

## **Importing Data from Excel Into MINITAB Using ODBC**

### **Introduction**

The purpose of this document is to demonstrate how to use MINITAB's **File> Query Database (ODBC)** method to import data from a database (e.g. Excel) into MINITAB. There are many different choices to be made in setting up ODBC and many different ways to do it. This document presents two examples. The first sets up a simple one-time link that produces the code necessary to implement ODBC from VBA in Word. The second example creates a new link accessible from MINITAB any time a manual connection to the data file is required.

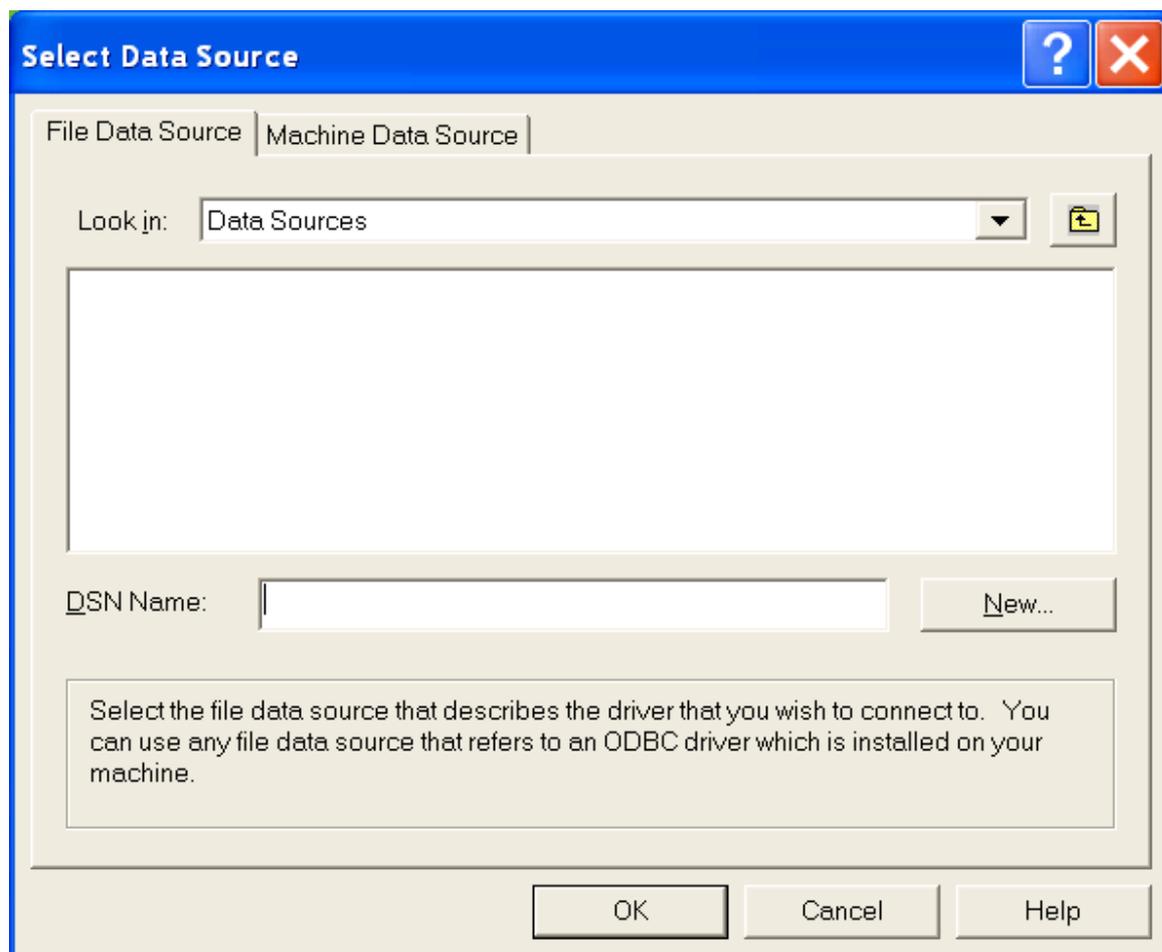
There are instructions for using ODBC posted at MINTAB's web site that start here:

<http://support.minitab.com/en-us/minitab/17/topic-library/minitab-environment/input-output/import-data-from-a-database-with-odbc/basics-of-odbc-in-minitab/>

**Example 1 – One-Time ODBC Connection**

In this example we will use an ODBC connection to import data from an Excel file into MINITAB. The target Excel file should already exist and have data in it. The code produced by this method can be saved in a MINITAB LOCAL macro and called as needed from MINITAB or using VBA from Word.

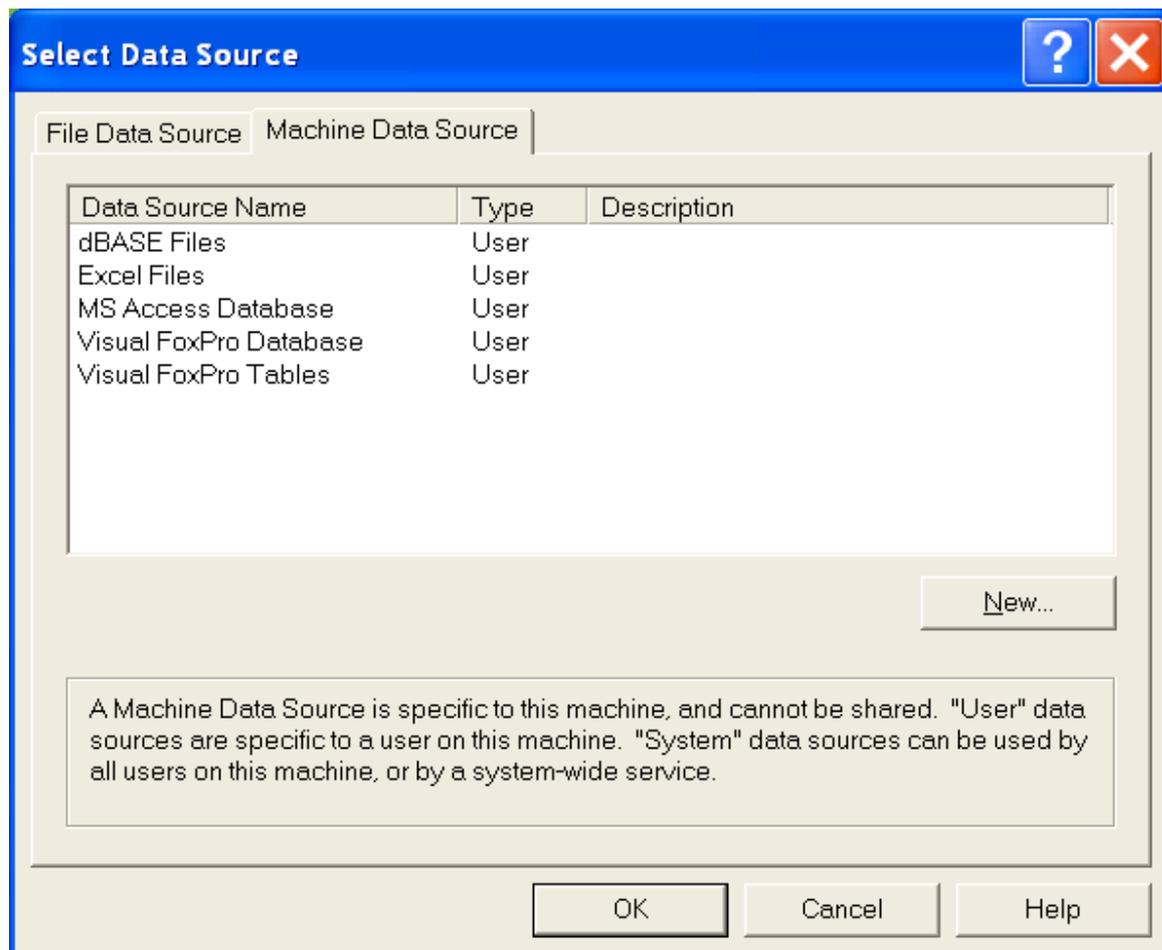
From MINITAB start configuring ODBC by clicking **File> Query Database (ODBC)**. You will see this window.



The **File Data Source** and **Machine Data Source** tabs select options that control the location of and user access to the data. See the following link for more information on this issue.

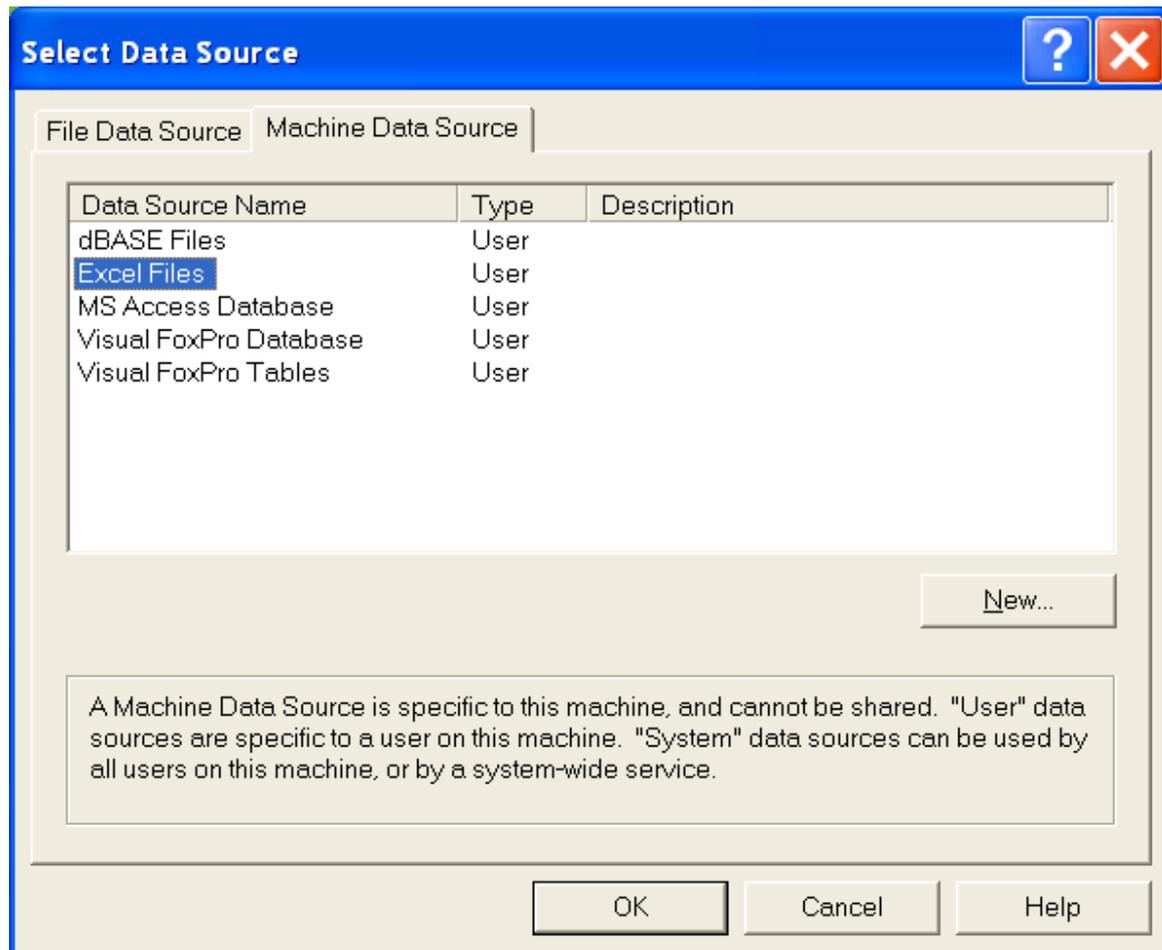
<https://msdn.microsoft.com/en-us/library/ee265698%28v=bts.10%29.aspx>

For the purpose of our example choose the **Machine Data Source** tab.

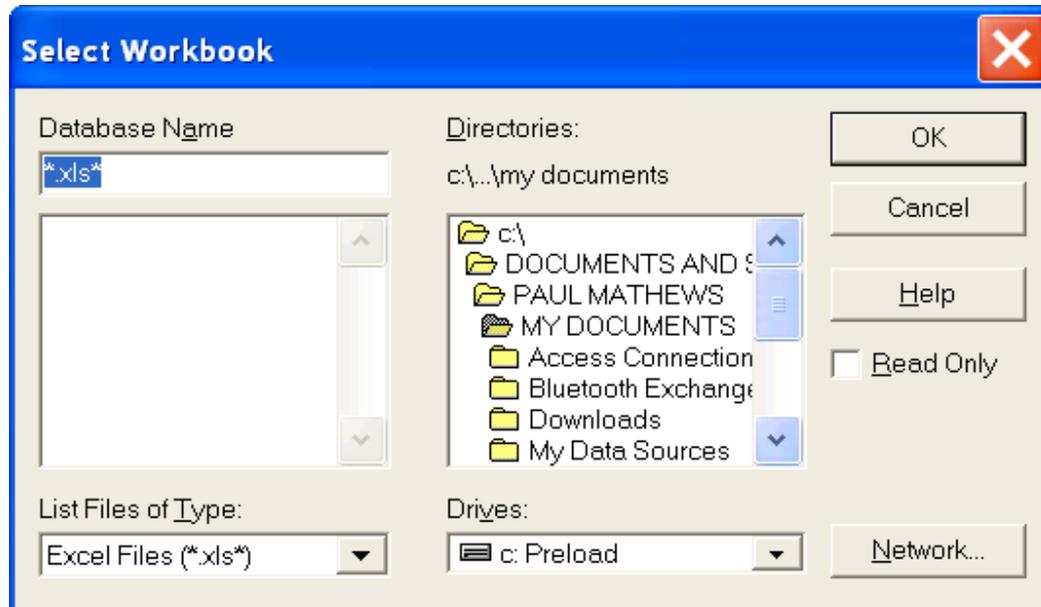


Choose **Excel Files** and click **OK**.

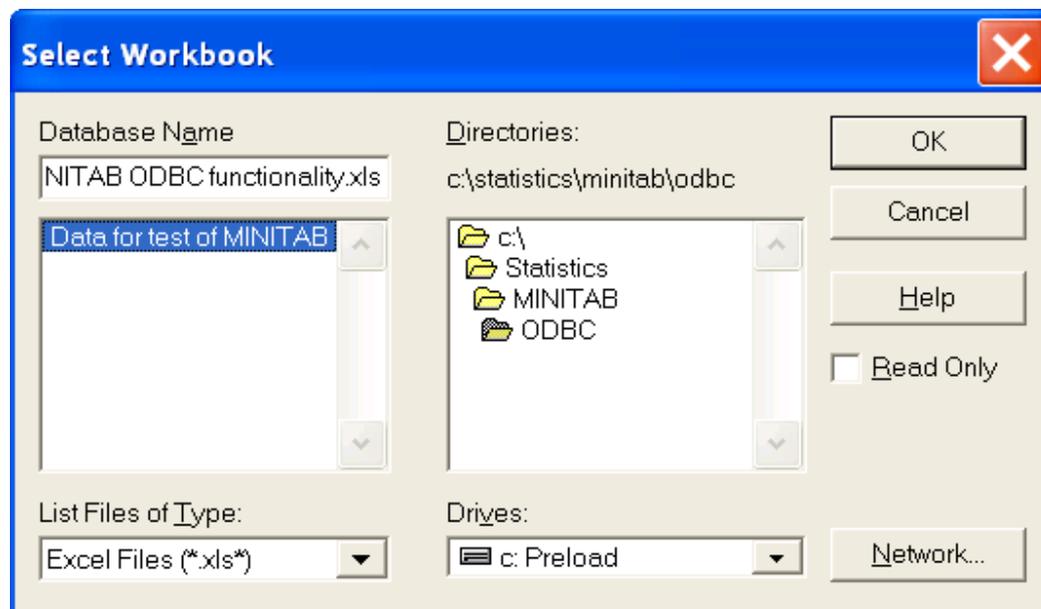
If you click **New** at this point you will be lead through a lengthy process of creating a new **Data Source Name** (DSN) link to your Excel file. The new DSN will be added to the list in the GUI so that you can access that Excel file by ODBC whenever you want. The steps to create the new link are described in Example 2.



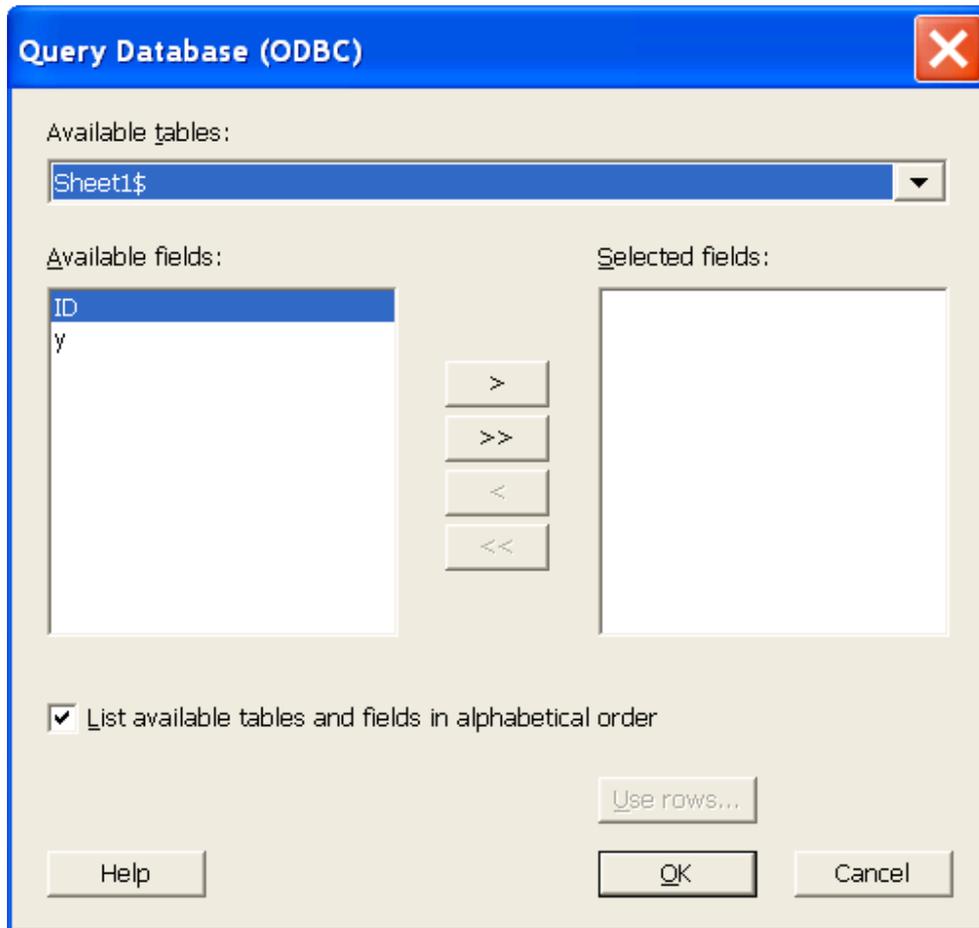
The program opens a file browser window. Navigate to the folder where your data file is located.



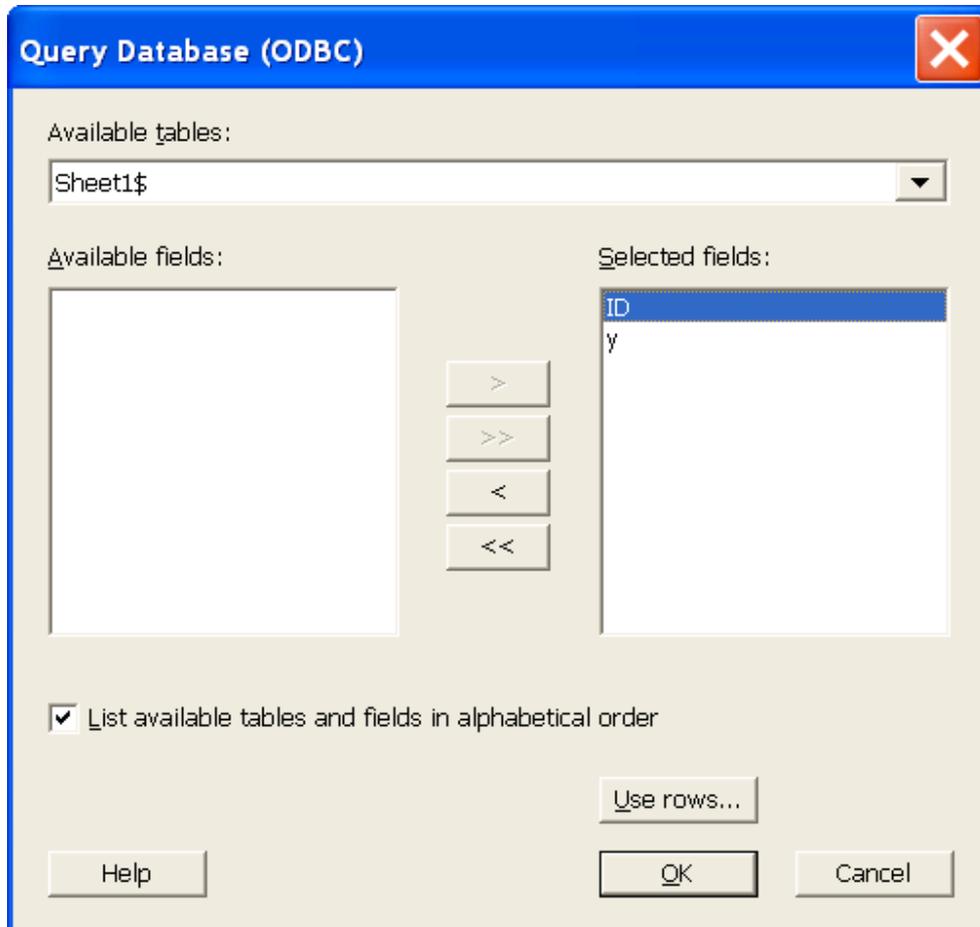
Click on your data file name in the list box on the left and then click OK.



This GUI shows the worksheets of the Excel file and the columns in those worksheets that are available for import.



Choose the worksheet from the Excel file in the **Available tables** list box and then select the columns that you want to import from Excel into MINITAB. Then click **OK**.



The ODBC command is complete and runs. The **Session** window shows the ODBC command and the imported data appear in columns C1 and C2 in the MINITAB worksheet.

The screenshot shows the Minitab interface with two main windows. The top window is the 'Session' window, which displays the following text:

```
Welcome to Minitab, press F1 for help.
MTB > ODBC;
SUBC>   Connect "DSN=Excel Files;DBQ=C:\Statistics\MINITAB\ODBC\Data for test of MI" &
CONT>   "NITAB ODBC functionality.xls;DefaultDir=C:\Statistics\MINITAB\ODBC;DriverI" &
CONT>   "d=1046;MaxBufferSize=2048;PageTimeout=5;";
SUBC>   SQLstring "SELECT `ID`,`y` FROM `C:\Statistics\MINITAB\ODBC\Data for test o" &
CONT>   "f MINITAB ODBC functionality.xls`. `Sheet1$`".
Successfully retrieved ODBC data set
Data Source Name: Excel Files
Database Name: C:\Statistics\MINITAB\ODBC\Data for test of MINITAB ODBC functionality.xls
DBMS Name: EXCEL
DBMS Version: 12.00.0000
MTB > |
```

The bottom window is 'Worksheet 1 \*\*\*', which contains a table with 12 columns (C1-C12) and 11 rows of data. The data is as follows:

	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12
	ID	y										
1	1	-1.15169										
2	1	-0.76759										
3	1	0.24369										
4	1	-0.03624										
5	2	-0.19261										
6	2	-0.16307										
7	2	-0.81095										
8	2	-0.90290										
9	3	1.17278										
10	3	-1.54969										
11	3	-1.01620										

The status bar at the bottom indicates 'Current Worksheet: Worksheet 1'.

If you intend to access data from this Excel file automatically using a VBA call from Word then create an EXEC macro containing the ODBC code. Copy the ODBC code from the **Session** or **History** window, then paste the code into a text file (use NotePad). Save the file with the *.mtb* file extension in your MINITAB Macros folder. Run the macro as needed from the **File> Other Files> Run an EXEC** menu.

Here is the ODBC code as copied from the **History** window. The ampersand (&) symbols at the ends of some lines are MINITAB's line continuation character for lines that are too long to break.

```
ODBC;  
Connect "DSN=Excel Files;DBQ=C:\Statistics\MINITAB\ODBC\Data for test of MI" &  
"NITAB ODBC functionality.xls;DefaultDir=C:\Statistics\MINITAB\ODBC;DriverI" &  
"d=1046;MaxBufferSize=2048;PageTimeout=5;" &  
SQLString "SELECT `ID`,`y` FROM `C:\Statistics\MINITAB\ODBC\Data for test o" &  
"f MINITAB ODBC functionality.xls`.Sheet1$`".
```

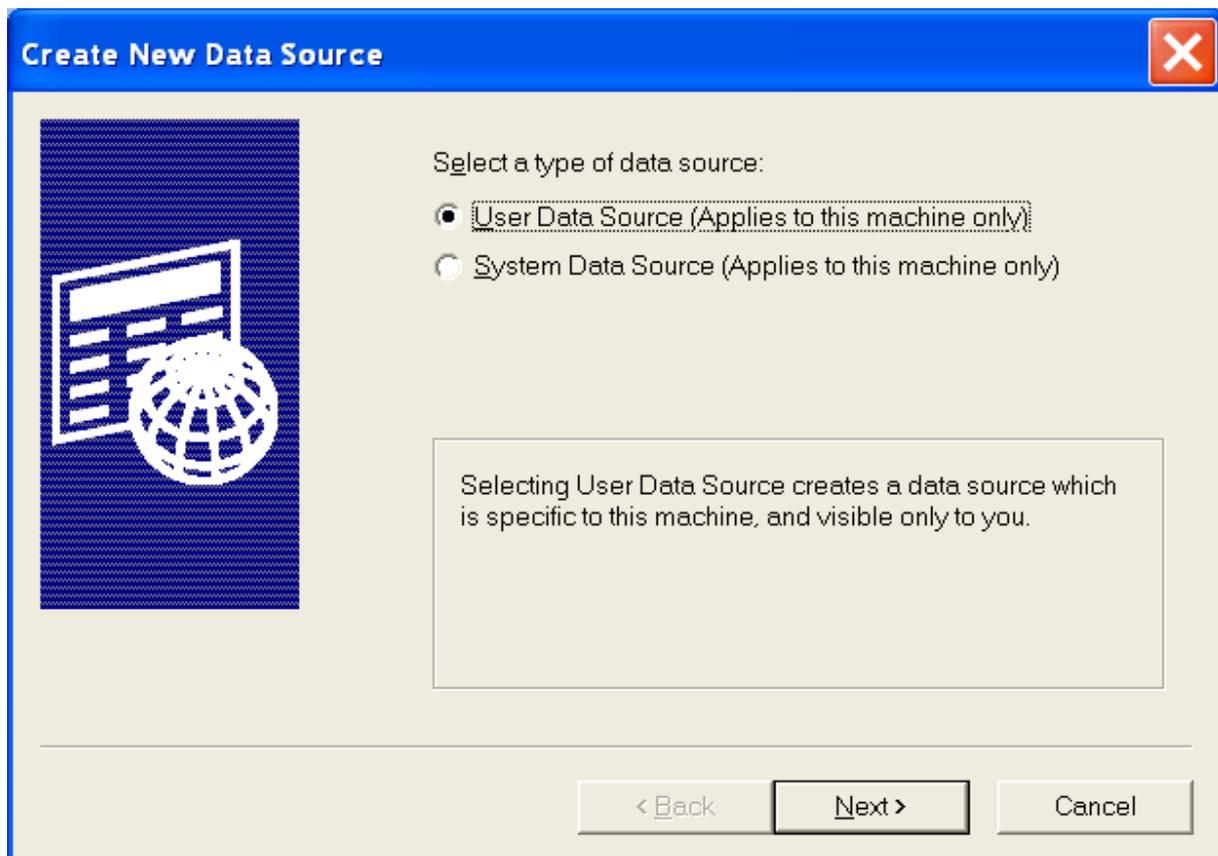
Here is the same code with the line breaks cleaned up. The lines from Connect to PageTimeout are all one MINITAB subcommand line strung together by the &s. Note the semicolon at the end of the PageTimeout command that ends the Connect subcommand. The SQLString command is broken over two lines and is the one that selects which columns to import from Excel into MINITAB. This code can be copied to the MINITAB command line and run or it can be saved as an EXEC macro with the *.mtb* file extension and then called as needed. The macro method is preferred for implementing ODBC calls from within VBA code in Word.

```
ODBC;  
Connect &  
"DSN=Excel Files;" &  
"DBQ=C:\Statistics\MINITAB\ODBC\Data for test of MINITAB ODBC functionality.xls;" &  
"DefaultDir=C:\Statistics\MINITAB\ODBC;" &  
"DriverId=1046;" &  
"MaxBufferSize=2048;" &  
"PageTimeout=5;" &  
SQLString "SELECT `ID`,`y` FROM `C:\Statistics\MINITAB\ODBC\Data for test of " &  
"MINITAB ODBC functionality.xls`.Sheet1$`".
```

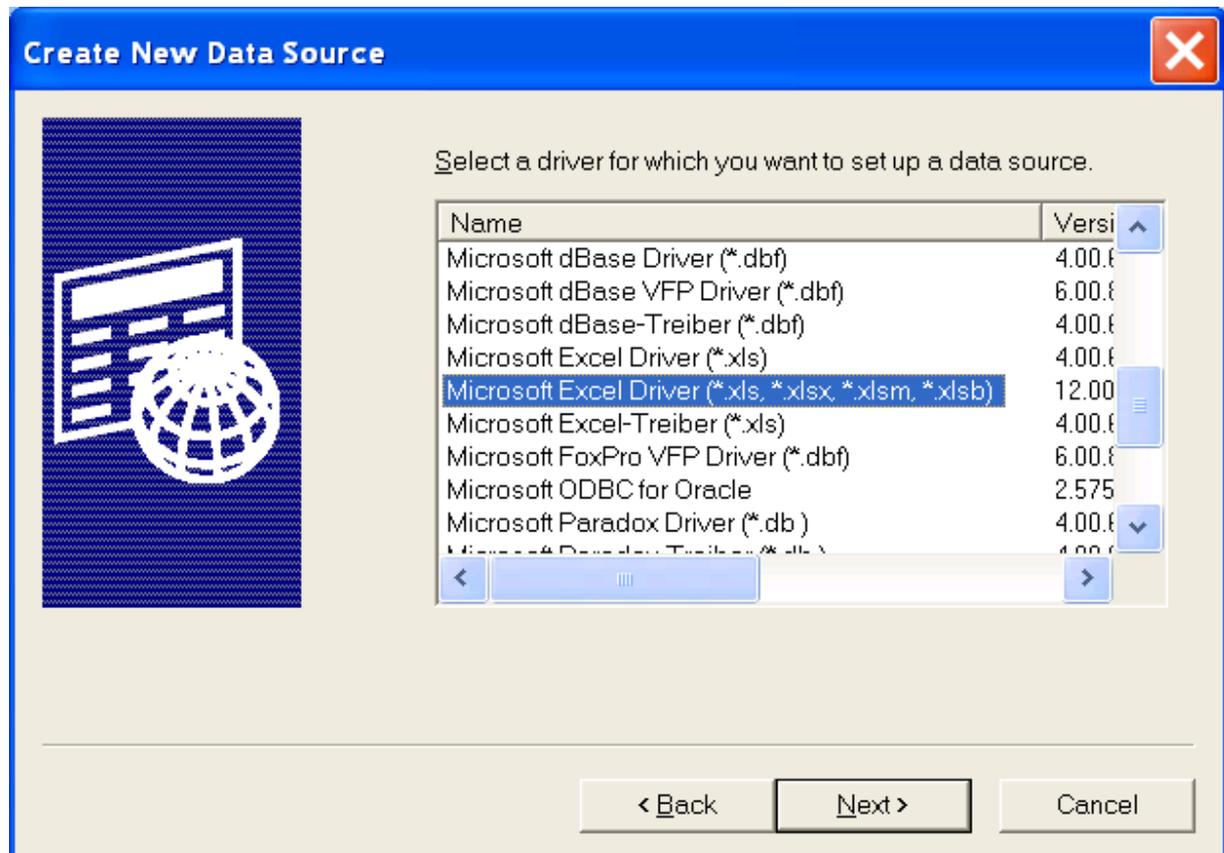
**Example 2 – New Permanent ODBC Connection**

This example creates a new permanent ODBC Data Source Name (DSN) that, after it's initially set up, simplifies making the ODBC connection to Excel from MINITAB.

From MINITAB click **File> Query Database (ODBC)**, then select the **Machine Source Data** tab, under the **Data Source Name** window select **Excel Files**, and then click **New**. In the next menu, shown below, choose **User Data Source** or **System Data Source** depending on who should have access to the data. Then click **Next**.



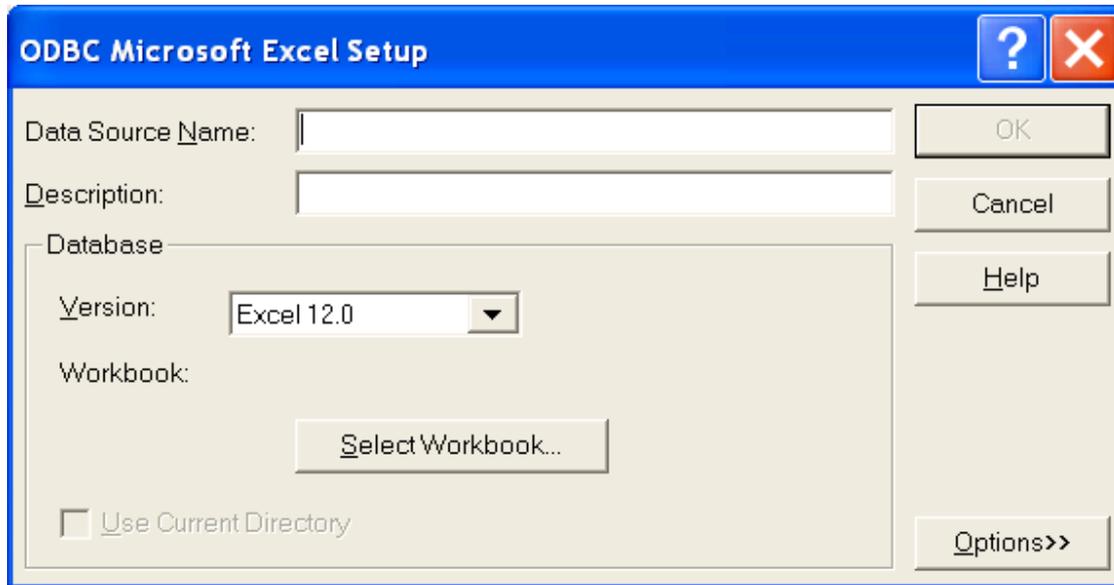
In the next menu choose a driver appropriate to the file type of the data source. There are several drivers available for Excel. The one chosen below is the most modern and the most likely to work for modern versions of Excel. Click **Next** and MINITAB will confirm your choice of driver as shown in the screen shot on the next page.



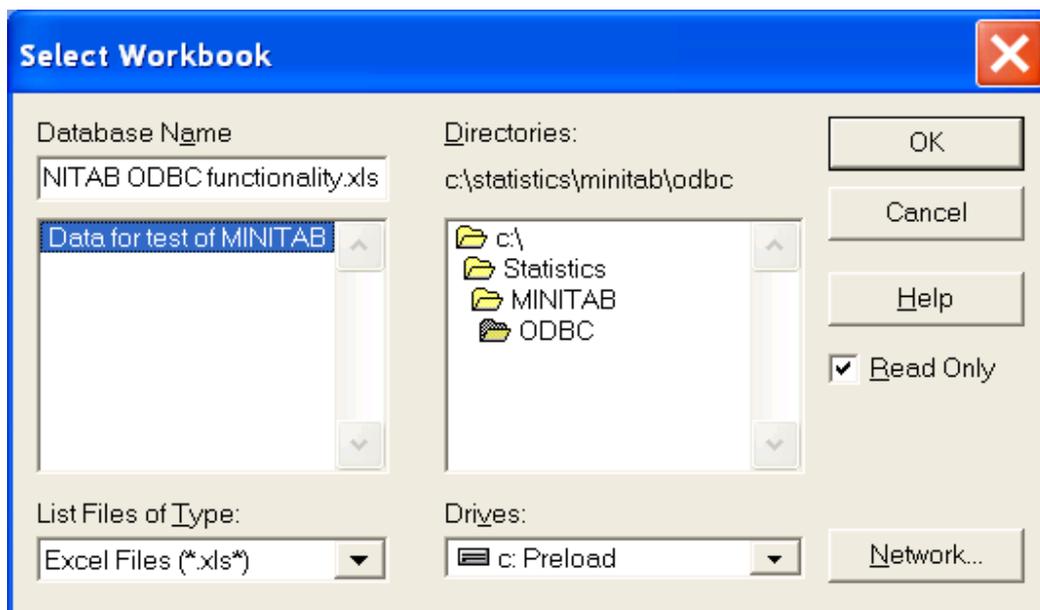
If you chose the correct driver then click **Finish**.



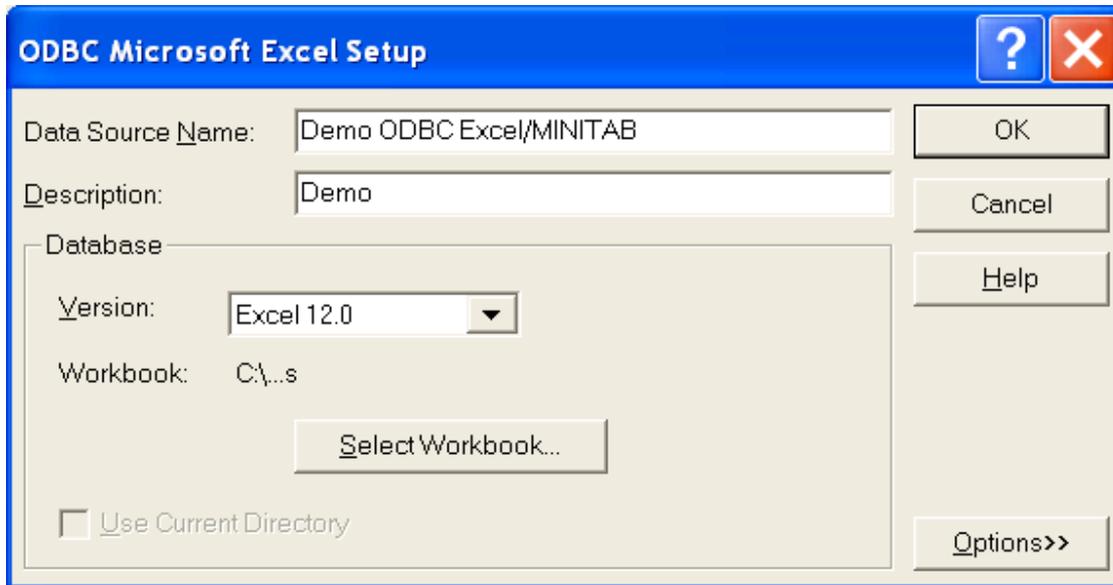
Enter a **Data Source Name** and an appropriate description of the data file or activity type. The name specified in the **Data Source Name** field (no more than 32 characters) will be used as the name of an ODBC data source name file with the *.dsn* file extension. Choose the Excel version, then click **Select Workbook**.



Navigate to the folder containing the data file (**Directories**), select the data file (**Database Name**), and then click **OK**.



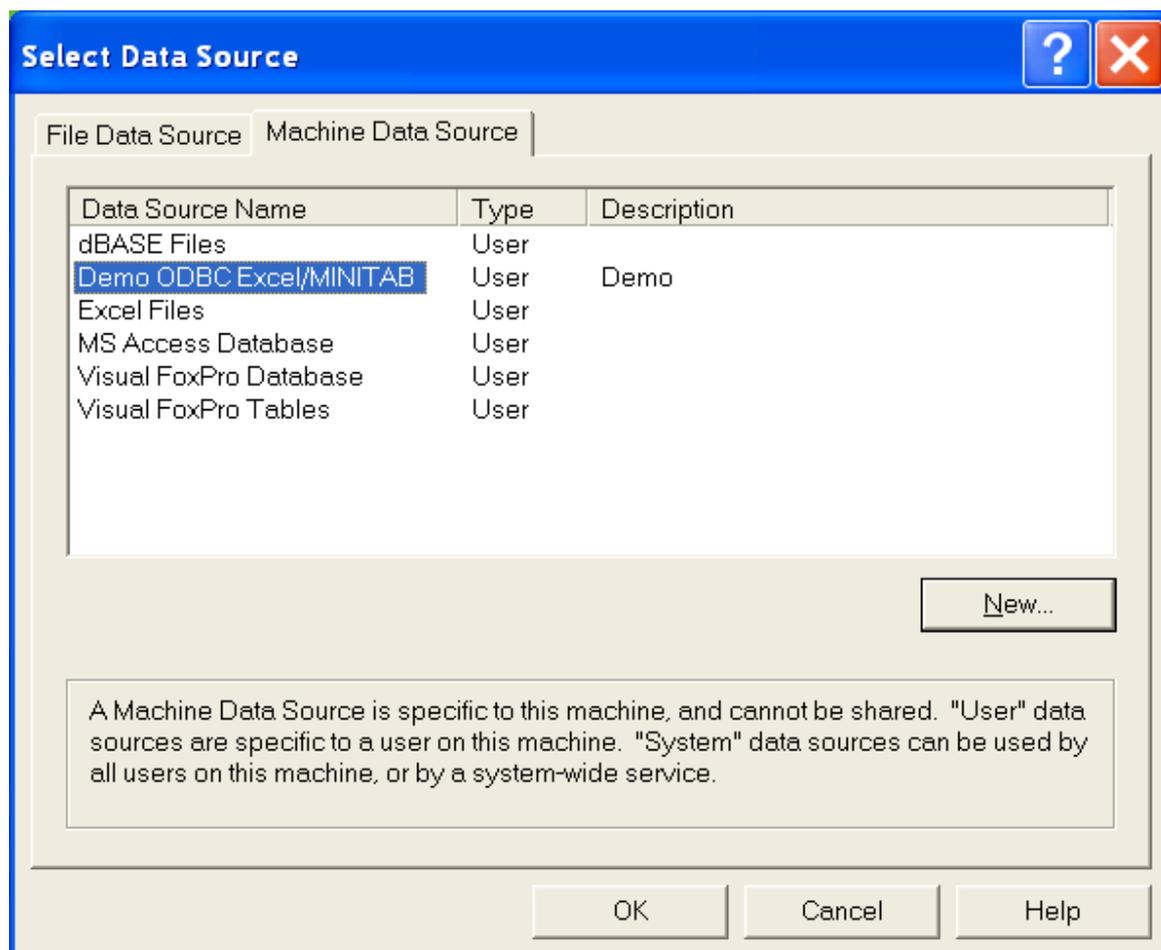
With a data source name specified and the workbook selected click **OK**.



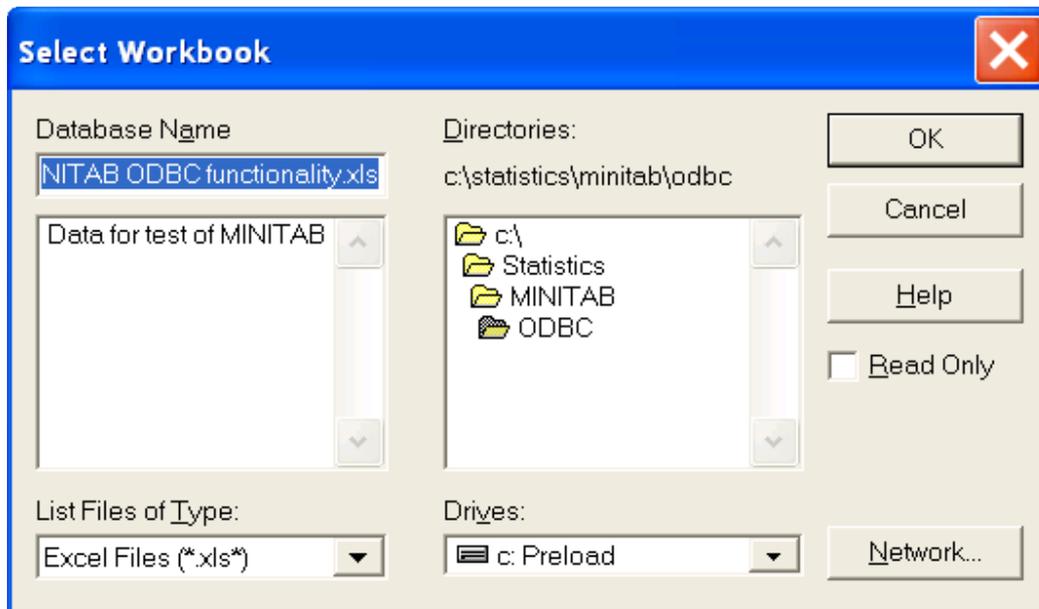
A new ODBC connection has been created and added to the list of available connections. Any time in the future that you want to make this ODBC connection you can choose this item from the list.

FYI: To remove a data source from this list, in Windows go to **Start> Control Panel> Administrative Tools> Data Sources (ODBC)**. Then select and delete the item from the list.

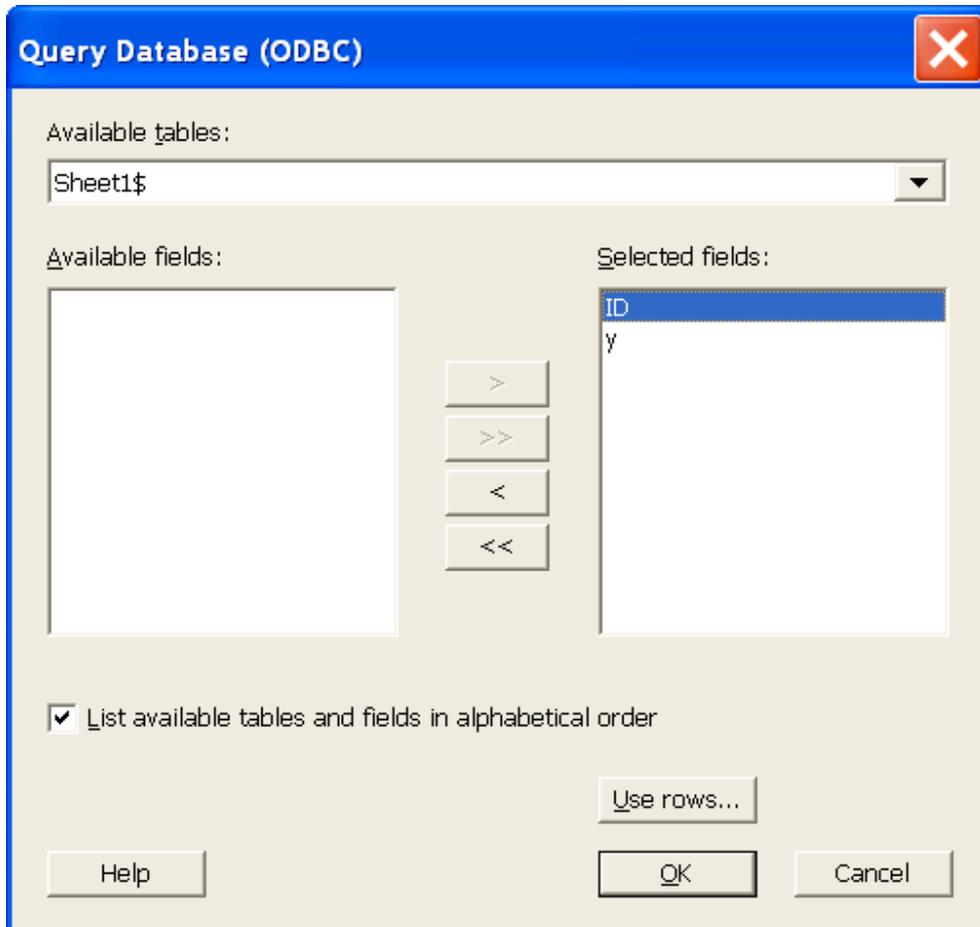
With the new connection selected click **OK**.



Confirm that the correct workbook is selected and click **OK**.



Choose the worksheet in the Excel file and the columns to be imported into MINITAB. Then click **OK**.



The ODBC code to make the Excel/MINITAB connection appears in the **Session** window and the data from Excel are imported into the **MINITAB Worksheet**.

The screenshot shows the Minitab interface. The **Session** window displays the following text:

```

Welcome to Minitab, press F1 for help.
MTB > ODBC;
SUBC>   Connect "DSN=Demo ODBC Excel/MINITAB;DBQ=C:\Statistics\MINITAB\ODBC\Data fo" &
CONT>   "r test of MINITAB ODBC functionality.xls;DefaultDir=C:\Statistics\MINITAB\" &
CONT>   "ODBC;DriverId=1046;FIL=excel 12.0;MaxBufferSize=2048;PageTimeout=5;"
SUBC>   SQLString "SELECT `ID`,`y` FROM `C:\Statistics\MINITAB\ODBC\Data for test o" &
CONT>   "f MINITAB ODBC functionality.xls`.`Sheet1$`".
Successfully retrieved ODBC data set
Data Source Name: Demo ODBC Excel/MINITAB
Database Name: C:\Statistics\MINITAB\ODBC\Data for test of MINITAB ODBC functionality.xls
DBMS Name: EXCEL
DBMS Version: 12.00.0000
MTB > |
    
```

The **Worksheet 1** window shows a table with the following data:

	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12
	ID	y										
1	1	-1.15169										
2	1	-0.76759										
3	1	0.24369										
4	1	-0.03624										
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7	2	-0.81095										
8	2	-0.90290										
9	3	1.17278										
10	3	-1.54969										
11	3	-1.01620										

Current Worksheet: Worksheet 1