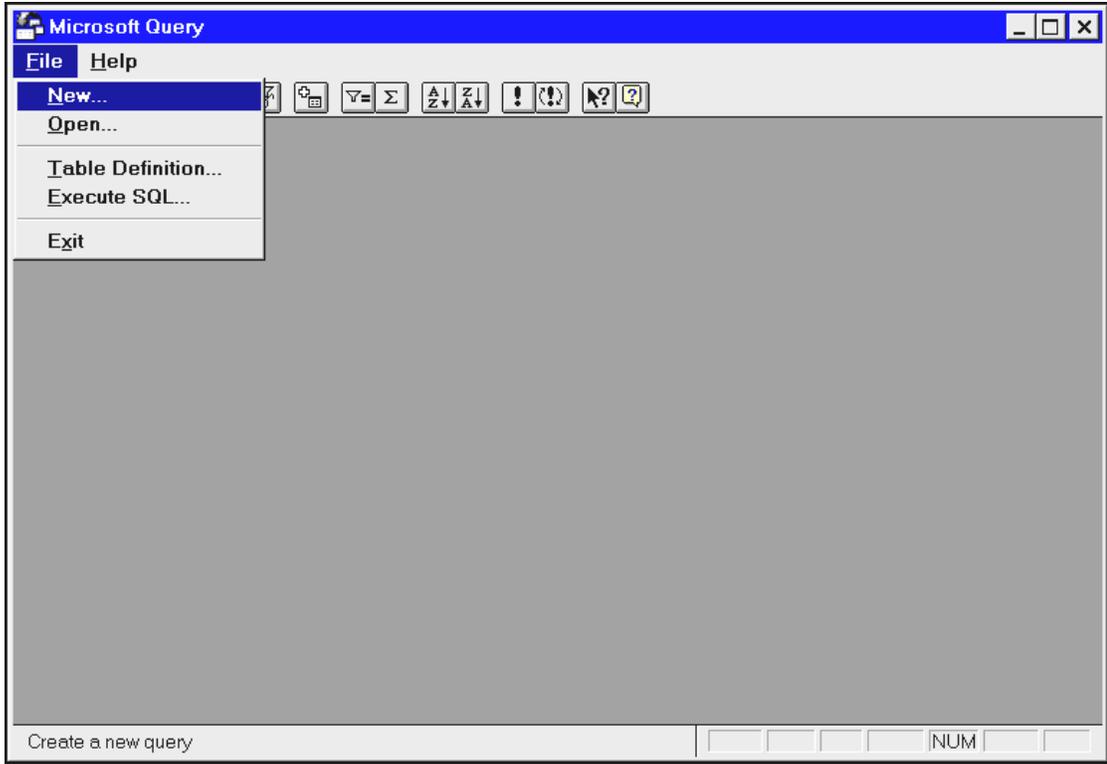


Figure 6 - The **MICROSOFT QUERY** window with **FILE** menu selections displayed.

Creating ORPS as a Data Source

Before you can establish a link between Microsoft Query and ORPS you must create ORPS as a new data source.

	Data Source
TERMINOLOGY	Identifies the database you want to gain access to and includes the information needed to connect to the data.

You do this by selecting **New** from the **FILE** menu (**Figure 6**). The **CHOOSE DATA SOURCE** dialog box appears (**Figure 7**). With **<New Data Source>** selected in the **DATABASES** selection area, you click on the **OK** command button.

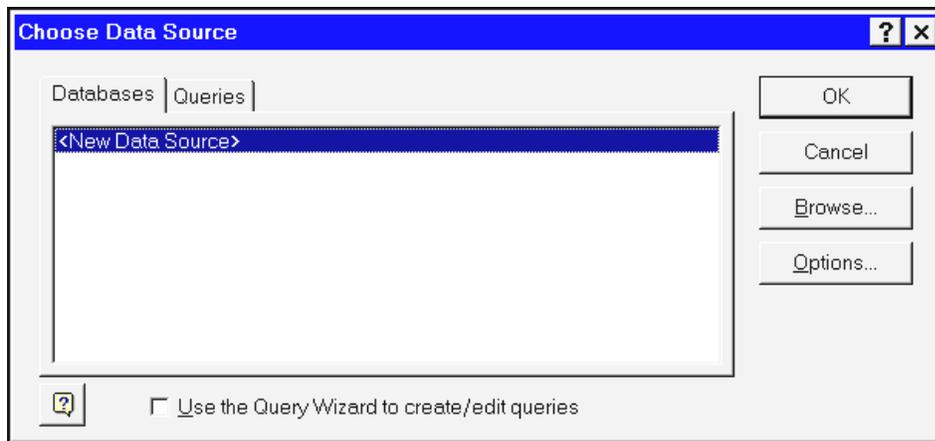


Figure 7 - The **CHOOSE DATA SOURCE** dialog box.

The **CREATE NEW DATA SOURCE** dialog box appears (**Figure 8**). The steps for creating a new data source are numbered in the dialog box.

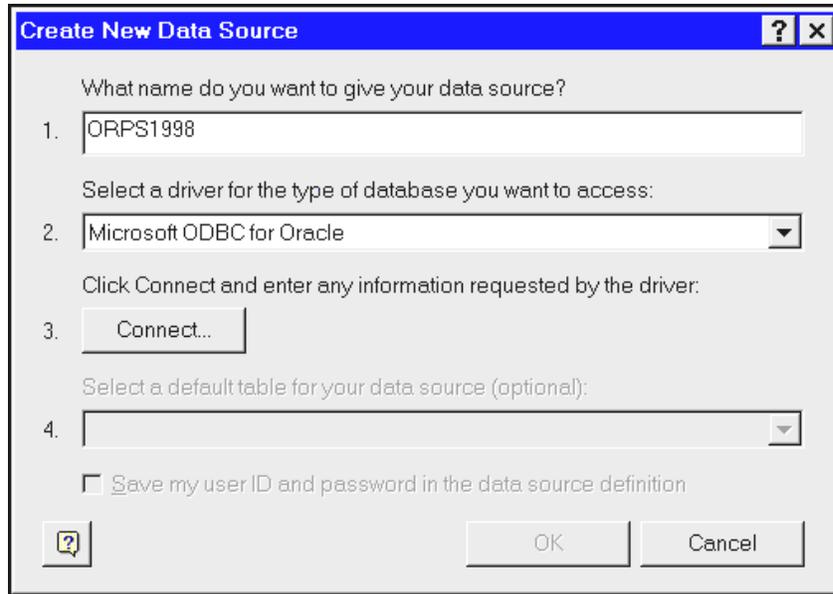


Figure 8 - The CREATE NEW DATA SOURCE dialog box.

- Step 1: Enter a source name into the first edit box (e.g., ORPS1998).
- Step 2: Select the ORPS driver by clicking on the down arrow () in the selection box and selecting **Microsoft ODBC for Oracle**.
- Step 3: Click on the **CONNECT** command button. The **MICROSOFT ODBC FOR ORACLE CONNECT** dialog box appears (**Figure 9**). Enter your user ID in the **USER NAME** edit box, your password in the **PASSWORD** edit box, and **ORPS1998** in the **SERVER** edit box. Click on the **OK** command button. A link is established to ORPS and you are returned to the **CREATE NEW DATA SOURCE** dialog box.

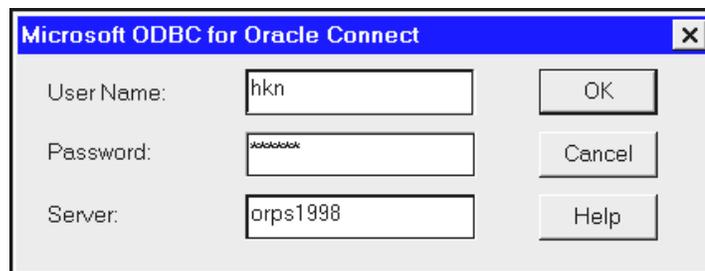


Figure 9 - The MICROSOFT ODBC FOR ORACLE CONNECT dialog box.

Step 4: This step, which is optional, allows you to select a default table for your data source. As the **V_ORPS** table contains most of the record data and therefore, will be the most frequently used table, you may want to select it as your default table. Click on the down arrow () in the selection box and select **V_ORPS** from the table list.

To save ORPS as a data source, click on the OK command button. ORPS is now shown as a new data source in the **CHOOSE DATA SOURCE** dialog box.



Do not click on the check box to save your user ID and password. Microsoft Query does not encrypt your password when saving it in the data source definition. It will be visible to anyone who looks at the definition.



You only have to create ORPS as a database source the first time you link to ORPS from Microsoft Query. You perform subsequent linkings by selecting the ORPS database from the **CHOOSE DATABASE SOURCE** dialog box and clicking on the **OK** command button (**Figure 10**).

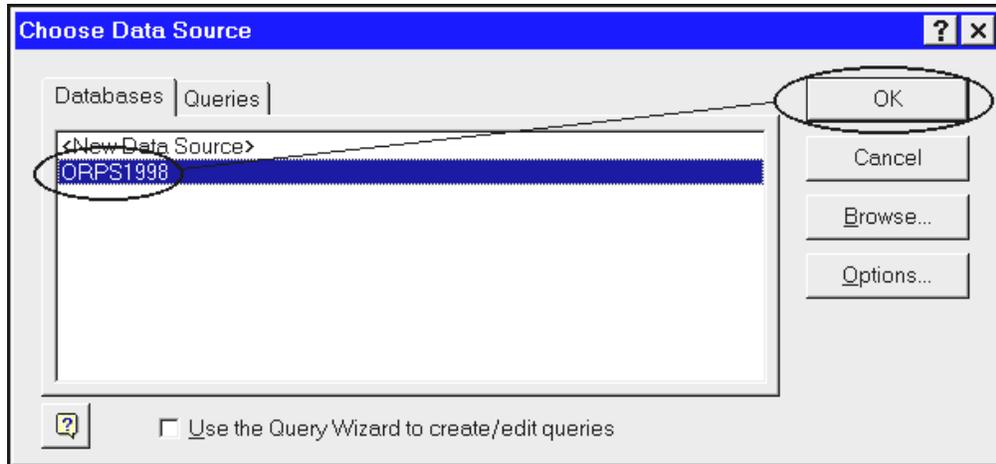


Figure 10 - The **CHOOSE DATA SOURCE** dialog box displaying ORPS as a data source.



The **USE THE QUERY WIZARD TO CREATE/EDIT QUERIES** check box is checked by default. Uncheck this box, or you will activate the Wizard every time you select a data source.



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Linking to the ORPS Database with Microsoft Query

These steps are performed only after ORPS has been created as a data source.

1. Double-click on the **MICROSOFT QUERY SHORTCUT** on your Windows desktop.
2. Select **New** from the **FILE** menu.
3. Select the ORPS data source from the **DATABASES** selection area of the **CHOOSE DATA SOURCE** dialog box and then click on the **OK** command button.
4. Enter your user ID into the **USER NAME** edit box and your password into the **PASSWORD** edit box and then click on the **OK** command button. Microsoft Query will connect to ORPS.



Creating ORPS as a Data Source with Office 95

1. Select **New Query** from the **FILE** menu on the **MICROSOFT QUERY** window.
2. Click on the **OTHER** command button from the **SELECT DATA SOURCE** dialog box. The **ODBC DATA SOURCE** dialog box will appear.
3. Double-click on **ORPS1998**. The **MICROSOFT ODBC FOR ORACLE CONNECT** dialog box appears.
4. Enter your user ID in the **USER NAME** edit box, your password in the **PASSWORD** edit box, and **ORPS1998** in the **SERVER** edit box. Then click on the **OK** command button. You are returned to the **SELECT DATA SOURCE** dialog box. ORPS is now listed as a data source in the **AVAILABLE DATA SOURCES** list.

The Microsoft Query Window

The Microsoft Query Window Panes

Once you have established a link to ORPS, a segmented query window is displayed (**Figure 11**). The first segment, called the **TABLE PANE**, contains information about tables in the query. Because you set the **v_ORPS** table as the default table when you created ORPS as a new data source, it will be displayed in the **TABLE PANE** every time you establish a link to ORPS. The second segment, called the **CRITERIA PANE**, contains information about the criteria you have selected to limit the records in the result set, and the third segment, called the **DATA PANE**, contains the result set.

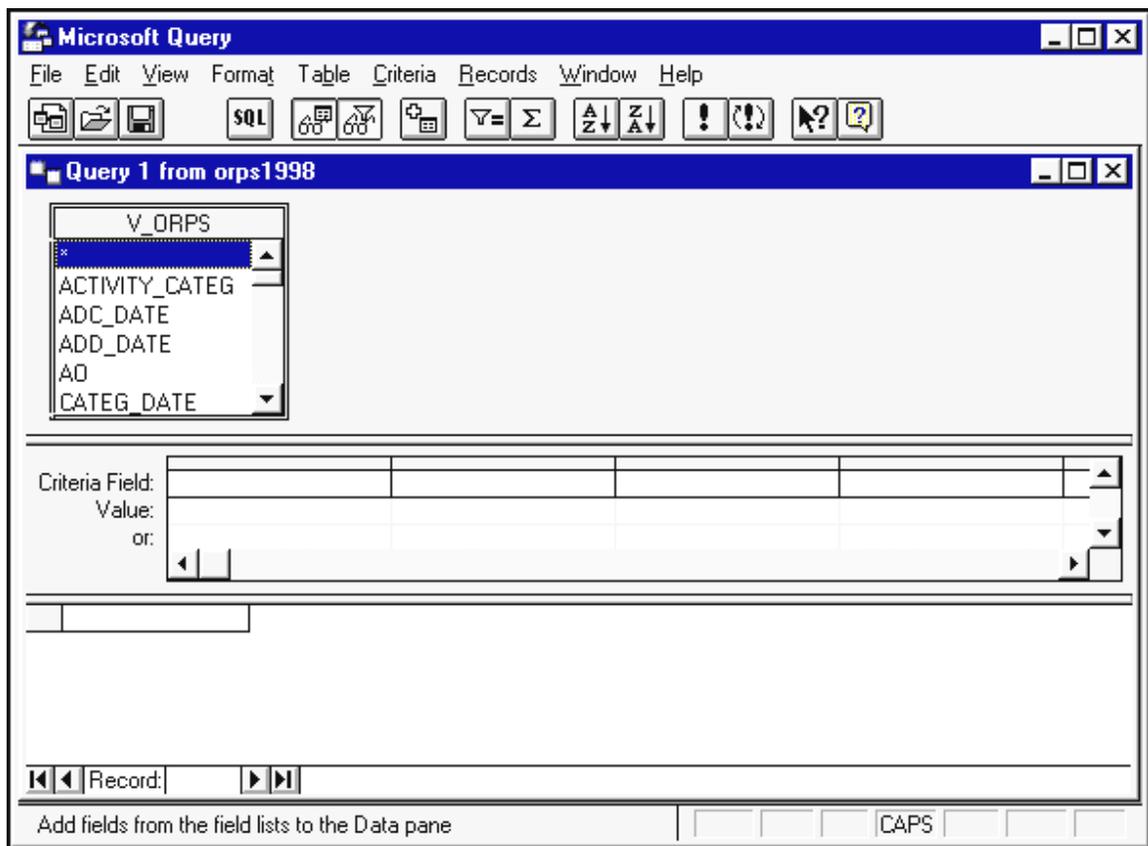


Figure 11 - The Microsoft Query window panes.

The Microsoft Query Menu Bar

The menu bar at the top of the window (See **Figure 11**) contains the following options:

- FILE** This menu contains the operations that establish links to a database and that open queries, close queries, and save queries to disk.
- EDIT** This menu contains options for copying text, undoing the last action performed, limiting the number of records returned to the query window, and configuring connection time to the database.
- VIEW** This menu contains options for viewing the window panes and setting some query properties. In addition, there are options for viewing and editing user-entered parameters and SQL SELECT statements.
- FORMAT** This menu contains options for formatting the **DATA PANE**.
- TABLE** This menu contains options for adding, removing, or joining tables.
- CRITERIA** This menu contains options for adding or removing criteria that records must meet to be included in the result set.
- RECORDS** This menu contains options for adding or removing columns in the **DATA PANE**. It also contains options for sorting or refreshing the result set.
- WINDOW** This menu contains options for how the query window will be displayed on the screen.
- HELP** This menu contains information about Microsoft Query and options for activating the help utilities.

The Microsoft Query Tool Bar

The tool bar provides various *shortcuts* to menu options. Each button is described below.



The **NEW QUERY** button initiates a new query. It displays the **CHOOSE DATA SOURCE** dialog box, where you either choose the data source you want for the new query or select an existing query to change.



The **OPEN QUERY** button opens an existing query. It displays the **OPEN QUERY** dialog box, from which you open an existing query for viewing or editing.



The **SAVE FILE** button saves a query, replacing any previous version with the current version. If you haven't saved the query before, Microsoft Query displays the **SAVE AS** dialog box.



The **RETURN DATA** button returns data to another application. If you start Microsoft Query from another program, click on this button to return data from Microsoft Query to the original program.



The **VIEW SQL** button displays the corresponding SQL SELECT statement for the query in the query window, so you can view or edit the statement.



The **SHOW/HIDE TABLES** button displays or hides the **TABLE PANE**.



The **SHOW/HIDE CRITERIA** button displays or hides the **CRITERIA PANE**. Microsoft Query doesn't display the **CRITERIA PANE** automatically when you create a query. The **CRITERIA PANE** appears the first time you specify criteria by clicking on **Add Criteria** on the **CRITERIA** menu or by clicking the **SHOW/HIDE CRITERIA** button.



The **ADD TABLE(S)** button displays the **ADD TABLES** dialog box, which you can use to add one or more tables to the **TABLE PANE** in your query.



The **CRITERIA EQUALS** button specifies a criterion that selects only those records containing the same value as the active cell. The cell you select in the result set becomes the value for the criterion in the **CRITERIA PANE**.



The **CYCLE THROUGH TOTALS** button allows you to select totals for a column, depending on the type of data stored in the field.



The **SORT ASCENDING** button sorts records in ascending order from the beginning of the alphabet, the lowest number, or the earliest date by using the selected field.



The **SORT DESCENDING** button sorts records in ascending order from the end of the alphabet, the highest number, or the latest date by using the selected field.



The **QUERY NOW** button runs the query and displays the most current result set in the **DATA PANE**. When **Automatic Query** is on, Microsoft Query runs the query each time you add a field, specify criteria, or otherwise change the query design. When **Automatic Query** is off, you can only run the query by clicking on the **QUERY NOW** button.



The **AUTOMATIC QUERY** button turns **Automatic Query** on or off. This button controls whether the query is run every time you change it. By default, **Automatic Query** is on.



Click on the **HELP** button and then click on menu command, tool, or screen region to display context sensitive help for that item.



The **OFFICE ASSISTANT** button opens the **Microsoft Office 97 Assistant**. The assistant provides Help topics and tips to help you accomplish your tasks.

Designing a Query

Specifying the Criteria



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Criteria

Conditions you specify to limit which records are included in the result set of a query.

Criteria are added to a new query from the **ADD CRITERIA** dialog box. Criteria can only be specified for database tables displayed on the **TABLE PANE**. To open the dialog box (Shown in **Figure 12**), select **Add Criteria** from the **CRITERIA** menu.

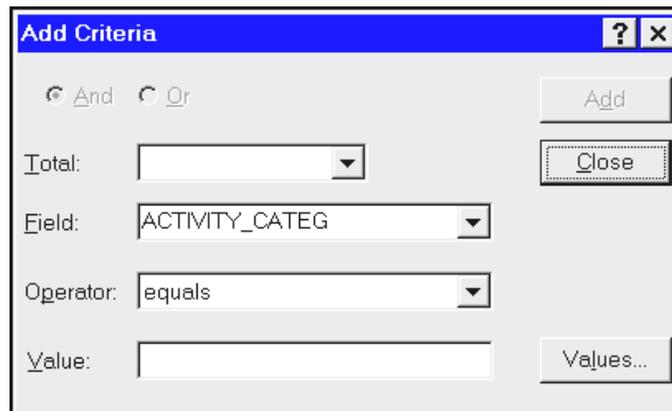


Figure 12 - The **ADD CRITERIA** dialog box.

The elements in the dialog box represent the components of the **SELECT** statement predicate. In the *Structured Query Language* section of this guide you learned that the general structure of a predicate is:

<column name> <operator> <value>

From the **ADD CRITERIA** dialog box, you specify *<column name>* with the **FIELD** selection box, *<operator>* with the **OPERATOR** selection box, and *<value>* with the **VALUE** edit box. The first field in the **V_ORPS** table is the default selection in the **FIELD** selection box, and the “**equals**” operator is the default selection in the **OPERATOR** selection box. The **ADD** command button is used to add a predicate to your select statement. The **ADD** command button is disabled until you specify all information required to construct the syntax for a predicate within a **SELECT** statement. The **AND** and **OR** radio buttons are

used to specify the Boolean logic between predicates. These radio buttons are disabled until the first predicate has been added to the **SELECT** statement.

For example, to retrieve the latest version of all reports for the Idaho Field Office, you must define two predicates or criterium. To define the first predicate, select **FO** from the **FIELD** selection box and **equals** from the **OPERATOR** selection box.



For **FIELD** selection boxes containing numerous items, open the selection area by clicking on the down arrow (), click in the box and then begin typing the characters of the desired item. You will be taken to the item that most closely matches the characters you have typed.

Next, click on the **VALUES** command button to open the **SELECTED VALUE(S)** dialog box (**Figure 13**). All possible values for the **FO** field are displayed in the **VALUES** selection box. Select **ID** from the **VALUES** selection box and then click on the **OK** command button. **ID** is automatically entered into the **VALUE** edit box and the **ADD** command button is enabled.

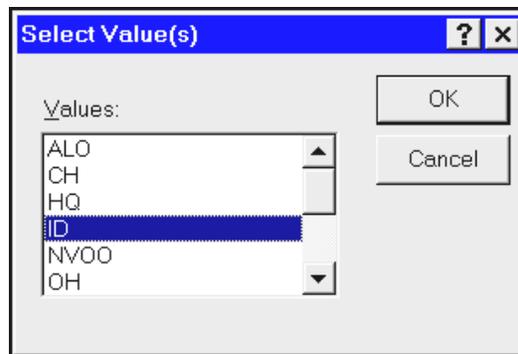


Figure 13 - The **SELECTED VALUE(S)** dialog box.



You can select multiple values from the dialog box by clicking on a value with the left mouse button. Values are deselected in the same way.

Finally, click on the **ADD** command button. The criterium is added to the **CRITERIA PANE** (**Figure 14**).

Criteria Field:	FO	CURRENTFLAG				
Value:	'ID'	'Y'				
or:						

Figure 16 - The **CRITERIA PANE** displaying the predicate *FO = 'ID'* and the predicate *CURRENTFLAG = 'Y'*.



Multiple versions of an occurrence report are stored in the **V_ORPS** table. The **CURRENTFLAG** field is used to designate the latest version of a report. Therefore, to retrieve the latest version of a report, specify the criteria, "*CURRENTFLAG = 'Y'*".



The **TOTAL** selection box on the **ADD CRITERIA** dialog box allows you to apply a built-in function to table fields to further refine your query criteria. For example, you could restrict records to facilities that reported 10 or more occurrences in a given year. Applying these built-in functions to criteria requires an SQL proficiency level that is outside the scope of this guide.

Step-by-Step
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Adding Criteria to a Query

1. Select **Add Criteria** from the **CRITERIA** menu to display the **ADD CRITERIA** dialog box.
2. Select a field (table column) from the **FIELD** selection box.
3. Select an operator from the **OPERATOR** selection box.
4. Enter a value in the **VALUE** edit box.

NOTE

If you select either **is Null** or **is Not Null** as the operator, the **VALUE** edit box will be disabled. Values are not used with these operators.

5. Click on the **ADD** command button.

Adding Report Columns

Columns that you want to include in your report are added from the **ADD COLUMN** dialog box. These columns are displayed on the **DATA PANE**. To open the dialog box (Shown in **Figure 17**), select **Add Column** from the **RECORDS** menu.

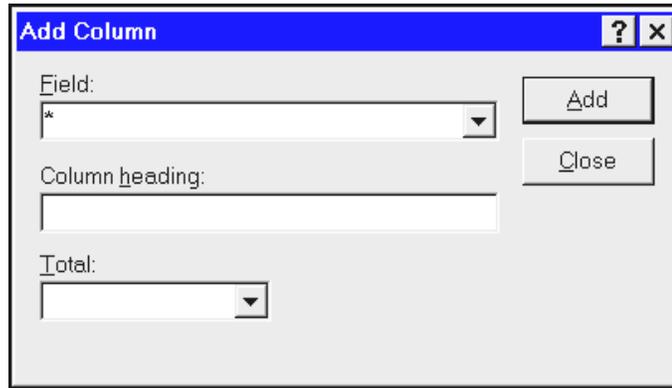


Figure 17 - The **ADD COLUMN** dialog box.

Table columns are selected from the **FIELD** selection box. The asterisk (*) wildcard operator, which selects all columns from the table(s) displayed on the **TABLE PANE**, is the default selection. The **COLUMN HEADING** edit box allows you to name the columns on your report. If you do not specify a name, the field name is used as the column name.

For example, to display occurrence report number and categorization date as report columns, click on the down arrow () in the **FIELD** selection box and select **OR_NUM**, type **Occurrence Report Number** in the **COLUMN HEADING** edit box, and click on the **ADD** command button. **Occurrence Report Number** is added as the first column heading and the result set is displayed in the **DATA PANE**.



Microsoft Query automatically runs a query and refreshes the data in the result set each time you add a field to the **DATA PANE** or add or change criteria in the **CRITERIA PANE**. If your query contains a large number of records, you might want to wait to run the query until you've finished making changes to the query. To turn off the automatic query feature, click on the **AUTOMATIC QUERY** tool bar button.

Next, click on the down arrow in the **FIELD** selection box and select **CATEG_DATE**, type **Categorization Date** in the **COLUMN HEADING** edit box, and click on the **ADD** command button. **Categorization Date** is added as the second column heading and the result set is displayed in the **DATA PANE** (See **Figure 18**). Click on the **CLOSE** command button to close the dialog box.

Saving the Query

A new query is saved as a .dqy file from the **SAVE AS** dialog box. To open the dialog box (Shown in **Figure 19**), select **Save** from the **FILE** menu. To save a new query file in the default location, type the file name in the **FILE NAME** edit box and click on the **SAVE** command button. An advantage to saving the query in the default location is that the file name of the query appears on the **QUERIES** tab when you open a new query. To save a new query file in a location other than the default, specify the directory in the **SAVE IN** selection box, type the file name in the **FILE NAME** edit box and click on the **SAVE** command button.

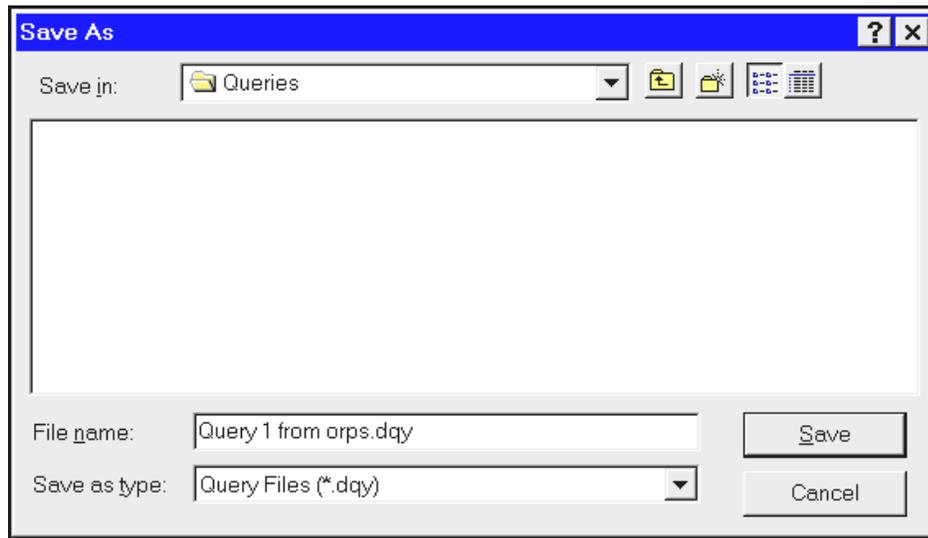


Figure 19 - The **SAVE AS** dialog box.



When you save a query file, Microsoft Query does not save the current result set displayed in the **DATA PANE**. It saves the query (i.e., the SQL **SELECT** statement). In fact, the result set is automatically refreshed, before the **SAVE AS** dialog box is displayed, even when the **AUTO QUERY** tool bar button is not activated.



Another way to save a new file is to click on the **SAVE FILE** tool bar button.



With Office 95, your queries are saved as .qry files. Office 97 displays an option to save queries as .qry files; however, doing this will result in a Microsoft Query connection error when you try to retrieve the file.

Exercise 5

As you work, write down the steps you take. These notes will act as a reminder when you take similar actions in the future.

1. Specify criteria to select the latest version of all reports for facilities ANLE and ANLW.
2. Display the occurrence report year and activity category as report columns.
3. Save the query.

Viewing the SQL SELECT Statement

The SQL SELECT statement for your query is displayed in the **SQL** dialog box (**Figure 20**). To open the dialog box, click on the **VIEW SQL** tool bar button. From here you can view or modify the instructions that are sent to the server.

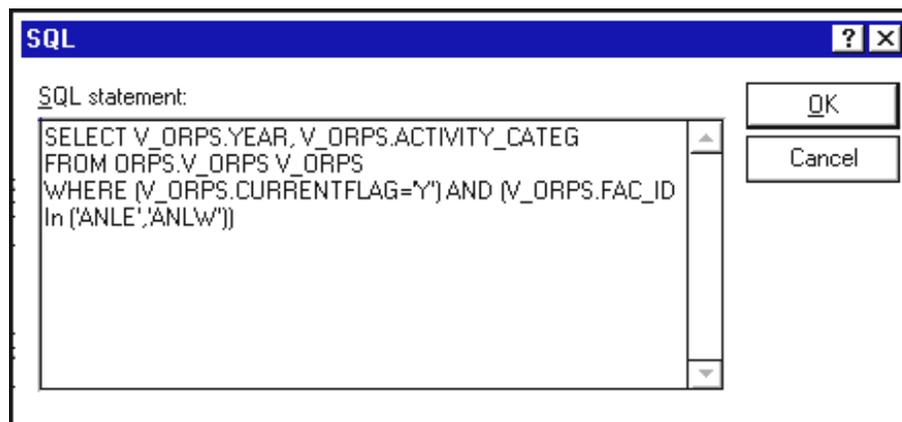


Figure 20 - The **SQL** dialog box.

The SELECT statement in **Figure 20** displays the statement that was formulated by Microsoft Query in **Exercise 5**. The clause, “*SELECT V_ORPS.YEAR 'Occurrence Report Year', V_ORPS.ACTIVITY_CATEG 'Activity Category'*” specifies the table columns and headings to be included in the report. You populate this clause when you make selections within the **ADD COLUMN** dialog box. The clause, “*FROM ORPS.V_ORPS V_ORPS*” specifies the table(s) to be included in the query. All tables displayed on the **TABLE PANE** are included in the query. The clause, “*WHERE (V_ORPS.CURRENTFLAG='Y') AND (V_ORPS.FAC_ID In ('ANLE','ANLW'))*” specifies the criteria for the individual records. You populate this clause when you make selections within the **ADD CRITERIA** dialog box.



Both the WHERE clause and the HAVING clause are populated when you make selections within the **ADD CRITERIA** dialog box. Microsoft Query makes it's “best guess” when adding predicates to the SELECT statement. However, there are occasions when Microsoft Query will attach a predicate to a HAVING clause, which restricts groups, when what you really want is the predicate attached to a WHERE clause to restrict the records (or vice versa). When this occurs, you will need to manually change the SELECT statement in the **SQL** dialog box.

Setting Query Properties

Two query properties are set from the **QUERY PROPERTIES** dialog box (**Figure 21**). To open the dialog box, select **Query Properties** from the **VIEW** menu.



Figure 21 - The **QUERY PROPERTIES** dialog box.

The **Unique Values Only** property hides duplicate values in your query's result set by adding the **DISTINCT** keyword to your **SELECT** statement (**Figure 22**). To activate this property, you just check the **UNIQUE VALUES ONLY** check box and click on the **OK** command button. The virtual table in the **DATA PANE** will be recreated to display only the unique values (**Figure 24**).

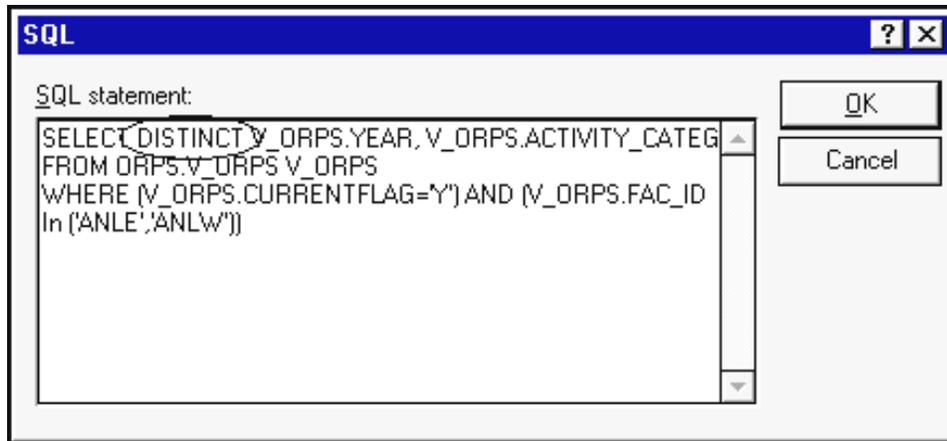


Figure 22 - Example of a SELECT statement using the DISTINCT keyword.

The **Group Records** property allows you to organize your result set into groups by adding a GROUP BY clause to your SELECT statement (**Figure 23**). To activate this property, you just check the **GROUP RECORDS** check box and click on the **OK** command button. The virtual table in the **DATA PANE** will be recreated to display the grouping (**Figure 24**).

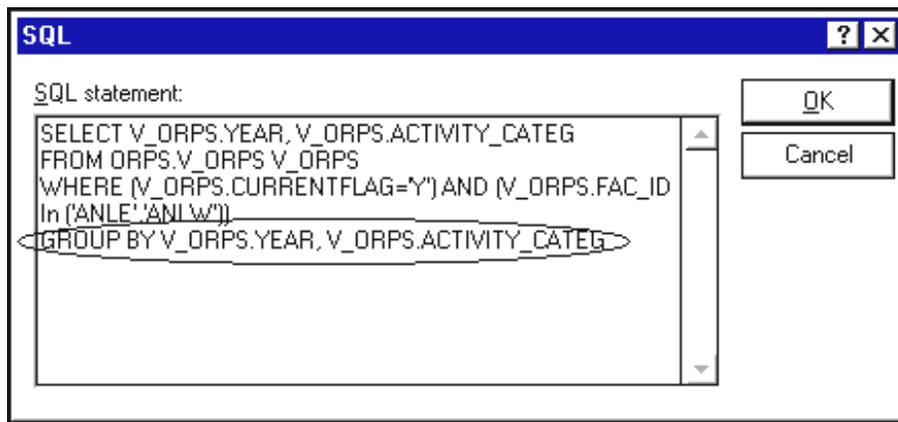


Figure 23 - Example of a SELECT statement using the GROUP BY clause.

Occurrence Report Year	Activity Category
1990	03
1990	
1991	02
1991	02
1991	05
1991	02
1991	03
1991	10
1991	10
1991	10

Before DISTINCT or GROUP BY

Occurrence Report Year	Activity Category
1990	02
1990	03
1990	
1991	02
1991	03
1991	05
1991	06
1991	10
1991	
1992	02
1992	03

After DISTINCT or GROUP BY

Figure 24 - Example of an application of the DISTINCT keyword or the GROUP BY clause.

Sorting Records

After you have added one or more columns to the **DATA PANE**, the Microsoft Query sort option is enabled. This option allows you to sort the result set by values in a column by adding an ORDER BY clause to your SELECT statement (**Figure 25**).

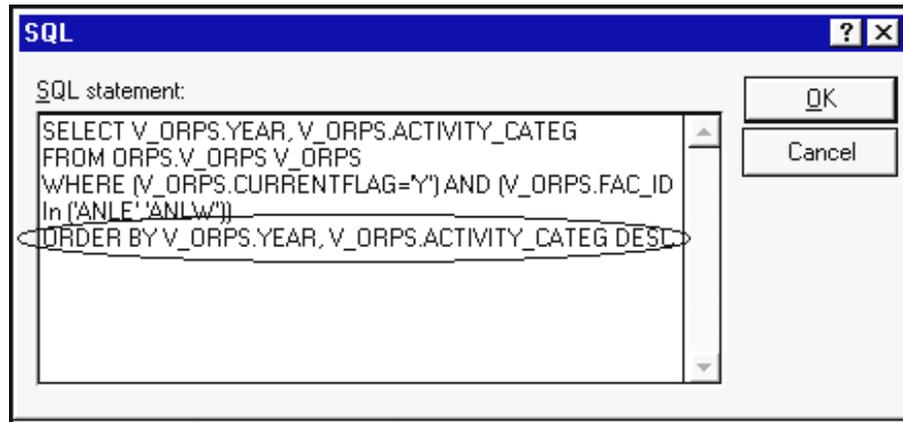


Figure 25 - Example of a SELECT statement using the ORDER BY clause.

Sorting options are specified from the **SORT** dialog box. To open the dialog box (shown in **Figure 26**), select **Sort** from the **RECORDS** menu.

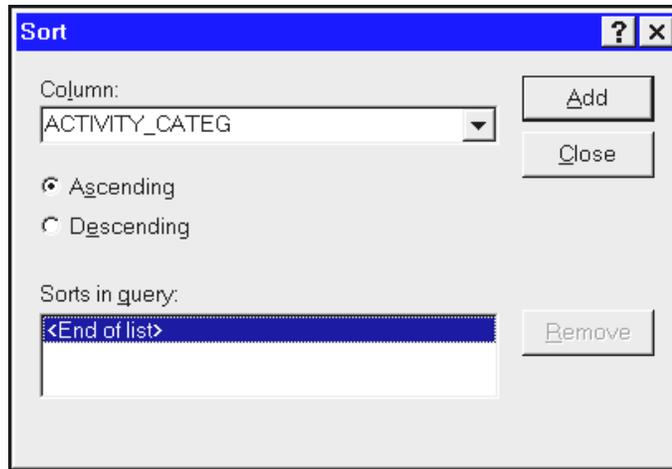
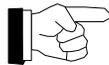


Figure 26 - The **SORT** dialog box.

The sort column is selected from the **COLUMN** selection box. You can sort records in an ascending order by selecting the **ASCENDING** radio button or a descending order by selecting the **DESCENDING** radio button. The **SORTS IN QUERY** list box displays the sorts that are defined for the query.

NOTE



An ascending sort sorts records from the beginning of the alphabet, the lowest number, or the earliest date. A descending sort sorts records from the end of the alphabet, the highest number, or the latest date.

Microsoft Query permits you to sort on multiple fields. For example, to specify a primary ascending sort by Occurrence Report Year and then a secondary descending sort by Activity Category, select **YEAR** from the **COLUMN** selection box, select the **ASCENDING** radio button, and click on the **ADD** command button. “(Asc)YEAR” has been added to the **SORTS IN QUERY** list box and the **DATA PANE** is recreated to reflect the primary sort (**Figure 27**). Next, select **ACTIVITY_CATEG** from the **COLUMN** selection box, select the **DESCENDING** radio button, and click on the **ADD** command button. “(Desc)ACTIVITY_CATEG” has been added to the **SORTS IN QUERY** list box and the **DATA PANE** is recreated to reflect the secondary sort (**Figure 28**). Click on the **CLOSE** command button to close the **SORT** dialog box.

Occurrence Report Year	Activity Category
1990	03
1990	
1990	02
1990	03
1990	03
1990	02
1990	
1991	02
1991	02
1991	05
1991	02
1991	03
1991	10
1991	10
1991	10
1991	03
1991	03
1991	03
1991	02
1991	03
1991	03

Figure 27 - The DATA PANE displaying a primary ascending sort by the OCCURRENCE REPORT YEAR column.

Occurrence Report Year	Activity Category
1990	
1990	
1990	03
1990	03
1990	03
1990	02
1990	02
1991	10
1991	10
1991	10
1991	06
1991	05
1991	03
1991	03
1991	03
1991	03
1991	03
1991	03
1991	03
1991	03
1991	03
1991	03
1991	02

Figure 28 - The DATA PANE displaying a primary ascending sort by the OCCURRENCE REPORT YEAR column and a secondary descending sort by the ACTIVITY CATEGORY column.



A quick way to perform sorts is to use the **Sort Ascending** and **Sort Descending** tool bar buttons. In the **Data Pane**, click on the column you want to sort on and then click on a sort button. To sort on multiple columns, click on the next column you want to sort on, hold down the *[CTRL]* key and click on a sort button.

Exercise 6

As you work, write down the steps you take. These notes will act as a reminder when you take similar actions in the future.

1. Specify criteria to select the latest version of all notification reports for the Richland Field Office.
2. Display the facility ID and occurrence report year as report columns.
3. Do a primary ascending sort for facility ID and a secondary ascending sort for occurrence report year.
4. Organize your result set into groups by facility ID and occurrence report year.
5. Save the query.

Adding Calculated Columns

Microsoft Query allows you to add calculated columns to your report. Calculated columns are added from the **ADD COLUMN** dialog box. To open the dialog box, select **Add Column** from the **RECORDS** menu. In the **TOTAL** selection box, functions are listed that will return values for the field specified in the **FIELD** selection box based on the results of a calculation or other operation. You can select from the functions described in the table below.

Function	Description
AVG	Returns the average of a set of values in a field.
COUNT	Returns the total number of records.
MAX	Returns the maximum set of values in a field.
MIN	Returns the minimum set of values in a field.
SUM	Returns the sum of a set of values in a field.



Only the COUNT, MAX, and MIN functions can be applied to character data type fields. The number data type field will support all of the functions described in the table above.

As an example, the result set from *Exercise 6* would be more meaningful if the total number of occurrence reports is included as a column. To add this calculated column, select the asterisk (*) from the **FIELD** selection box, type **Total** in the **COLUMN HEADING** edit box, and select **COUNT** from the **TOTAL** selection box (see **Figure 29**). **Total** is added as a column heading and the result set is recreated and displayed in the **DATA PANE** (**Figure 30**).

Figure 29 - The **ADD COLUMN** dialog box used for adding calculated fields.

Query 1 from orps		
Facility ID	Occurrence Report Year	
200LWP	1998	
300LEF	1998	
327FAC	1998	
ANALLAB	1998	
BPLANT	1998	
DND	1998	
FSS	1998	
GENSERVICE	1998	
IFSM	1998	
JCIH	1998	
PFP	1998	
PNNLBOPER	1998	
PNNLNUCL	1998	
S&W	1998	
SOLIDWASTE	1998	
TANKFARM	1996	
TANKFARM	1997	
TANKFARM	1998	
TPLANT	1998	
WESF	1998	
WSCF	1998	

Before the COUNT function

Query 1 from orps			
Facility ID	Occurrence Report Year	Total	
200LWP	1998	1	
300LEF	1998	1	
327FAC	1998	1	
ANALLAB	1998	6	
BPLANT	1998	2	
DND	1998	1	
FSS	1998	4	
GENSERVICE	1998	1	
IFSM	1998	1	
JCIH	1998	1	
PFP	1998	5	
PNNLBOPER	1998	4	
PNNLNUCL	1998	2	
S&W	1998	2	
SOLIDWASTE	1998	1	
TANKFARM	1996	1	
TANKFARM	1997	6	
TANKFARM	1998	29	
TPLANT	1998	2	
WESF	1998	3	
WSCF	1998	1	

After the COUNT function

Figure 30 - The result set both before and after the addition of a calculated column.

Exercise 7

As you work, write down the steps you take. These notes will act as a reminder when you take similar actions in the future.

1. Specify criteria to select the latest version of all reports for occurrences that were reported in 1997.
2. Display by field office the total number of occurrence reports and the total number of occurrences.
3. Save the query.

Adding and Joining Tables

There may be times when you would like the result set to contain information from multiple tables. This is a two-step process, first you add the additional table to the **TABLE PANE** and then you join the tables. A join shows how data is related between two tables and determines which records are included in the result set. Tables are added to the **TABLE PANE** from the **ADD TABLES** dialog box (**Figure 31**), and joins are created directly from the **TABLE PANE**.

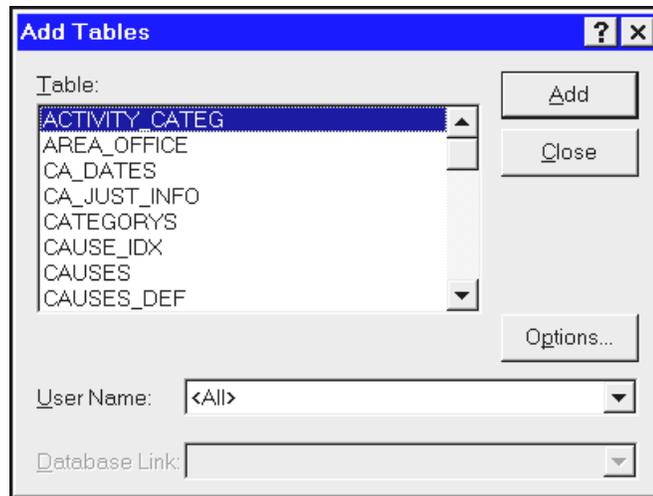


Figure 31 - The **ADD TABLES** dialog box.

For example, to create a distribution by activity description for the Idaho Field Office for the latest versions of occurrences reported in 1997, you select **Add Tables** from the **TABLE** menu to open the **ADD TABLES** dialog box. Select **ACTIVITY_CATEG** from the **TABLE** selection box and then click on the **ADD** command button. Click on the **CLOSE** command to close the dialog box. The **ACTIVITY_CATEG** table is displayed on the **TABLE PANE** next to the **V_ORPS** table. Adding this additional table allows you to create a query from the values in both tables. To join the tables you simple drag the **ACTIVITY_CATEG** field on the **V_ORPS** table to the **ACTIVITY_CATEG** field on the **ACTIVITY_CATEG** table. A join line between the two tables is created (**Figure 32**). Now Microsoft Query will select only those records that have the same value in the joined fields in both tables (**Figure 33**).

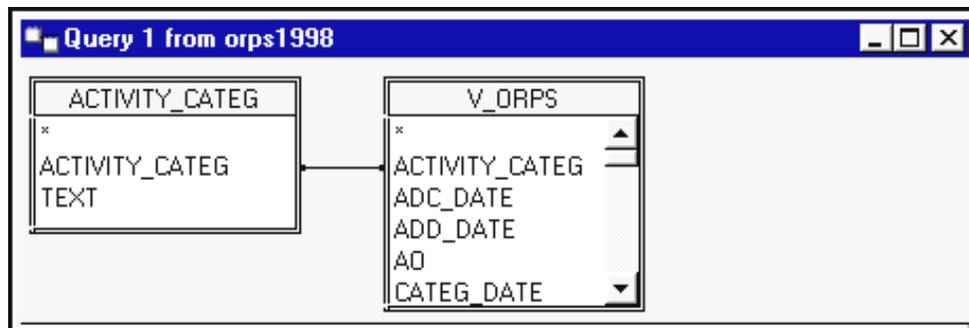


Figure 32 - The **TABLE PANE** displaying a table join between the **ACTIVITY_CATEG** fields.

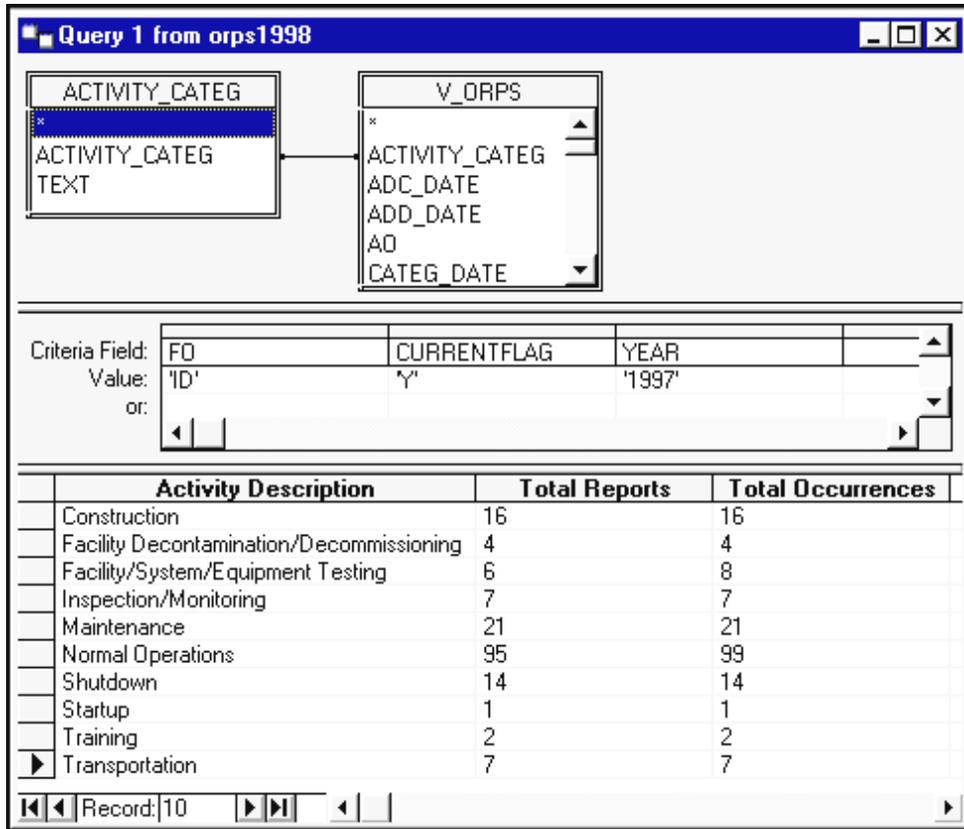


Figure 33 - Example of a query with a “join” between two tables.

In many cases you will be joining the **V_ORPS** table to another table. The table below shows the fields that should be joined between the **V_ORPS** table and another table to ensure optimum database performance and correct record retrieval.

Table Name	Recommended Joins to the V_ORPS table
ACTION_TEXT	Join V_ORPS.IDX to ACTION_TEXT.IDX and join V_ORPS.TIMESTAMP to ACTION_TEXT.TIMESTAMP
ACTIVITY_CATEG	Join V_ORPS.ACTIVITY_CATEG to ACTIVITY_CATEG.ACTIVITY_CATEG
AREA_OFFICE	Join V_ORPS.AO to AREA_OFFICE.AO
AUTHORITY	Join V_ORPS.FAC_ID to AUTHORITY.FAC_ID
CA_TEXT	Join V_ORPS.IDX to CA_TEXT.IDX and join V_ORPS.TIMESTAMP to CA_TEXT.TIMESTAMP

Table Name	Recommended Joins to the V_ORPS table
CAJUST_TEXT	Join V_ORPS.IDX to CAJUST_TEXT.IDX and join V_ORPS.TIMESTAMP to CAJUST_TEXT.TIMESTAMP
CATEGORYS	Join V_ORPS.CATEGORY to CATEGORYS.CATEGORY
CAUSE_TEXT	Join V_ORPS.IDX to CAUSE_TEXT.IDX and join V_ORPS.TIMESTAMP to CAUSE_TEXT.TIMESTAMP
CAUSES	Join V_ORPS.CAUSE to CAUSES.CAUSE or join V_ORPS.ROOT_CAUSE to CAUSES.CAUSE or join V_ORPS.CONTR_CAUSE_1 to CAUSES.CAUSE or join V_ORPS.CONTR_CAUSE_2 to CAUSES.CAUSE or join V_ORPS.CONTR_CAUSE_3 to CAUSES.CAUSE
CC	Join V_ORPS.IDX to CC.IDX and join V_ORPS.TIMESTAMP to CC.TIMESTAMP
CONTRACTOR	Join V_ORPS.CONT to CONTRACTOR.CO
CSOIMPACT_TEXT	Join V_ORPS.IDX to CSOIMPACT_TEXT.IDX and join V_ORPS.TIMESTAMP to CSOIMPACT_TEXT.TIMESTAMP
DELEGATION	Join V_ORPS.FAC_ID to DELEGATION.FAC_ID
ESHIMPACT_TEXT	Join V_ORPS.IDX to ESHIMPACT_TEXT.IDX and join V_ORPS.TIMESTAMP to ESHIMPACT_TEXT.TIMESTAMP
FAC_FUNCTION	Join V_ORPS.FAC_FUNCTION to FAC_FUNCTION.FAC_FUNCTION
FIELD_OFFICE	Join V_ORPS.FO to FIELD_OFFICE.FO
FMGREVAL_TEXT	Join V_ORPS.IDX to FMGREVAL_TEXT.IDX and join V_ORPS.TIMESTAMP to FMGREVAL_TEXT.TIMESTAMP
FREPCOMMENT_TEXT	Join V_ORPS.IDX to FREPCOMMENT_TEXT.IDX and join V_ORPS.TIMESTAMP to FREPCOMMENT_TEXT.TIMESTAMP
LESSONS	Join V_ORPS.IDX to LESSONS_TEXT.IDX and join V_ORPS.TIMESTAMP to LESSONS_TEXT.TIMESTAMP
NAT	Join V_ORPS.IDX to NAT.IDX and join V_ORPS.TIMESTAMP to NAT.TIMESTAMP
NATURE_OF_OCCUR	Join V_ORPS.NATURE_OF_OCCUR_1 to NATURE_OF_OCCUR.NATURE_OF_OC or join V_ORPS.NATURE_OF_OCCUR_2 to NATURE_OF_OCCUR.NATURE_OF_OC or join V_ORPS.NATURE_OF_OCCUR_3 to NATURE_OF_OCCUR.NATURE_OF_OC
OCCURRENCE_TEXT	Join V_ORPS.IDX to OCCURRENCE_TEXT.IDX and join V_ORPS.TIMESTAMP to OCCURRENCE_TEXT.TIMESTAMP
PROGRAM_OFFICE	Join V_ORPS.PSO to PROGRAM_OFFICE.PSO

Table Name	Recommended Joins to the V_ORPS table
PROJECTIMPACT_TEXT	Join V_ORPS.IDX to PROJECTIMPACT_TEXT.IDX and join V_ORPS.TIMESTAMP to PROJECTIMPACT_TEXT.TIMESTAMP
PSOCOMMENT_TEXT	Join V_ORPS.IDX to PSOCOMMENT_TEXT.IDX and join V_ORPS.TIMESTAMP to PSOCOMMENT_TEXT.TIMESTAMP
SIMILAR_OCCUR	Join V_ORPS.IDX to SIMILAR_OCCUR.IDX and join V_ORPS.TIMESTAMP to SIMILAR_OCCUR.TIMESTAMP
SITE	Join V_ORPS.SITE_NAME to SITE.SITE_NAME
STATUS	Join V_ORPS.STATUS to STATUS.STATUS
V_CA_DATES	Join V_ORPS.IDX to V_CA_DATES.IDX and join V_ORPS.TIMESTAMP to V_CA_DATES.TIMESTAMP
V_CA_JUST_INFO	Join V_ORPS.IDX to V_CA_JUST_INFO.IDX
V_COMMENT_INFO	Join V_ORPS.IDX to COMMENT_INFO.IDX and join V_ORPS.TIMESTAMP to COMMENT_INFO.TIMESTAMP
V_FACILITY	Join V_ORPS.FAC_ID to FACILITY.FAC_ID
V_NOTIFICATION	Join V_ORPS.IDX to NOTIFICATION.IDX and join V_ORPS.TIMESTAMP to NOTIFICATION.TIMESTAMP
V_REJECT_INFO	Join V_ORPS.IDX to REJECT_INFO.IDX and join V_ORPS.TIMESTAMP to REJECT_TIMESTAMP

Exercise 8

As you work, write down the steps you take. These notes will act as a reminder when you take similar actions in the future.

1. Specify criteria to select the latest version of all final occurrence reports that were reported between 1995 and 1998 and were classified as construction activity.
2. Display the direct cause and root cause codes and descriptions as report columns.



If you need to use the same table as a lookup table for different fields (e.g., descriptions for both direct and root cause codes), you will have to add multiple instances (one for each field) of the lookup table to the **TABLE PANE**.

3. Group the result set and display how many records qualify for each grouping.



When more than one table is displayed on the **TABLE PANE**, you cannot apply the COUNT function against all table records (e.g., COUNT(*)). In this case, the COUNT function is applied against a field that is contained in every record (e.g., COUNT(V_ORPS.IDX)).

4. Save the query.

Setting Query Parameters

Microsoft Query allows you to create queries that accept user-defined values when the query is executed. These user-defined values are called query parameters. We can use the saved query from *Exercise 5* to demonstrate the process. You retrieve the file by selecting **Open** from the **FILE** menu and double-clicking on the file name (e.g., facility.dqy). The query is displayed in the query window (**Figure 34**).

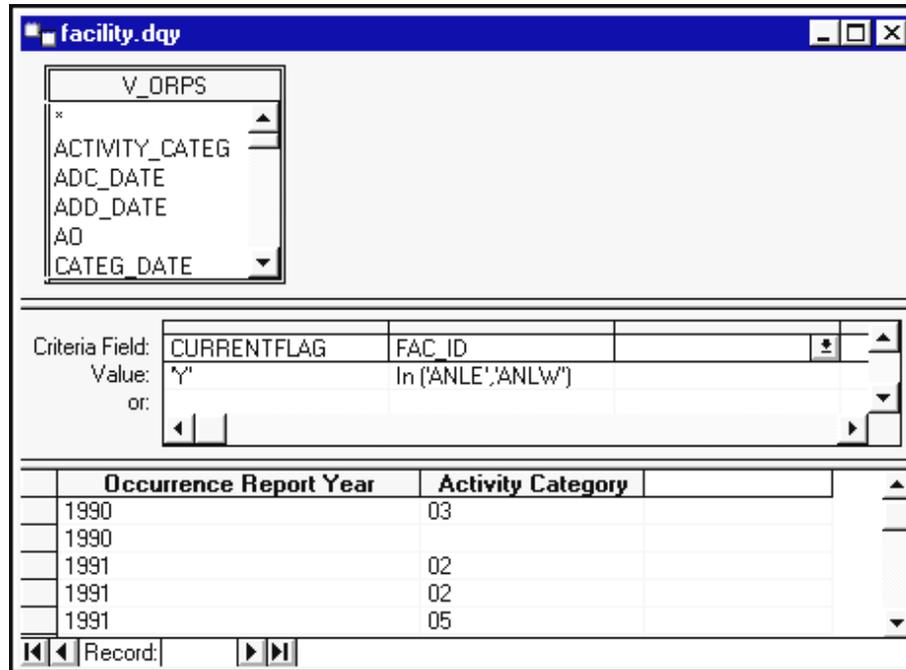


Figure 34 - The query window before setting a user-defined parameter.

The automatic query feature must be disabled before you set a parameter. Disable automatic query by clicking on the **AUTO QUERY** tool bar button so that it is no longer pressed in. You set parameters from the **CRITERIA PANE**. Click in the first empty cell in the **CRITERIA FIELD** row. A down arrow () appears to the right of the cell. Click on the down arrow and select **YEAR** from the selection box. Click in the cell under “Year” cell in the **VALUE** row. Type **[Enter a Year]** in the cell (**Figure 35**). The left and right square brackets indicate that this is a parameter field.

NOTE



The text of the prompt (i.e., the words you type between the square brackets) must be different from the field name, however it can include the field name.

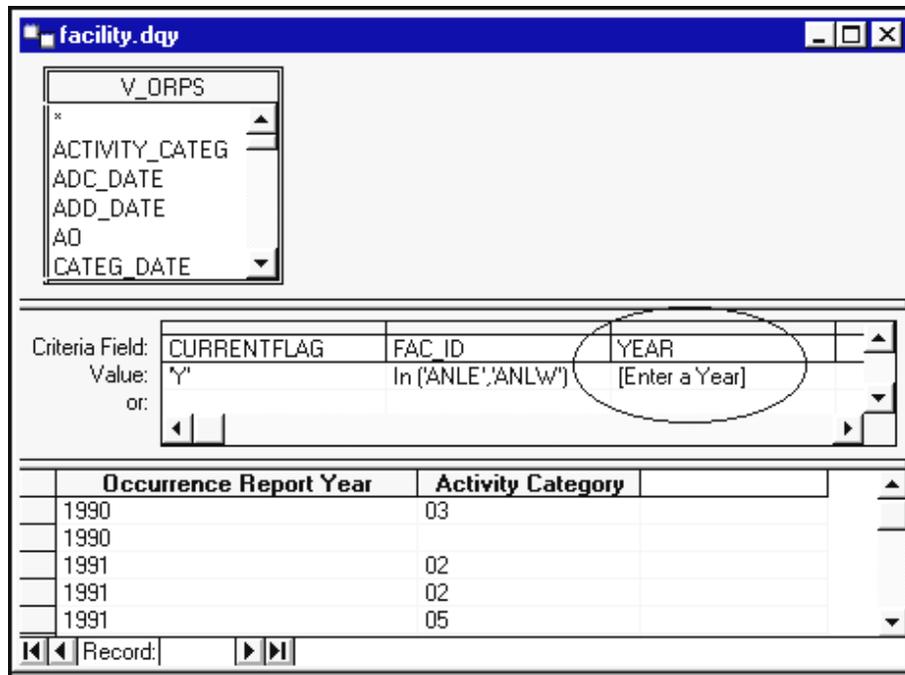


Figure 35 - The query window after setting a user-defined parameter.

To run the query, click on the **QUERY NOW** tool bar button to display the **ENTER PARAMETER VALUE** dialog box (**Figure 36**). Click in the **ENTER A YEAR** text box and type **1996**. Click on the **OK** command button and the **DATA PANE** is recreated with new result set.

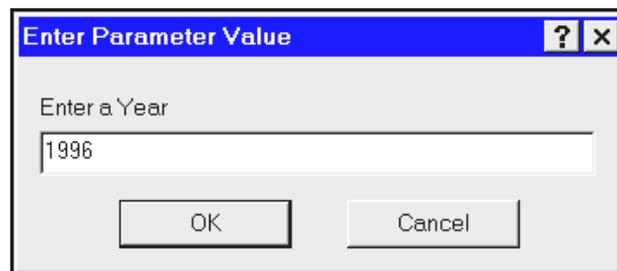


Figure 36 - The **ENTER PARAMETER VALUE** window.



Microsoft Query 2.0 under Office 95, does not support query parameters.

A small icon consisting of a white rectangular box with the text "Step-by-Step" inside, mounted on a wooden post with a pointed top.

Creating a User-Defined Parameter

TUTORIAL

1. Click on the **AUTO QUERY** tool bar button so it is no longer pressed in.
2. If needed, display the **CRITERIA PANE** by clicking on the **SHOW/HIDE CRITERIA** tool bar button.
3. Click on the first empty cell in the **CRITERIA FIELD** row, and then click the arrow in the cell to select a field from the list.
4. Click on the empty cell below the field you selected in the **VALUE** row.
5. Type [(a left square bracket) followed by the text for the prompt you want Microsoft Query to display when the query is run, and then type] (a right square bracket).
6. To run the query, click on the **QUERY NOW** tool bar button.

Exercise 9

As you work, write down the steps you take. These notes will act as a reminder when you take similar actions in the future.

1. Specify criteria to select the latest version of all reports for a user-defined field office, occurrence category, status, and occurrence report year.
2. Display the occurrence report number, categorization date, and contractor.
3. Run the query.
4. Save the query file.

Modifying a Query's Design

NOTE



The information below describes how to modify a query using the Microsoft Query **TABLE PANE**, **CRITERIA PANE**, and **DATA PANE**. You can also modify a query from the **SQL** dialog box by making changes to the SQL **SELECT** statement.

Opening a Query

A saved query is opened from the **OPEN QUERY** dialog box (**Figure 37**). To open the dialog box, select **Open** from the **FILE** menu. To open a query, click on the query you want (it will be a .dqy or a .qry file) and then click on the **OPEN** command button.

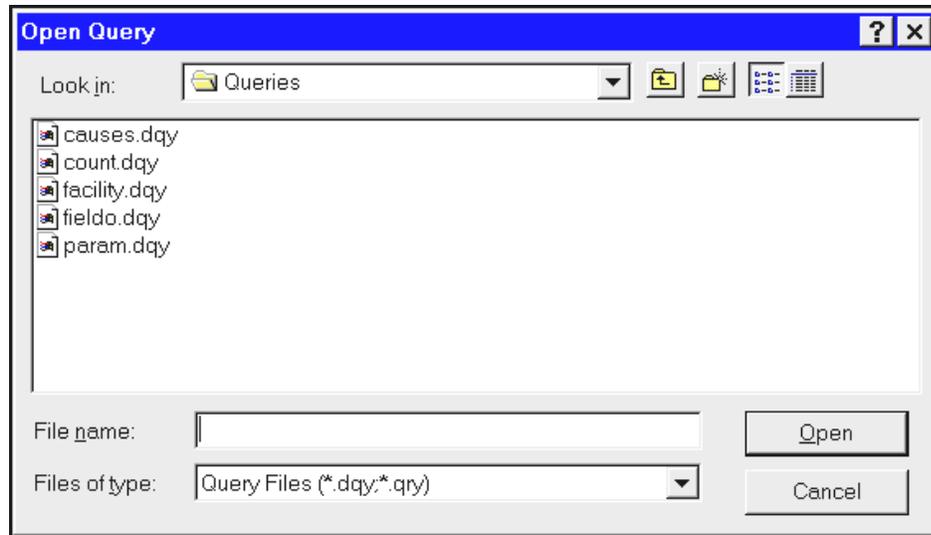


Figure 37 - The **OPEN QUERY** dialog box.

If you have not already established a connect to ORPS, the **MICROSOFT ODBC FOR ORACLE CONNECT** dialog box will appear (**Figure 38**). Enter your logon name and password and click on the **OK** command button. The query file is retrieved by Microsoft Query and displayed in the query window.



Figure 38 - The **MICROSOFT ODBC FOR ORACLE CONNECT** dialog box.



If the query contains user-defined parameters, you will be prompted for the parameter values.



A quick way to open the **OPEN QUERY** dialog box is to click on the **OPEN QUERY** tool bar button.



Step-by-Step

Opening a Saved Query File

TUTORIAL

1. Select **Open** from the **FILE** menu.
2. Locate and select the query you want to open and click on the **OPEN** command button.
3. If the **MICROSOFT ODBC FOR ORACLE CONNECT** dialog box appears, enter your user name and password, then click on the **OK** command button.
4. If prompted, enter user-defined parameters.



WARNING

You cannot open .qry files saved within the Office 95 or Office 97 environment into Microsoft Query 97.



Opening a Saved Query File with Office 95

1. Select **New Query** from the **FILE** menu to open the **SELECT DATA SOURCE** dialog box.
2. Select **ORPS1998** from the **AVAILABLE DATA SOURCES** list and click on the **USE** command button to open the **MICROSOFT ODBC FOR ORACLE CONNECT** dialog box.
3. Enter your user ID in the **USER NAME** edit box and your password in the **PASSWORD** edit box. Click on the **OK** command button to link to the ORPS database.
4. Select **Open Query** from the **FILE** menu.
5. Locate and select the query you want to open and click on the **OK** command button.



You cannot open .qry files saved within the Office 97 environment with Microsoft Query 95

Modifying Table Information

Table information is modified within the **TABLE PANE**. You can add tables, add table joins, delete tables, and delete table joins. The steps for adding tables or joining tables for a previously saved query are the same as those described in the *Adding and Joining Tables* section of this guide.

To delete a table, click on the table you want to delete and select **Remove Table** from the **TABLE** menu. The table is deleted from the **TABLE PANE**. This action automatically deletes any joins associated with that table. In addition, any criteria on the **CRITERIA PANE** or column on the **DATA PANE** which came from the delete table are automatically removed (**Figure 39**).

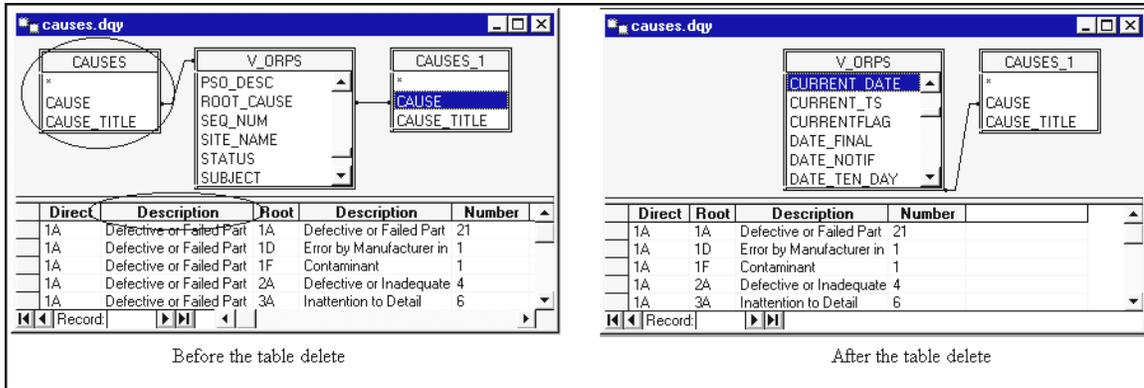


Figure 39 - The **TABLE PANE** and the **DATA PANE** before and after the deletion of the **CAUSES** table.



HINT An easy way to delete a table is to click on the table and then press the *Delete* key.

You can also delete a table join without deleting a table. Single-click on the join line to display the line as a heavy line (**Figure 40**), then press the *Delete* key.

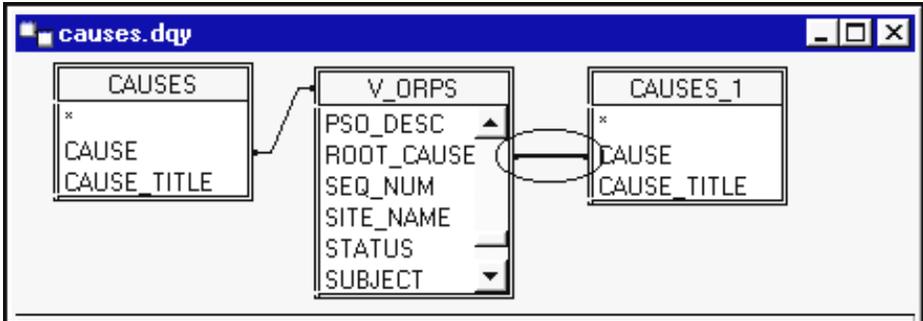


Figure 40 - A table join that has been selected for deletion.



WARNING If you delete a table join and then execute the query before you create another join line or delete the table, the Cartesian product of the unjoined table and the other tables displayed in the **TABLE PANE** will be returned to the **DATA PANE**.

Modifying Criteria Information

You modify the criteria for the query from the **CRITERIA PANE**. You can add criteria, delete criteria, and change criteria fields or values. The steps for adding criteria to a previously saved query are the same as those described in the *Specify the Criteria* section of this guide.

To delete all criteria, select **Remove All Criteria** from the **CRITERIA** menu. All criteria is removed from the **CRITERIA PANE**. To delete a single criterium, click at the top of a criterium column to highlight the entire column (**Figure 41**), then press the *[Delete]* key. The highlighted criterium column is removed from the **CRITERIA PANE** (**Figure 41**).

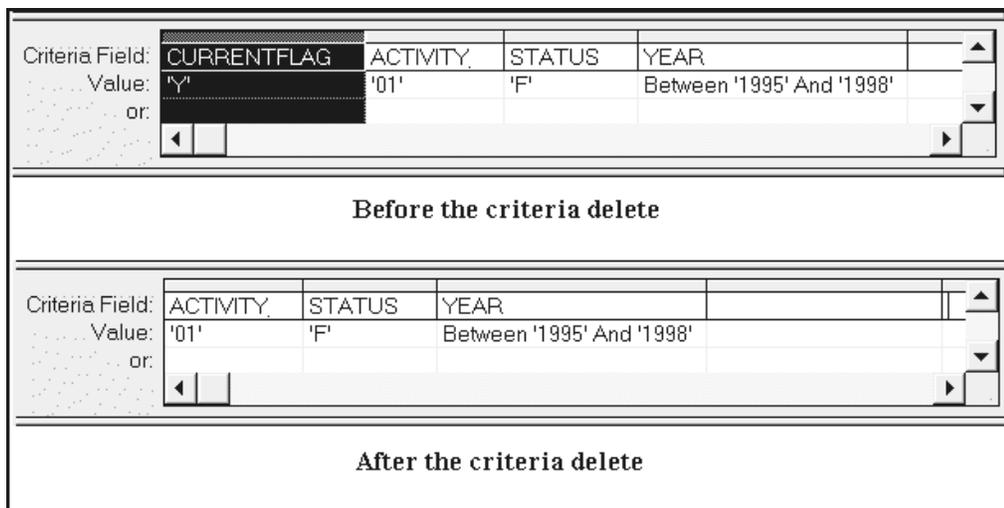


Figure 41 - The **CRITERIA PANE** before and after the deletion of the **CURRENTFLAG** criterium.

To change a criteria field, double-click on the field you want changed in the **CRITERIA FIELD** row. An **EDIT CRITERIA** dialog box appears and displays the current field and field total selections (**Figure 42**). You select a replacement field using the **FIELD** selection box. You can also redefine the field total using the **TOTAL** selection box. Click on the **OK** command button to replace the current selection.



Figure 42 - The **EDIT CRITERIA** dialog box used to change fields.



Another way to change a field selection is to single-click on the field you want changed in the **FIELD CRITERIA** row. The field name is highlighted and a down arrow () appears in the cell. Click on the down arrow to display a field selection box, then click on the field you want as the criteria field. The new field name replaces the previous selection.

To change a field value, double-click on the value you want changed in the **VALUE** row. An **EDIT CRITERIA** dialog box appears and displays the current field, field total selections, operator, and value (**Figure 43**). (Notice that only the operator and value can be changed.) You enter a replacement value into the **VALUE** selection box. Alternately, you could click on the **VALUES** command button and select a replacement value. You can also redefine the operator using the **OPERATOR** selection box. Click on the **OK** command button to replace the current selection.

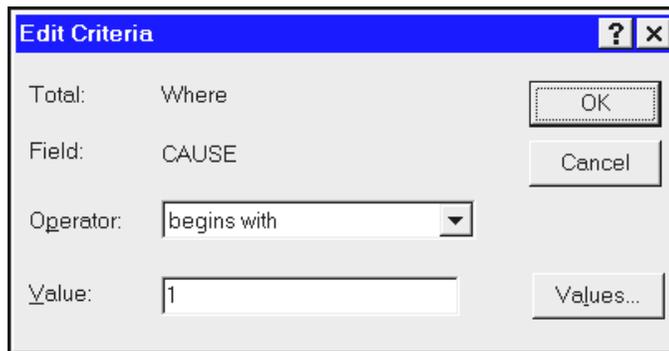


Figure 43 - The **EDIT CRITERIA** dialog box used to change field values.



If you know the correct syntax and value(s), you can type the operator and value(s) directly into the value cell.

Modifying Report Columns

You modify the columns displayed in your report from the **DATA PANE**. You can remove, insert, edit, or move columns. To remove a column, click anywhere on the column you want to remove and then select **Remove Column** from the **RECORDS** menu. The column is deleted from the **DATA PANE**. You can also remove a column by single-clicking on the column heading to highlight the entire column and then press the *[Delete]* key.

To insert a column, single-click on the column heading of the column to the right of where you want the new column inserted. This will highlight the entire column. Select **Insert Column** from the **RECORDS** menu to open the **INSERT COLUMN** dialog box (**Figure 44**). Specify the field, column headings (optional), and totals (optional) and then click on the **INSERT** command button. The new column is inserted to the left of the column that you highlighted (**Figure 45**).

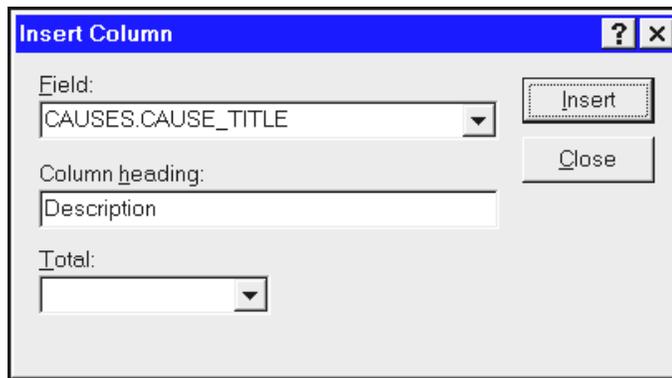


Figure 44 - The **INSERT COLUMN** dialog box.

Direct	Root	Description	Direct	Description	Root	Description
▶	1A	Defective or Failed Part	▶	Defective or Failed Part	1A	Defective or Failed Part
	1A	Defective or Failed Material		Defective or Failed Part	1B	Defective or Failed Material
	1A	Defective Weld, Braze, or S		Defective or Failed Part	1C	Defective Weld, Braze, or S
	1A	Error by Manufacturer in Shi		Defective or Failed Part	1D	Error by Manufacturer in Shi
	1A	Electrical or Instrument Nois		Defective or Failed Part	1E	Electrical or Instrument Nois
	1A	Contaminant		Defective or Failed Part	1F	Contaminant
	1A	End of Life Failure		Defective or Failed Part	1G	End of Life Failure
	1A	Defective or Inadequate Pr		Defective or Failed Part	2A	Defective or Inadequate Pr
	1A	Lack of Procedure		Defective or Failed Part	2B	Lack of Procedure

Before column insert
After column insert

Figure 45 - The **DATA PANE** before and after the insertion of the direct cause description column.

To edit a report column, click anywhere on the column you want to edit and then select **Edit Column** from the **RECORDS** menu. The **EDIT COLUMN** dialog box appears and

displays the current field, column heading, and total selections (**Figure 46**). You can edit the column by changing the field in the **FIELD** selection box, the heading in the **COLUMN HEADING** edit box, or the total in the **TOTAL** selection box. Click on the **OK** command button to save and display the changes in the **DATA PANE** (**Figure 47**).



A quick way to launch the **EDIT COLUMN** dialog box is to double-click on the column heading of the column you want to edit.

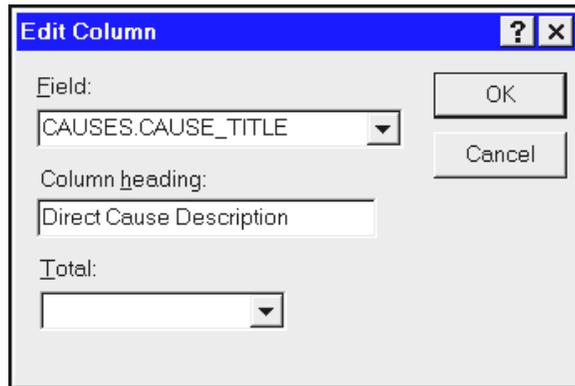


Figure 46 - The **EDIT COLUMN** dialog box.

	Direct	Description	Root
▶	1A	Defective or Failed Part	1A
	1A	Defective or Failed Part	1B
	1A	Defective or Failed Part	1C
	1A	Defective or Failed Part	1D
	1A	Defective or Failed Part	1E
	1A	Defective or Failed Part	1F
	1A	Defective or Failed Part	1G
	1A	Defective or Failed Part	2A
	1A	Defective or Failed Part	2B

Before column edit

	Direct	Direct Cause Description	Root
▶	1A	Defective or Failed Part	1A
	1A	Defective or Failed Part	1B
	1A	Defective or Failed Part	1C
	1A	Defective or Failed Part	1D
	1A	Defective or Failed Part	1E
	1A	Defective or Failed Part	1F
	1A	Defective or Failed Part	1G
	1A	Defective or Failed Part	2A
	1A	Defective or Failed Part	2B

After column edit

Figure 47 - The **DATA PANE** before and after editing the description column.

To move a report column, single-click on the column heading of the column you want to move. Move your mouse pointer over the column heading, and then drag the column to the place you want.

Exercise 10

As you work, write down the steps you take. These notes will act as a reminder when you take similar actions in the future.

1. Open the file saved in **Exercise 5**.
2. Modify the criteria to accept a user-defined value for facility ID.
3. Change the **ACTIVITY CATEGORY** column to display the description of activity.



HINT

You will need to modify the **TABLE PANE** to include the **ACTIVITY_CATEG** table.

4. Add a report column that displays the number of reports per activity.

Displaying and Formatting the Result Set

Displaying Report Columns

Microsoft Query allows you to determine which columns from the result set are displayed on the **DATA PANE**. To set the column display property, select **Show Columns** from the **FORMAT** menu to open the **SHOW COLUMNS** dialog box (**Figure 48**). All columns in the result set are listed in the **COLUMNS** list box. If a column name is checked, it is displayed on the **DATA PANE**; Similarly, if a column name is not checked, it is not displayed on the **DATA PANE**. To remove a check from a column name (hide the column), select the column and then click on the **HIDE** command button. To add a check to a column name (show a column), select the column and then click on the **SHOW** command button. After you set the display property for the columns in the result set, you close the dialog box by clicking on the **CLOSE** command button.



HINT A quick way to hide columns is to click on the column you want to hide and then select **Hide Columns** from the **FORMAT** menu.

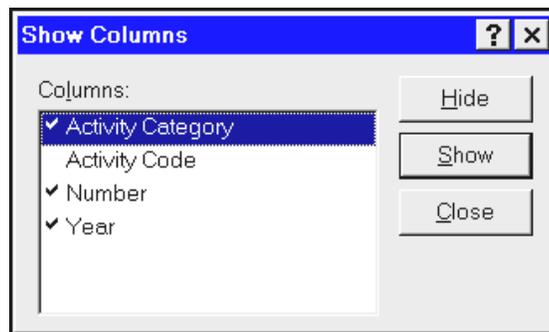


Figure 48 - The **SHOW COLUMNS** dialog box.

Formatting the Report

Microsoft Query allows you to customize the font, row height, and column width for the **DATA PANE**. The report font is set from the **FONT** dialog box (**Figure 49**). To open the dialog box, select **Font** from the **FORMAT** menu. After you select the font settings for your report, click on the **OK** command button to activate the settings. Clicking on the **CANCEL** command button will cancel any selections that have been changed.

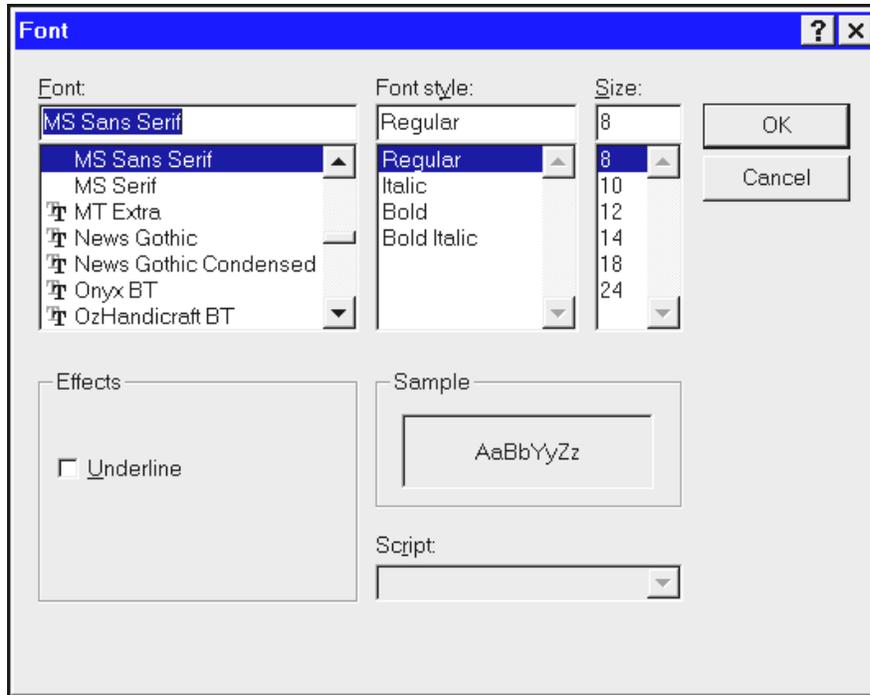


Figure 49 - The FONT dialog box.

Row height is set from the **ROW HEIGHT** dialog box (**Figure 50**). To open the dialog box, select **Row Height** from the **FORMAT** menu. Enter the height you want into the **ROW HEIGHT** edit box and then click on the **OK** command button to activate this setting. Clicking on the **CANCEL** command button will cancel any setting that has been changed.

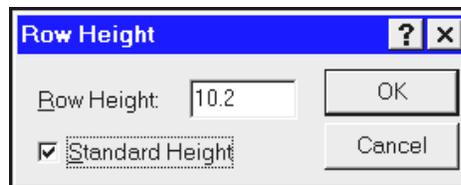


Figure 50 - The ROW HEIGHT dialog box.



If the **STANDARD HEIGHT** check box is checked, Microsoft Query will apply the default height. The default height varies, depending on the font used in the **DATA PANE**.

Column width is set from the **COLUMN WIDTH** dialog box (**Figure 51**). To open the dialog box, select **Column Width** from the **FORMAT** menu. Enter the width you want into the

COLUMN WIDTH edit box and then click on the **OK** command button to activate this setting. Clicking on the **CANCEL** command button will cancel any setting that has been changed.



If the **STANDARD WIDTH** check box is checked, Microsoft Query will apply the default width. The default width varies, depending on the font used in the **DATA PANE**.



If you click on the **BEST FIT** command button, the column width of the selected column will be adjusted automatically to the largest value displayed on the **DATA PANE**.

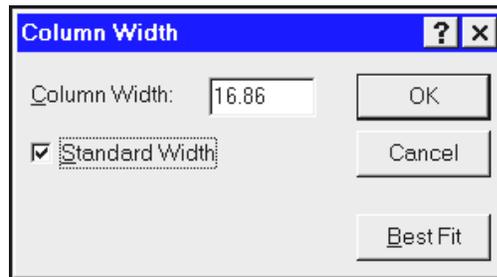


Figure 51 - The **COLUMN WIDTH** dialog box.



Formatting properties are not saved with a query. Therefore, you will need to reset any customized formatting every time a query is opened.

Inner and Outer Table Joins

As previously stated, a table join determines which records are selected when database tables are combined. There are a number of ways you can specify a join, or relationship, between tables. This section discusses the two types of joins you can easily create with Microsoft Query: inner join and outer join.



Inner Join

TERMINOLOGY

A connection between fields in two tables that selects only the same records that have the same value in the joined fields. When the values are the same in both fields, Microsoft Query combines the two matching records from each table and displays them as one record in the result set. If a record from one table doesn't have a matching record in another table, neither record appears in the result set.



Outer Join

TERMINOLOGY

A connection between fields in two tables that selects all the records from one table, whether or not there are matching records in the other table. When values in the two tables are the same, Microsoft Query combines the two matching records from each table and displays them as one record in the result set. When a record from the table that's contributing all of its records can't be matched with a record from the other table, the record still appears in the result set. However, the record has empty cells wherever there is no matching record from the other table.



For either inner or outer joins, join the fields recommended on the table in the ***Adding and Joining Tables*** section of this manual. This will ensure optimum database performance and correct record retrieval.

Inner Join

Microsoft Query creates an inner join when you join tables automatically (i.e., drag a field from one table to the field of another table on the **TABLE PANE**). By default, an inner join selects only those records that have the same value in the joined fields in both tables. However, you can select the operator that determines the type of comparison performed on the values in the joined fields.

For example, the following SQL SELECT statement was created by Microsoft Query after automatically creating a join between the **ACTIVITY_CATEG** field on the **V_ORPS** table and the **ACTIVITY_CATEG** field on the **ACTIVITY_CATEG** table:

```
SELECT V_ORPS.OR_NUM, V_ORPS.ACTIVITY_CATEG, V_ACTIVITY_CATEG.TEXT
FROM ORPS.ACTIVITY_CATEG ACTIVITY_CATEG, ORPS.V_ORPS V_ORPS
WHERE V_ORPS.ACTIVITY_CATEG = ACTIVITY_CATEG.ACTIVITY_CATEG
AND ((V_ORPS.CURRENTFLAG='Y') AND (V_ORPS.FAC_ID='CEBAF') AND
(V_ORPS.YEAR Between '1990' And '1992'))
```

The join part of the SELECT statement specifies that the **ACTIVITY_CATEG** field value on the **V_ORPS** table must equal the **ACTIVITY_CATEG** field value on the **ACTIVITY_CATEG** table (shown in bold). **Figure 53** displays the query panes for the above SELECT statement. Notice that the equal operator for the join is not displayed on the **TABLE PANE**. The only indicator of the join is the join line.

You view and set the properties for a table join from the **JOINS** dialog box (**Figure 52**). To open the **JOINS** dialog box, either double-click on the join line or select **Joins** from the **TABLE** menu.

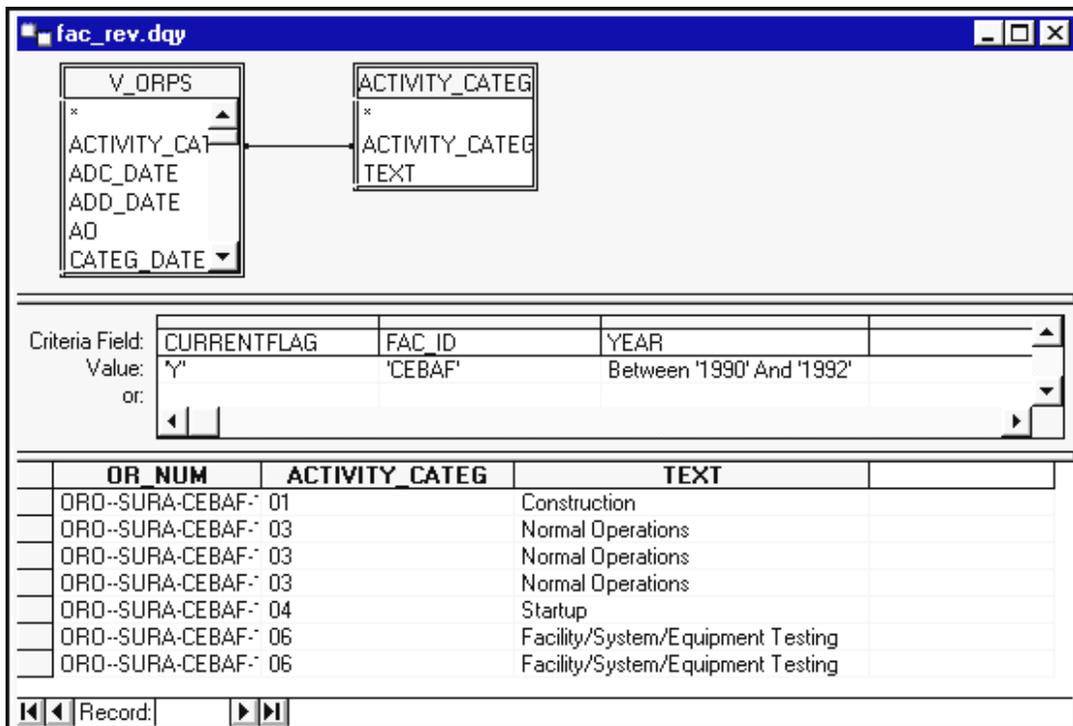


Figure 53 - The Microsoft Query Window displaying an inner join with the default operator (equals).

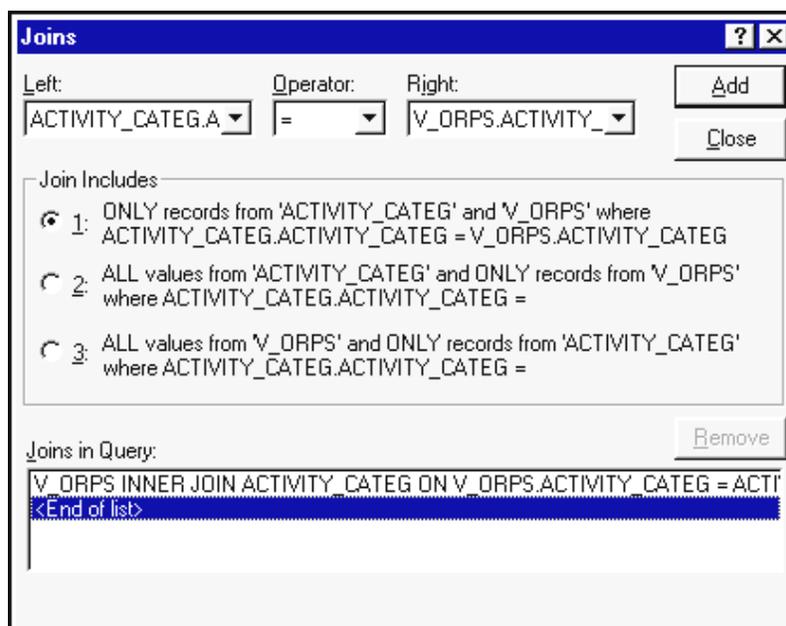


Figure 52 - The JOINS dialog box, displaying settings for an inner join.

The **LEFT** selection box allows you to select the table and field you want on the left side of the join line. Similarly, the **RIGHT** selection box allows you to select the table and field you want on the right side of the join line. The **OPERATOR** selection box allows you to select the comparison operator for the joined fields. The **JOIN INCLUDES** section of the dialog box allows you to select the type of join. The first radio button is used to specify an inner join. The **JOINS IN QUERY** list box displays all the joins in a query.

The following table describes the comparison operators that can be used with an inner join.

Operator	Comparison
=	equal to
<>	not equal to
<	less than
>	greater than
<=	less than or equal to
>=	greater than or equal to



With the ORPS data, you would rarely need to use a comparison operator other than the default operator, equals (=). This is especially true with the look-up tables. For example, you could join the **V_ORPS** table with the **NATURE_OF_OCCUR** table so you could include the nature of occurrence descriptions in your result set. The not equals operator (<>) would return every record in the Cartesian product except those where the nature of occurrence codes match on the two tables. This type of result is not very meaningful.

Exercise 11

As you work, write down the steps you take. These notes will act as a reminder when you take similar actions in the future.

1. Specify criteria to select the latest version of occurrence reports for a user-defined Field Office and a user-defined occurrence report year.
2. Display the occurrence report number, corrective action numbers, target completion date, and actual completion date as report columns.
3. Sort the report by occurrence report number.
4. Save the query.

Outer Join

Outer table joins can only be created with Microsoft Query from the **JOINS** dialog box (Figure 54). Open the dialog box by selecting **Joins** from the **TABLE** menu.

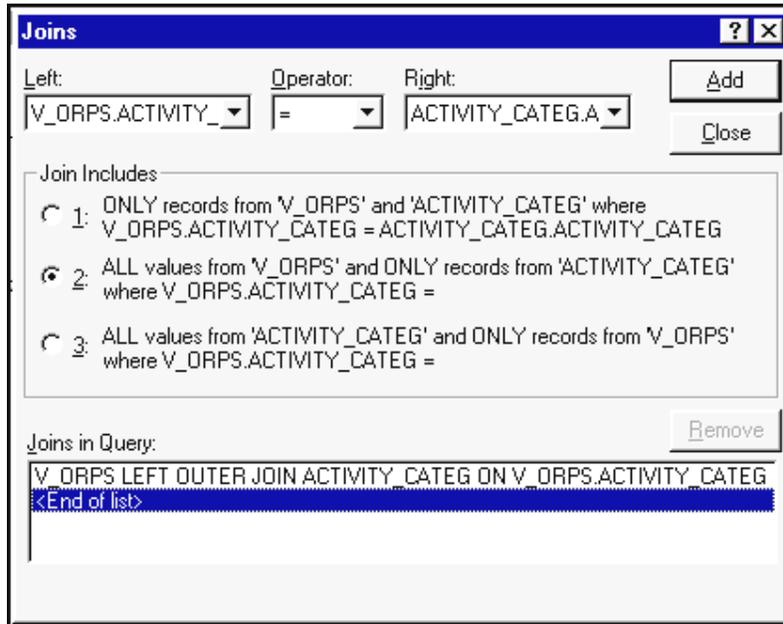


Figure 54 - The **JOINS** dialog box, displaying settings for an outer join.

The **LEFT** selection box allows you to select the table and field you want on the left side of the join line. Similarly, the **RIGHT** selection box allows you to select the table and field you want on the right side of the join line. The equals (=) operator must be selected in the **OPERATOR** selection box to create an outer join. The **JOIN INCLUDES** section of the dialog box allows you to select the type of join. The second radio button is used to specify an outer join where all the records from the left table and only the records from the right table where the left table field equals the right table field are retrieved. The third radio button is used to specify an outer join where all the records from the right table and only the records from the left table where the right table field equals the left table field are retrieved. The **JOINS IN QUERY** list box displays all the joins in a query.

Once you have specified the settings for the outer join and have closed the **JOINS** dialog box, a join line is created between the tables (Figure 55). The join line for an outer join will display an arrow at one end of the line. The arrow points to the table where the equality restrictions apply.

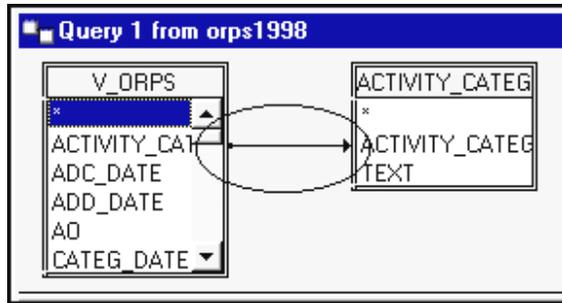


Figure 55 - An outer join line displayed on the **TABLE PANE**.

When two or more tables are used in a query, you can use an outer join to display records containing null values for a particular field. For example, the query panes in **Figure 56** display a distribution of occurrence reports for a facility by activity. Notice that the tables are joined with an inner join. This distribution fails to show a count for null fields (if any) because the inner join requires the records in the result set to have the same values for the joined fields. A more complete report is obtained (in this case, an additional 14 reports) by using an outer join as displayed in **Figure 57**.

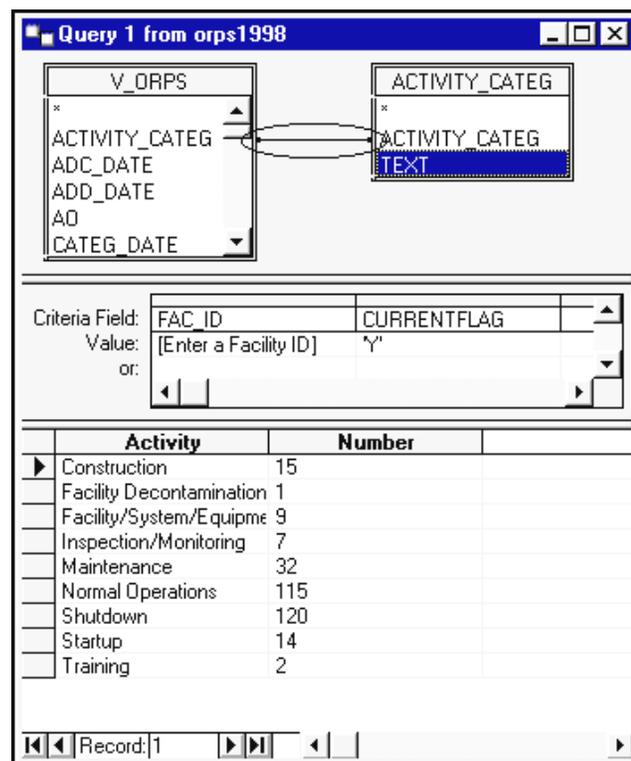


Figure 56 - The query window displaying a distribution of facility reports by activity using an inner join.

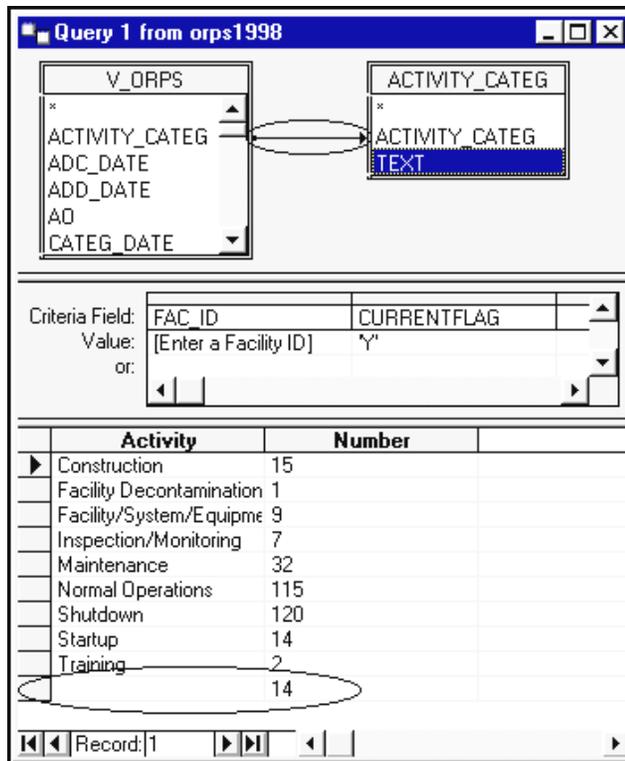


Figure 57 - The query window displaying a distribution of facility reports by activity using an outer join.

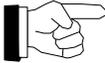
Exercise 12

As you work, write down the steps you take. These notes will act as a reminder when you take similar actions in the future.

1. Specify criteria to select the latest version of reports for a user-defined Field Office and occurrence report year.
2. Display a distribution of the reports by Area Office description.
3. Do a descending sort by the number of occurrence reports.
4. Modify the result set to include reports having a null value in the Area Office field.
5. Save the query.

ORPS Direct Access Templates

DOE is developing a number of templates that will assist you in creating your own queries of the ORPS database. You can run these templates directly from Microsoft Query or you can execute them from within Microsoft Excel or another application that provides additional computational and formatting capabilities. In addition, you can modify them to add other selection criteria or fields.

NOTE  The templates that are presently being developed will run under Microsoft Office 97 (.dqy). In the future, these will be converted to run under Office 95 (.qry) as well. In the meantime, you can copy the SQL statements into the query window in Query 95 to create a new saved query.

In general, the templates demonstrate some of the more advanced queries of the ORPS database. You should be aware that, although the queries will run under Microsoft Query, many elements of the SQL statement cannot be created directly by using the selection processes in the Query. The SQL statements were generally typed directly into the query window. However, if the additional criteria or columns that you wish to add can be directly entered, you can use the selection processes to modify the query without losing the special query features.

The Templates

Templates can be downloaded from the Internet at this url:

<https://orps.tis.eh.doe.gov/orps/help/help/direct.htm>

Templates that are currently available are described in the table below.

File Name	Query Description
caodue.dqy	This query will prompt you for the name of a contractor for which you wish to create a report. For the selected contractor, the selection further locates all records that have open corrective actions with a revised target date earlier than the current date, if a revised date exists, or an initial target date earlier than the current date, if no revised date exists. The columns returned include the occurrence report number, the corrective action number, the initial target date and the revised target date. The report lists all overdue corrective actions, with the rows sorted by occurrence report number and corrective action number.
caopen.dqy	This query will prompt you for the name of a contractor for which you wish to create a report. For the selected contractor, the selection further locates all records that have one or more open corrective actions. The columns returned include the occurrence report number, the corrective action number, the initial target date and the revised target date. The report lists all open corrective actions, with the rows sorted by occurrence report number and corrective action number.
catsumm.dqy	This query will prompt you for the name of a contractor and the year for which you wish to create a report. The columns returned consist of the Occurrence Report Number, the report Status (decoded), the report Category (decoded), the Discovery Date and Time, and the Categorization Date and Time. The rows are sorted by occurrence report number and corrective action number.
constatf.dqy	This query will prompt you for the name of a contractor for which you wish to create a report. For the selected contractor, the selection further locates all reports that have not received final approval. The reports are distributed by facility, with subtotals for reports awaiting prefinal submittal, reports awaiting Facility Representative signature, reports awaiting Program Manager signature and rejected reports as well as a total of all nonfinal reports for each facility.

File Name	Query Description
constatn.dqy	This query will prompt you for the name of a contractor for which you wish to create a report. For the selected contractor, the selection further locates all reports that have not received final approval. The columns returned consist of the Occurrence Report Number, the number of occurrences associated with the report, next action due on the report, the date of the last action on the report, the lag, in days, since the last action, and the lag, in days, since the notification report was submitted. The rows are sorted by program office and then by occurrence report number.
constatp.dqy	This query will prompt you for the name of a contractor for which you wish to create a report. For the selected contractor, the selection further locates all reports that have not received final approval. The reports are distributed by program office, with subtotals for reports awaiting prefinal submittal, reports awaiting Facility Representative signature, reports awaiting Program Manager signature and rejected reports as well as a total of all nonfinal reports for each program office.
conwait1.dqy	This query will prompt you for the name of a contractor for which you wish to create a report. For the selected contractor, the selection further locates all reports that are in prefinal status. The reports are distributed by facility, with subtotals for reports awaiting Facility Representative signature, reports awaiting Program Manager signature and rejected reports as well as a total of all nonfinal reports for each facility.
conwait2.dqy	This query will prompt you for the name of a contractor for which you wish to create a report. For the selected contractor, the selection further locates all reports that are in prefinal status. The reports are distributed by program office, with subtotals for reports awaiting Facility Representative signature, reports awaiting Program Manager signature and rejected reports as well as a total of all nonfinal reports for each program office.
conwait3.dqy	This query will prompt you for the name of a contractor for which you wish to create a report. For the selected contractor, the selection further locates all reports that are in prefinal status. The columns returned consist of the program office, the Occurrence Report Number, the number of occurrences associated with the report, next action due on the report, the date of the last action on the report, and the lag, in days, since the last action. The rows are sorted by program office and then by occurrence report number.

File Name	Query Description
facrej.dqy	This query will prompt you for the name of a facility for which you wish to create a report. For the selected contractor, the selection further locates all reports that are presently in a rejected status. The columns returned consist of the Occurrence Report Number, the number of occurrences associated with the report, the rejection number, the date of each rejection of the report, and the title of the person who rejected the report (Facility Representative, etc.). The rows are sorted by by occurrence report number and reject number.
fmsign.dqy	This query will prompt you for the name of a contractor and the year for which you wish to create a report. For the selected contractor, the selection further locates the current version of all final occurrence reports. The columns returned include the occurrence report number, the categorization date, the facility manager signature date, and the lag, in days, from categorization to facility manager signature. The rows are sorted by descending lag.
fowait1.dqy	This query will prompt you for the name of a field organization for which you wish to create a report. For the selected field organization, the selection further locates all reports that are in prefinal status. The reports are distributed by facility, with subtotals for reports awaiting Facility Representative signature, reports awaiting Program Manager signature and rejected reports as well as a total of all nonfinal reports for each facility.
fowait2.dqy	This query will prompt you for the name of a field organization for which you wish to create a report. For the selected field organization, the selection further locates all reports that are in prefinal status. The reports are distributed by program office, with subtotals for reports awaiting Facility Representative signature, reports awaiting Program Manager signature and rejected reports as well as a total of all nonfinal reports for each program office.
fowait3.dqy	This query will prompt you for the name of a field organization for which you wish to create a report. For the selected field organization, the selection further locates all reports that are in prefinal status. The columns returned consist of the program office, the Occurrence Report Number, the number of occurrences associated with the report, next action due on the report, the date of the last action on the report, and the lag, in days, since the last action. The rows are sorted by program office and then by occurrence report number.

File Name	Query Description
freplag.dqy	This query will prompt you for the name of a contractor for which you wish to create a report. For the selected contractor, the selection further locates all reports that have a Facility Representative signature. The columns returned consist of the Occurrence Report Number, the number of occurrences associated with the report, the occurrence category, the date of the prefinal report submittal, the date of the Facility Representative signature, and the lag, in days, from submittal to signature. The rows are sorted by descending lag.
fsublag1.dqy	This query will prompt you for the name of a contractor for which you wish to create a report. For the selected contractor, the selection further locates all reports that are in final or prefinal status (except rejected reports). The columns returned consist of the Occurrence Report Number, the number of occurrences associated with the report, report category, the categorization date, the initial prefinal submittal date, and the lag, in days, from the categorization date to the current facility manager submittal. The rows are sorted by descending lag.
fsubmit.dqy	This query will prompt you for the name of a facility for which you wish to create a report. For the selected facility, the selection further locates all reports that are in final or prefinal status. The columns returned consist of the Occurrence Report Number, the number of occurrences associated with the report, report category, the due date of the prefinal submittal date, the initial prefinal submittal date, and the lag, in days, from the due date to the initial prefinal submittal. The rows are sorted by occurrence report number. It should be noted that this report only returns values for reports where a prefinal report existed on the HP at the time of the ORPS GUI production or where a prefinal report has been submitted since production, i.e., an "X" record exists in the database. For reports where the prefinal existed at the time of initial production, the listed date may not represent the actual first submittal date.
genuser.dqy	This query will prompt you for the name of a contractor for which you wish to create a report. For the selected contractor, the selection locates all registered ORPS users who have a general user status. The columns returned include the name of each user, their telephone number and their user ID.
mcdist.dqy	This report will prompt you for the name of a facility for which you wish to create a report. For all final reports for the selected facility, the direct cause is distributed by month (based on occurrence date) over the previous 12 months.

File Name	Query Description
mrcdist.dqy	This report will prompt you for the name of a facility for which you wish to create a report. For all final reports for the selected facility, the direct cause is distributed by month (based on occurrence date) over the previous 12 months.
orsdue.dqy	This query will prompt you for the name of a contractor for which you wish to create a report. For the selected contractor, the selection further locates all reports that are due for action within the next 15 days (or are already overdue for action). The columns returned consist of the Occurrence Report Number, the number of occurrences associated with the report, report type, the report occurrence category, the categorization date or, in the case of rejected reports, the rejection date, and the time, in days, until the action is due. (Overdue reports are indicated by a negative value. The rows are sorted by ascending time remaining.
overdue.dqy	This query will prompt you for the name of a contractor for which you wish to create a report. For the selected contractor, the selection further locates all reports that are overdue for action. The columns returned consist of the Occurrence Report Number, the number of occurrences associated with the report, report type, the report occurrence category, the categorization date or, in the case of rejected reports, the rejection date, and the time, in days, since the action was due. The rows are sorted by descending days overdue.
pmgrlag.dqy	This query will prompt you for the name of a contractor for which you wish to create a report. For the selected contractor, the selection further locates the current version of all final occurrence reports. The columns returned include the occurrence report number, the number of occurrences, the occurrence category, the the facility manager signature date, the program manager signature date and the lag, in days, from facility manager signature to program manager signature. The rows are sorted by descending lag.
rcause.dqy	This query will prompt you for the name of a contractor for which you wish to create a report. For the selected contractor, the selection further locates the current version of all occurrence reports that have a root cause identified. The columns returned include the occurrence report number, the number of occurrences, the root cause (in decoded form) and the occurrence report status (in decoded form). The rows are sorted by occurrence report number.

File Name	Query Description
reject.dqy	This query will prompt you for the name of a contractor for which you wish to create a report. For the selected contractor, the selection locates all pre-final records that are currently in a rejected status. The columns returned include the occurrence report number, the rejection number, and the rejection date. The report list all rejected occurrence reports, with the rows sorted by occurrence report number.

NOTE



Although date fields could be returned directly in the form in which they reside in the database, special formatting has been applied that will display the dates in a form that will be recognized by Microsoft Excel.

Executing a Template from Microsoft Excel

To execute a template from Microsoft Excel, start Excel and open a new worksheet. From the **DATA** menu select **Get External Data** and then select **Run Database Query** as shown in **Figure 58**.

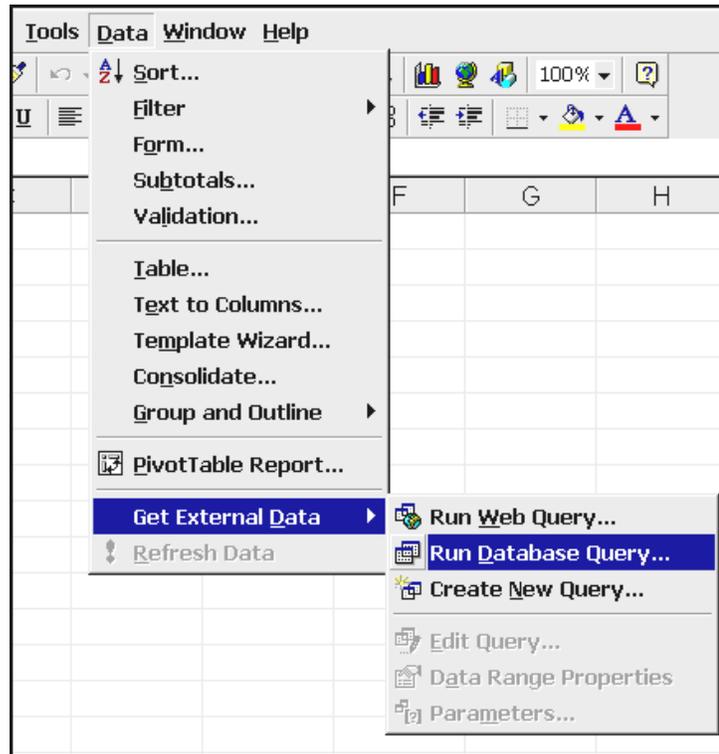


Figure 58 - The Microsoft Excel **DATA** menu.

This will open the **RUN QUERY** dialog box as shown in **Figure 59**. If your saved queries are located in the default directory, they will appear in the dialog box. If they were saved elsewhere, you must locate them using the **LOOK IN** selection box. Click on the query you wish to use to highlight it and then click on the **GET DATA** command button.

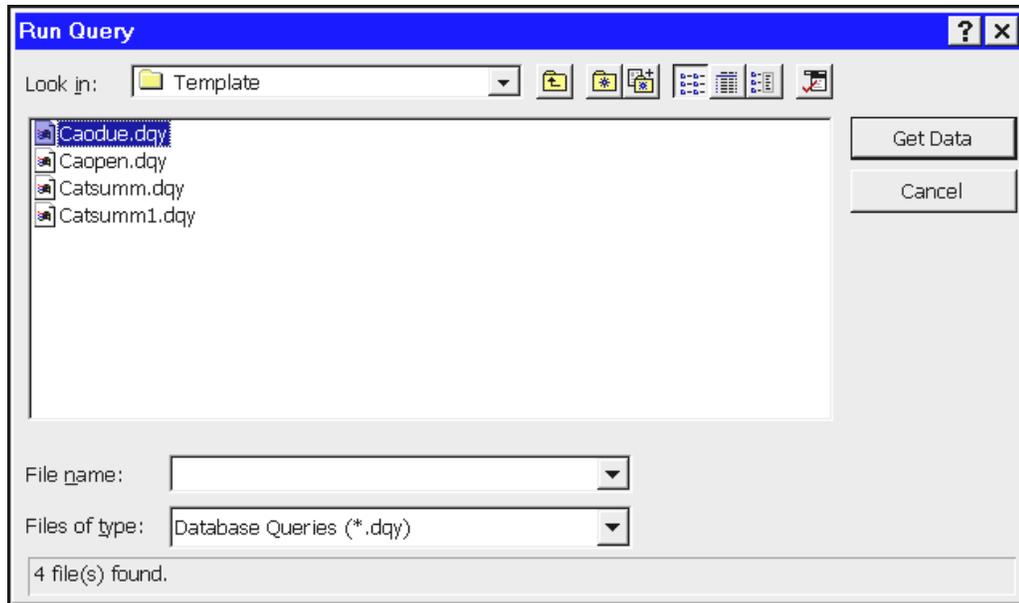


Figure 59 - The RUN QUERY dialog box.

The **RETURNING EXTERNAL DATA** dialog box will next be displayed as shown in **Figure 60**. At this point, you could simply accept the default settings and return the data to Excel by clicking on the **OK** command button. You will be prompted to enter values for any parameters saved with the query and the data will be returned directly into Excel.

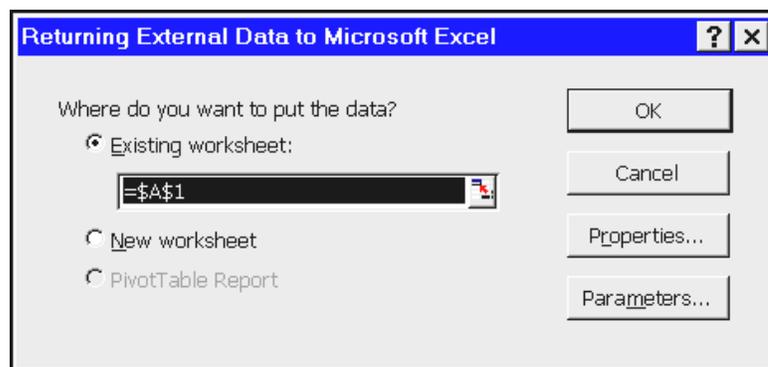


Figure 60 - The RETURNING EXTERNAL DATA dialog box.

There are a number of options that you can use to further specify the manner in which the data is returned. By default, the data will be located with the upper left corner of the data table positioned at the current location of your cursor. For a new Worksheet, this will normally be cell \$A\$1. If you wish to locate the data in a different position, simply enter the cell location in the dialog box (or remember to position your cursor to the desired location before you initiate the request for external data).

Additional options can also be selected from this dialog box. Clicking on the **PROPERTIES** command button brings up the **EXTERNAL DATA RANGE PROPERTIES** dialog box shown in **Figure 61**. One option of particular interest is the **INCLUDE FIELD NAMES** option. By default, this box is checked and field names will be returned from Microsoft Query. However, the name that is returned is the raw field name, not the column name defined in Microsoft Query. If you are going to be repeatedly importing the same query into Excel, you may wish to save an Excel worksheet with nicely formatted header information and return the data just below the headers. In this case, simply click on the check box to remove the mark, and the data will be returned without the field names.

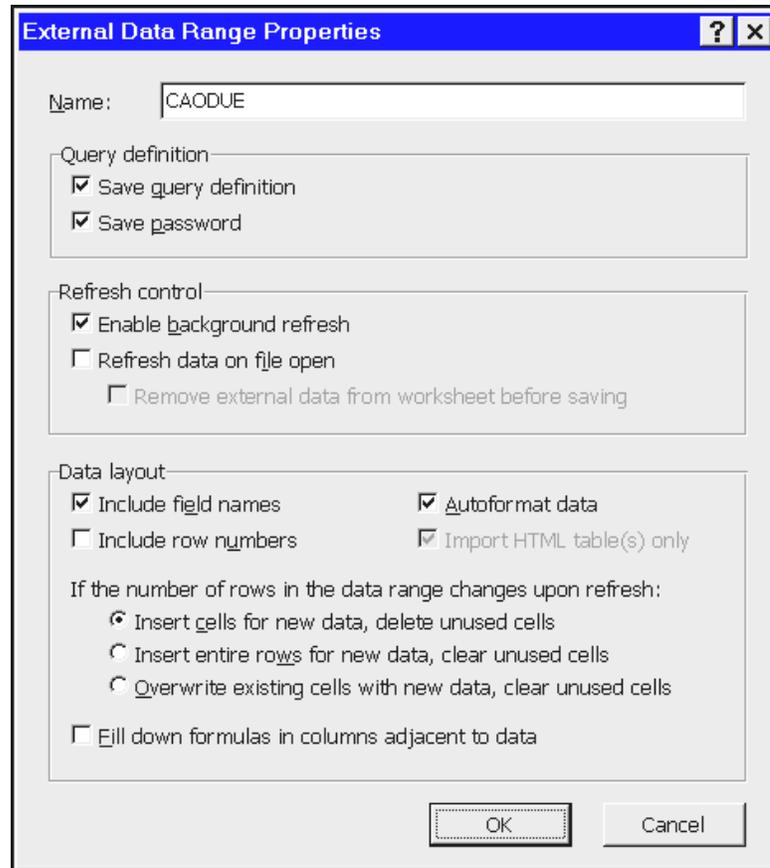


Figure 61 - The **EXTERNAL DATA RANGE PROPERTIES** dialog box.

Clicking on the **PARAMETERS** command button on the **RETURNING EXTERNAL DATA** dialog box opens the **PARAMETERS** dialog box shown in **Figure 62**. This box allows you to prespecify the parameters that will be used for your query. By default, you will be prompted to enter values when you actually execute the query. Alternately, you can enter the values in the dialog box and they will be used when the query is executed.

A third option is also available. Continuing with the previous example where you have saved header information for a report, the saved worksheet could also contain the values for the parameters. If you select the third option and specify the cells in which values are located, the stored worksheet values will be used to execute the query.

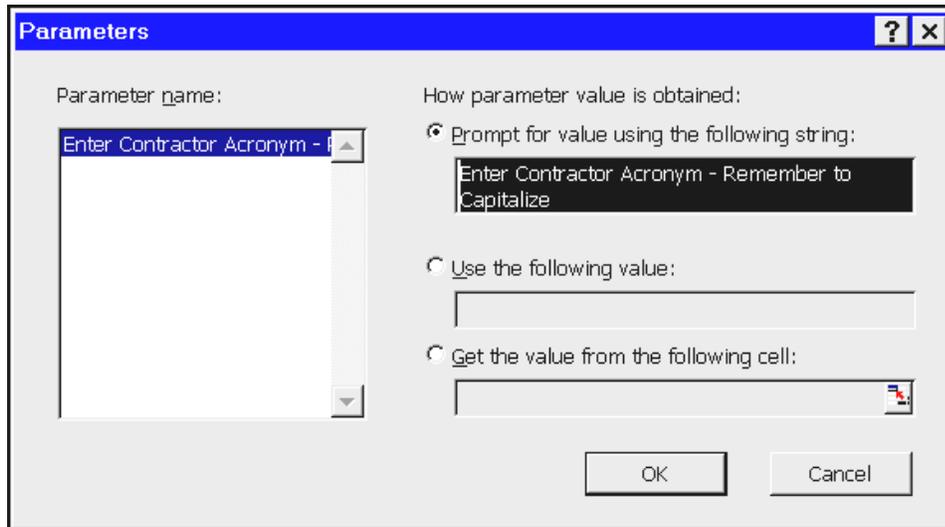


Figure 62 - The EXTERNAL DATA PARAMETERS dialog box.



Step-by-Step

Executing a Database Query from Microsoft Excel 97

TUTORIAL

1. Start Microsoft Excel and open a new worksheet.
2. Select **Get External Data** from the **DATA** menu.
3. Select **Run Database Query** to open the **RUN QUERY** dialog box.
4. Locate and select your query and then click on the **GET DATA** command button to open the **RETURNING EXTERNAL DATA** dialog box.
5. Change (optional) the parameter, properties, or other options displayed on the dialog box.
6. Click on the **OK** command button to open the **MICROSOFT ODBC FOR ORACLE CONNECT** dialog box.
7. Type your user ID in the **USER NAME** edit box and your password in the **PASSWORD** edit box.
8. Click on the **OK** command button to return the result set to Microsoft Excel.



Converting Query Files to Office 95

1. Open the file queries.txt in a text editor such as Notepad.
2. Start Query 95 and select **New Query** from the **FILE** menu to open the **SELECT DATA SOURCE** dialog box.
3. Select **ORPS1998** from the **AVAILABLE DATA SOURCES** list and click on the **USE** command button to open the **MICROSOFT ODBC FOR ORACLE CONNECT** dialog box.
4. Enter your user ID in the **USER NAME** edit box and your password in the **PASSWORD** edit box. Click on the **OK** command button to link to the ORPS database.
5. Click on the **SQL** button on the toolbar to open the query window.
6. Select the desired SQL statement from queries.txt and copy it to the Clipboard.
7. Paste the SQL statement into the query window.
8. Click on the **OK** button to close the query window and execute the query.
9. Edit the selection parameters to the desired values and save the query as a .qry file.



Executing a Database Query from Microsoft Excel 95

1. Start Microsoft Excel and open a new worksheet.
2. Select **Get External Data** from the **DATA** menu to launch Microsoft Query.
3. Select **ORPS1998** as your data source and click on the **USE** command button to open the **MICROSOFT ODBC FOR ORACLE CONNECT** dialog box.
4. Enter your user ID in the **USER NAME** edit box and your password in the **PASSWORD** edit box. Click on the **OK** command button.
5. Click the **CLOSE** command button on the **ADD TABLES** dialog box.
6. Select **Open Query** from the **FILE** menu.
7. Locate and select the query you want to execute and click on the **OK** command button.
8. Click on the **RETURN DATA** tool bar button.
9. Set the options displayed in the **GET EXTERNAL DATA** dialog box (optional) and click on the **OK** command button to return the result set to Microsoft Excel.

Appendix A - Test Database

OCCURRENCES

NUMBER	FACILITY	ACTIVITY	MANAGER	DATE (yyyymmdd)
1	TOWN	E	JONES	19980112
2	TOWN	B	JONES	19980115
3	ATR	B	SMITH	19980131
4	TRS	C	OLSEN	19980202
5	TRS	E	OLSEN	19980202
6	ATR	A	SMITH	19980217
7	ATR	A	SMITH	19980301
8	ATR	D	SMITH	19980321
9	ATR	A	SMITH	19980322
10	TOWN	B	JONES	19980409
11	TRS	D	OLSEN	19980409
12	TRS	D	OLSEN	19980505
13	TOWN	E	JONES	19980506
14	ATR	E	SMITH	19980526
15	ATR	E	SMITH	19980611
16	TOWN	A	JONES	19980619
17	TOWN	C	JONES	19980627
18	TRS	A	PETERSON	19980704
19	TRS	B	PETERSON	19980707
20	TRS	E	PETERSON	19980718
21	TRS	C	PETERSON	19980807
22	TOWN	D	JONES	19980814

FACILITY

CODE	DESCRIPTION
ATR	Advanced Test Reactor
TOWN	In-town Buildings
TRS	Tritium Reactor South

ACTIVITY

CODE	DESCRIPTION
A	Startup Activity
B	Production Activity
C	Shutdown Activity
D	Security Activity
E	Transportation Activity

Appendix B - Database Schema and Cross Reference

Table 1 ORPS GUI Data Base Schema			
FIELD	DESCRIPTION	TYPE	COMMENTS
Table: ACTION_TEXT (Immediate Actions Narrative)			
CURRENT FLAG	Current Record Flag (Y/N)	VARCHAR(1)	
IDX	Record Number	NUMBER	
TEXT	Immediate Actions Extended Narrative	Topic Collection	Not Searchable
TIMESTAMP	Record Timestamp	VARCHAR2(12)	
Table: ACTIVITY_CATEG (Activity Category Descriptions)			
ACTIVITY_CATEG	Activity Category Code	VARCHAR2(2)	
TEXT	Activity Category Description	VARCHAR2(62)	
Table: AREA_OFFICE (Area Office Descriptions)			
AO	Area Office Code	VARCHAR2(4)	
AO_DESC	Area Office Description	VARCHAR2(36)	
Table: AUTHORITY (Identify manager authority for facilities)			
FAC_ID	Facility ID	VARCHAR2(10)	
USER_ID	Facility Manager, Facility Representative, or Program Manager User ID	VARCHAR2(8)	
AUTH_CODE	Authority Code	VARCHAR2(4)	
Table: CA_TEXT (Corrective Actions Narrative)			
CA_NUM	Corrective Action Number	VARCHAR2(2)	
CURRENTFLAG	Current Record Flag (Y/N)	VARCHAR(1)	
IDX	Record Number	NUMBER	
TEXT	Corrective Actions Extended Narrative	Topic Collection	Not Searchable
TIMESTAMP	Record Timestamp	VARCHAR2(12)	
Table: CAJUST_TEXT (CA Date Justification Narrative)			
CA_NUM	Corrective Action Number	VARCHAR2(2)	
CURRENTFLAG	Current Record Flag (Y/N)	VARCHAR(1)	

FIELD	DESCRIPTION	TYPE	COMMENTS
IDX	Record Number	NUMBER	
REV_CNT	CA Revision Number	VARCHAR2(2)	
TEXT	CA Date Justification Extended Narrative	Topic Collection	Not Searchable
TIMESTAMP	Record Timestamp	VARCHAR2(12)	
Table: CATEGORYS (Occurrence Report Category Descriptions)			
CATEGORY	Occurrence Category Code	VARCHAR2(2)	
CATEGORY_DESC	Occurrence Category Description	VARCHAR2(36)	
SEQ	Category Description Sequence Number	VARCHAR2(4)	Used for forced ordering of categories (E/U/O/C)
Table: CAUSE_TEXT (Cause Narrative)			
CURRENTFLAG	Current Record Flag (Y/N)	VARCHAR(1)	
IDX	Record Number	NUMBER	
TEXT	Cause Extended Narrative	Topic Collection	Not Searchable
TIMESTAMP	Record Timestamp	VARCHAR2(12)	
Table: CAUSES (Cause Descriptions)			
CAUSE	Cause Code	VARCHAR2(2)	
CAUSE_TITLE	Cause Code Description	VARCHAR2(62)	
Table: CC (Contributing Cause Summary Table)			
CC	Contributing Cause Code	VARCHAR2(2)	Multiple entries for each cause code
IDX	Record Number	NUMBER	
TIMESTAMP	Record Timestamp	VARCHAR2(12)	
Table: CONTRACTOR (ORPS Contractor Descriptions)			
CONT	Contractor	VARCHAR2(4)	
CONT_DESC	Contractor Description	VARCHAR2(36)	
Table: CSOIMPACT_TEXT (Impact on Codes & Standards Narrative)			
CURRENTFLAG	Current Record Flag (Y/N)	VARCHAR(1)	
IDX	Record Number	NUMBER	
TEXT	Impact on Codes & Standards Expanded Narrative	Topic Collection	Not Searchable

FIELD	DESCRIPTION	TYPE	COMMENTS
TIMESTAMP	Record Timestamp	VARCHAR2(12)	
Table: DELEGATION (Designates off-normal delegation authority)			
PSO	Program Office Code	VARCHAR2(2)	
FAC_ID	Facility ID	VARCHAR2(10)	
OFFN	Off-Normal Delegation (Y/N)	VARCHAR2(2)	
Table: EMPLOYER (Designates add and update authority for new and historical records)			
EMPLOYER_TYPE	Employer type code (C, F, P)	VARCHAR2(2)	
EMPLOYER_ID	Contractor, Field Office, or Program Office acronym	VARCHAR2(10)	
USER_ID	Manager User ID	VARCHAR2(8)	
GRANTS	Authority (A, U)	VARCHAR2(2)	
Table: ESHIMPACT_TEXT (Impact on Environment, Safety, & Health Narrative)			
CURRENTFLAG	Current Record Flag (Y/N)	VARCHAR(1)	
IDX	Record Number	NUMBER	
TEXT	Impact on Environment, Safety, & Health Expanded Narrative	Topic Collection	Not Searchable
TIMESTAMP	Record Timestamp	VARCHAR2(12)	
Table: FAC_FUNCTION (Facility Function Descriptions)			
FAC_FUNCTION	Facility Function	VARCHAR2(2)	
TEXT	Facility Function Description	VARCHAR2(62)	
Table: FIELD_OFFICE (Field Office Descriptions)			
FO	Field Office	VARCHAR2(4)	
FO_DESC	Field Office Description	VARCHAR2(36)	
Table: FMGREVAL_TEXT (Facility Manager Evaluation Narrative)			
CURRENTFLAG	Current Record Flag (Y/N)	VARCHAR(1)	
IDX	Record Number	NUMBER	
TEXT	Facility Manager Evaluation Expanded Narrative	Topic Collection	Not Searchable
TIMESTAMP	Record Timestamp	VARCHAR2(12)	
Table: FREPCOMMENT_TEXT (Facility Representative Comments Narrative)			
CURRENTFLAG	Current Record Flag (Y/N)	VARCHAR(1)	

FIELD	DESCRIPTION	TYPE	COMMENTS
IDX	Record Number	NUMBER	
TEXT	Facility Representative Comments Expanded Narrative	Topic Collection	Not Searchable
TIMESTAMP	Record Timestamp	VARCHAR2(12)	
Table: LESSONS_TEXT (Lessons Learned Narrative)			
CURRENTFLAG	Current Record Flag (Y/N)	VARCHAR(1)	
IDX	Record Number	NUMBER	
TEXT	Lessons Learned Expanded Narrative	Topic Collection	Not Searchable
TIMESTAMP	Record Timestamp	VARCHAR2(12)	
Table: NAT (Nature of Occurrence Summary Table)			
IDX	Record Number	NUMBER	
NAT	Nature of Occurrence	VARCHAR2(4)	
TIMESTAMP	Record Timestamp	VARCHAR2(12)	
Table: NATURE_OF_OCCUR (Nature of Occurrence Descriptions)			
NATURE_OF_OC	Nature of Occurrence	VARCHAR2(4)	
TEXT	Nature of Occurrence Description	VARCHAR2(62)	
Table: OCCURRENCE_TEXT (Occurrence Narrative)			
CURRENTFLAG	Current Record Flag (Y/N)	VARCHAR(1)	
IDX	Record Number	NUMBER	
TEXT	Occurrence Expanded Narrative	Topic Collection	Not Searchable
TIMESTAMP	Record Timestamp	VARCHAR2(12)	
Table: PROGRAM_OFFICE (DOE Program Office Descriptions)			
PSO	Program Office Code	VARCHAR2(2)	
PSO_DESC	Program Office Description	VARCHAR2(50)	
Table: PROJECTIMPACT_TEXT (Impact on Program Narrative)			
CURRENTFLAG	Current Record Flag (Y/N)	VARCHAR(1)	
IDX	Record Number	NUMBER	
TEXT	Impact on Program Expanded Narrative	Topic Collection	Not Searchable
TIMESTAMP	Record Timestamp	VARCHAR2(12)	

FIELD	DESCRIPTION	TYPE	COMMENTS
Table: PSOCOMMENT_TEXT (Program Manager Comments Narrative)			
CURRENTFLAG	Current Record Flag (Y/N)	VARCHAR(1)	
IDX	Record Number	NUMBER	
TEXT	Program Manager Comments Expanded Narrative	Topic Collection	Not Searchable
TIMESTAMP	Record Timestamp	VARCHAR2(12)	
Table: SIMILAR_OCCUR (Similar Occurrence Report Numbers)			
IDX	Record Number	NUMBER	
SEQ	Occurrence Text Sequence Number	VARCHAR2(4)	
SIMILAR_OR	Similar Occurrence Number	VARCHAR2(40)	
TIMESTAMP	Record Timestamp	VARCHAR2(12)	
Table: SITE (Site Descriptions)			
SITE_CODE	Site Code	VARCHAR2(10)	
SITE_NAME	Site Name	VARCHAR2(36)	
Table: STATUS (Occurrence Report Status Descriptions)			
SEQ	Status Description Sequence Number	VARCHAR2(4)	Used for forced ordering of categories (N/U/X/F)
STATUS	Report Status (N, U, X, F)	VARCHAR2(2)	
STATUS_DESC	Status Description	VARCHAR2(36)	
Table: USERS (Registered ORPS Users)			
CONT	User's Contractor	VARCHAR2(4)	
MGR_L_SIGNON	Date and time of last logon to the manager functions	VARCHAR2(12)	There are no entries in this field.
ORG	User's Organization	VARCHAR2(8)	CAIRS organization code
USER_AUTH		VARCHAR2(10)	There are no entries in this field.
USER_CITY	User's City	VARCHAR2(26)	
USER_FTS	User's FTS Prefix	VARCHAR2(4)	Not currently used
USER_ID	User ID	VARCHAR2(8)	
USER_L_SIGNON	Date and time of last logon	VARCHAR2(12)	
USER_NAME	User's Name	VARCHAR2(26)	
USER_P_SIGNON		VARCHAR2(8)	

FIELD	DESCRIPTION	TYPE	COMMENTS
USER_PHONE	User's Phone	VARCHAR2(10)	
USER_ROLE	Manager Code (FM, FR, PM)	VARCHAR2(2)	
USER_STATE	User's State	VARCHAR2(2)	
USER_STREET_1	User's Street Address, Part 1	VARCHAR2(26)	
USER_STREET_2	User's Street Address, Part 2	VARCHAR2(26)	
USER_TITLE	User's Title	VARCHAR2(36)	
USER_ZIP	User's ZIP Code	VARCHAR2(10)	
Table: V_CA_DATES (Corrective Action Dates)			
CA_ACTL_COMPL	Actual Completion Date	VARCHAR2(8)	
CA_NUM	Corrective Action Number	VARCHAR2(2)	
CA_REVS_COMPL	Revised Target Completion Date	VARCHAR2(8)	
CA_SIGNOF_DAT	Date of Last Revision	VARCHAR2(8)	Changes for all revisions, including completions
CA_TARG_COMPL	Initial Target Completion Date	VARCHAR2(8)	
IDX	Record Number	NUMBER	
REV_CNT	Number of Times CA Has Been Revised	NUMBER	
TIMESTAMP	Record Timestamp	VARCHAR2(12)	
Table: V_CA_JUST_INFO (CA Target Date Change Justification Information)			
ADD_DATE	Corrective Action Change Date	VARCHAR2(8)	
CA_JUST_NUM	CA Revision Number	VARCHAR2(2)	
CA_NUM	Corrective Action Number	VARCHAR2(2)	
IDX	Record Number	NUMBER	
MGR_CODE	Manager Code (FM, FD)	VARCHAR2(2)	There are no entries in this field.
Table: V_COMMENT_INFO (Facility Representative/Program Manager Comment Information)			
COMMENT_DATE	Comment Date	VARCHAR2(8)	
IDX	Record Number	NUMBER	
MGR_CODE	Manager Code (FR, PM)	VARCHAR2(2)	
SEQ	Comment Sequence Number	VARCHAR2(4)	
STATUS	Report Status	VARCHAR2(2)	
TIMESTAMP	Record Timestamp	VARCHAR2(12)	

FIELD	DESCRIPTION	TYPE	COMMENTS
Table: V_CURRENT_ORPS (The most current version of the report - CURRENTFLAG is preselected to Y)			
ACTIVITY_CATEG	Activity Category	VARCHAR2(2)	
ADC_DATE	Date of Authorized Classifier Review	VARCHAR2(8)	
ADD_DATE	Date Occurrence Report Was Added	VARCHAR2(8)	
AO	Area Office	VARCHAR2(2)	
CATEG_DATE	Categorization Date	VARCHAR2(8)	
CATEG_TIME	Categorization Time	VARCHAR2(4)	
CATEG_TS	Categorization Record Timestamp	VARCHAR2(12)	
CATEGORY	Occurrence Category	VARCHAR2(2)	
CAUSE	Direct Cause	VARCHAR2(2)	
COMMENTFLAG	Report contains FR or PM comments (Y/N)	VARCHAR2(2)	
CONT	Contractor	VARCHAR2(4)	
CONTR_CAUSE_1	First Contributing Cause	VARCHAR2(2)	
CONTR_CAUSE_2	Second Contributing Cause	VARCHAR2(2)	
CONTR_CAUSE_3	Third Contributing Cause	VARCHAR2(2)	
CURRENT_DATE	Current Record Date	VARCHAR2(8)	
CURRENT_TS	Current Record Timestamp	VARCHAR2(12)	
CURRENTFLAG	Current Record Flag (Y/N)	VARCHAR(1)	Identifies the latest version of the report
DATE_FINAL	Final Report Date	VARCHAR2(8)	
DATE_NOTIF	Notification Report Date	VARCHAR2(8)	
DATE_TEN_DAY	Initial Update Report Date	VARCHAR2(8)	
DATE_TEN_DAY_R	Latest Update Report Date	VARCHAR2(8)	
FAC_FUNCTION	Facility Function	VARCHAR2(2)	
FAC_ID	Facility ID	VARCHAR2(10)	
FAC_NAME	Facility Name	VARCHAR2(36)	
FER	Further Evaluation Required (Y/N)	VARCHAR2(2)	
FER_OP	Further Evaluation Required Before Operation (Y/N)	VARCHAR2(2)	

FIELD	DESCRIPTION	TYPE	COMMENTS
FER_WHEN	Further Evaluation Scheduled Completion Date	VARCHAR2(8)	
FINAL_TS	Final Record Timestamp	VARCHAR2(12)	
FMGR_DATE_S	Facility Manager Signature Date	VARCHAR2(8)	
FMGR_PHONE	Facility Manager's Phone	VARCHAR2(10)	
FMGR_TITLE	Facility Manager's Title	VARCHAR2(36)	
FO	Field Office	VARCHAR2(4)	
FREP_DATE_S	Facility Representative Signature Date	VARCHAR2(8)	
FSBE	Facility, System, Bldg. or Equip.	VARCHAR2(60)	
IDX	Record Number	NUMBER	
INIT_UPD_TS	Initial Update Record Timestamp	VARCHAR2(12)	
INPUT_COMPLETE	FR/PM Comments Completed	VARCHAR2(2)	
LATE_UPD_TS	Latest Update Record Timestamp	VARCHAR2(12)	
MOD_DATE	Last Revision Date	VARCHAR2(8)	
NATURE_OF_OCCUR_1	First Nature of Occurrence	VARCHAR2(4)	
NATURE_OF_OCCUR_2	Second Nature of Occurrence	VARCHAR2(4)	
NATURE_OF_OCCUR_3	Third Nature of Occurrence	VARCHAR2(4)	
NOTIF_TS	Notification Record Timestamp	VARCHAR2(12)	
NUM	Report Sequence Number	VARCHAR2(4)	
NUM_OCCUR	Number of Occurrences	NUMBER	
OCCUR_DATE	Discovery Date	VARCHAR2(8)	
OCCUR_TIME	Discovery Time	VARCHAR2(4)	
OCCUR_TS	Discovery Record Timestamp	VARCHAR2(12)	
OPNSCOND	Operating Conditions	VARCHAR2(140)	
OR_NUM	Occurrence Report Number	VARCHAR2(34)	
ORG	Organization Code	VARCHAR2(8)	CAIRS organization code of person submitting report
ORIG_OR	Original OR Number	VARCHAR2(34)	
ORGIN_PHONE	Originator's Phone	VARCHAR2(10)	
ORGIN_TITLE	Originator's Title	VARCHAR2(36)	

FIELD	DESCRIPTION	TYPE	COMMENTS
PF_CATEGORY	Canceled pre-final indicator	VARCHAR2(2)	Records having a canceled pre-final have a "C" in this field
PLANT_AREA	Plant Area	VARCHAR2(20)	
PO_DATE_S	Program Manager Signature Date	VARCHAR2(8)	
PROJDIV	Project or Division	VARCHAR2(36)	
PSO	Program Office Code	VARCHAR2(2)	
PSO_DESC	Program Office Description	VARCHAR2(50)	
ROOT_CAUSE	Root Cause	VARCHAR2(2)	
SEQ_NUM	Report Sequence Number	NUMBER(4)	With no leading zeros
SITE_NAME	Site Name	VARCHAR2(36)	
STATUS	Report Status (N, U, X, F)	VARCHAR2(2)	
SUBJECT	Subject	VARCHAR2(140)	
TIME_FINAL	Final Report Time	VARCHAR2(4)	
TIME_NOTIF	Notification Report Time	VARCHAR2(4)	
TIME_TEN_DAY	Initial Update Report Time	VARCHAR2(4)	
TIME_TEN_DAY_R	Latest Update Report Time	VARCHAR2(4)	
TIMESTAMP	Record Timestamp	VARCHAR2(12)	
USER_FIELD1	User Defined Field Number 1	VARCHAR2(124)	
USER_FIELD2	User Defined Field Number 2	VARCHAR2(124)	
YEAR	Year	VARCHAR2(4)	
Table: V_FACILITY (ORPS Facility Descriptions)			
ADD_DATE	Add Date	VARCHAR2(8)	
AO	Area Office	VARCHAR2(2)	
FAC_FUNCTION	Facility Function	VARCHAR2(2)	There are no entries in this field.
FAC_ID	Facility ID	VARCHAR2(10)	
FAC_NAME	Facility Name	VARCHAR2(36)	
FO	Field Office	VARCHAR2(4)	
MOD_DATE	Last Revision Date	VARCHAR2(8)	
SITE_CODE	Site Code	VARCHAR2(10)	
TIME_ZONE	Time Zone	VARCHAR2(2)	

FIELD	DESCRIPTION	TYPE	COMMENTS
Table: V_NOTIFICATION (DOE and Other Notifications)			
IDX	Record Number	NUMBER	
NOTIF_DATE	Notification Date	VARCHAR2(8)	
NOTIF_MAIL_STOP	Mail Stop of Person Notified	VARCHAR2(8)	
NOTIF_TIME	Notification Time	VARCHAR2(4)	
NOTIF_TYPE	Notification Type	VARCHAR2(2)	
ORAL_NOTIF_TS	Oral Notification Date and Time	VARCHAR2(12)	
TIMESTAMP	Record Timestamp	VARCHAR2(12)	
Table: V_ORPS (All versions of the report)			
ACTIVITY_CATEG	Activity Category	VARCHAR2(2)	
ADC_DATE	Date of Authorized Classifier Review	VARCHAR2(8)	
ADD_DATE	Date Occurrence Report Was Added	VARCHAR2(8)	
AO	Area Office	VARCHAR2(2)	
CATEG_DATE	Categorization Date	VARCHAR2(8)	
CATEG_TIME	Categorization Time	VARCHAR2(4)	
CATEG_TS	Categorization Record Timestamp	VARCHAR2(12)	
CATEGORY	Occurrence Category	VARCHAR2(2)	
CAUSE	Direct Cause	VARCHAR2(2)	
COMMENTFLAG	Report contains FR or PM comments (Y/N)	VARCHAR2(2)	
CONT	Contractor	VARCHAR2(4)	
CONTR_CAUSE_1	First Contributing Cause	VARCHAR2(2)	
CONTR_CAUSE_2	Second Contributing Cause	VARCHAR2(2)	
CONTR_CAUSE_3	Third Contributing Cause	VARCHAR2(2)	
CURRENT_DATE	Current Record Date	VARCHAR2(8)	
CURRENT_TS	Current Record Timestamp	VARCHAR2(12)	
CURRENTFLAG	Current Record Flag (Y/N)	VARCHAR(1)	Identifies the latest version of the report
DATE_FINAL	Final Report Date	VARCHAR2(8)	
DATE_NOTIF	Notification Report Date	VARCHAR2(8)	

FIELD	DESCRIPTION	TYPE	COMMENTS
DATE_TEN_DAY	Initial Update Report Date	VARCHAR2(8)	
DATE_TEN_DAY_R	Latest Update Report Date	VARCHAR2(8)	
FAC_FUNCTION	Facility Function	VARCHAR2(2)	
FAC_ID	Facility ID	VARCHAR2(10)	
FAC_NAME	Facility Name	VARCHAR2(36)	
FER	Further Evaluation Required (Y/N)	VARCHAR2(2)	
FER_OP	Further Evaluation Required Before Operation (Y/N)	VARCHAR2(2)	
FER_WHEN	Further Evaluation Scheduled Completion Date	VARCHAR2(8)	
FINAL_TS	Final Record Timestamp	VARCHAR2(12)	
FMGR_DATE_S	Facility Manager Signature Date	VARCHAR2(8)	
FMGR_PHONE	Facility Manager's Phone	VARCHAR2(10)	
FMGR_TITLE	Facility Manager's Title	VARCHAR2(36)	
FO	Field Office	VARCHAR2(4)	
FREP_DATE_S	Facility Representative Signature Date	VARCHAR2(8)	
FSBE	Facility, System, Bldg. or Equip.	VARCHAR2(60)	
IDX	Record Number	NUMBER	
INIT_UPD_TS	Initial Update Record Timestamp	VARCHAR2(12)	
INPUT_COMPLETE	FR/PM Comments Completed	VARCHAR2(2)	
LATE_UPD_TS	Latest Update Record Timestamp	VARCHAR2(12)	
MOD_DATE	Last Revision Date	VARCHAR2(8)	
NATURE_OF_OCCUR_1	First Nature of Occurrence	VARCHAR2(4)	
NATURE_OF_OCCUR_2	Second Nature of Occurrence	VARCHAR2(4)	
NATURE_OF_OCCUR_3	Third Nature of Occurrence	VARCHAR2(4)	
NOTIF_TS	Notification Record Timestamp	VARCHAR2(12)	
NUM	Report Sequence Number	VARCHAR2(4)	
NUM_OCCUR	Number of Occurrences	NUMBER	
OCCUR_DATE	Discovery Date	VARCHAR2(8)	
OCCUR_TIME	Discovery Time	VARCHAR2(4)	

FIELD	DESCRIPTION	TYPE	COMMENTS
OCCUR_TS	Discovery Record Timestamp	VARCHAR2(12)	
OPNSCOND	Operating Conditions	VARCHAR2(140)	
OR_NUM	Occurrence Report Number	VARCHAR2(34)	
ORG	Organization Code	VARCHAR2(8)	CAIRS organization code of person submitting report
ORIG_OR	Original OR Number	VARCHAR2(34)	
ORGIN_PHONE	Originator's Phone	VARCHAR2(10)	
ORGIN_TITLE	Originator's Title	VARCHAR2(36)	
PF_CATEGORY	Canceled pre-final indicator	VARCHAR2(2)	Records having a canceled pre-final have a "C" in this field
PLANT_AREA	Plant Area	VARCHAR2(20)	
PO_DATE_S	Program Manager Signature Date	VARCHAR2(8)	
PROJDIV	Project or Division	VARCHAR2(36)	
PSO	Program Office Code	VARCHAR2(2)	
PSO_DESC	Program Office Description	VARCHAR2(50)	
ROOT_CAUSE	Root Cause	VARCHAR2(2)	
SEQ_NUM	Report Sequence Number	NUMBER(4)	With no leading zeros
SITE_NAME	Site Name	VARCHAR2(36)	
STATUS	Report Status (N, U, X, F)	VARCHAR2(2)	
SUBJECT	Subject	VARCHAR2(140)	
TIME_FINAL	Final Report Time	VARCHAR2(4)	
TIME_NOTIF	Notification Report Time	VARCHAR2(4)	
TIME_TEN_DAY	Initial Update Report Time	VARCHAR2(4)	
TIME_TEN_DAY_R	Latest Update Report Time	VARCHAR2(4)	
TIMESTAMP	Record Timestamp	VARCHAR2(12)	
USER_FIELD1	User Defined Field Number 1	VARCHAR2(124)	
USER_FIELD2	User Defined Field Number 2	VARCHAR2(124)	
YEAR	Year	VARCHAR2(4)	
Table: V_REJECT_INFO (Occurrence Report Rejection Information)			
IDX	Record Number	NUMBER	
MGR_CODE	Manager Code (P, PD, R, RD, Y)	VARCHAR2(2)	

FIELD	DESCRIPTION	TYPE	COMMENTS
REJECT_DATE	Rejection Date	VARCHAR2(8)	
REJECT_NUM	Rejection Number	VARCHAR2(2)	
TIMESTAMP	Record Timestamp	VARCHAR2(12)	

Occurrence Report

V_ORPS.FAC_ID==V_FACILITY.FAC_NAME

(Name of Facility)

V_ORPS.FAC_FUNCTION==FAC_FUNCTION.TEXT

(Facility Function)

V_ORPS.SITE_NAME

V_ORPS.CONT==CONTRACTOR.CONT_DESC

(Name of Laboratory, Site or Organization)

Name: **Not accessible**

Title: V_ORPS.FMGR_TITLE

Telephone No.: V_ORPS.FMGR_PHONE

(Facility Manager/Designee)

Name: **Not accessible**

Title: V_ORPS.ORGIN_TITLE

Telephone No.: V_ORPS.ORGIN_PHONE

(Originator/Transmitter)

Name: **Not accessible**

Date: V_ORPS.ADC_DATE

(Authorized Classifier (AC))

1. Occurrence Report Number: V_ORPS.OR_NUM

V_ORPS.SUBJECT

2. Report Type and Date: V_ORPS.STATUS==STATUS.STATUS_DESC

	Date	Time
Notification:	V_ORPS.DATE_NOTIF	V_ORPS.TIME_NOTIF
Initial Update:	V_ORPS.DATE_TEN_DAY	V_ORPS.TIME_TEN_DAY
Latest Update:	V_ORPS.DATE_TEN_DAY_R	V_ORPS.TIME_TEN_DAY_R
Final:	V_ORPS.DATE_FINAL	V_ORPS.TIME_FINAL

3. Occurrence Category: V_ORPS.CATEGORY==CATEGORYS.CATEGORY_DESC

**4. Number of Occurrences: Original OR: V_ORPS.ORIG_OR
V_ORPS.NUM_OCCUR**

5. Division or Project: V_ORPS.PROJDIV

6. Secretarial Office: V_ORPS.PSO==V_ORPS.PSO_DESC

7. System, Bldg., or Equipment: V_ORPS.FSBE

8. UCNI?: Not accessible

9. Plant Area: V_ORPS.PLANT_AREA

10. Date and Time Discovered: V_ORPS.OCCUR_DATE V_ORPS.OCCUR_TIME

11. Date and Time Categorized: V_ORPS.CATEG_DATE V_ORPS.CATEG_TIME

12. DOE Notification:

Date	Time	Person or Organization	Mail Stop
V_NOTIFICATION. NOTIF_DATE	V_NOTIFICATION. NOTIF_TIME	Not accessible	V_NOTIFICATION. NOTIF_MAIL_STOP

13. Other Notifications:

Date	Time	Person or Organization	Mail Stop
V_NOTIFICATION. NOTIF_DATE	V_NOTIFICATION. NOTIF_TIME	Not accessible	V_NOTIFICATION. NOTIF_MAIL_STOP
V_NOTIFICATION. NOTIF_DATE	V_NOTIFICATION. NOTIF_TIME	Not accessible	V_NOTIFICATION. NOTIF_MAIL_STOP

14. Subject or Title of Occurrence:

V_ORPS.SUBJECT

15. Nature of Occurrence:

V_ORPS.NATURE_OF_OCCUR_1==NATURE_OF_OCCUR.TEXT
V_ORPS.NATURE_OF_OCCUR_2==NATURE_OF_OCCUR.TEXT
V_ORPS.NATURE_OF_OCCUR_3==NATURE_OF_OCCUR.TEXT

16. Description of Occurrence:

OCCURRENCE_TEXT.TEXT

17. Operating Conditions of Facility at Time of Occurrence:

V_ORPS.OPNSCOND

18. Activity Category:

V_ORPS.ACTIVITY_CATEG==ACTIVITY_CATEG.TEXT

19. Immediate Actions Taken and Results:

ACTION_TEXT.TEXT

20. Direct Cause:

V_ORPS.CAUSE==CAUSE.CAUSE_TITLE

21. Contributing Cause(s):

V_ORPS.CONTR_CAUSE_1==CAUSE.CAUSE_TITLE
V_ORPS.CONTR_CAUSE_2==CAUSE.CAUSE_TITLE
V_ORPS.CONTR_CAUSE_3==CAUSE.CAUSE_TITLE

22. Root Cause:

V_ORPS.ROOT_CAUSE == CAUSE.CAUSE_TITLE

23. Description of Cause:

CAUSE_TEXT.TEXT

24. Evaluation (by Facility Manager/Designee):

FMGREVAL_TEXT.TEXT

25. Is Further Evaluation Required?: V_ORPS.FER

If YES - Before Further Operation? V_ORPS.FER_OP

By whom? **Not accessible**

By when? V_ORPS.FER_WHEN

26. Corrective Actions

1.	CA_TEXT.TEXT and CA_TEXT.CA_NUM	
	Target Completion Date: V_CA_DATES.CA_TARG_COMPL or V_CA_DATES.CA_REVS_COMPL	Completion Date: V_CA_DATES.CA_ACTL_COMPL
2.	CA_TEXT.TEXT and CA_TEXT.CA_NUM	
	Target Completion Date: V_CA_DATES.CA_TARG_COMPL or V_CA_DATES.CA_REVS_COMPL	Completion Date: V_CA_DATES.CA_ACTL_COMPL

27. Impact on Environment, Safety and Health:

ESHIMPACT_TEXT.TEXT

28. Programmatic Impact:

PROJECTIMPACT_TEXT.TEXT

29. Impact on Codes and Standards:

CSOIMPACT_TEXT.TEXT

30. Lessons Learned:

LESSONS_TEXT.TEXT

31. Similar Occurrence Report Numbers:

SIMILAR_OCCUR.SIMILAR_OR

32. User Field #1:

V_ORPS.USER_FIELD1

33. User Field #2:

V_ORPS.USER_FIELD2

34. DOE Facility Representative Input:

FREPCOMMENT_TEXT.TEXT

35. DOE Program Manager Input:

PSOCOMMENT_TEXT.TEXT

36. Signatures:

Approved by:	Not accessible
Date:	V_ORPS.FMGR_DATE_S
Telephone No:	USERS.USER_PHONE

Approved by:	Not accessible
Date:	V_ORPS.FREP_DATE_S
Telephone No:	USERS.USER_PHONE

Approved by:	Not accessible
Date:	V_ORPS.PO_DATE_S
Telephone No:	USERS.USER_PHONE

Exercise Solutions

Exercise 1

1. Write the SQL SELECT statement that selects all records with a date in April or May of 1998. Show all record columns on your report.

```
SELECT *  
FROM TEST.OCCURRENCES  
WHERE OCCURRENCES.DATE BETWEEN '04011998' AND  
'05311998'
```

2. Write the SQL SELECT statement that selects all records for Manager "Olsen." Show only the facility, activity, and discovery date columns on your report.

```
SELECT OCCURRENCES.FACILITY, OCCURRENCES.ACTIVITY,  
OCCURRENCES.DATE  
FROM TEST.OCCURRENCES  
WHERE OCCURRENCES.MANAGER = 'OLSEN'
```

3. Write the SQL SELECT statement that selects all records for facility "TRS" and manager "PETERSON." Show all columns on your report.

```
SELECT *  
FROM TEST.OCCURRENCES  
WHERE OCCURRENCES.FACILITY = 'TRS' AND  
OCCURRENCES.MANAGER = 'PETERSON'
```

Exercise 2

1. Write the SQL SELECT statement that groups records by activity. Show columns for activity, facility, and date on your report.

```
SELECT OCCURRENCES.ACTIVITY, OCCURRENCES.FACILITY,  
OCCURRENCES.DATE  
FROM TEST.OCCURRENCES  
GROUP BY OCCURRENCES.ACTIVITY,  
OCCURRENCES.FACILITY, OCCURRENCES.DATE
```

2. Modify the SELECT statement to show the count of records by activity. Label the column "COUNT."

```
SELECT OCCURRENCES.ACTIVITY,  
COUNT(OCCURRENCES.FACILITY) 'COUNT'  
FROM TEST.OCCURRENCES  
GROUP BY OCCURRENCES.ACTIVITY
```

3. Modify the SELECT statement to show only those counts greater than four records.

```
SELECT OCCURRENCES.ACTIVITY,  
COUNT(OCCURRENCES.FACILITY) 'COUNT'  
FROM TEST.OCCURRENCES  
GROUP BY OCCURRENCES.ACTIVITY  
HAVING COUNT(OCCURRENCES.FACILITY) > 4
```

Exercise 3

Write the SQL SELECT statement that sorts records by facility and then sorts the records in descending order by discovery date. Display only the facility and date columns on your report.

```
SELECT OCCURRENCES.FACILITY, OCCURRENCES.DATE  
FROM TEST.OCCURRENCES  
ORDER BY OCCURRENCES.FACILITY,  
OCCURRENCES.DATE DESC
```

Exercise 4

Write the SQL SELECT statement that joins the **OCCURRENCES** table and the **ACTIVITY** table and selects only rows from the joined table when the **ACTIVITY** column in the **OCCURRENCES** tables equals the **ACTIVITY** column in the **ACTIVITY** table. Display only activity, description, and date columns on your report.

```
SELECT OCCURRENCES.ACTIVITY, ACTIVITY.DESCRPTION,  
OCCURRENCES.DATE  
FROM TEST.OCCURRENCES, TEST.ACTIVITY  
WHERE OCCURRENCES.ACTIVITY = ACTIVITY.CODE
```

Exercise 5

1. Specify criteria to select the latest version of all reports for facilities ANLE and ANLW.
 - a. Select **Add Criteria** from the **CRITERIA** menu to open the **ADD CRITERIA** dialog box.
 - b. Select **CURRENTFLAG** from the **FIELD** selection box.
 - c. Type **Y** in the **VALUE** edit box.
 - d. Click on the **ADD** command button.
 - e. Select **FAC_ID** from the **FIELD** selection box.
 - f. Select **is one of** from the **OPERATOR** selection box.
 - g. Click on the **VALUES** command button to open the **SELECTED VALUE(S)** dialog box.
 - h. Select **ANLE** and **ANLW** from the **VALUES** selection box.
 - i. Click on the **OK** command button.
 - j. Click on the **ADD** command button.
 - k. Click on the **CLOSE** command button.
2. Display the occurrence report year and activity category as report columns.
 - a. Select **Add Column** from the **RECORDS** menu to open the **ADD COLUMN** dialog box.
 - b. Select **YEAR** from the **FIELD** selection box.
 - c. Type a column heading in the **COLUMN HEADING** edit box.
 - d. Click on the **ADD** command button.
 - e. Select **ACTIVITY_CATEG** from the **FIELD** selection box.
 - f. Type a column heading in the **COLUMN HEADING** edit box.
 - g. Click on the **ADD** command button.
 - h. Click on the **CLOSE** command button.
3. Save the query.
 - a. Select **Save** from the **FILE** menu to open the **SAVE AS** dialog box.
 - b. Type the file name into the **FILE NAME** edit box.
 - c. Click on the **SAVE** command button.

Exercise 6

1. Specify criteria to select the latest version of all notification reports for the Richland Field Office.
 - a. Select **Add Criteria** from the **CRITERIA** menu to open the **ADD CRITERIA** dialog box.
 - b. Select **CURRENTFLAG** from the **FIELD** selection box.
 - c. Type **Y** in the **VALUE** edit box.
 - d. Click on the **ADD** command button.
 - e. Select **FO** from the **FIELD** selection box.
 - f. Click on the **VALUES** command button to open the **SELECTED VALUE(S)** dialog box.
 - g. Select **RL** from the **VALUES** selection box.
 - h. Click on the **OK** command button.
 - i. Click on the **ADD** command button.
 - j. Select **STATUS** from the **FIELD** selection box.
 - k. Type **N** in the **VALUE** edit box.
 - l. Click on the **ADD** command button.
 - m. Click on the **CLOSE** command button.

2. Display the facility ID and occurrence report year as report columns.
 - a. Select **Add Column** from the **RECORDS** menu to open the **ADD COLUMN** dialog box.
 - b. Select **FAC_ID** from the **FIELD** selection box.
 - c. Type a column heading in the **COLUMN HEADING** edit box.
 - d. Click on the **ADD** command button.
 - e. Select **YEAR** from the **FIELD** selection box.
 - f. Type a column heading in the **COLUMN HEADING** edit box.
 - g. Click on the **ADD** command button.
 - h. Click on the **CLOSE** command button.

3. Do a primary ascending sort for facility ID and a secondary ascending sort for occurrence report year.
 - a. Select **Sort** from the **RECORDS** menu to open the **SORT** dialog box.
 - b. Select **FAC_ID** from the **COLUMN** selection box.
 - c. Click on the **ADD** command button.
 - d. Select **YEAR** from the **COLUMN** selection box.
 - e. Click on the **ADD** command button.
 - f. Click on the **CLOSE** command button.

Exercise 6 (cont.)

4. Organize your result set into groups.
 - a. Select **Query Properties** from the **VIEW** menu to open the **QUERY PROPERTIES** dialog box.
 - b. Check the **GROUP RECORDS** check box.
 - c. Click on the **OK** command button.

5. Save the query.
 - a. Select **Save** from the **FILE** menu to open the **SAVE AS** dialog box.
 - b. Type the file name into the **FILE NAME** edit box.
 - c. Click on the **SAVE** command button.

Exercise 7

1. Specify criteria to select the latest version of all reports for occurrences that were reported in 1997.
 - a. Select **Add Criteria** from the **CRITERIA** menu to open the **ADD CRITERIA** dialog box.
 - b. Select **CURRENT FLAG** from the **FIELD** selection box.
 - c. Type **Y** in the **VALUE** edit box.
 - d. Click on the **ADD** command button.
 - e. Select **YEAR** from the **FIELD** selection box.
 - f. Type **1997** in the **VALUE** edit box.
 - g. Click on the **ADD** command button.

2. Display by field office the total number of occurrence reports and the total number of occurrences.
 - a. Select **Add Column** from the **RECORDS** menu to open the **ADD COLUMN** dialog box.
 - b. Select **FO** from the **FIELD** selection box.
 - c. Type **Field Office** into the **COLUMN HEADING** edit box.
 - d. Click on the **ADD** command button.
 - e. Select the asterisk (*) from the **FIELD** selection box.
 - f. Type **Number of Occurrence Reports** into the **COLUMN HEADING** edit box.
 - g. Select **Count** from the **TOTAL** selection box.
 - h. Click on the **ADD** command button.
 - i. Select **NUM_OCCUR** from the **FIELD** selection box.
 - j. Type **Number or Occurrences** into the **COLUMN HEADING** edit box.
 - k. Select **Sum** from the **TOTAL** selection box.
 - l. Click on the **ADD** command button.
 - m. Click on the **CLOSE** command button.

3. Save the query.
 - a. Select **Save** from the **FILE** menu to open the **SAVE AS** dialog box.
 - b. Type the file name into the **FILE NAME** edit box.
 - c. Click on the **SAVE** command button.

Exercise 8

1. Specify criteria to select the latest version of all final occurrence reports that were reported between 1995 and 1998 and were classified as construction activity.
 - a. Select **Add Criteria** from the **CRITERIA** menu to open the **ADD CRITERIA** dialog box.
 - b. Select **CURRENTFLAG** from the **FIELD** selection box.
 - c. Type **Y** in the **VALUE** edit box.
 - d. Click on the **ADD** command button.
 - e. Select **ACTIVITY_CATEG** from the **FIELD** selection box.
 - f. Type **01** in the **VALUE** edit box.
 - g. Click on the **ADD** command button.
 - h. Select **STATUS** from the **FIELD** selection box.
 - i. Type **F** in the **VALUE** edit box.
 - j. Click on the **ADD** command button.
 - k. Select **YEAR** from the **FIELD** selection box.
 - l. Select **is between** from the **OPERATOR** selection box.
 - l. Type **1995,1998** in the **VALUES** edit box.
 - m. Click on the **OK** command button.
 - n. Click on the **ADD** command button.
 - o. Click on the **CLOSE** command button.

2. Display the direct cause and root cause codes and descriptions as report columns.
 - a. Select **Add Tables** from the **TABLE** menu to open the **ADD TABLES** dialog box.
 - b. Select **CAUSES** from the **TABLE** selection box.
 - c. Click on the **ADD** command button.
 - d. Click on the **ADD** command button again.
 - e. Click on the **OK** command button in response to the “Add it Again?” message. Notice that the second instance of the **CAUSES** table is named **CAUSES_1**.
 - f. Click on the **CLOSE** command button.
 - g. Drag the **CAUSE** field on the **CAUSES** table to the **CAUSE** field on the **V_ORPS** table to create a join line.
 - h. Drag the **CAUSE** field on the **CAUSES_1** table to the **ROOT_CAUSE** field on the **V_ORPS** table to create a join line.

Exercise 8 (cont.)

2. (Cont.)
 - i. Select **Add Column** from the **RECORDS** menu to open the **ADD COLUMN** dialog box.
 - j. Select **V_ORPS.CAUSE** from the **FIELD** selection box.
 - k. Type a column heading in the **COLUMN HEADING** edit box.
 - l. Click on the **ADD** command button.
 - m. Select **CAUSES.CAUSE_TITLE** from the **FIELD** selection box.
 - n. Type a column heading in the **COLUMN HEADING** edit box.
 - o. Click on the **ADD** command button.
 - p. Select **V_ORPS.ROOT_CAUSE** from the **FIELD** selection box.
 - q. Type a column heading in the **COLUMN HEADING** edit box.
 - r. Click on the **ADD** command button.
 - s. Select **CAUSES_1.CAUSE_TITLE** from the **FIELD** selection box.
 - t. Type a column heading in the **COLUMN HEADING** edit box.
 - u. Click on the **ADD** command button.
 - v. Click on the **CLOSE** command button.
3. Group the result set and display how many records qualify for each grouping.
 - a. Select **Query Properties** from the **VIEW** menu to open the **QUERY PROPERTIES** dialog box.
 - b. Check the **GROUP RECORDS** check box.
 - c. Click on the **OK** command button.
 - d. Select **Add Column** from the **RECORDS** menu to open the **ADD COLUMN** dialog box.
 - e. Select **V_ORPS.IDX** from the **FIELD** selection box.
 - f. Type a column heading in the **COLUMN HEADING** edit box.
 - g. Select **Count** from the **TOTAL** selection box.
 - h. Click on the **ADD** command button.
 - i. Click on the **CLOSE** command button.
4. Save the query.
 - a. Select **Save** from the **FILE** menu to open the **SAVE AS** dialog box.
 - b. Type the file name into the **FILE NAME** edit box.
 - c. Click on the **SAVE** command button.

Exercise 9

1. Specify criteria to select the latest version of all reports for a user-defined field office, occurrence category, status, and occurrence report year.
 - a. Click on the **AUTO QUERY** tool bar button so it is no longer pressed in.
 - b. If the **CRITERIA PANE** is not displayed in the query window, click on the **SHOW/HIDE CRITERIA** tool bar button.
 - c. Click on the first cell in the **CRITERIA FIELD** row.
 - d. Click on the down arrow in the cell and select **FO** from the list.
 - e. Click on the first cell in the **VALUE** row and type [**Enter a Field Office**].
 - f. Click on the second cell in the **CRITERIA FIELD** row.
 - g. Click on the down arrow in the cell and select **CATEGORY** from the list.
 - h. Click on the second cell in the **VALUE** row and type [**Enter an Occurrence Category**].
 - i. Click on the third cell in the **CRITERIA FIELD** row.
 - j. Click on the down arrow in the cell and select **STATUS** from the list.
 - k. Click on the third cell in the **VALUE** row and type [**Enter the Status**].
 - l. Click on the fourth cell in the **CRITERIA FIELD** row.
 - m. Click on the down arrow in the cell and select **YEAR** from the list.
 - n. Click on the fourth cell in the **VALUE** row and type [**Enter the Year**].
 - o. Click on the fifth cell in the **CRITERIA FIELD** row.
 - p. Click on the down arrow in the cell and select **CURRENTFLAG** from the list.
 - q. Click on the fifth cell in the **VALUE** row and Type 'Y'.

2. Display the occurrence report number, categorization date, and contractor.
 - a. Select **Add Column** from the **RECORDS** menu to open the **ADD COLUMN** dialog box.
 - b. Select **OR_NUM** from the **FIELD** selection box.
 - c. Type **Occurrence Report Number** in the **COLUMN HEADING** edit box.
 - d. Click on the **ADD** command button.
 - e. Select **CATEG_DATE** from the **FIELD** selection box.
 - f. Type **Categorization Date** in the **COLUMN HEADING** edit box.
 - g. Click on the **ADD** command button.
 - h. Select **CONT** from the **FIELD** selection box.
 - i. Type **Contractor** in the **COLUMN HEADING** edit box.
 - j. Click on the **ADD** command button.
 - k. Click on the **CLOSE** command button.

Exercise 9 (cont.)

3. Run the query.
 - a. Click on the **QUERY NOW** tool bar button.
 - b. Type a field office code in the **ENTER THE FIELD OFFICE** edit box.
 - c. Click on the **OK** command button.
 - d. Type an occurrence category in the **ENTER AN OCCURRENCE CATEGORY** edit box.
 - e. Click on the **OK** command button.
 - f. Type a status in the **ENTER THE STATUS** edit box.
 - g. Click on the **OK** command button.
 - h. Type a year in the **ENTER THE YEAR** edit box.
 - i. Click on the **OK** command button.

4. Save the query.
 - a. Select **Save** from the **FILE** menu.
 - b. Type a file name in the **FILE NAME** edit box.
 - c. Click on the **SAVE** command button.

Exercise 10

1. Open the file saved in **Exercise 5**.
 - a. Select **Open** from the **FILE** menu to open the **OPEN QUERY** dialog box.
 - b. Locate and click on the saved query. Click on the **OPEN** command button.
 - c. Enter your user ID and password in the **MICROSOFT ODBC FOR ORACLE CONNECT** dialog box. Click on the **OK** command button.

2. Modify the criteria to accept a user-defined value for facility ID.
 - a. In the **CRITERIA PANE**, click on the cell in the **VALUE** row under the **FAC_ID** criteria field.
 - b. Type [**Enter a Facility ID**]

3. Change the **ACTIVITY CATEGORY** column to display the description of activity.
 - a. Select **Add Tables** from the **TABLE** menu to open the **ADD TABLES** dialog box.
 - b. Select **ACTIVITY_CATEG** from the **TABLE** selection box and click on the **ADD** command button.
 - c. Drag the **ACTIVITY_CATEG** field on the **V_ORPS** table to the **ACTIVITY_CATEG** field on the **ACTIVITY_CATEG** table to create a join line.
 - d. Click on the **ACTIVITY CATEGORY** column heading on the **DATA PANE**.
 - e. Select **Edit Column** from the **RECORDS** menu to open the **EDIT COLUMN** dialog box.
 - f. Select **ACTIVITY_CATEG.TEXT** from the **FIELD** selection box and click on the **OK** command button.

4. Add a report column that displays the number of reports per activity.
 - a. Click in the empty column next to the activity category column.
 - b. Select **Add Column** from the **RECORDS** menu to display the **ADD COLUMN** dialog box.
 - c. Select **V_ORPS.IDX** from the **FIELD** selection box.
 - d. Type **Number** in the **COLUMN HEADING** edit box.
 - e. Select **Count** from the **TOTAL** selection box.
 - f. Click on the **ADD** command button.

Exercise 11

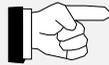
1. Specify criteria to select the latest version of occurrence reports for a user-defined field office and a user-defined occurrence report year.
 - a. Select **Add Criteria** from the **CRITERIA** menu to open the **ADD CRITERIA** dialog box.
 - b. Select **CURRENTFLAG** from the **FIELD** selection box.
 - c. Type **Y** in the **VALUE** edit box.
 - d. Click on the **ADD** command button.
 - e. Click on the **CLOSE** command button.
 - f. Click on the **AUTO QUERY** tool bar button so it is no longer pressed in.
 - g. Click on the second cell in the **CRITERIA FIELD** row.
 - h. Click on the down arrow in the cell and select **FO** from the list.
 - i. Click on the second cell in the **VALUE** row and type **[Enter a Field Office]**.
 - j. Click on the third cell in the **CRITERIA FIELD** row.
 - k. Click on the down arrow in the cell and select **YEAR** from the list.
 - l. Click on the third cell in the **VALUE** row and type **[Enter an Occurrence Report Year]**.

2. Display the occurrence report number, corrective action number, target completion date, and actual completion date as report columns.
 - a. Select **Add Tables** from the **TABLE** menu to open the **ADD TABLES** dialog box.
 - b. Select **CA_DATES** from the **TABLE** selection box.
 - c. Click on the **ADD** command button.
 - d. Click on the **CLOSE** command button.
 - e. Drag the **IDX** field on the **V_ORPS** table to the **IDX** field on the **CA_DATES** table to create an inner join.
 - f. Drag the **TIMESTAMP** field on the **V_ORPS** table to the **TIMESTAMP** field on the **CA_DATES** table to create an inner join.
 - g. Select **Add Column** from the **RECORDS** menu to open the **ADD COLUMN** dialog box.
 - h. Select **V_ORPS.OR_NUM** from the **FIELD** selection box.
 - i. Type a heading in the **COLUMN HEADING** edit box.
 - j. Click on the **ADD** command button.
 - k. Select **CA_DATES.CA_NUM** from the **FIELD** selection box.
 - l. Type a heading in the **COLUMN HEADING** edit box.
 - m. Click on the **ADD** command button.
 - n. Select **CA_DATES.CA_TARG_COMPL** from the **FIELD** selection box.

Exercise 11 (cont.)

2. (Cont.)
 - o. Type a column heading the **COLUMN HEADING** edit box.
 - p. Click on the **ADD** command button.
 - q. Select **CA_DATES.CA_ACTL_COMPL** from the **FIELD** selection box.
 - r. Type a column heading in the **COLUMN HEADING** edit box.
 - s. Click on the **ADD** command button.
 - t. Click on the **CLOSE** command button.
3. Sort the report by occurrence report number.
 - a. Select **Sort** from the **RECORDS** menu to open the **SORT** dialog box.
 - b. Select **V_ORPS.OR_NUM** from the **COLUMN** selection box.
 - c. Click on the **ADD** command button.
 - d. Click on the **CLOSE** command button.

NOTE



Because you turned off the automatic query feature so you could add user-defined parameters, you will need to execute the query by clicking on the **QUERY NOW** tool bar button.

4. Save the query.
 - a. Select **Save** from the **FILE** menu.
 - b. Type a file name in the **FILE NAME** edit box.
 - c. Click on the **SAVE** command button.

Exercise 12

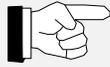
1. Specify criteria to select the latest version of reports for a user-defined Field Office and occurrence report year.
 - a. Select **Add Criteria** from the **CRITERIA** menu to open the **ADD CRITERIA** dialog box.
 - b. Select **CURRENTFLAG** from the **FIELD** selection box.
 - c. Type **Y** in the **VALUE** edit box.
 - d. Click on the **ADD** command button.
 - e. Click on the **CLOSE** command button.
 - f. Click on the **AUTO QUERY** tool bar button so it is no longer pressed in.
 - g. Click on the second cell in the **CRITERIA FIELD** row.
 - h. Click on the down arrow in the cell and select **FO** from the list.
 - i. Click on the second cell in the **VALUE** row and type [**Enter a Field Office**].
 - j. Click on the third cell in the **CRITERIA FIELD** row.
 - k. Click on the down arrow in the cell and select **YEAR** from the list.
 - l. Click on the second cell in the **VALUE** row and type [**Enter a Year**].

2. Display a distribution of the reports by Area Office description.
 - a. Select **Add Tables** from the **TABLE** menu to open the **ADD TABLES** dialog box.
 - b. Select **AREA_OFFICE** from the **TABLE** selection box.
 - c. Click on the **ADD** command button.
 - d. Click on the **CLOSE** command button.
 - e. Drag the **AO** field from the **V_ORPS** table to the **AO** field on the **AREA_OFFICE** table to create an inner join.
 - f. Select **Add Column** from the **RECORDS** menu.
 - g. Select **AREA_OFFICE.AO_DESC** from the **FIELD** selection box.
 - h. Type a column heading in the **COLUMN HEADING** edit box.
 - i. Click on the **ADD** command button.
 - j. Select **V_ORPS.IDX** from the **FIELD** selection box.
 - k. Type a column heading in the **COLUMN HEADING** edit box.
 - l. Select **COUNT** from the **TOTAL** selection box.
 - m. Click on the **ADD** command button.
 - n. Click on the **CLOSE** command button.

3. Do a descending sort by the number of occurrence reports.
 - a. Click in the second column on the **DATA PANE**.
 - b. Click on the **SORT DESCENDING** tool bar button.

Exercise 12 (cont.)

NOTE



Because you turned off the automatic query feature so you could add user-defined parameters, you will need to execute the query by clicking on the **QUERY NOW** tool bar button.

4. Modify the result set to include reports having a null value in the Area Office field.
 - a. Double-click on the inner join line to open the **JOINS** dialog box.
 - b. Mark radio button in the **JOIN INCLUDES** section of the box that is labeled: *ALL values from 'V_ORPS' and ONLY records from 'AREA_OFFICE' where V_ORPS.AO = AREA_OFFICE.AO*
 - c. Click on the **ADD** command button.
 - d. Click on the **CLOSE** command button.

5. Save the query.
 - a. Select **Save** from the **FILE** menu.
 - b. Type a file name in the **FILE NAME** edit box.
 - c. Click on the **SAVE** command button.