

MIM Excel Add-in Training Guide



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CHAPTER 1

Getting Started

Objectives

Learn about the following MIM Excel® Add-in features:

1. Add data using the following methods: browse data, search symbols, search descriptions and select a recently used data item.
2. Merge and edit data
3. MIM Queries/Run All Queries
4. Get Records
5. SHOW/WHEN
6. Forward curve
7. Load Data
8. Get Options and the Options Facility
9. Using MIMICExcel



By installing MIMIC, version 3.0 or higher, you have access to MIMICExcel. This functionality will enable you to create queries and post the results easily to an Excel spreadsheet. See the “[MIMIC Installation and Purchase Options](#)” chapter in the *Client Application Installation Guide* for more information on installing MIMIC to have this functionality.

10. How to pass the results of a MIM query into the cell of a worksheet with XMIMGetData.
11. Set configuration options and decimal place settings
12. How to get help

Installing the MIM Excel Add-in

Go to the LIM "[Downloads](#)" Web page and download the latest MIM Excel® Add-in software file. For installation instructions, see the chapter "[MIM Excel Add-in Installation](#)" in the *Client Application Installation Guide*.



You must have Java version 1.4 or higher. To obtain a free Java download, go to: <http://www.java.com>.

Overview

The MIM Excel Add-in software provides direct access to time series data from a MIM server. Using the MIM menu, users can extract daily futures prices and many other data series. The MIM add-in is a client application for the MIM server. The MIM server provides time series data to the enterprise over the network.

The MIM Excel Add-in creates the **MIM** menu on the Excel menu bar. Using the **MIM** menu, users can create requests for data and populate Excel worksheets with values. The requests are saved in the Excel workbook using a hidden worksheet.

Highlights of the MIM Excel Add-in:

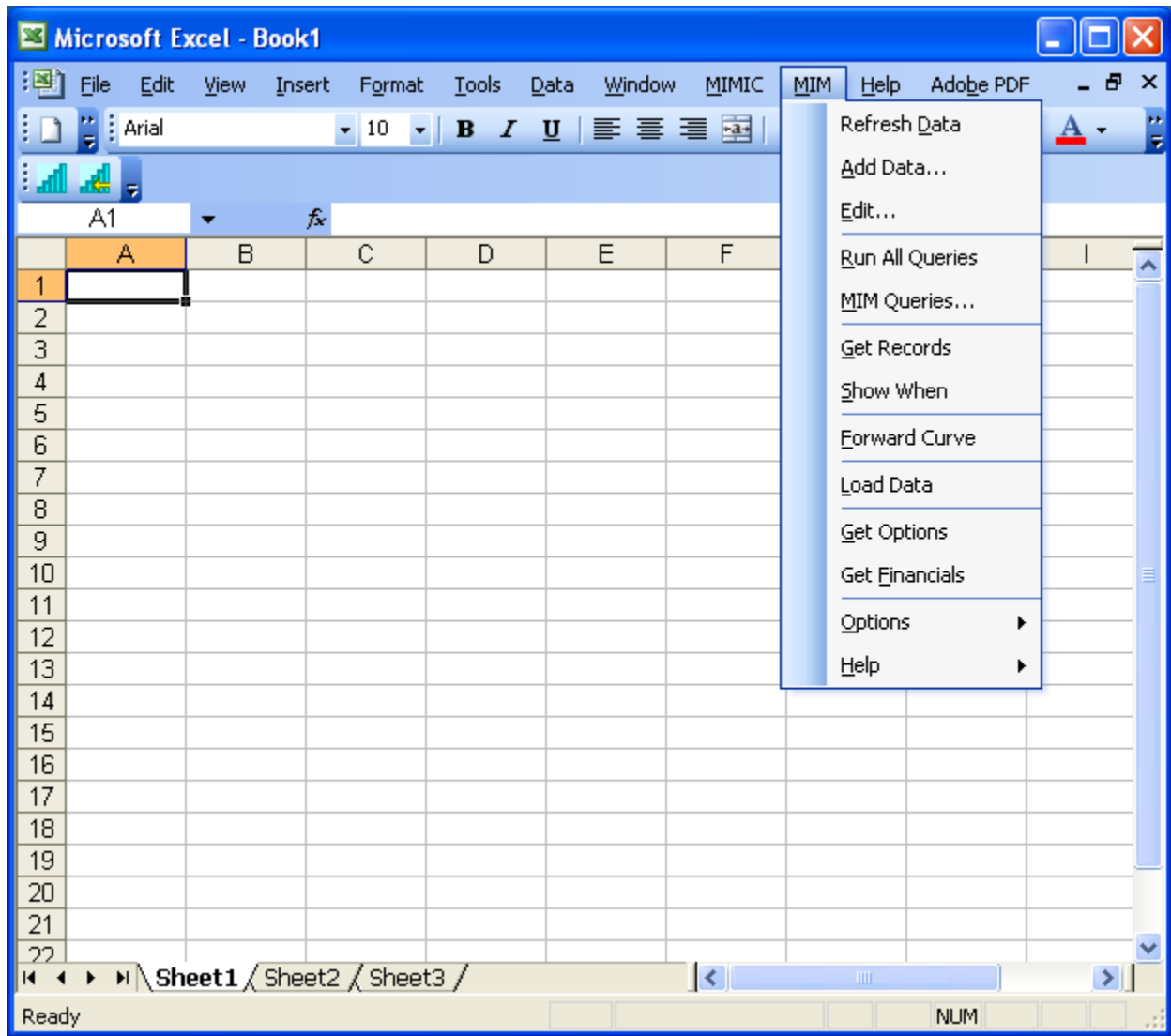
- Data requests are created and edited using a step-by-step wizard dialog.
- Includes an integrated MIM schema browser and schema search to locate data.
- Includes support for units of measure conversions.
- Features several types of futures contract reshaping, including prompt contract offsets and several switching day policies.
- Data requests are stored in the Excel workbook in a hidden sheet. Data refresh is a single click menu operation.
- Workbooks with data requests can be attached to emails and used by any other user with the MIM Excel Add-in software.
- The functionality of MIMIC is available while working within Excel.

The steps for creating data are:

1. Request data using the data browse, symbol search or description search.
2. Refine data using date delimiters.
3. Refresh the worksheet to display the data.
4. Specify the location on the Excel worksheet to create data.

Once the MIM Excel Add-in is installed, Excel will have a new menu item labeled **MIM**.

The following provides details on each menu item.



The MIM Excel Add-in menu items perform the following tasks:

- **Refresh Data** - Refresh the data in the workbooks by downloading the data from the MIM server.
- **Add Data** - Add a new data item to the MIM. Data requests are configured in the workbook.
- **Edit** - Change the parameters of previously created MIM data requests.
- **Run All Queries** - Runs all queries setup by the user.
- **MIM Queries** - Create and edit queries in this menu.
- **Get Records** - Run queries on multiple data blocks.
- **Show When** - Create Show/When queries easily within one dialog menu.
- **Forward Curve** - Create a Forward Curve chart from a user selected futures contract.
- **Load Data** - Enter data from an Excel spreadsheet into the MIM database.
- **Get Options** - Use Get Options to access the special columns established for analyzing options.

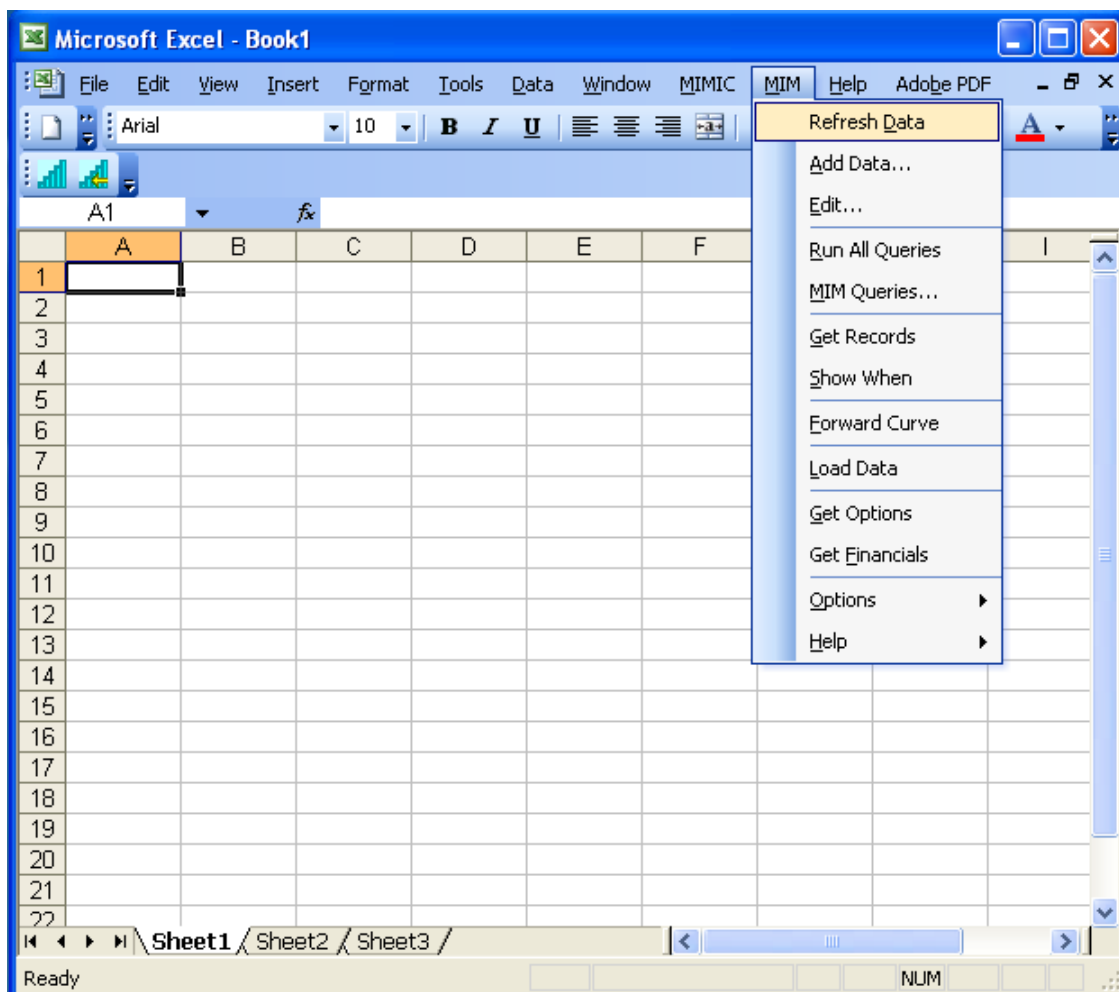
- **Get Financials** - Functionality no longer available.
- **Options** - Set network parameters and decimal place settings.
- **Help** - Information about the MIM Excel Add-in such as version number and access to the Excel Web pages and Online Tour on the LIM Web site.

CHAPTER 2

Refresh Data

Refresh Data from the MIM Menu Bar

Refresh Data runs all data requests that have been setup with **Add Data** (they go into **MIM>Edit** as a list). These are normal data retrieval requests. In addition, all MIM queries that have been stored are run. Remember that all data requests and MIM queries are stored locally in the .xls spreadsheet file. If nothing is present in **MIM>Edit** or **MIM>MIM Queries** nothing will be returned.



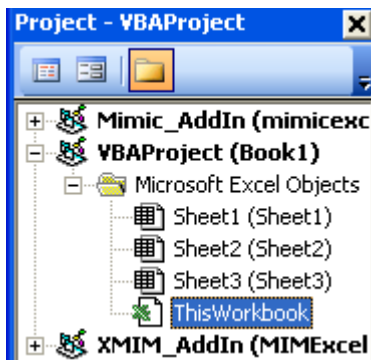
Auto-Refresh Data

By following the Visual Basic instructions below, a user can set the **Add Data** and query results to automatically refresh when an Excel spreadsheet is opened.

Visual Basic Instructions for Auto-Refresh

To auto-refresh the MIM data, you need to run a Visual Basic subroutine with a **RunAll** statement within an Excel Object. To accomplish this, do the following steps:

1. From the menu bar in Excel, select **Tools>Macro>Visual Basic Editor**.
2. Double click the **ThisWorkbook** icon (as shown in the graphic below).



3. Insert the following code:

```
Private Sub Workbook_Open()  
    Application.Run ("MIMExcel1_1.xla!RunAll")  
End Sub
```

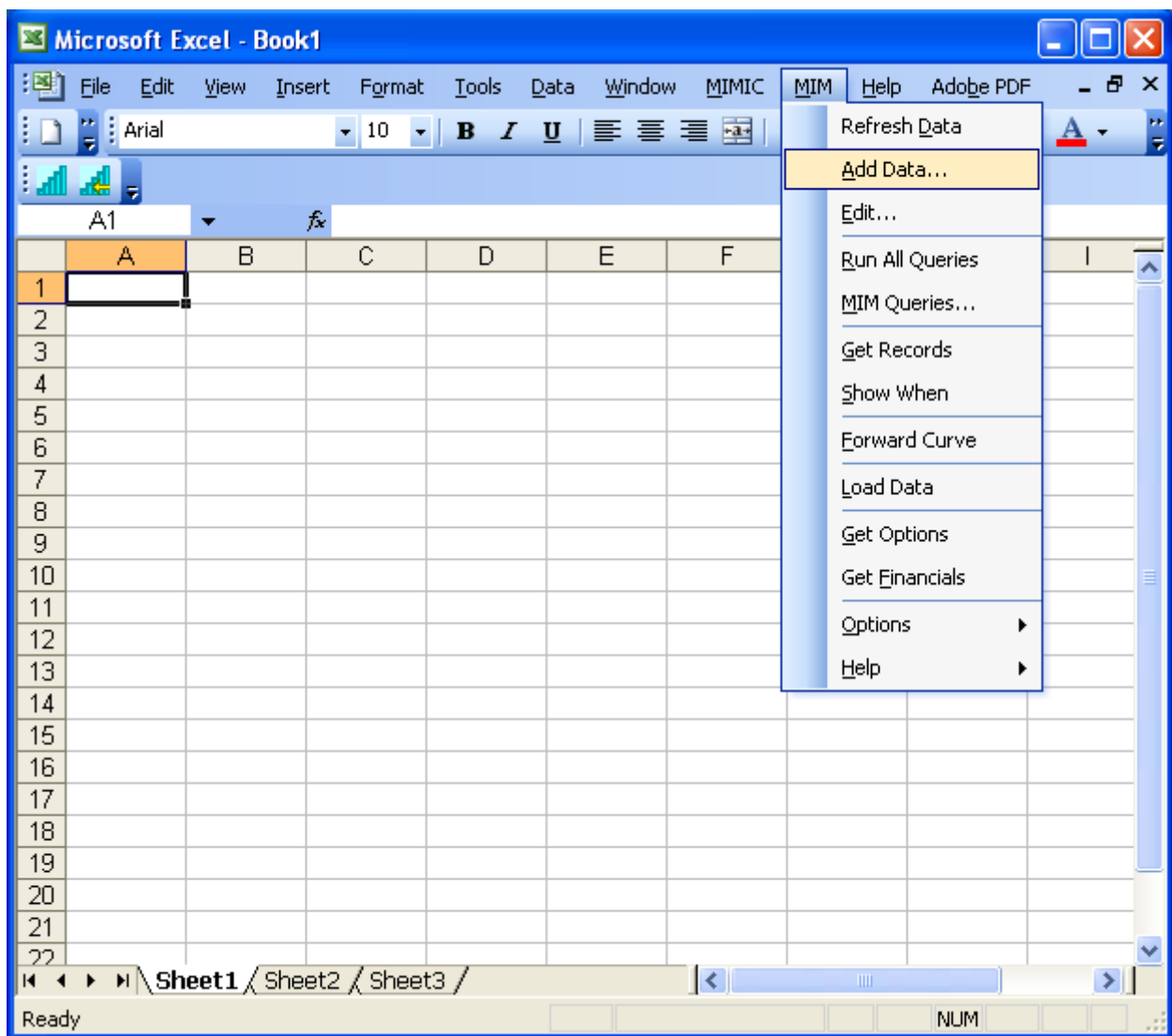
4. Save the changes.

The workbook (.xls file) you have made the changes to will now automatically refresh when opened. The auto refresh only applies to the workbook you have saved the settings to. Repeat these steps on any workbook files you would like to automatically auto refresh when opened.

CHAPTER 3

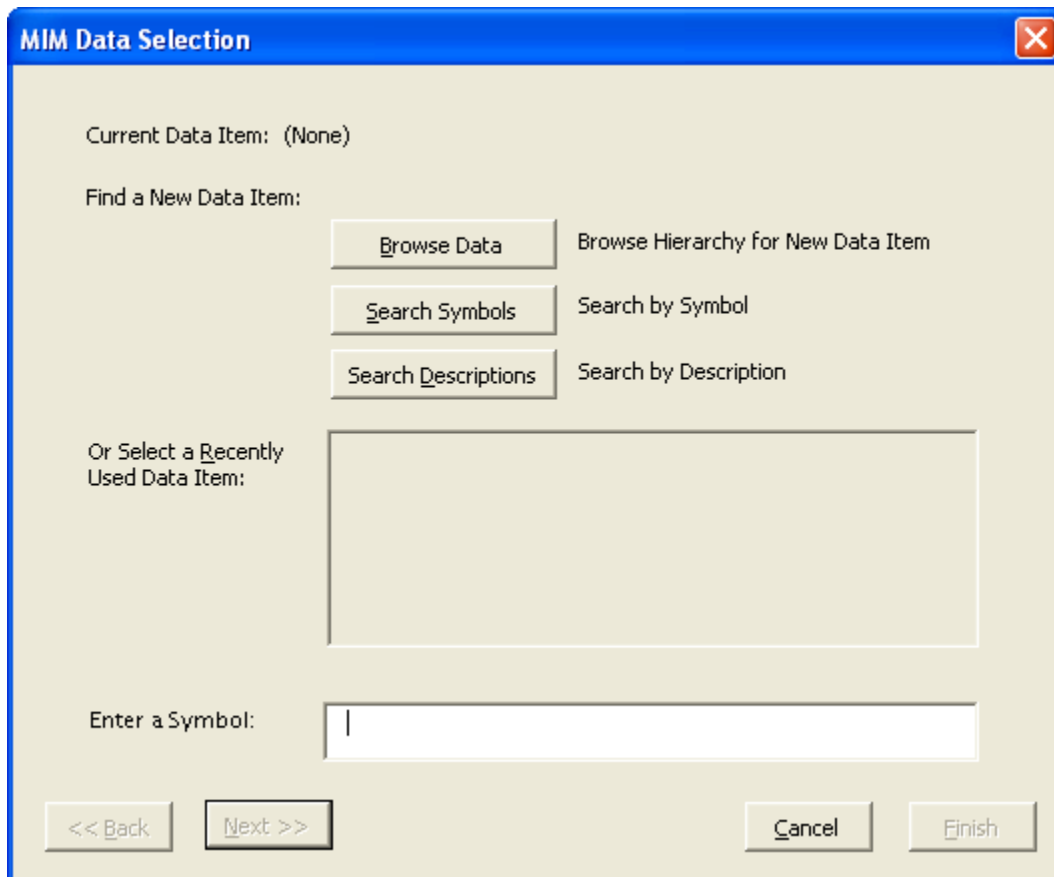
Add Data

This is a wizard that allows simple data retrieval requests to be setup. The first step to begin requesting data is to select **Add Data** from the **MIM** menu.



Find a New Data Item

This is the first dialog in the add data process. There are four ways to determine the MIM symbol and corresponding column information for the data request. This lesson will take you through each data request method, beginning with a **Browse Data** example.



The four data request methods are:

- **Browse Data** - allows you to look through the database manually. This is a visual map to all data contained in the MIM database. You are placed at the top level of the database i.e., TopRelation. Double-click through the categories to navigate. The database is organized by market area. You can also use the folder buttons to go up and down through the categories.
- **Search Symbols** - performs a search on MIM symbols contained in your database. Enter a symbol to search for and the symbol along with its description will be returned. You can direct the search to be case sensitive and also limit the number of answers returned.
- **Search Descriptions** - performs a search on MIM symbol descriptions. You can direct the search to be case sensitive and also limit the number of answers returned.

- **Select a Recently Used Data Item** - If data requests have already been made, you can request a recently created data item.




To clear the display of the Recently Used Data Items, delete the **WzRcltms.xmi** file located in the C:\LIM\XLA1.1 folder. This file will be re-created when a new Data Item is used.

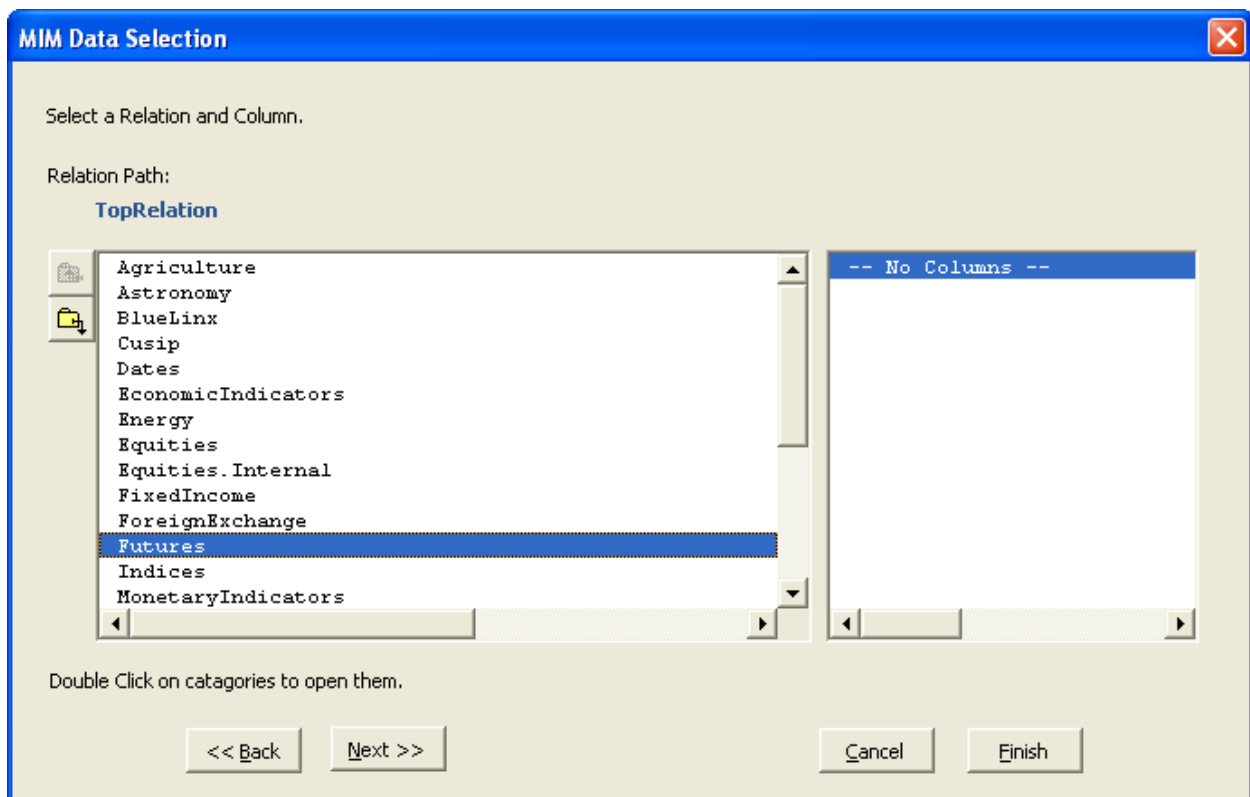
Click on **Browse Data** in the Excel dialog and then proceed to the next step.

Browse Data Example

The MIM browser displays the schema of the MIM server. The schema consists of categories (folders), relations (symbols) and columns (fields). By double clicking on the categories, you can drill down into the folders and locate the symbols available there. Once you reach a symbol, the browser will display the available columns.

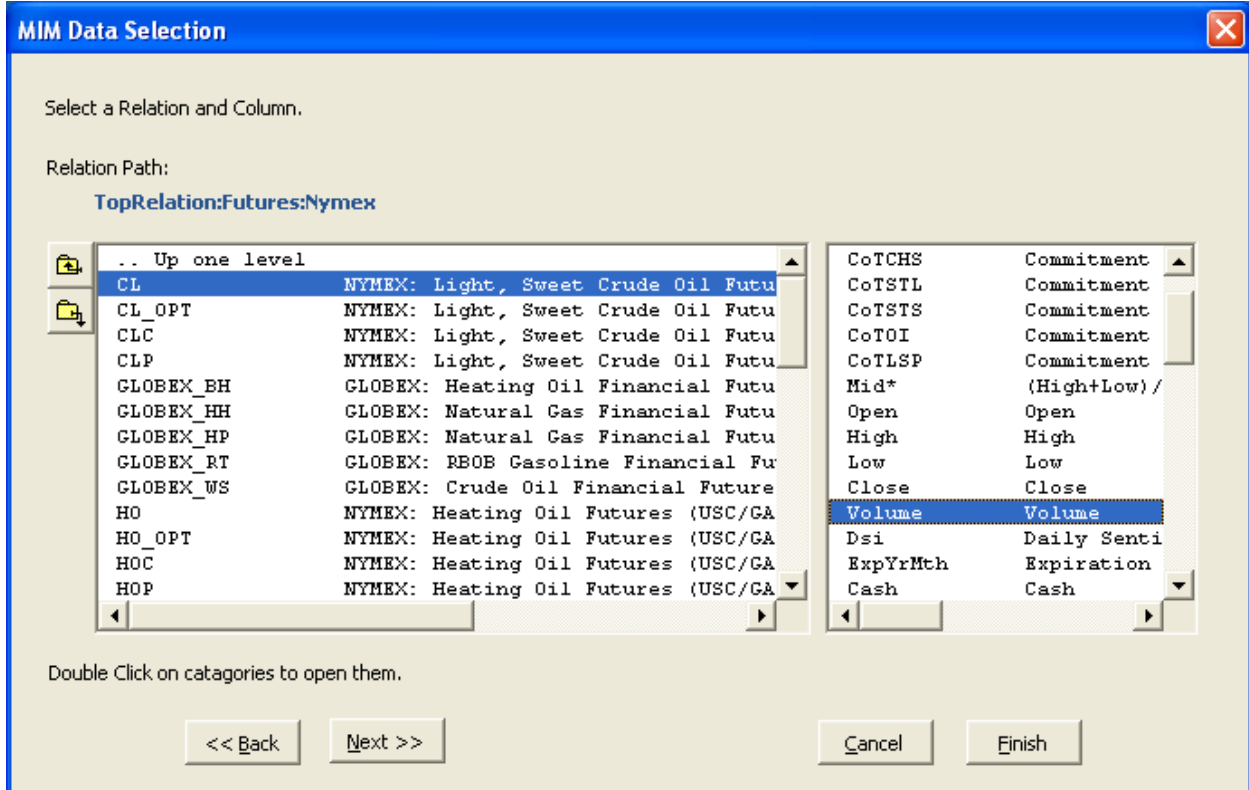
Let's look at an example that locates the symbol **CL** that stands for **Crude Oil, Light Sweet Futures**.

From the Excel dialog, double-click on **Futures** or select **Futures** then click the folder button with the down arrow. 



Next, double click on **Nymex** or select **Nymex** and the folder button.

Your browser should now look like the graphic below. Select **CL – NYMEX: Light, Sweet Crude Oil Futures** in the left-hand column. In the right-hand column, select **Volume**, then select **Next>>**.



Select the desired date and time range.

The following outlines the date, time and data retrieval options:

Get Data From

- Choosing **the start of the available data** will make the start date the first available data point date.
- Choosing **the last...N Time Period** will narrow down your start date by your selections. (e.g., 3 months, 10 years, 7 quarters)
- Selecting a **specific date and time** will take normal mm/dd/yyyy calendar dates. If there are specific time constraints for the data, you will need to also specify a time.

Get Data To

The end date for the data is chosen here.

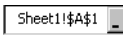

- the end of the available data** will make the end date the last data point in the database.
- a specific date and time** will take a normal date and/or time for the data to stop.

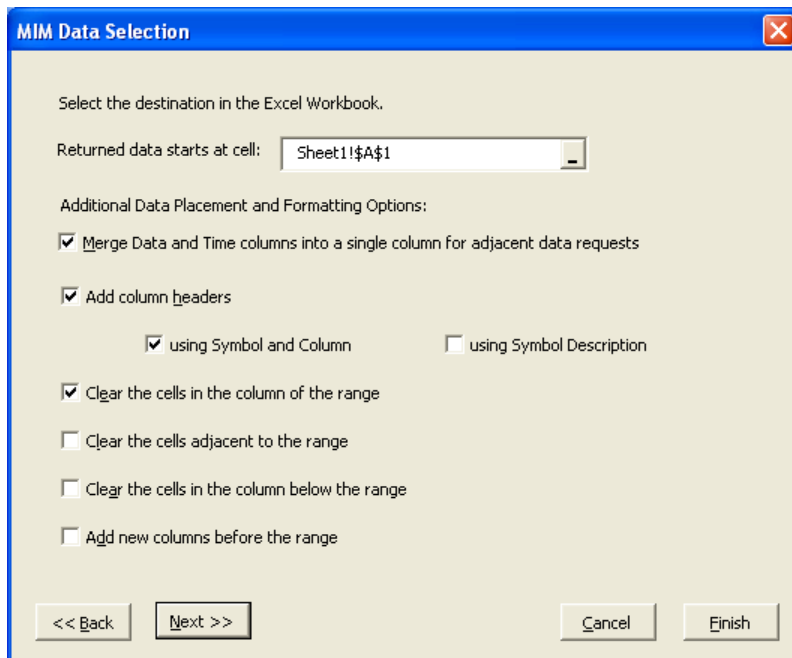
Additional data retrieval options

- Use data resolution of **N Time Period**. This option defaults to **1 day** (e.g., Daily). Sometimes you may have a need to look at weekly, monthly, or yearly data. The time period has a pull-down menu for this choice.
- Fill missing data points with X. A default **NaN** is filled if there is no data point available for a given date. You can pull this down to have the data filled in other ways (e.g., Fill forward or backward, linear interpolated values, logarithmic interpolated values)
- If you have a real time feed connected to the MIM server, check **Use Current Tick Data**. (Consult your LIM System Administrator as this is not common)
- Finally, if you'd like MIM generated summary statistics to go along with the data request, check **Include Summary Statistics**. The statistics included are: Sum, Average, Average Positive, Average Negative, Percent Positive, Percent Negative, Highest, Lowest, Standard Deviation, Z stat, and Variance.

After entering your date information, click on **Next>>** in the Excel dialog and then go to the next step in the lesson.

This part of the Excel dialog shows where the data will display in the Excel workbook. Select the cell in the Excel workbook where you want the data to display.

Another method is to select the bar next to the destination cell.  The **MIM Data Selection** dialog closes and the Excel Worksheet opens. Select the desired cell to store the data, then select the  button to return to the **MIM Data Selection** dialog.



The following outlines the destination, data placement and formatting options:

Returned data starts at cell

This is where the first date will be placed. The first data point will be in the cell immediately to the left. You can type the location directly (e.g., Sheet1!\$B\$1), select the cell in the Excel spreadsheet or select the button.

Additional Data Placement and Formatting Options (check which ones)

- a. **Merge Data and Time Columns into a single column for adjacent data requests.** By default all adjacent requests with the same time parameters are merged to have a single data column. If you uncheck this box, the requests will overwrite the data into the sheet.
- b. **Add column headers using Symbol and Column.** This option will add the symbol and column as a header to the request.

Example:

Date	MSFT (Close)
4/19/99	81
4/20/99	83.125
4/21/99	82

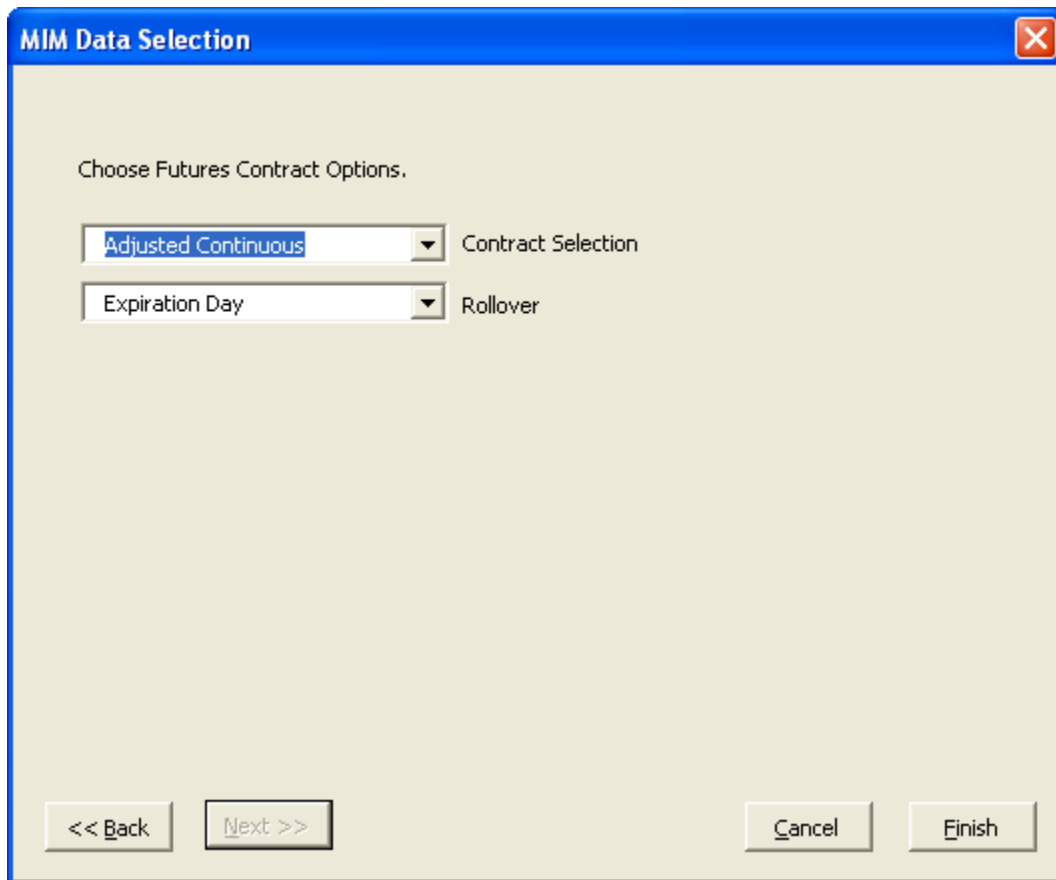
- c. **Add column headers using Symbol Description.** This option will enter the symbol description as the header.

Example:

Date	Microsoft Corp (CUSIP 59491810)
4/19/99	81
4/20/99	83.125
4/21/99	82

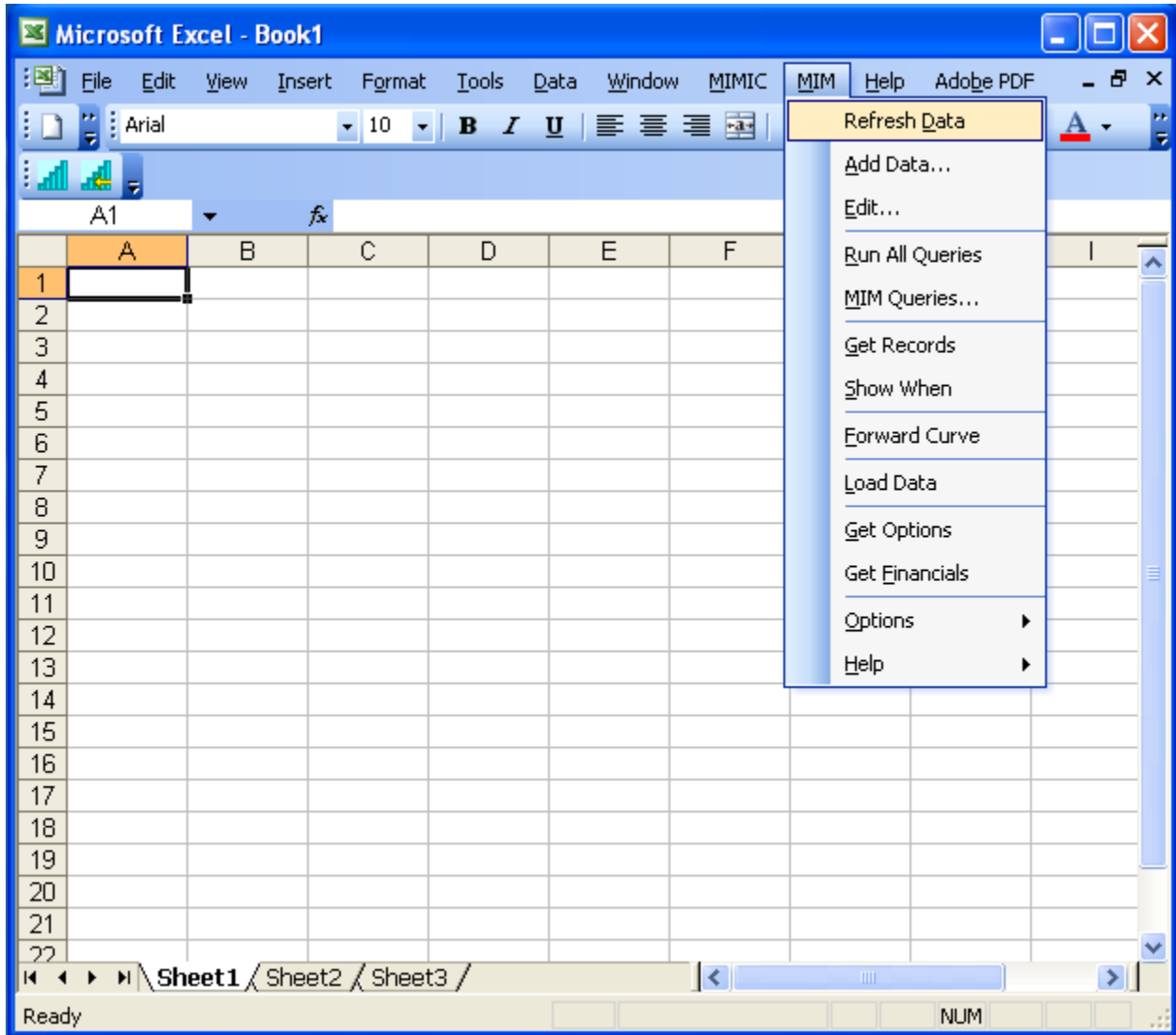
- d. **Clear the cells in the column of the range.** This will clear any other data contained in the destination column every time the request is made.
- e. **Clear the cells adjacent to the range.** This will clear data that is not separated by empty cells around the range. This is used to put data into areas on a spreadsheet.
- f. **Clear the cells in the column below the range.** When this option is checked data in the cells below the range will be cleared.
- g. **Add new columns before the range.** New columns will be added on every request. To use this feature all of the data requests should have the same cell target. This is useful to create a portfolio of values and avoid editing several requests to remove a single request.

Choose the **Futures Contract Options** then select **Finish**.

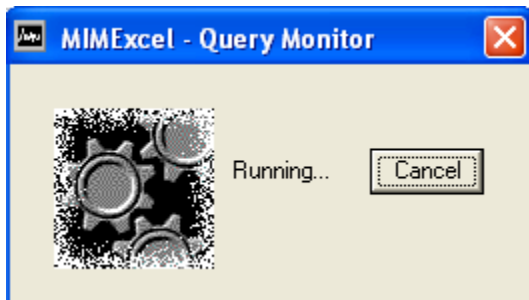


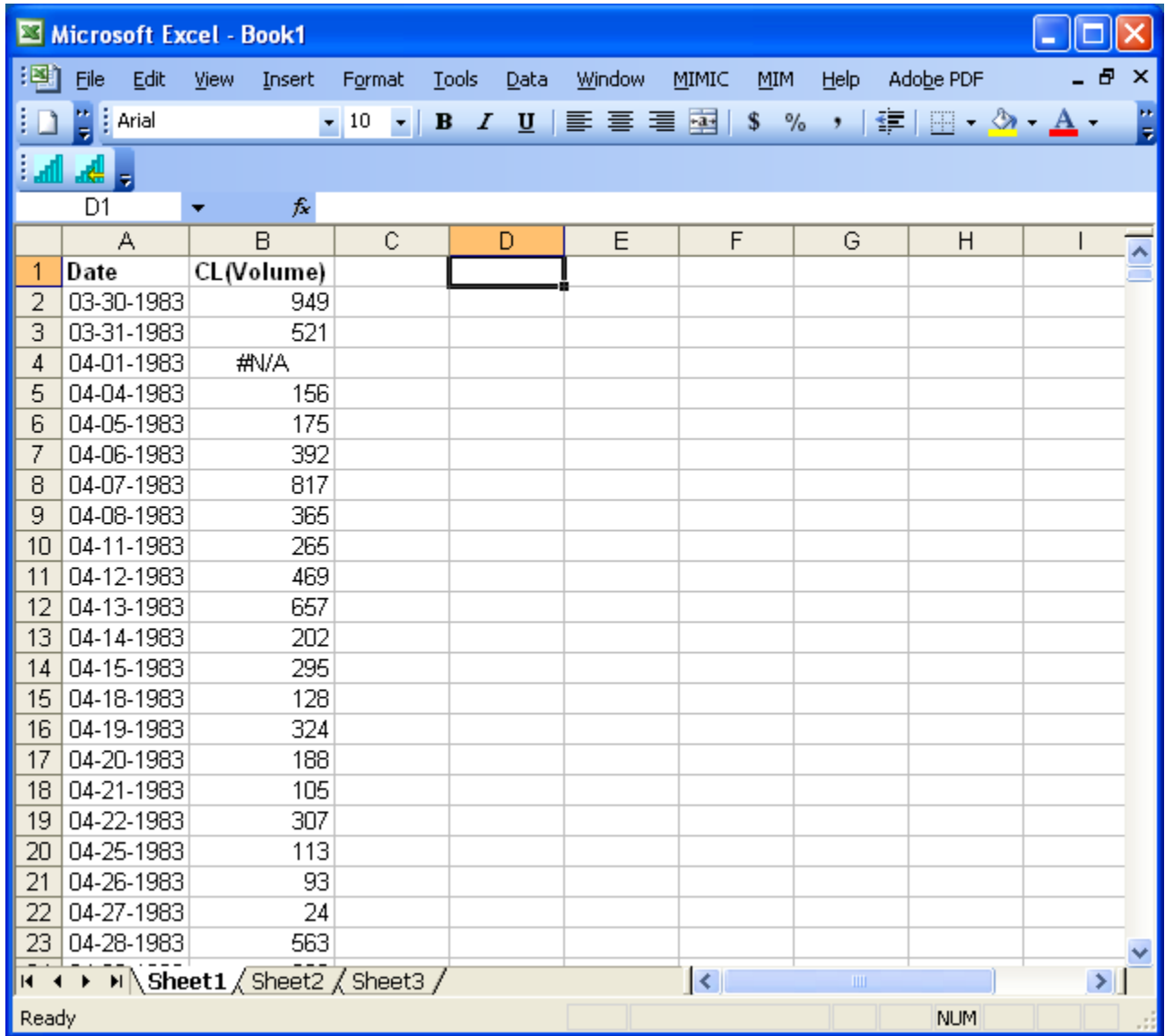
The screenshot shows a dialog box titled "MIM Data Selection" with a blue header and a close button in the top right corner. The main area is light beige and contains the text "Choose Futures Contract Options." Below this text are two dropdown menus. The first dropdown menu is labeled "Contract Selection" and has "Adjusted Continuous" selected. The second dropdown menu is labeled "Rollover" and has "Expiration Day" selected. At the bottom of the dialog box, there are four buttons: "<< Back", "Next >>", "Cancel", and "Finish".

In order to see the data, you must select **Refresh Data** from the **MIM** menu.



The MIM Excel Add-in runs the request and places the data in the selected column.

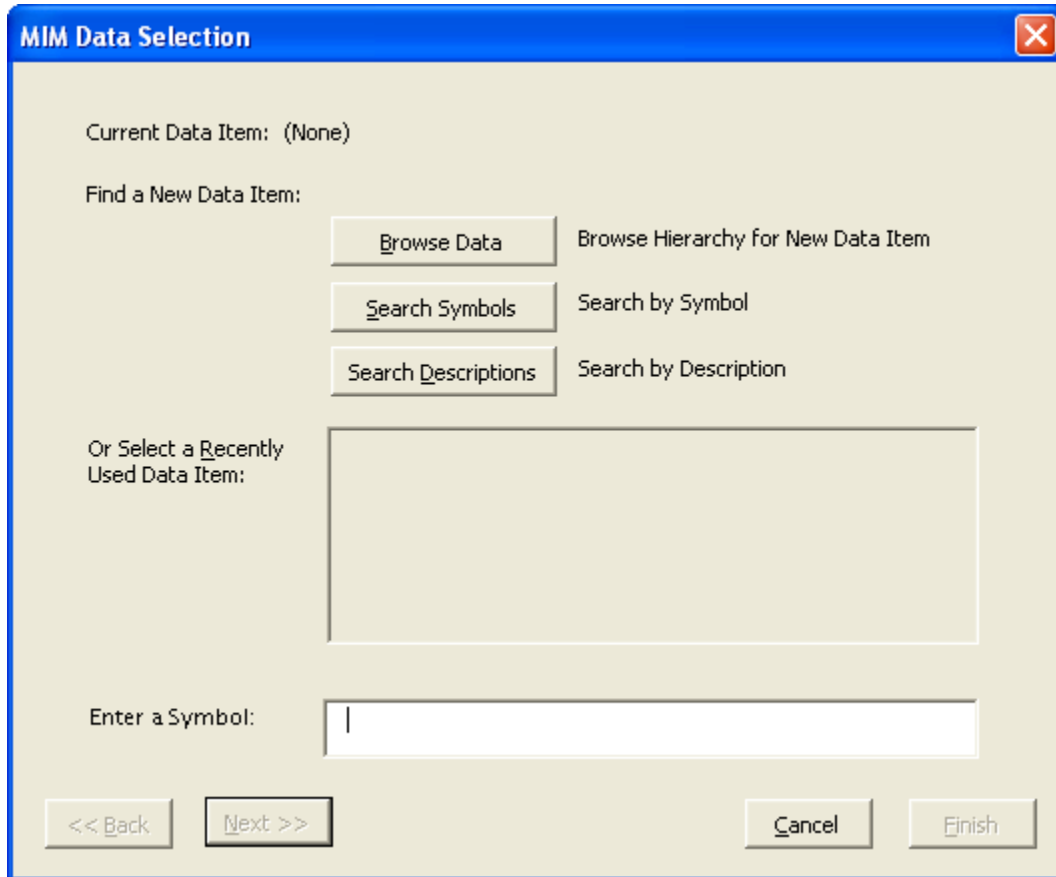




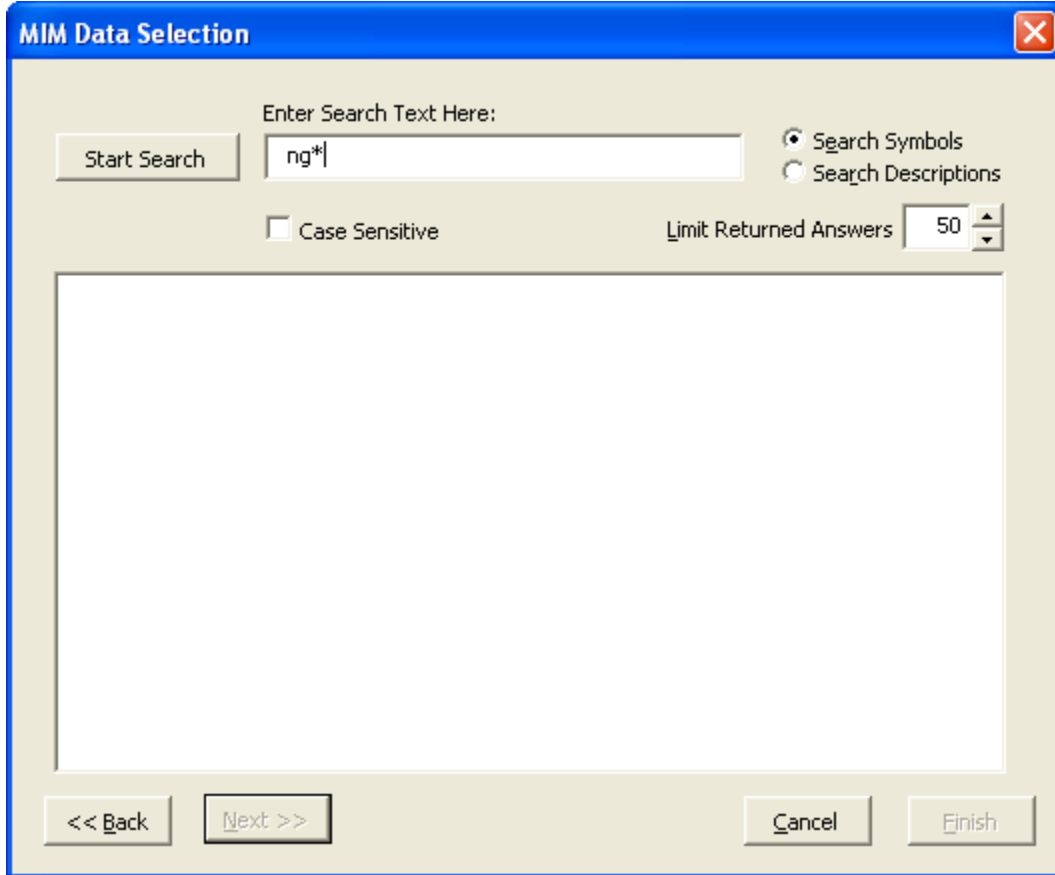
This completes the browse data example. In the next lesson, you will see how to search using a MIM symbol.

Search Symbols Example

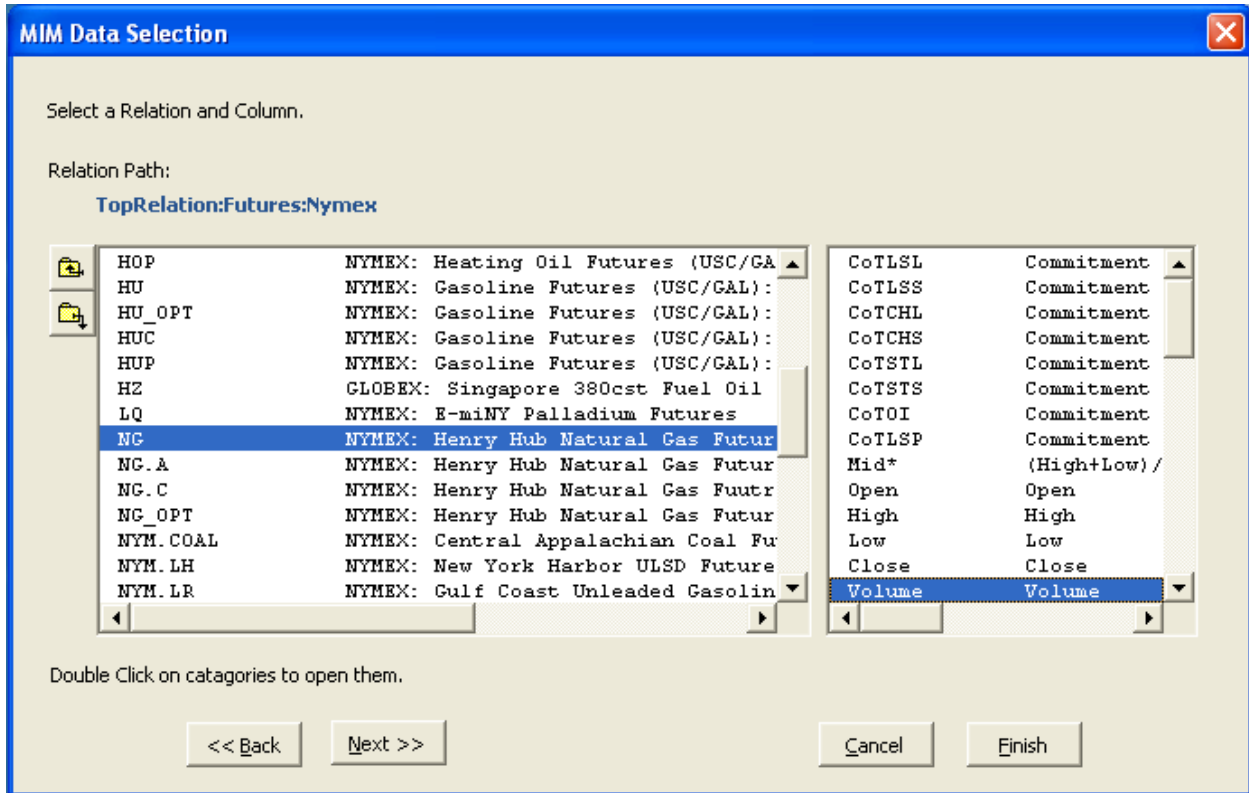
Select **Search Symbols** from the Excel dialog.



For this example, find the Natural Gas Futures using the **Search Symbols** feature. In the **Search Text** box, type `ng*`, then select **Start Search**.



Select **NG** from the left column, then select **Volume** from the right column.



Select **Next>>** from the Excel dialog to continue.

Select the desired date information from the fields.

MIM Data Selection

Select the date and time range for which to extract data.

Get data from the start of the available data

the last year(s)

a specific date and time (if req'd)

Get data to the end of the available data

a specific date and time (if req'd)

Additional data retrieval options:

Use data resolution of day(s)

Fill missing data points with

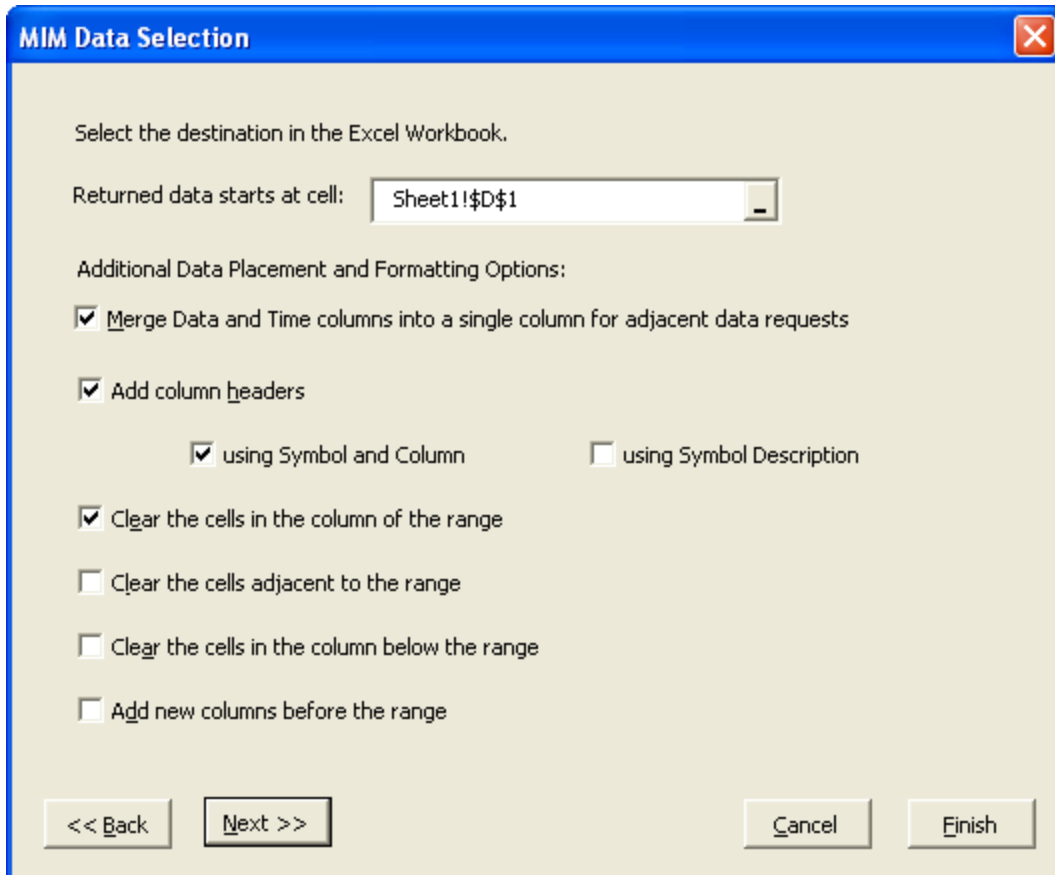
Use Current Tick Data if the XMIM server is connected to a data feed.

Include Summary Statistics

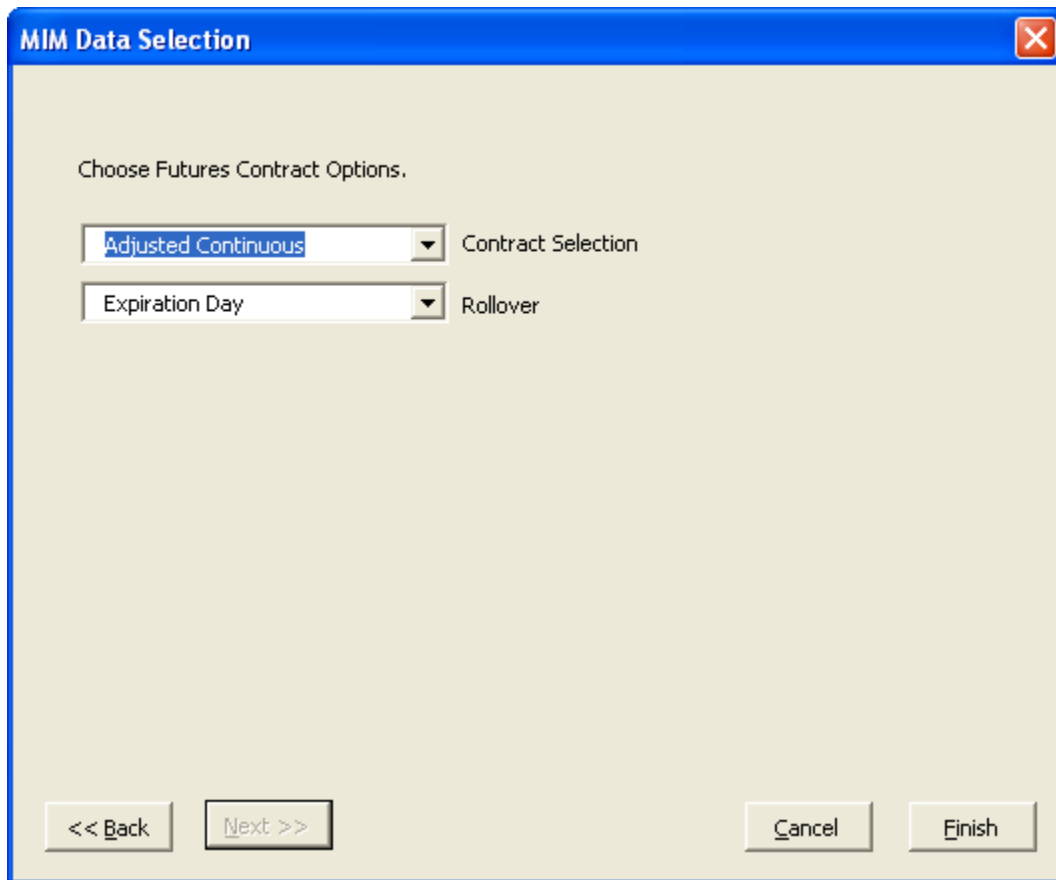
Decimal Places

<< Back Next >> Cancel Finish

Select the destination in the Excel Workbook. Click in the cell in the Excel Workbook where you want the data to start. The entry will display in the Excel dialog. Unless merging data, it is a good idea to separate the data columns in the Excel workbook with a blank column.

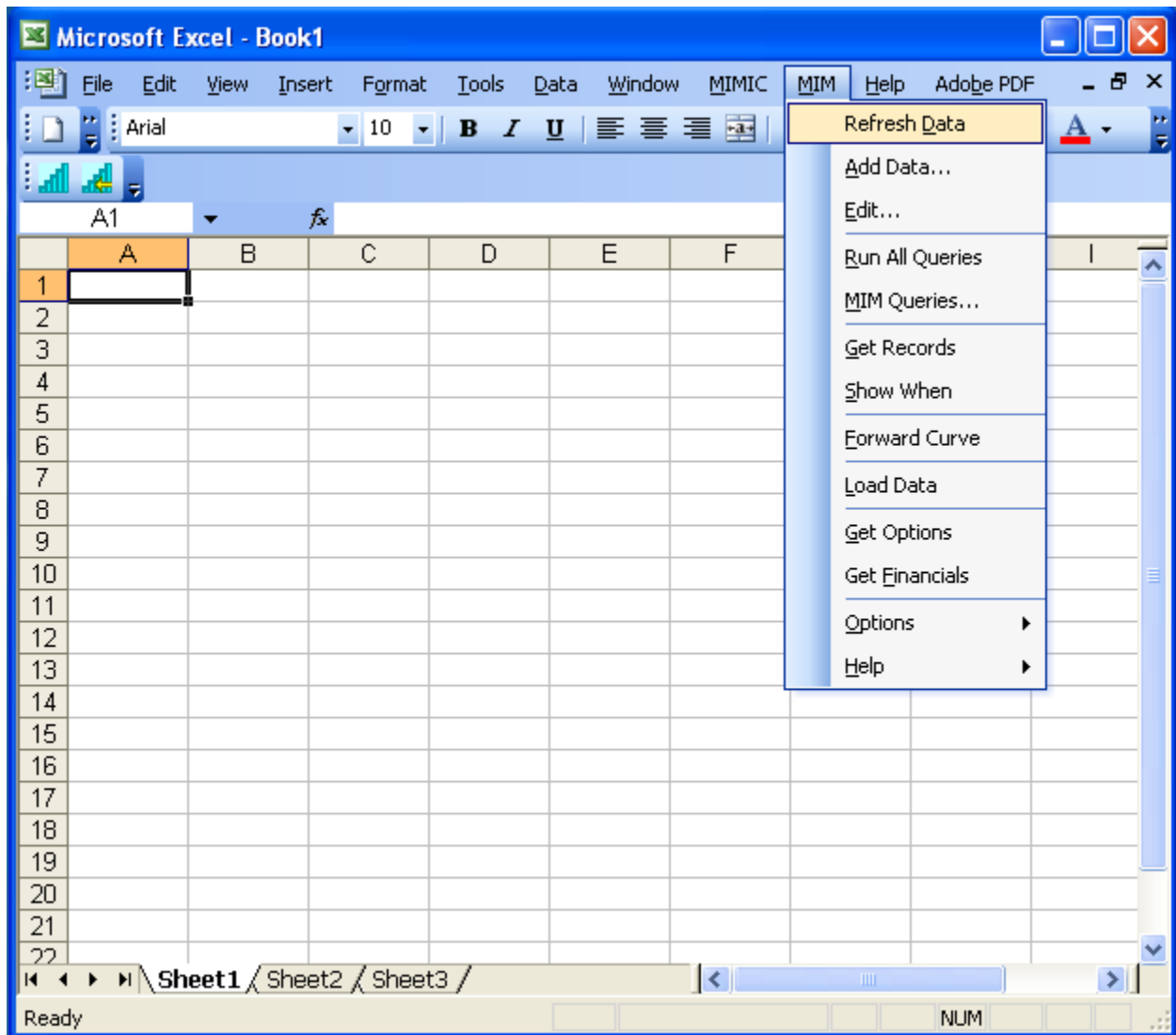


Choose the **Futures Contract Options** then select **Finish**.



The image shows a dialog box titled "MIM Data Selection" with a blue header and a close button in the top right corner. The main area is light beige and contains the text "Choose Futures Contract Options." Below this text are two dropdown menus. The first dropdown menu is labeled "Contract Selection" and has "Adjusted Continuous" selected. The second dropdown menu is labeled "Rollover" and has "Expiration Day" selected. At the bottom of the dialog box, there are four buttons: "<< Back", "Next >>", "Cancel", and "Finish".

Select **Refresh Data** from the **MIM** menu bar to display the data.



The data displays with an empty column separating the data columns.

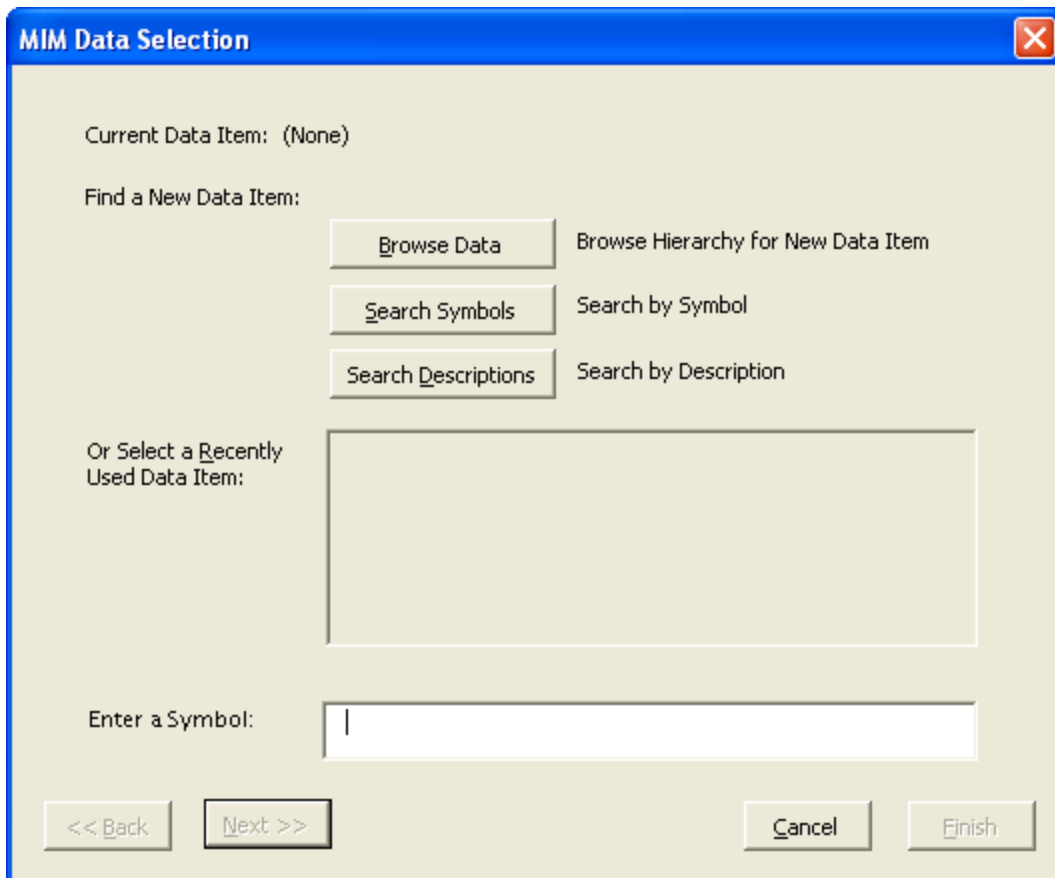
	A	B	C	D	E	F	G	H
1	Date	CL(Volume)		Date	NG(Volume)			
2	03-30-1983	949		04-03-1990	1347.49987			
3	03-31-1983	521		04-04-1990	471.62496			
4	04-01-1983	#N/A		04-05-1990	320.03122			
5	04-04-1983	156		04-06-1990	348.10413			
6	04-05-1983	175		04-09-1990	207.73956			
7	04-06-1983	392		04-10-1990	162.8229			
8	04-07-1983	817		04-11-1990	179.66665			
9	04-08-1983	365		04-12-1990	224.58331			
10	04-11-1983	265		04-13-1990	#N/A			
11	04-12-1983	469		04-16-1990	95.44791			
12	04-13-1983	657		04-17-1990	174.05207			
13	04-14-1983	202		04-18-1990	33.6875			
14	04-15-1983	295		04-19-1990	314.41664			
15	04-18-1983	128		04-20-1990	673.74994			
16	04-19-1983	324		04-23-1990	151.59374			
17	04-20-1983	188		04-24-1990	303.18747			
18	04-21-1983	105		04-25-1990	134.74999			
19	04-22-1983	307		04-26-1990	168.43748			
20	04-25-1983	113		04-27-1990	117.90624			
21	04-26-1983	93		04-30-1990	72.98958			
22	04-27-1983	24		05-01-1990	101.06249			
23	04-28-1983	563		05-02-1990	84.21874			
24	04-29-1983	323		05-03-1990	129.1354			
25	05-02-1983	90		05-04-1990	50.53125			
26	05-03-1983	333		05-07-1990	185.28123			

This completes the **Search Symbols** example.

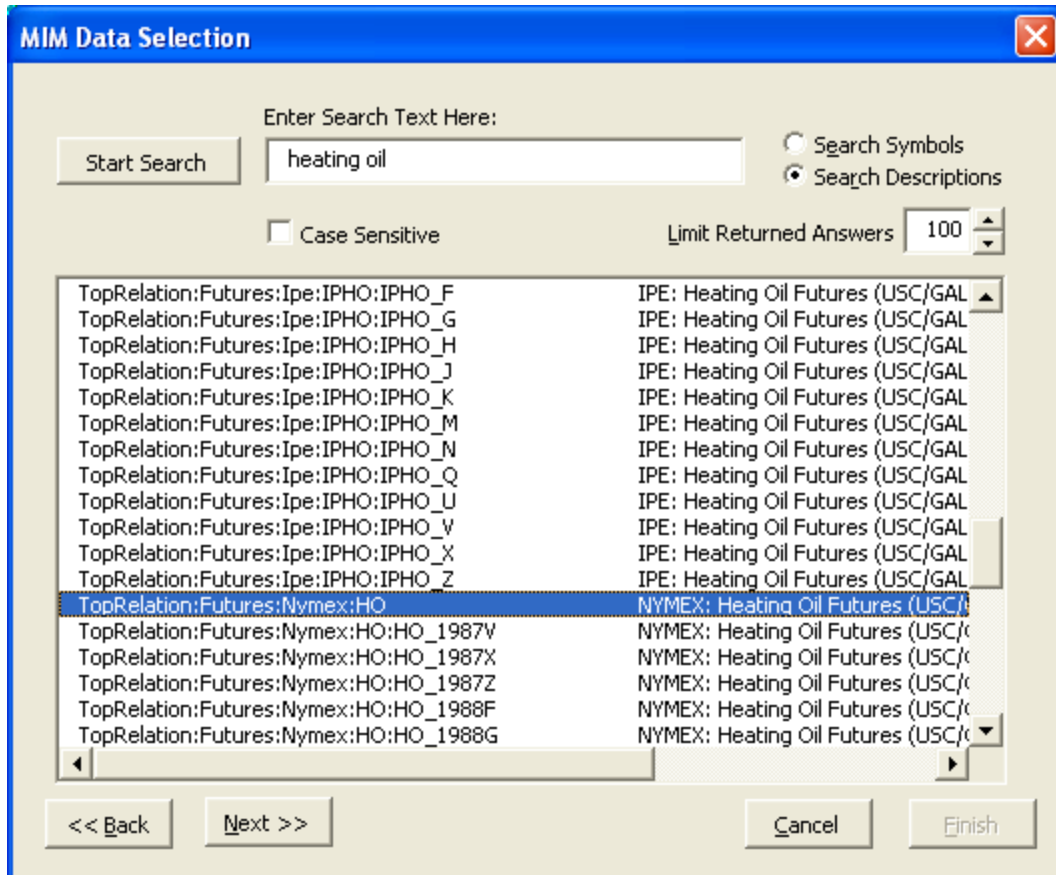
Go to the next step in the lesson to see an example using the **Search Descriptions** option.

Search Descriptions Example

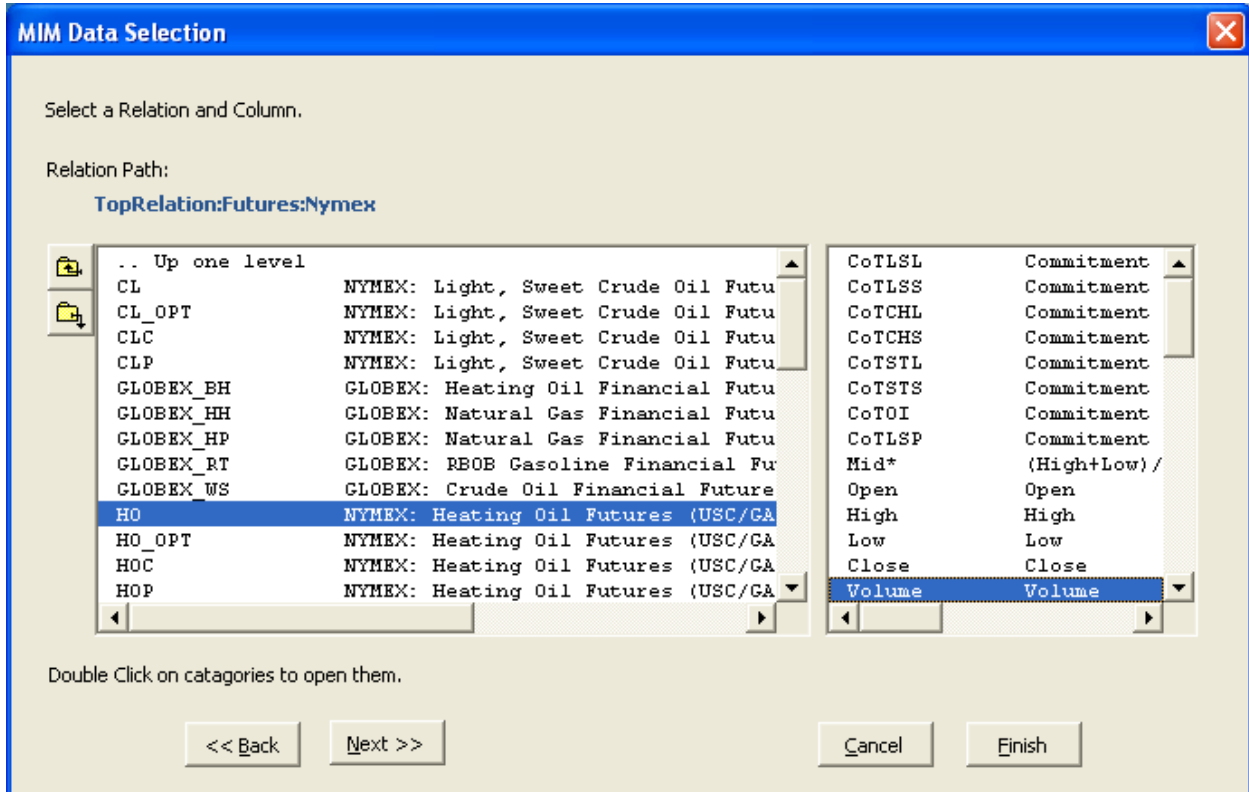
The next feature in this lesson is the **Search Descriptions** example. Select **Search Descriptions** from the MIM Data Selection dialog.



For this example, type in `heating oil` in the search text box, then change the **Limit Returned Answers** to 100. Select **Start Search**. Highlight **HO – NYMEX: Heating Oil Futures (USC/GAL)** and select **Next>>**.



Select **HO - NYMEX: Heating Oil Futures (USC/GAL)** from the left-hand column. Select **Volume** from the right-hand column then select **Next>>** from the MIM Data Selection dialog to continue.



Select the date and time ranges, then select **Next>>** from the MIM Data Selection dialog.

MIM Data Selection

Select the date and time range for which to extract data.

Get data from the start of the available data

the last year(s)

a specific date and time (if req'd)

Get data to the end of the available data

a specific date and time (if req'd)

Additional data retrieval options:

Use data resolution of day(s)

Fill missing data points with

Use Current Tick Data if the XMIM server is connected to a data feed.

Include Summary Statistics

Decimal Places

<< Back Next >> Cancel Finish

Select the cell where the data will display in the Excel Workbook, keeping a blank column between the data that has already been generated and the new data.

MIM Data Selection

Select the destination in the Excel Workbook.

Returned data starts at cell:

Additional Data Placement and Formatting Options:

- Merge Data and Time columns into a single column for adjacent data requests
- Add column headers
 - using Symbol and Column
 - using Symbol Description
- Clear the cells in the column of the range
- Clear the cells adjacent to the range
- Clear the cells in the column below the range
- Add new columns before the range

<< Back Next >> Cancel Finish

Choose the **Futures Contract Options** then select **Finish**.

MIM Data Selection

Choose Futures Contract Options.

Adjusted Continuous Contract Selection

Expiration Day Rollover

<< Back Next >> Cancel Finish

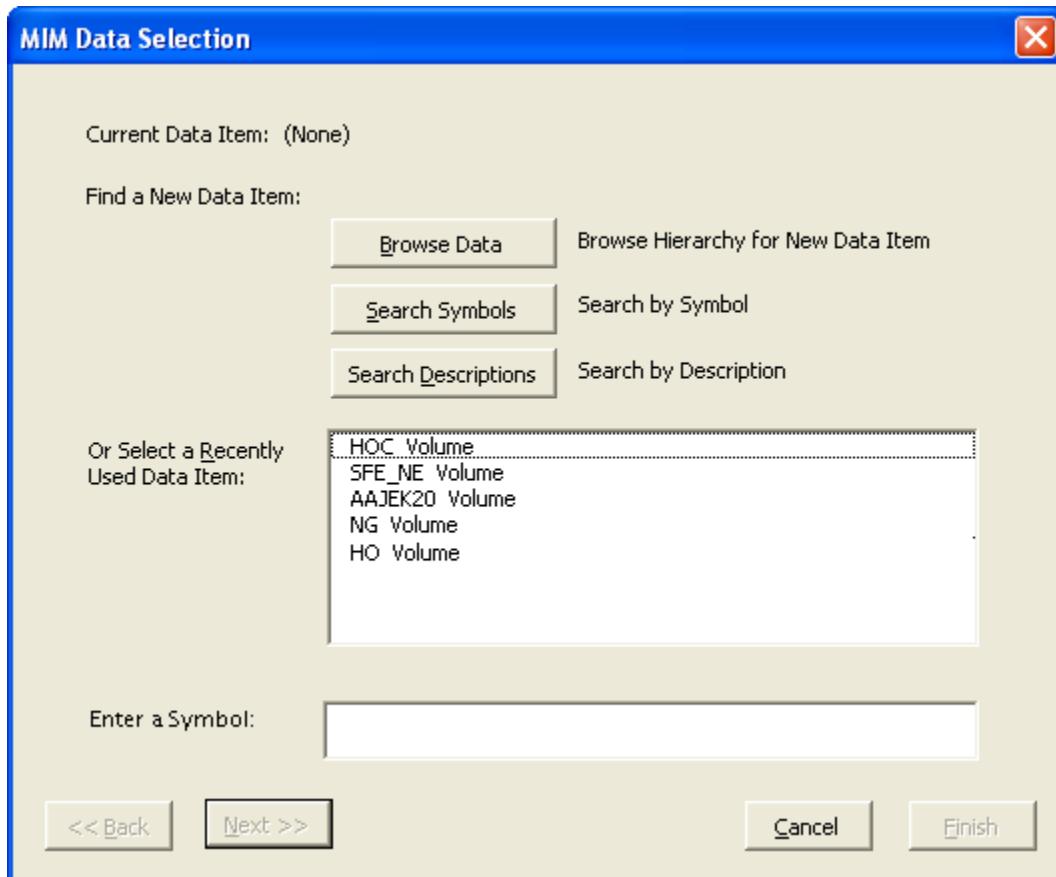
Select **Refresh Data** from the **MIM** menu to generate the data. The data displays with a blank column separating the data.

	A	B	C	D	E	F	G	H
1	Date	CL(Volume)		Date	NG(Volume)		Date	HO(Volume)
2	03-30-1983	949		04-03-1990	1347.49987		11-01-1979	118
3	03-31-1983	521		04-04-1990	471.62496		11-02-1979	188
4	04-01-1983	#N/A		04-05-1990	320.03122		11-05-1979	90
5	04-04-1983	156		04-06-1990	348.10413		11-06-1979	230
6	04-05-1983	175		04-09-1990	207.73956		11-07-1979	393
7	04-06-1983	392		04-10-1990	162.8229		11-08-1979	339
8	04-07-1983	817		04-11-1990	179.66665		11-09-1979	302
9	04-08-1983	365		04-12-1990	224.58331		11-12-1979	158
10	04-11-1983	265		04-13-1990	#N/A		11-13-1979	140
11	04-12-1983	469		04-16-1990	95.44791		11-14-1979	125
12	04-13-1983	657		04-17-1990	174.05207		11-15-1979	282
13	04-14-1983	202		04-18-1990	33.6875		11-16-1979	236
14	04-15-1983	295		04-19-1990	314.41664		11-19-1979	189
15	04-18-1983	128		04-20-1990	673.74994		11-20-1979	83

This completes the **Search Descriptions** example. Continue on to see a **recently used data item** example.

Recently Used Data Item Example

You can reuse a data request by selecting an entry in the **Recently Used Data Item** field. Just select one of the entries, then select the **Next>>** button. Change the date entries and corresponding column information as needed.



This completes the **Recently Used Data Item** example. Go to the next step in the lesson to see how to **merge data**.

Merge Example

The examples so far have not used the merge function. Data has been separated in the worksheet with a blank column between the data. When the **Merge Data and Time** box is checked, data can be merged so that one date displays corresponding to multiple data requests.

MIM Data Selection

Select the destination in the Excel Workbook.

Returned data starts at cell:

Additional Data Placement and Formatting Options:

Merge Data and Time columns into a single column for adjacent data requests

Add column headers

using Symbol and Column using Symbol Description

Clear the cells in the column of the range

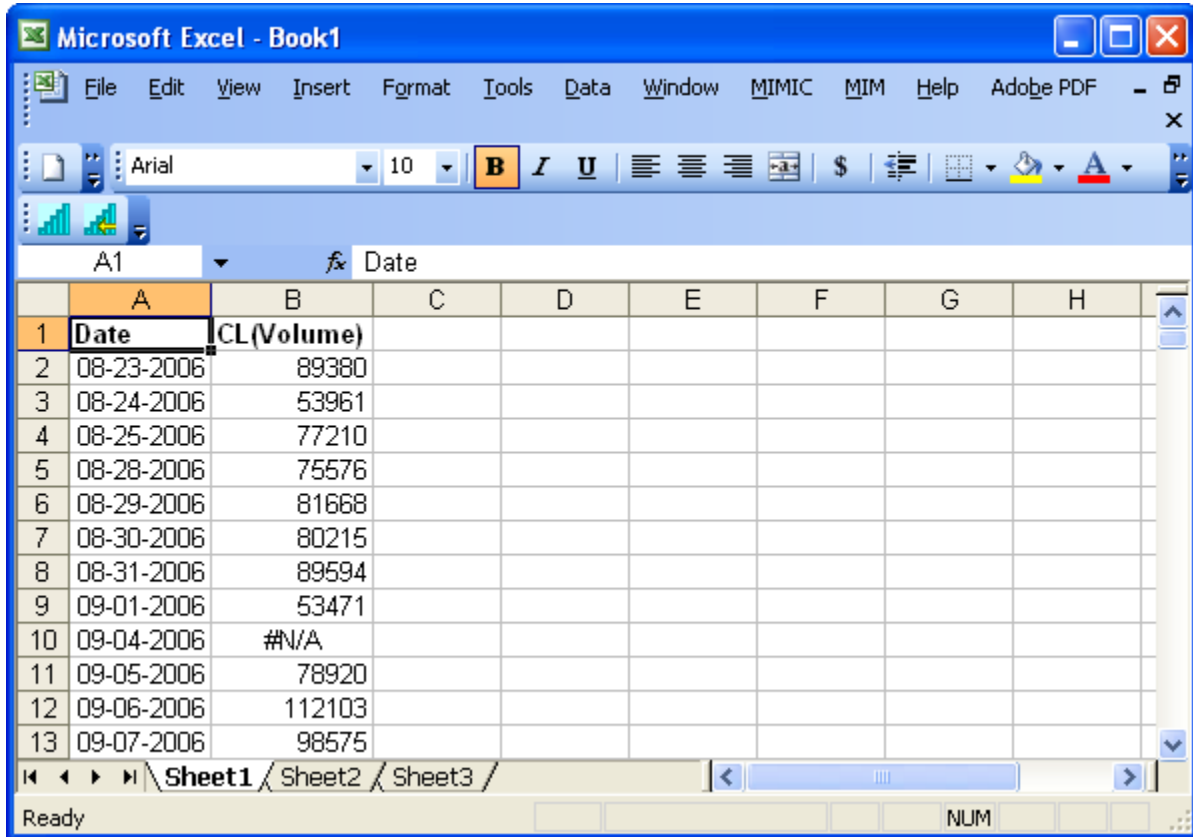
Clear the cells adjacent to the range

Clear the cells in the column below the range

Add new columns before the range

<< Back Next >> Cancel Finish

The example below shows the **CL – NYMEX: Light, Sweet Crude Oil Futures** Volume for a one-year period.



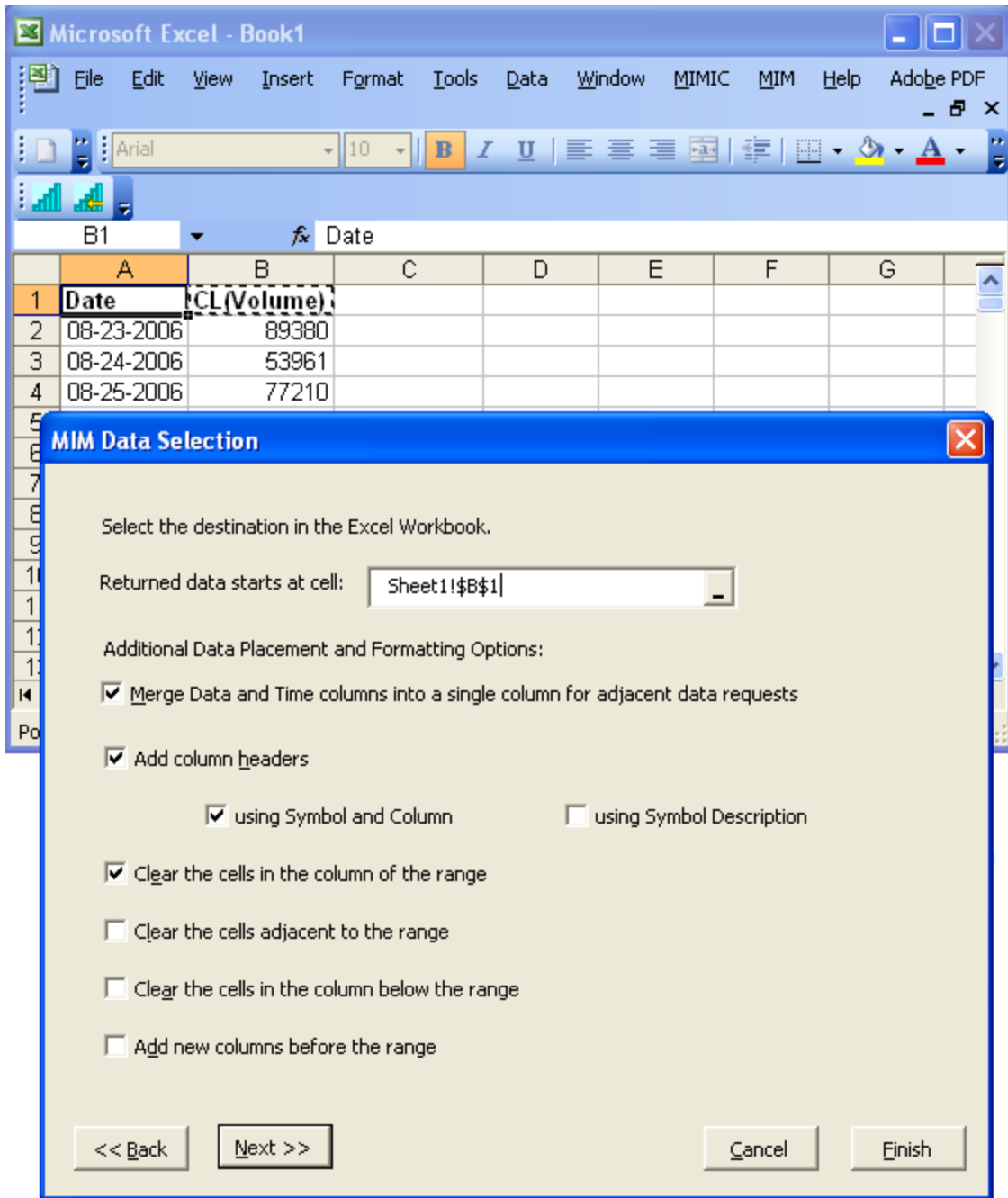
The screenshot shows a Microsoft Excel window titled "Microsoft Excel - Book1". The menu bar includes File, Edit, View, Insert, Format, Tools, Data, Window, MIMIC, MIM, Help, and Adobe PDF. The toolbar shows the font set to Arial, size 10, with bold, italic, and underline options. The active cell is A1, containing the text "Date". The data table is as follows:

	A	B	C	D	E	F	G	H
1	Date	CL(Volume)						
2	08-23-2006	89380						
3	08-24-2006	53961						
4	08-25-2006	77210						
5	08-28-2006	75576						
6	08-29-2006	81668						
7	08-30-2006	80215						
8	08-31-2006	89594						
9	09-01-2006	53471						
10	09-04-2006	#N/A						
11	09-05-2006	78920						
12	09-06-2006	112103						
13	09-07-2006	98575						

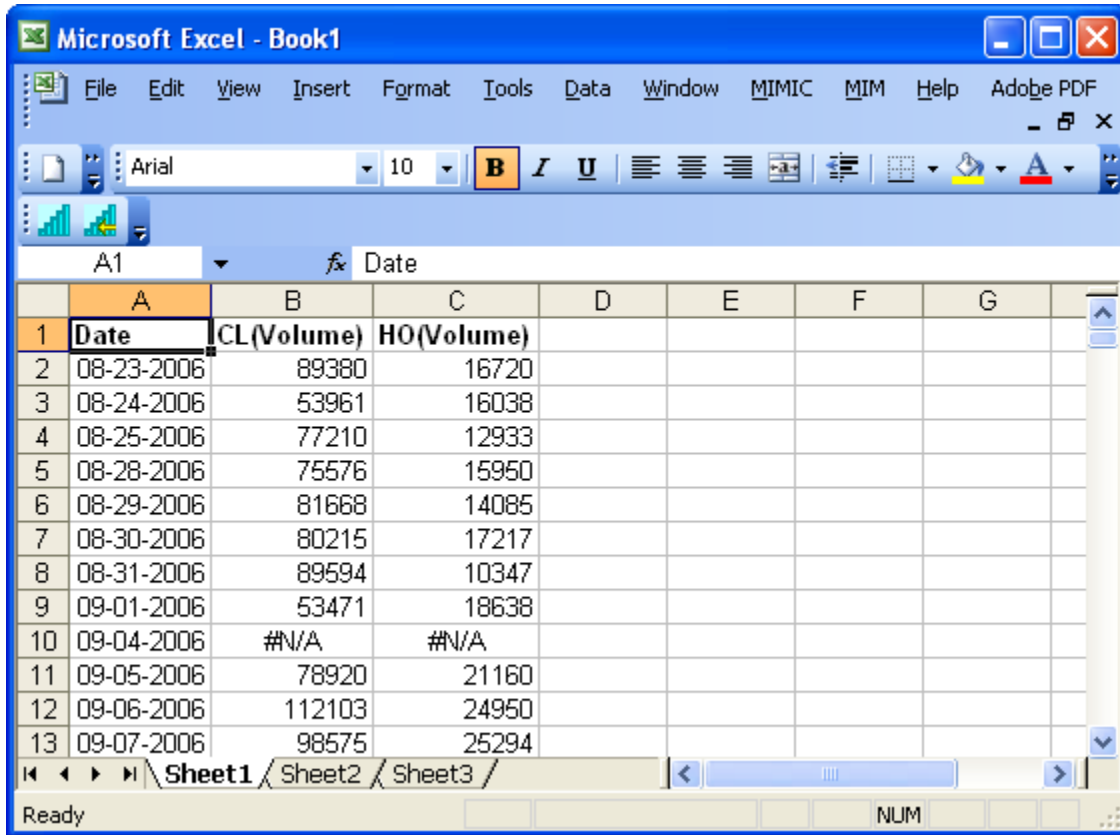
The status bar at the bottom shows "Ready" and "NUM".

Now let's merge the **HO – NYMEX: Heating Oil Futures** Volume also at a one-year period with the CL Volume.

When merging data, the new data will display adjacent to the last data column. In this case, the program automatically selects column B, row 1. The new **HO** Volume data will display in column C, row 1 adjacent to the **CL** Volume data.



The example below shows the result of the merge.



The screenshot shows a Microsoft Excel window titled "Microsoft Excel - Book1". The menu bar includes File, Edit, View, Insert, Format, Tools, Data, Window, MIMIC, MIM, Help, and Adobe PDF. The toolbar shows the font set to Arial, size 10, with bold, italic, and underline options. The active cell is A1, containing the text "Date". The spreadsheet displays a table with the following data:

	A	B	C	D	E	F	G
1	Date	CL(Volume)	HO(Volume)				
2	08-23-2006	89380	16720				
3	08-24-2006	53961	16038				
4	08-25-2006	77210	12933				
5	08-28-2006	75576	15950				
6	08-29-2006	81668	14085				
7	08-30-2006	80215	17217				
8	08-31-2006	89594	10347				
9	09-01-2006	53471	18638				
10	09-04-2006	#N/A	#N/A				
11	09-05-2006	78920	21160				
12	09-06-2006	112103	24950				
13	09-07-2006	98575	25294				

The status bar at the bottom shows "Ready" and "NUM". The sheet tabs at the bottom are labeled "Sheet1", "Sheet2", and "Sheet3".

Merge Example - Dates and Data Retrieval Options Must Match

Dates and data retrieval options must match when doing a merge. If the **CL** Volume has the date set to one year and the **HO** Volume has the date set to one month then the merge will not work properly.

MIM Data Selection ✕

Select the date and time range for which to extract data.

Get data from the start of the available data

the last

a specific date and time (if req'd)

Get data to the end of the available data

a specific date and time (if req'd)

Additional data retrieval options:

Use data resolution of

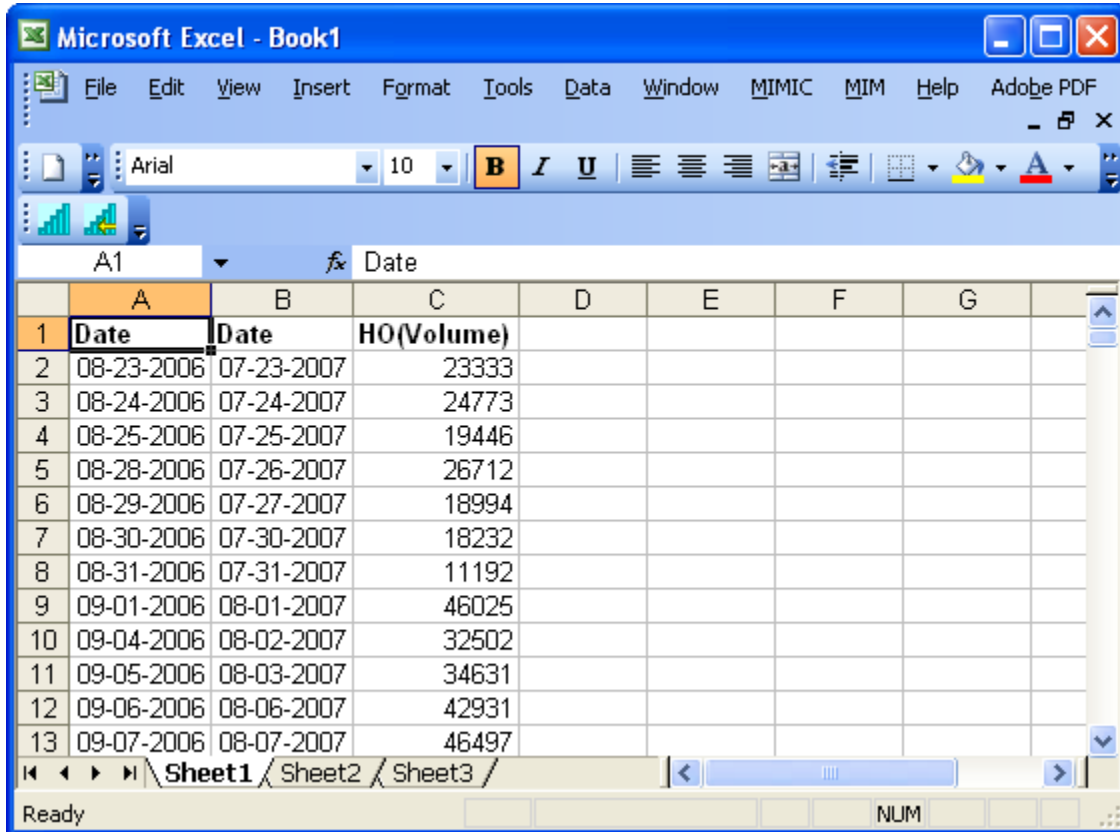
Fill missing data points with

Use Current Tick Data if the XMIM server is connected to a data feed.

Include Summary Statistics

Decimal Places

Let's see what happens when the dates don't match. The **CL** Volume column becomes a date field. The dates and data retrieval options must match when doing a merge.



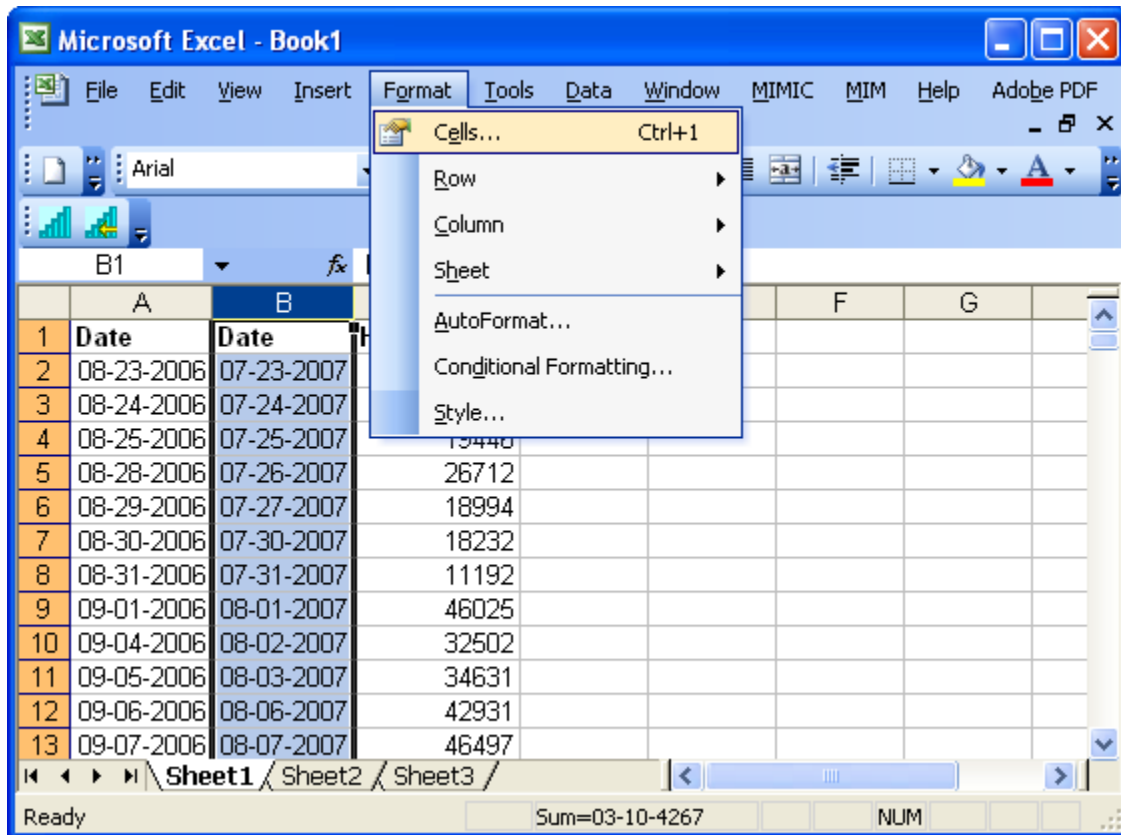
Once an Excel column is filled with date information that column will always display data as dates. You must reformat the column to contain number fields in order for data requests to display correctly.

Merge Example - Restoring Date Fields to Number Fields

To reformat column B to contain numbers instead of dates:

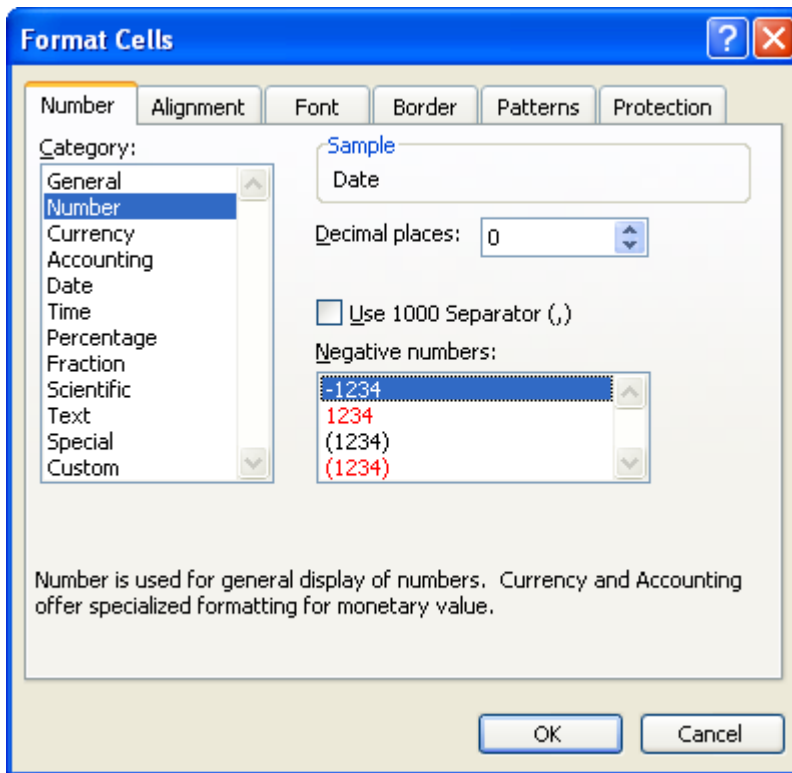
1. Select column B.

- From the Excel menu bar, select **Format>Cells**.

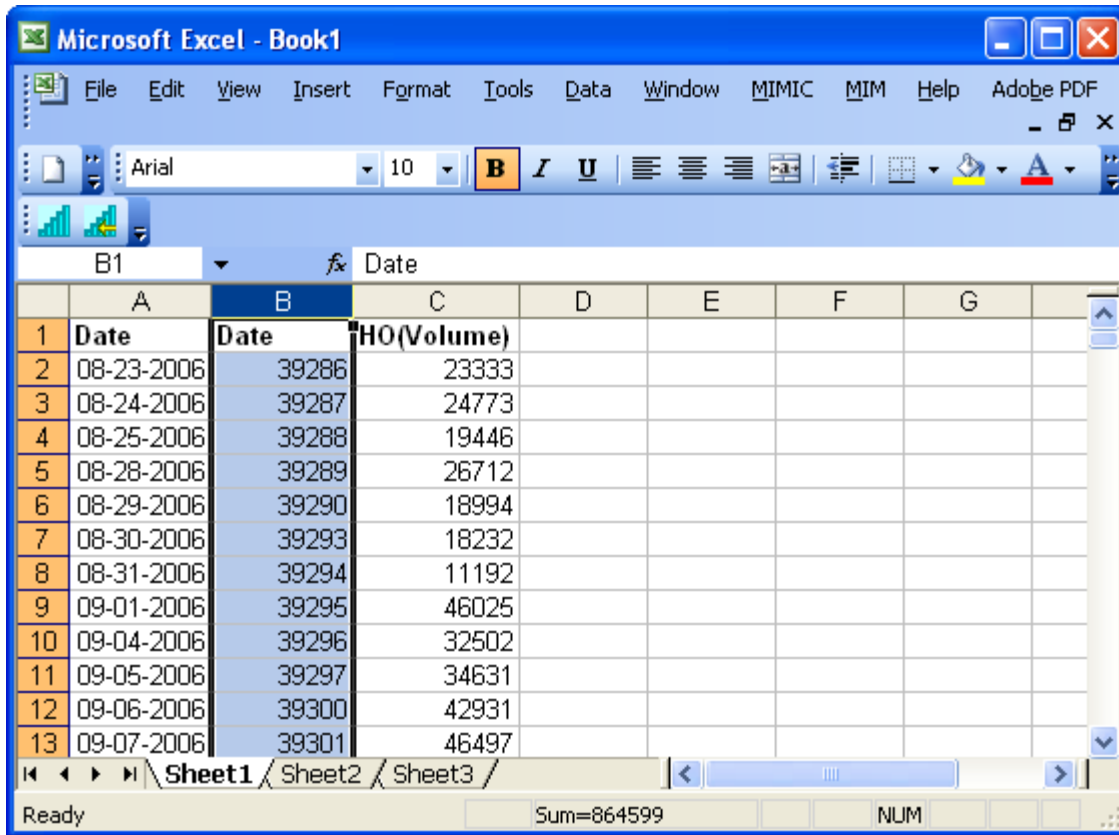


- From the Category list choose: **Number** and from the Decimal Place list choose: **0**.

4. Select **OK**.



The following graphic shows the date field converted back to a number field.



CHAPTER 4

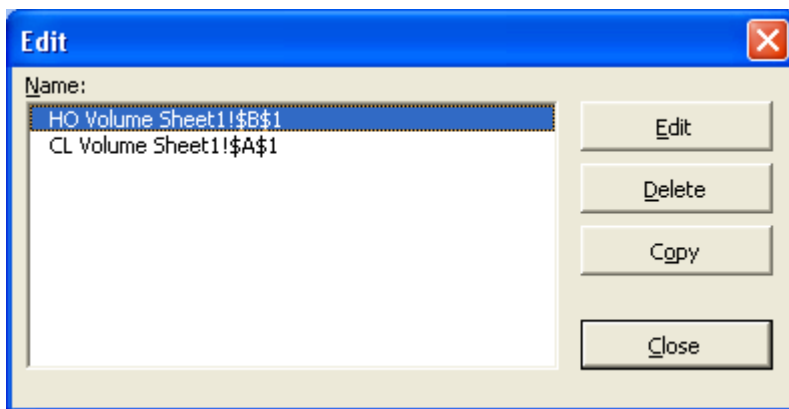
Edit

This allows the user to modify data requests that have been previously setup with **MIM>Add Data**. There will be a list of items, assuming requests have been setup previously.

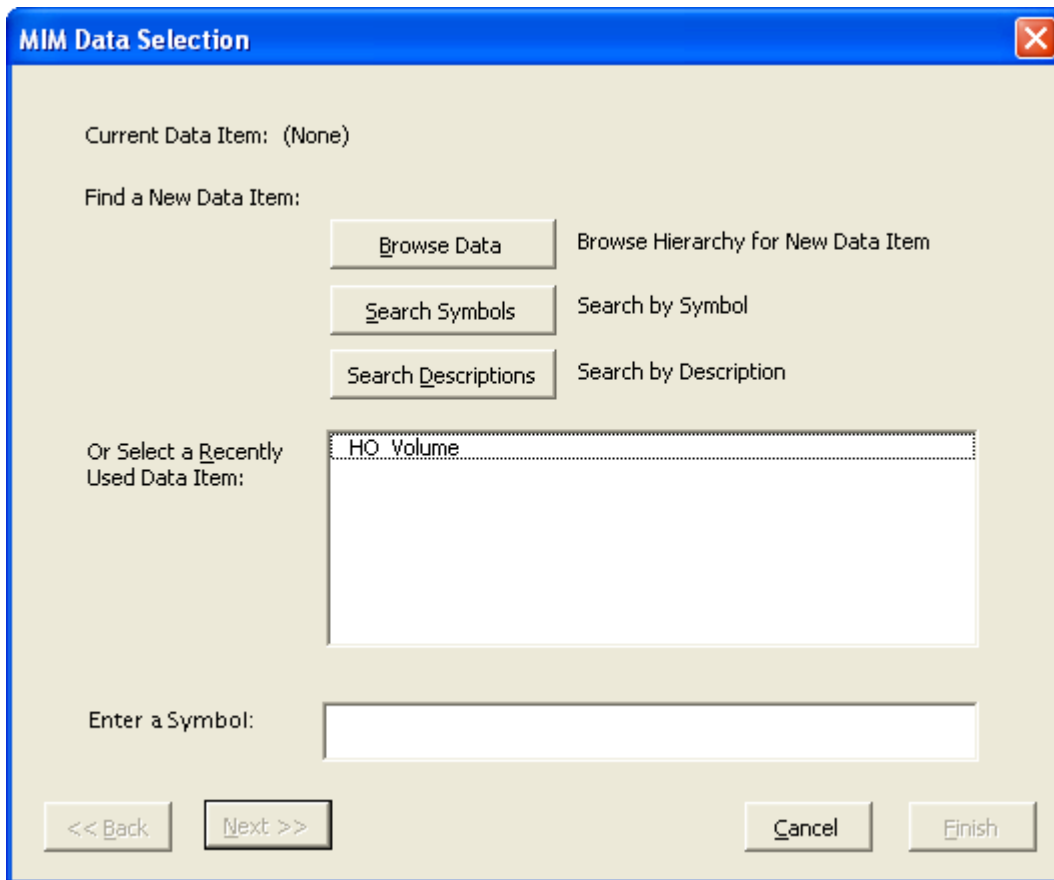
We will continue with the merge example. We just finished showing how to change the date field to a number field. Now, we will **edit** the data so that the data is not merged but displays in a new target cell. (We are not merging the data as the date fields do not match.)

Do the following to change the **HO** Volume data request so that the data is not merged.

1. Select **Edit** from the **MIM** menu.
2. Select **HO Volume Sheet1!\$B\$1** from the **Edit** display list, then select the **Edit** button.



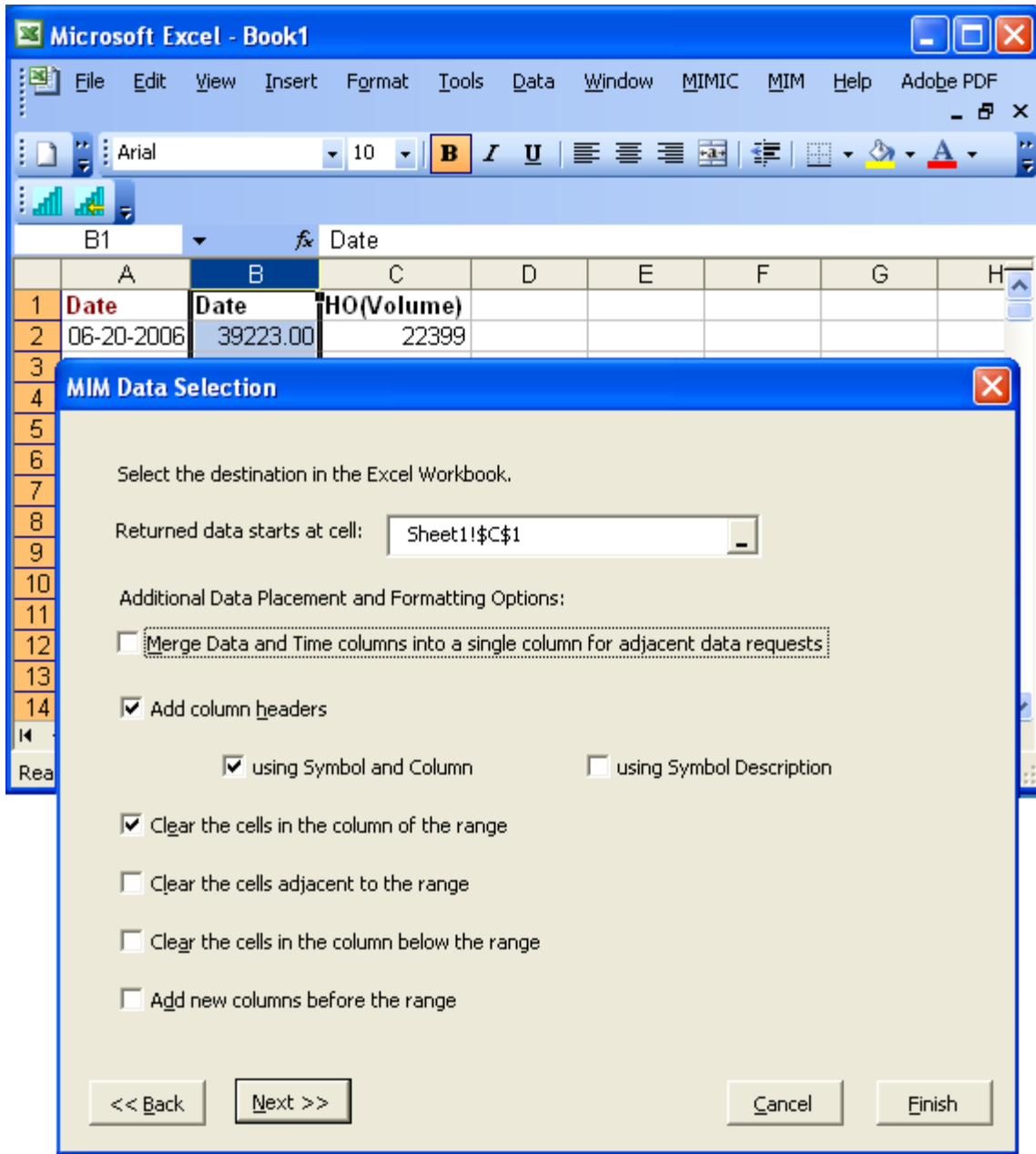
From the **Recently used Data Item** list, select **HO Volume** and select **Next>>**.



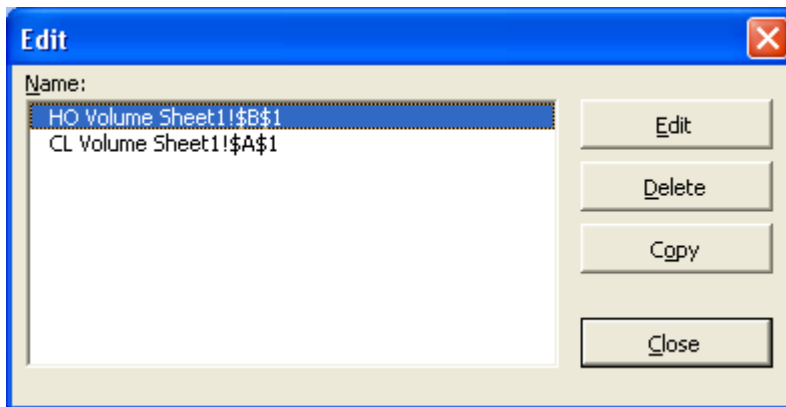
Do the following to change the destination on the Excel spreadsheet for the **HO Volume** data:

3. Select the **Next>>** button until you get to the destination dialog.

- Uncheck the **Merge Data and Time columns into a single column for adjacent data requests** box. Select cell C:1. The **CL** Volume is in columns A and B. The data for **HO** Volume will be in columns C and D.



- After editing the **HO** Volume data, close the **Edit** dialog by selecting the **Close** button.



- From the MIM menu, run **Refresh Data**. The data displays showing the **CL** Volume for one year and the **HO** Volume for one month.

	A	B	C	D	E	F	G
1	Date	CL(Volume)	Date	HO(Volume)			
2	06-20-2006	41977.00	05-21-2007	20982			
3	06-21-2006	118193.00	05-22-2007	18495			
4	06-22-2006	102920.00	05-23-2007	18613			
5	06-23-2006	77733.00	05-24-2007	15557			
6	06-26-2006	95883.00	05-25-2007	17247			
7	06-27-2006	81239.00	05-28-2007	17929			
8	06-28-2006	90122.00	05-29-2007	17496			
9	06-29-2006	81818.00	05-30-2007	17283			
10	06-30-2006	100754.00	06-01-2007	8848			
11	07-03-2006	#N/A	06-04-2007	30503			
12	07-04-2006	#N/A	06-05-2007	30332			
13	07-05-2006	91574.00	06-06-2007	23710			
14	07-06-2006	92581.00	06-07-2007	28609			

This concludes the **Edit Data** lesson.

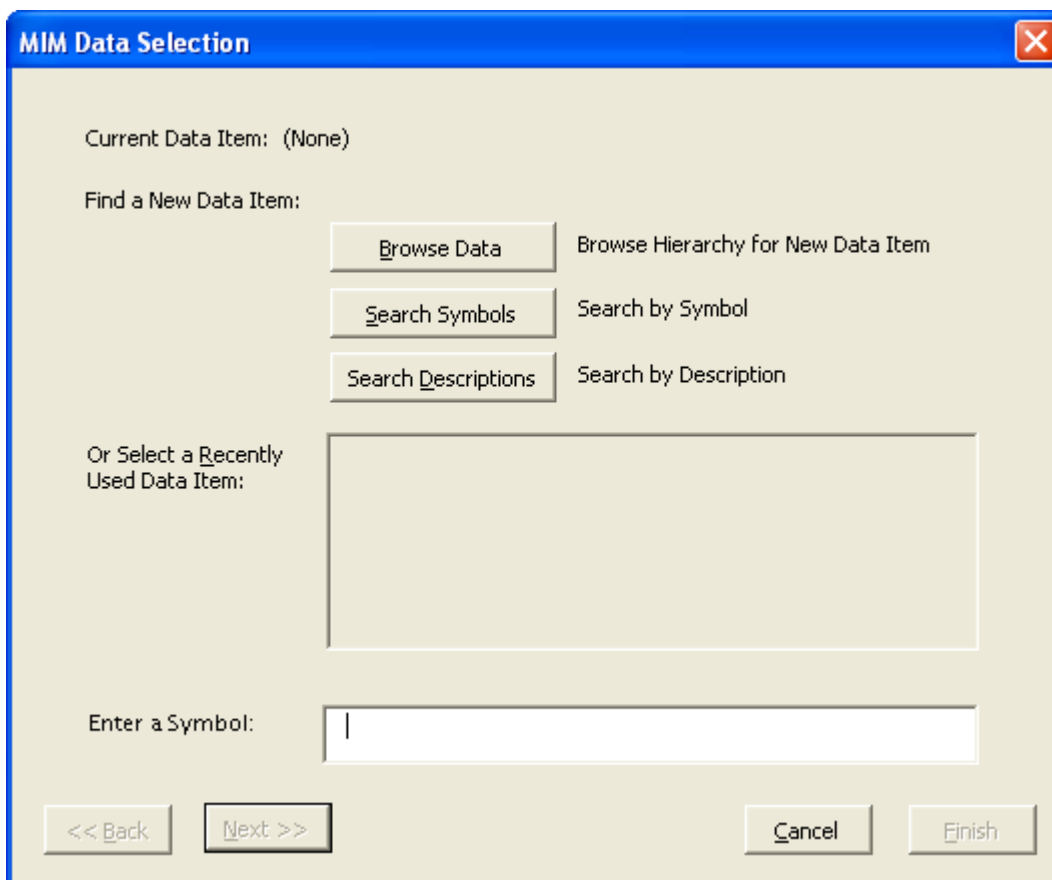
Working Example

Problem

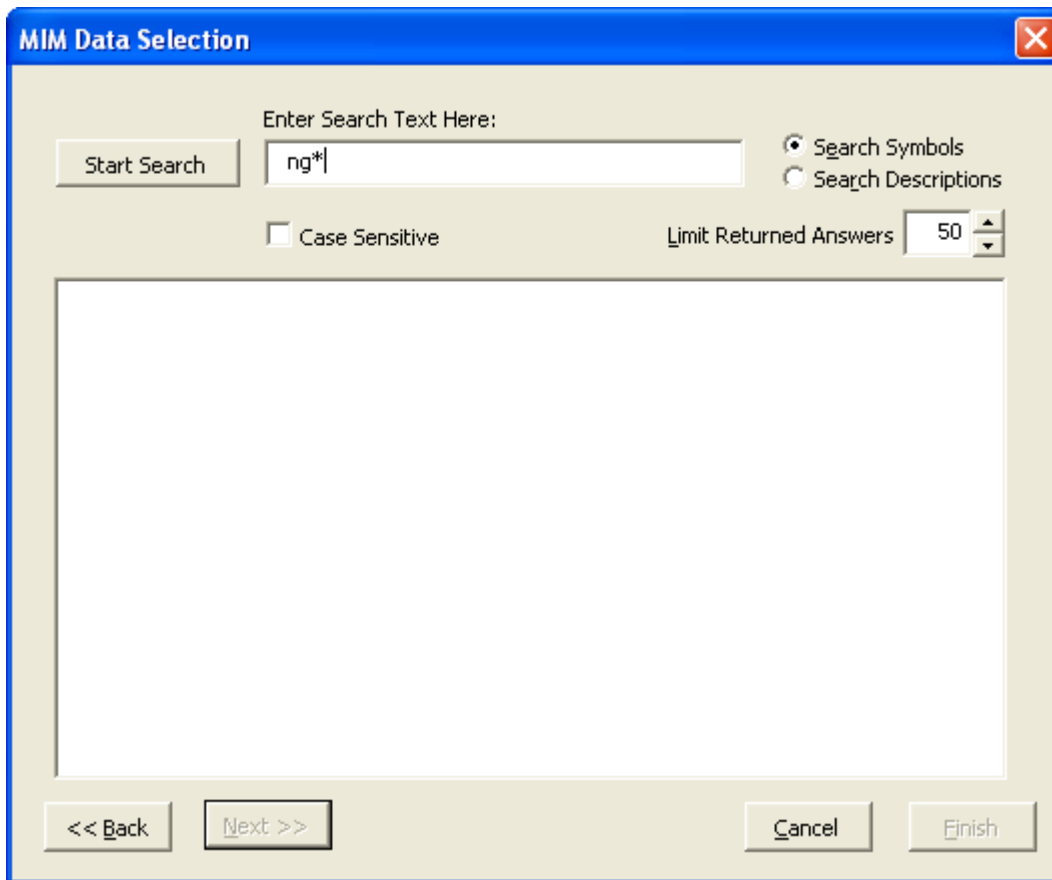
It might be interesting to access the daily closing price for the natural gas contract for the last 200 values available in the database. Using the Excel Add-in, let's Add Data for the close of NG for the last 200 days of data.

Step by Step Solution

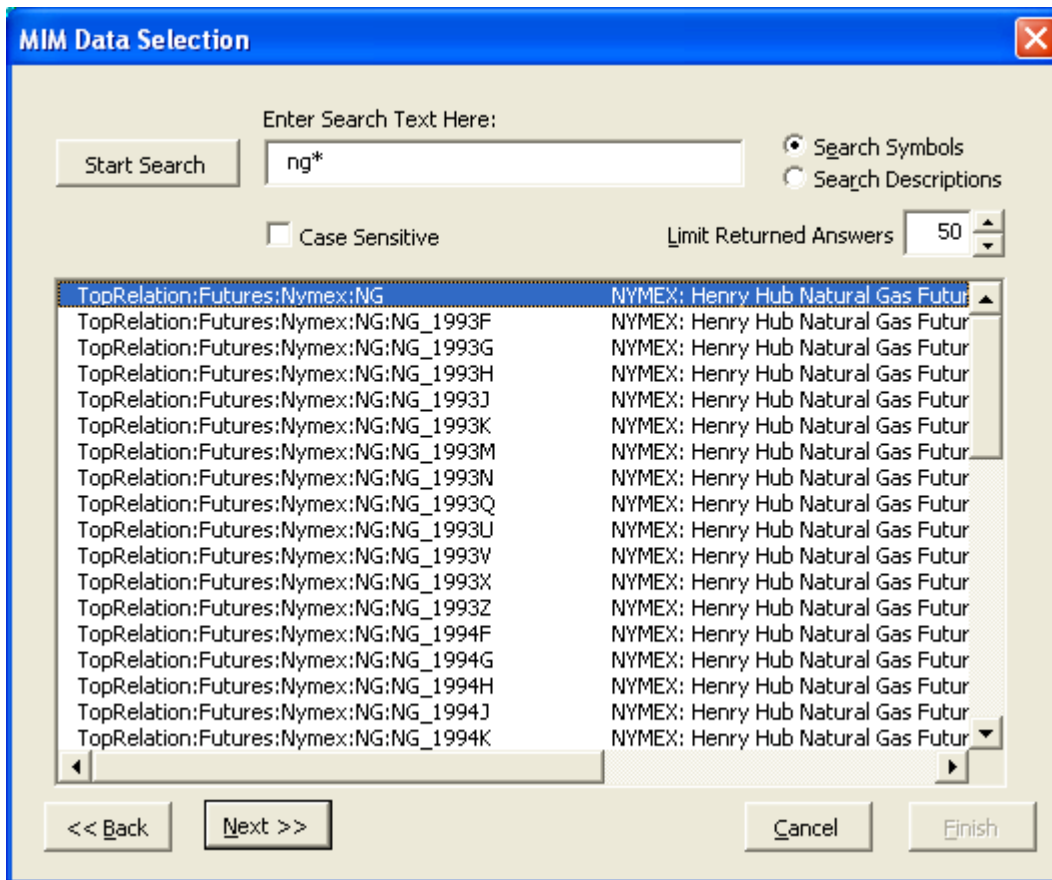
1. Open the Excel program. From the menu bar, select **MIM>Add Data**.
2. The next step is to select **Search Symbols** and locate the NG symbol.



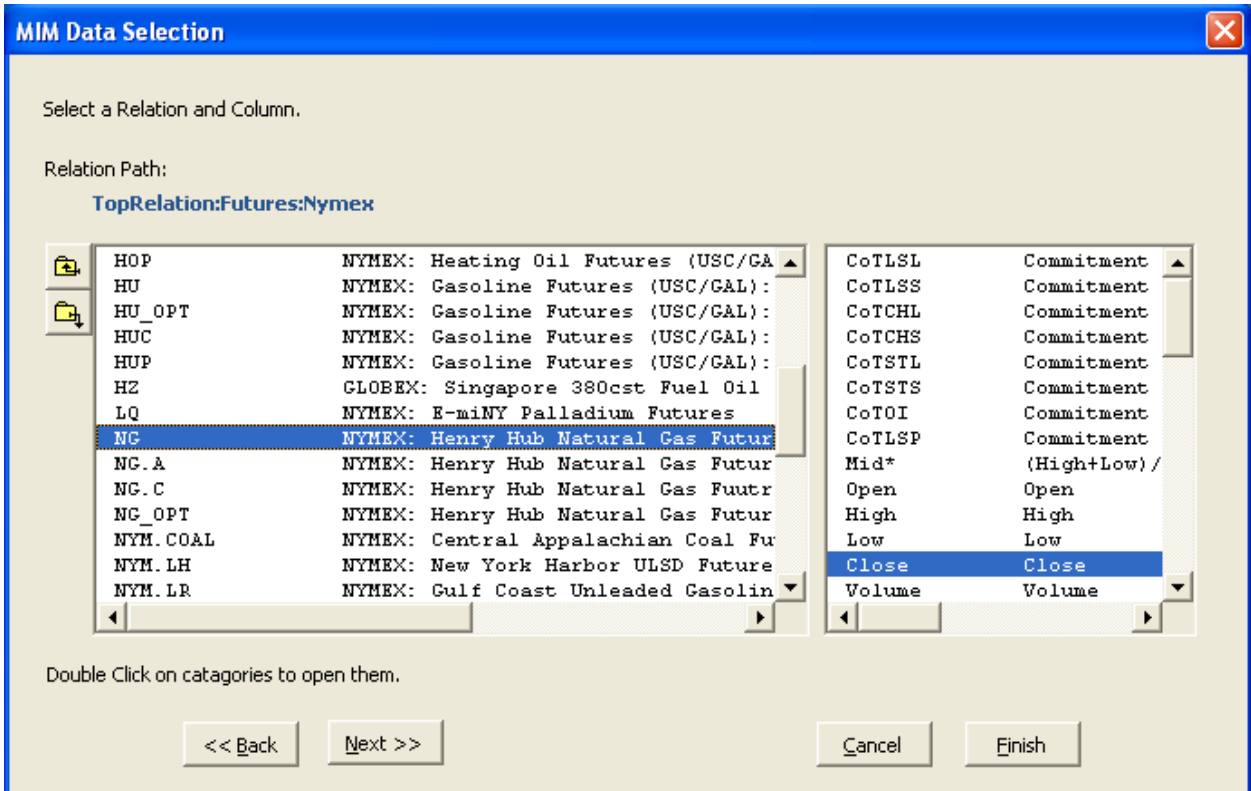
3. Enter `ng*` and select **Start Search**.



4. Select **NG** from the list and select **Next>>**.



5. Select **NG** from the left-hand column and **Close** from the right-hand column. Select **Next>>**.



- From the **Get data from** field, select the **last 200 days**. Select **Next>>**.

MIM Data Selection

Select the date and time range for which to extract data.

Get data from the start of the available data
 the last
 a specific date and time (if req'd)

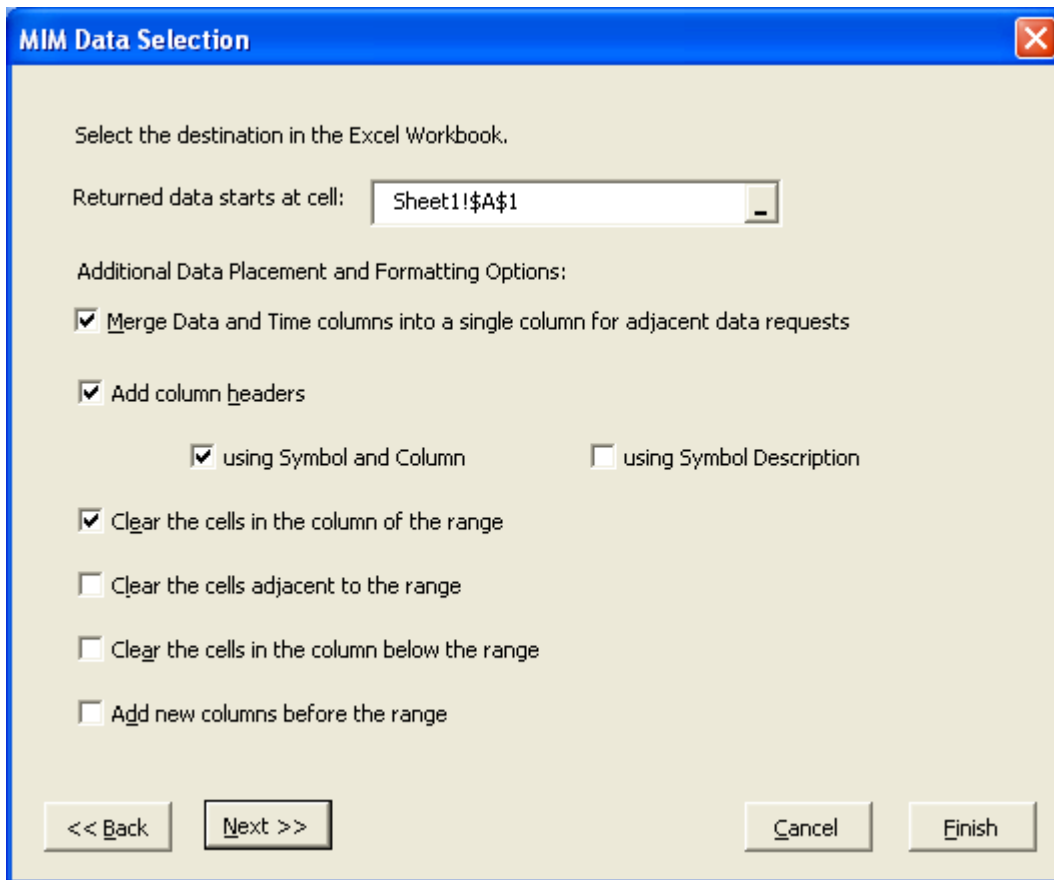
Get data to the end of the available data
 a specific date and time (if req'd)

Additional data retrieval options:

Use data resolution of
Fill missing data points with
 Use Current Tick Data if the XMIM server is connected to a data feed.
 Include Summary Statistics
Decimal Places

<< Back Next >> Cancel Finish

7. The data is setup to display in the first cell of the spreadsheet. Select **Next>>**.



8. Choose the **Futures Contract Options**. For this example, keep the defaults. Select **Finish**.

MIM Data Selection

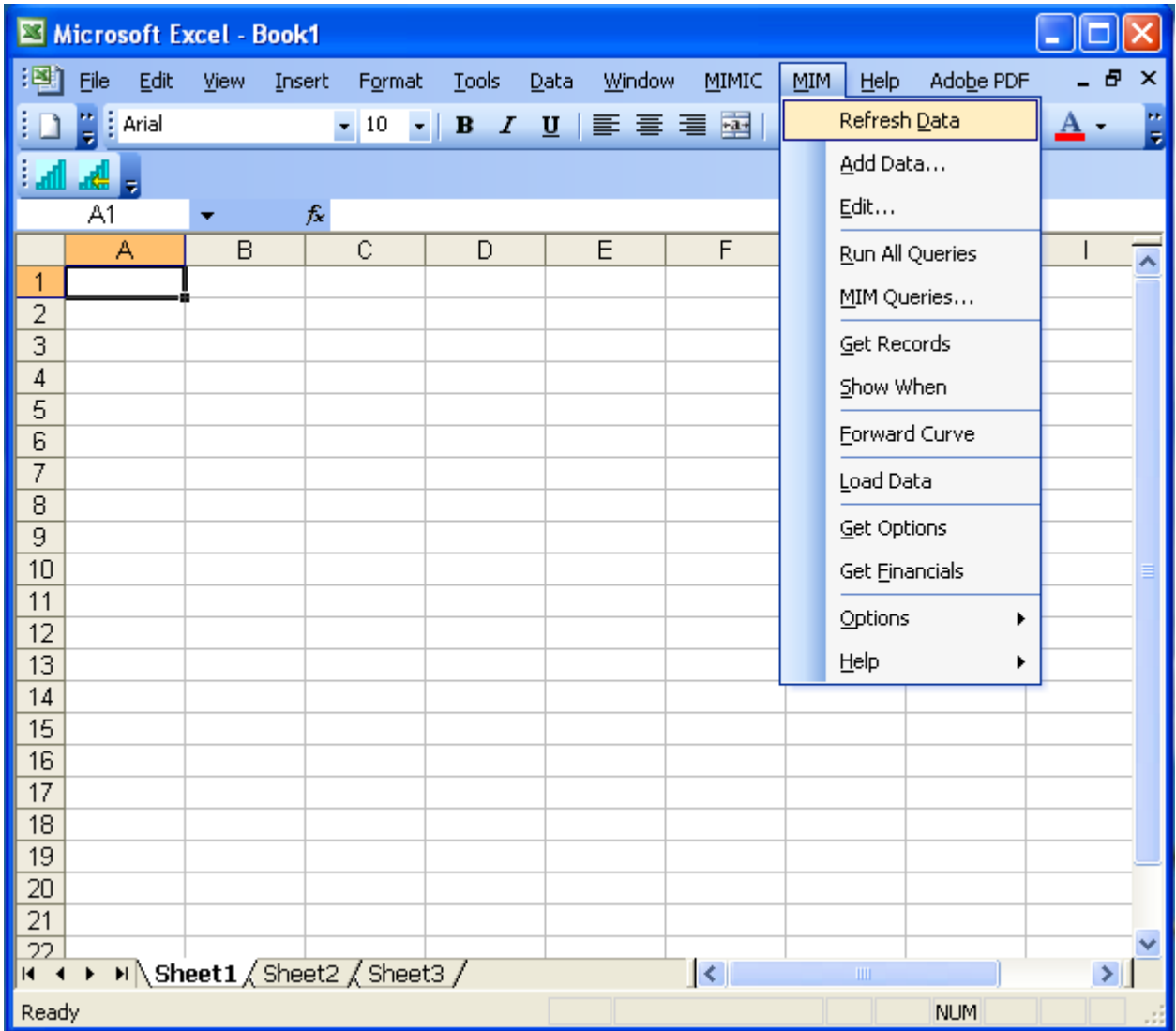
Choose Futures Contract Options.

Adjusted Continuous Contract Selection

Expiration Day Rollover

<< Back Next >> Cancel Finish

9. From the **MIM** menu, select **Refresh Data**.



10. The query runs and displays the data, i.e., the closing amounts for the NG future for the last 200 days.

The screenshot shows a Microsoft Excel window titled "Microsoft Excel - Book1". The menu bar includes File, Edit, View, Insert, Format, Tools, Data, Window, MIMIC, MIM, Help, and Adobe PDF. The toolbar shows the font set to Arial, size 10, with bold, italic, and underline options. The active cell is C1. The spreadsheet contains the following data:

	A	B	C	D	E	F	G	H
1	Date	NG(Close)						
2	09-14-2006	4.892						
3	09-15-2006	4.982						
4	09-18-2006	4.942						
5	09-19-2006	5.006						
6	09-20-2006	4.931						
7	09-21-2006	4.781						
8	09-22-2006	4.627						
9	09-25-2006	4.475						
10	09-26-2006	4.526						
11	09-27-2006	4.201						
12	09-28-2006	5.392						
13	09-29-2006	5.62						
14	10-02-2006	5.643						
15	10-03-2006	5.759						
16	10-04-2006	5.995						
17	10-05-2006	6.298						
18	10-06-2006	6.427						

The status bar at the bottom shows "Ready" and "NUM". The sheet tabs at the bottom are labeled "Sheet1", "Sheet2", and "Sheet3".

This concludes the **Working Example**. Next, see how to use the **MIM Queries/Run All Queries** option.

CHAPTER 5

MIM Queries/Run All Queries

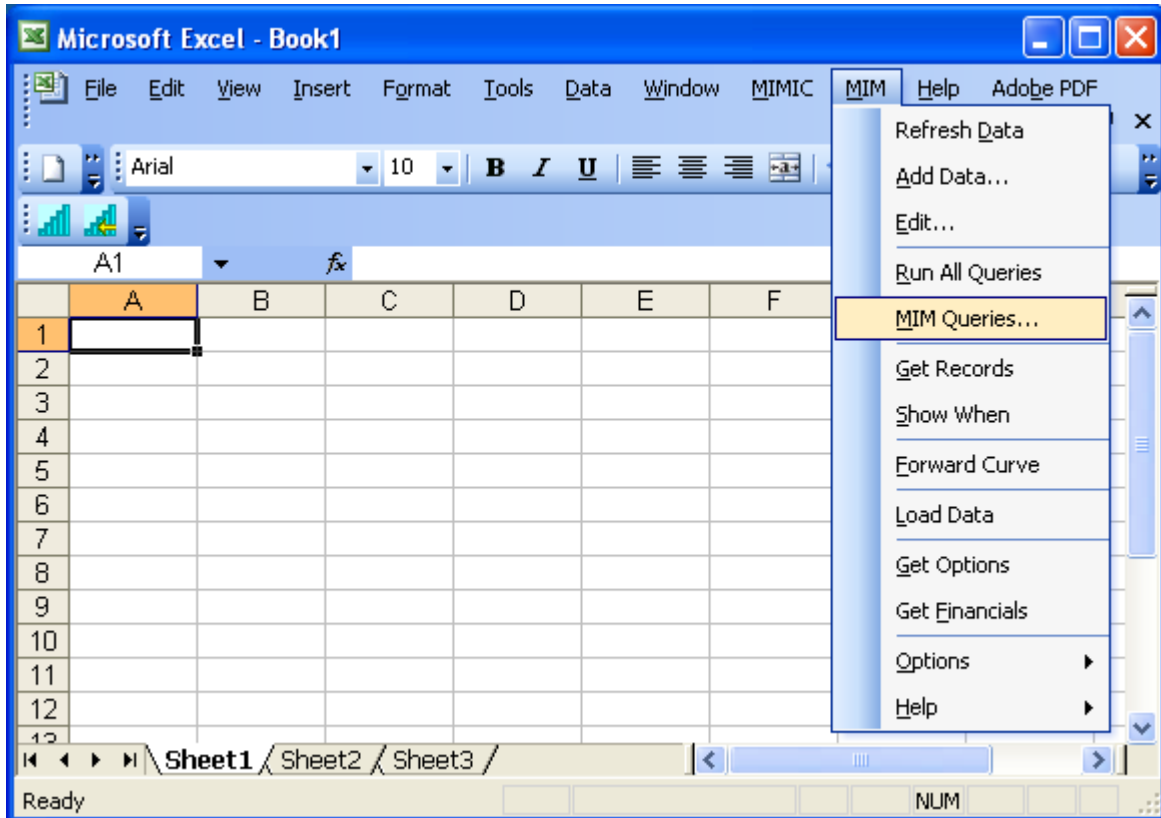
These two functions allow the user to create and edit queries as well as run all the queries at one time.

Problem

The following problem will demonstrate how to use the **MIM Query** and **Run All Queries** option. In this lesson, you will determine the gas spread between Chicago gas prices and Henry Hub (Louisiana) during the winter months.

Step-by-Step Solution

1. The first step in creating an advanced MIM query is to select **MIM Queries** from the **MIM** menu.

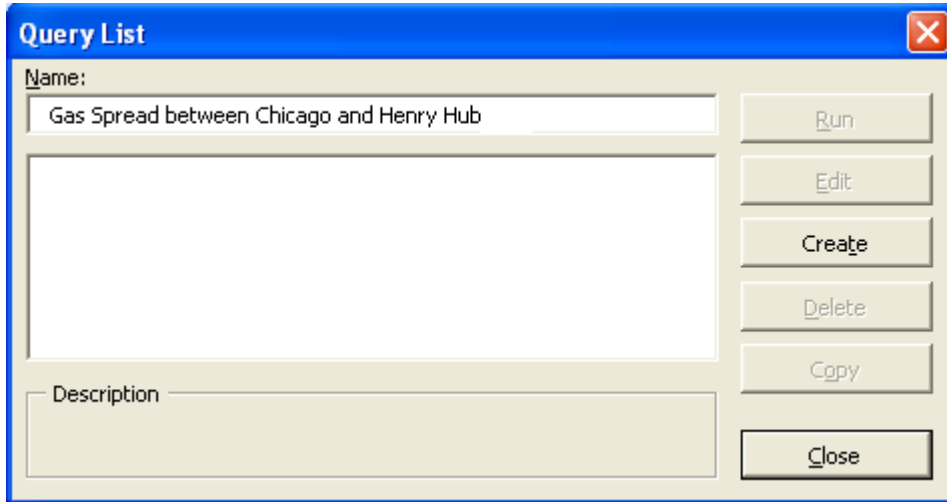


Query List Dialog

2. The next step in creating an advanced MIM query is to enter the information in the **Query List** dialog box.

Type an entry in the **Name** field, then select **Create**. A description of the user and the queries can be entered in the **Description** field. This description field becomes active in the next display after selecting **Create**.

After you create a query, you can return to this dialog box to **run** the query, later **edit** the query, **create** a new query, **delete** the query or **copy** the query. **Close** will return you to the Excel worksheet.



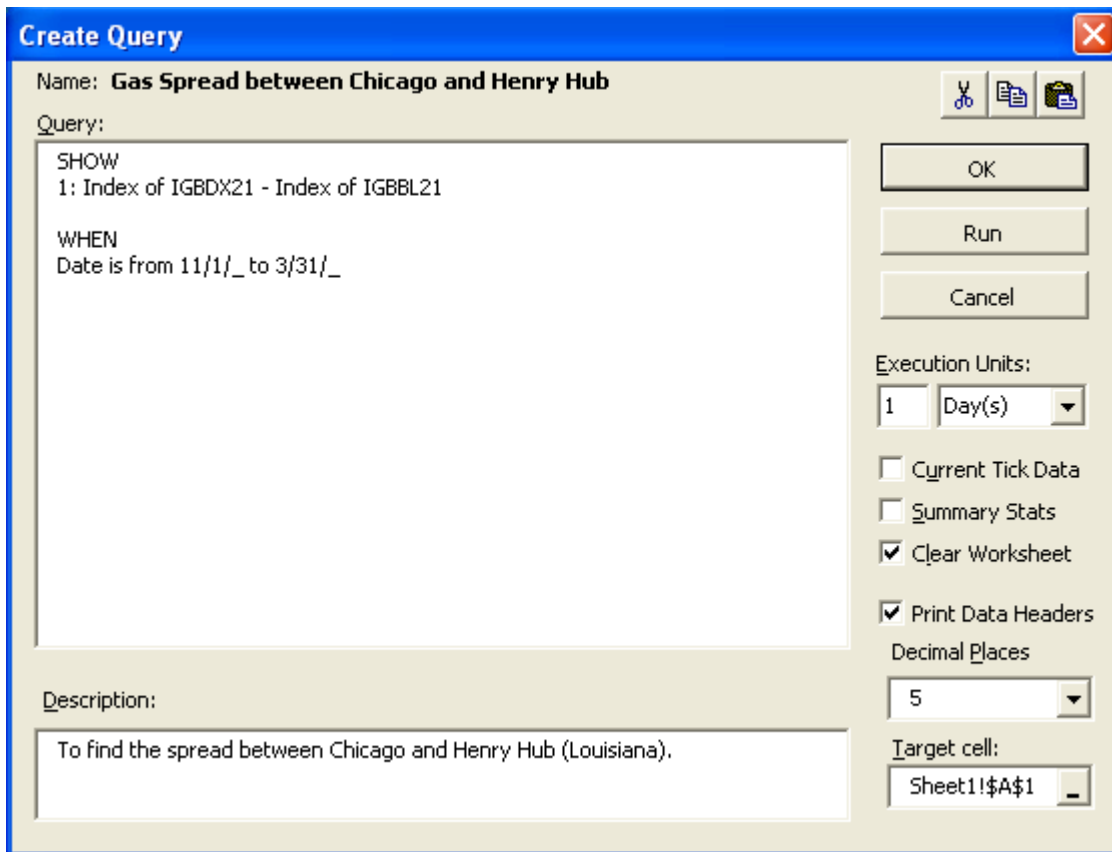
Create Query Dialog

3. Enter the following query in the **Create Query** dialog box. Enter a **Description** then select **OK**.



A query can be developed and tested using the XMIM, then copy/pasted into this query box.

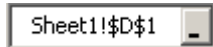
4. Select **Close** to close the **Query List** dialog box.




The following options can be set:

- **Execution Units** - Pick the time frame units for the data (seconds, minutes, days, years, etc.).
- **Current Tick Data** - If you have a real-time feed connected to the MIM server, check **Current Tick Data**. (Consult your LIM System Administrator as this is not common.)
- **Summary Stats** - In order for the MIM to generate summary statistics to go along with the data request, check **Summary Statistics**. The statistics included are: Sum, Average, Average Positive, Average Negative, Percent Positive, Percent Negative, Highest, Lowest, Standard Deviation, Z stat, and Variance.
- **Clear Worksheet** - Clears the worksheet of any data before displaying the new query data. Note: If several queries have been created, they will execute in alphabetical order and only the first one should have this box checked. If the second, third, etc. query had **Clear Worksheet** checked, then the first query's results will be erased.
- **Print Data Headers** - This option prints the assigned label names at the top of the columns in the spreadsheet.
- **Decimal Places** - Set the decimal place. The default is set to 5.

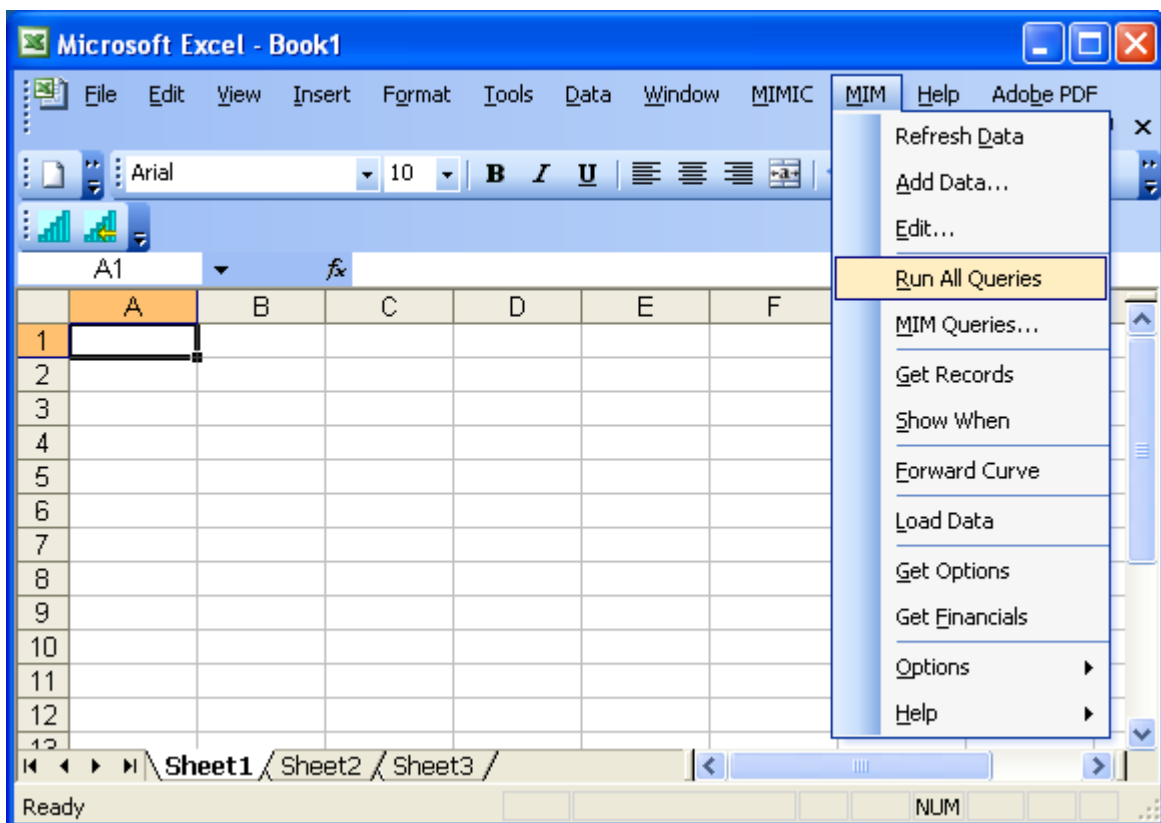
- **Target Cell** - Select the bar next to the destination cell:



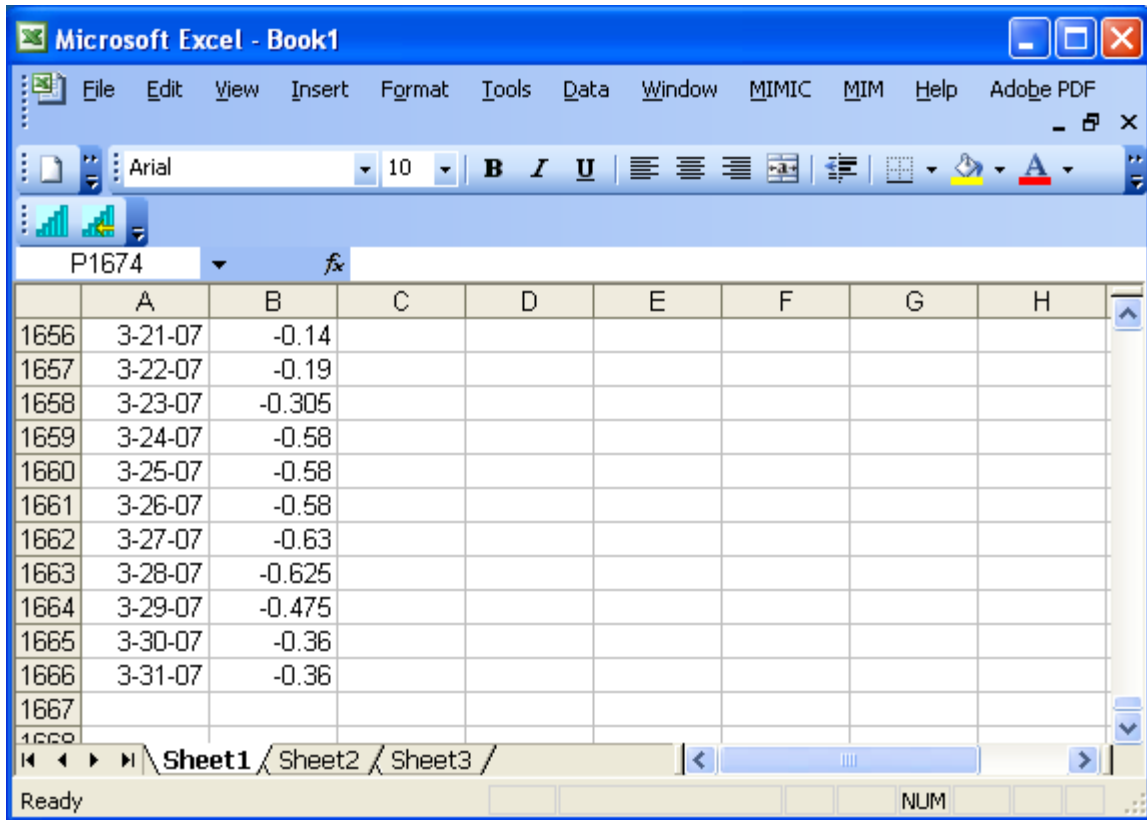
The **Create Query** dialog closes and the Excel Worksheet opens. Select the desired cell to store the data and then select the  button to return to the **Create Query** dialog.

Run All Queries

5. After creating queries, you can run them all at once by selecting the **Run All Queries** from the MIM menu. After running a query, you can go back and edit the query or make a new query by selecting **MIM Queries** from the MIM menu.



An example of a portion of the resulting data for the query:



The screenshot shows a Microsoft Excel window titled "Microsoft Excel - Book1". The menu bar includes File, Edit, View, Insert, Format, Tools, Data, Window, MIMIC, MIM, Help, and Adobe PDF. The toolbar shows the font set to Arial, size 10, with bold, italic, and underline options. The active cell is P1674. The data table is as follows:

	A	B	C	D	E	F	G	H
1656	3-21-07	-0.14						
1657	3-22-07	-0.19						
1658	3-23-07	-0.305						
1659	3-24-07	-0.58						
1660	3-25-07	-0.58						
1661	3-26-07	-0.58						
1662	3-27-07	-0.63						
1663	3-28-07	-0.625						
1664	3-29-07	-0.475						
1665	3-30-07	-0.36						
1666	3-31-07	-0.36						
1667								
1668								

The status bar at the bottom shows "Ready" and "NUM". The sheet tabs at the bottom are labeled "Sheet1", "Sheet2", and "Sheet3".

6. Clear the spreadsheet before continuing to the next example.

CHAPTER 6

Get Records Function

The **Get Records** function is a fast method for fetching and analyzing data. This function takes the data that is entered on the spreadsheet and populates the relation, column, date and time fields in the program.

Problem

Look at the Close, Open and Volume for NG, CL and HU for January 1, 2001 through February 1, 2001 between 10:00 am and 1:00 pm.

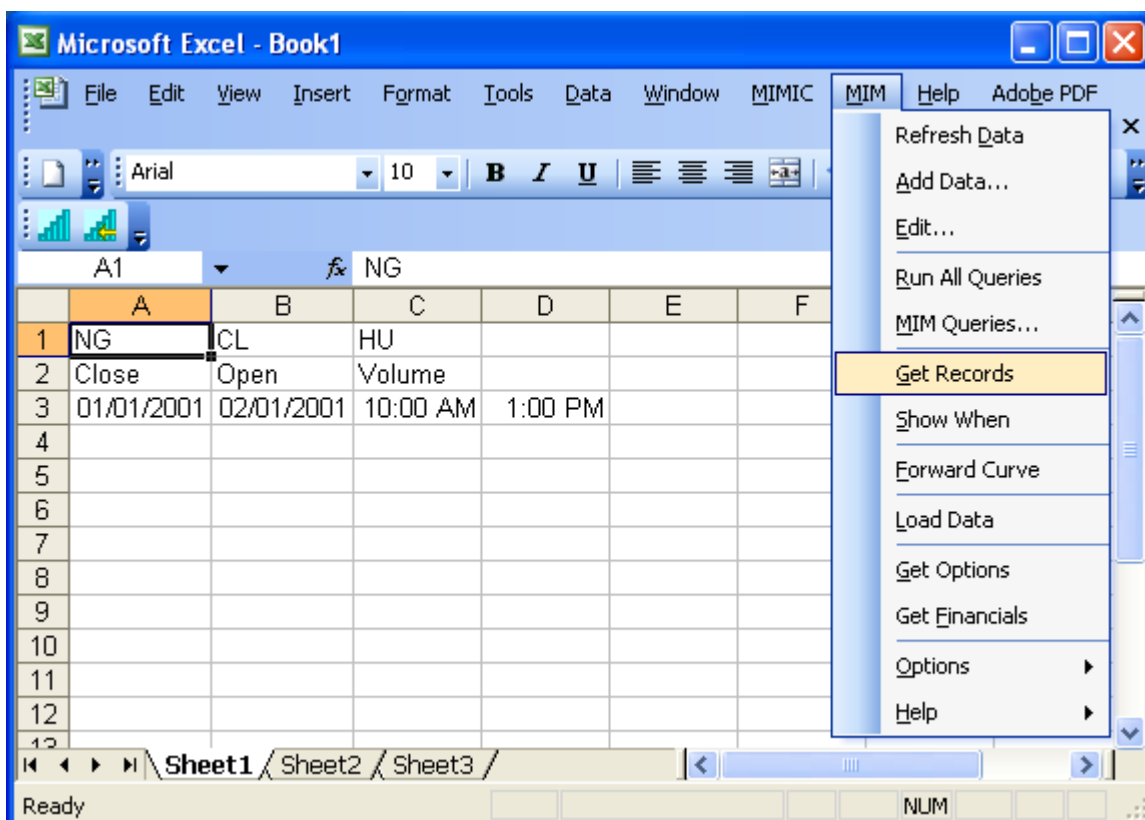
Step-by-Step Solution

Enter relation data on any row of the spreadsheet. On the next row enter the column data. The following row is reserved for the date fields in the first two columns and the time fields in the next two columns. The data in the spreadsheet must be aligned in a contiguous manner so that all the data will be selected.

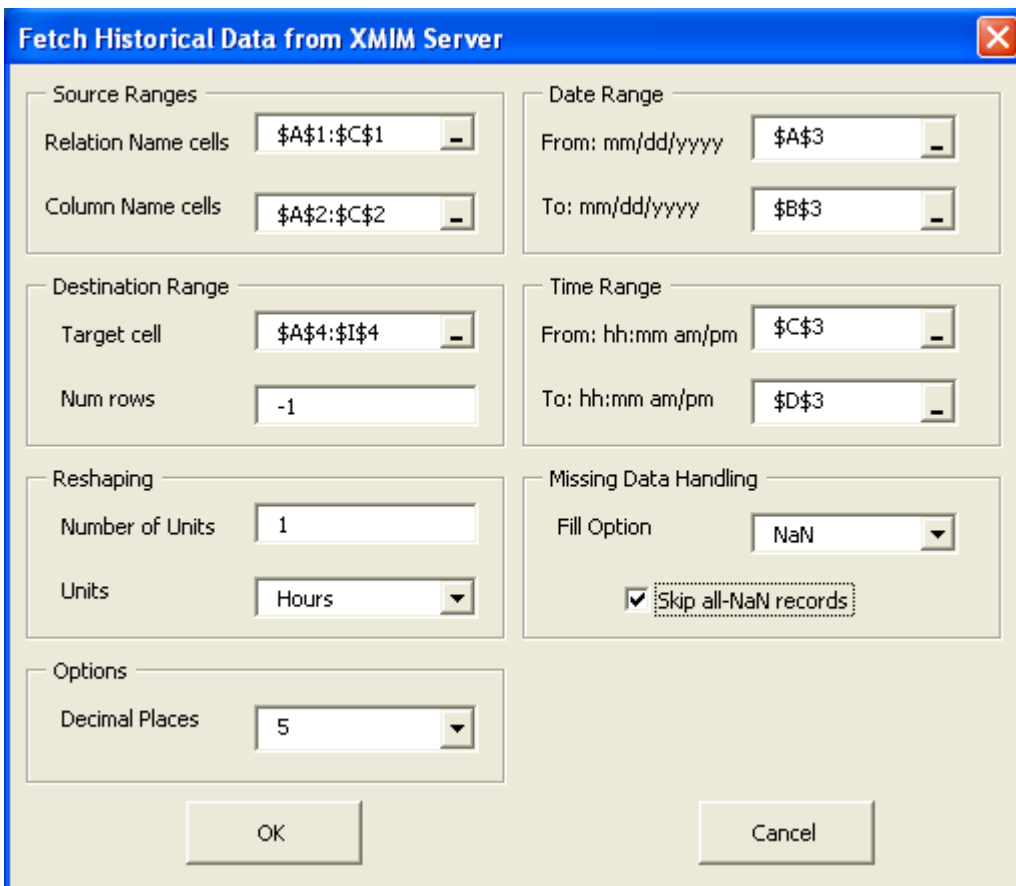
After entering the data in the spreadsheet you will select the cell containing the first relation name entry and then you will select **Get Records** from the menu bar. All the data entered will automatically populate the corresponding fields in the display box.

The following outlines this process in detail:

1. Enter the symbol names in the first row. Type **NG** in cell A:1, **CL** in cell B:1 and **HU** in cell C:1.
2. Next, enter the column data. Type **close** in cell A:2, **open** in cell B:2 and **volume** in cell C:2.
3. On the next row, enter the date and time information. For **Date From** enter 1/1/2001 in cell A:3, for **Date To** enter 2/1/2001 in cell B:3. On the same row enter the time fields. For **Time From** enter 10:00 am in cell C:3, for **Time To** enter 1:00 pm in cell D:3.
4. Select cell A:1 then select **Get Records** from the **MIM** menu.



5. The fields will automatically populate the **Fetch Historical Data from XMIM Server** box. For **Source Ranges**, cells A:1 to C:1 will display for the **Relation Name cells**. Cells A:2 to C:2 will display for the **Column Name cells**.
6. For **Destination Range**, the data will populate in cells A:4 to I:4. Keep the -1 value in the **Num rows** box if you want all the data rows to display. If you want only a certain number of rows to display type in a specific number.
7. For the **Reshaping** field, select a **Units** option: Years, Quarters, Months, Weeks, Days, Hours or Minutes. Since we are dealing with intra-day data, select **Hours**. Enter a value for **Number of Units**. All the values will display with the default setting of 1.
8. In the **Options** field, set the **decimal place**. The default is 5.
9. The **Date Range** field will automatically populate with a date range from cell A:3. The date range fields are optional. If a **Date Range** is not entered, all the dates for the symbol will be queried. The **Date Range** must be entered in the following format: **mm/dd/yyyy**.



10. Since we entered time ranges in the spreadsheet in cells C:3 and D:3 these cells automatically populate the time range fields in the display box. The **Time Range** field is optional. The **Time Range** is in the format: **hh:mm am/pm**. Keep in mind that when entering a time range, **Hours** or **Minutes** must be selected in the **Units** box in the **Reshaping** section.

11. Select a **Fill Option** from the pull-down menu. A default NaN is filled if there is no data point available for a given date. Use the pull-down menu to have the data filled in other ways (e.g. Filled Forward or Backward, Linear, Geometric or Logarithmic interpolated values). For this example, select **Skip all-NaN records**. All the NaN values will not display.
12. Select **OK** to run the query.

The following shows the results for the **Get Records** query. Columns labeled **1, 2, 3** are the **Close, Open** and **Volume** for **NG**. The next three columns are the **Close, Open** and **Volume** for **CL**. The last three columns are the **Close, Open** and **Volume** for **HU**.

	A	B	C	D	E	F	G
1	NG	CL	HU				
2	Close	Open	Volume				
3	01/01/2001	02/01/2001	10:00 AM	1:00 PM			
4	Date Time	1	2	3	4	5	6
5	01/02/2001 10:00	8.75	8.65	162	26.88	26.92	14
6	01/02/2001 11:00	8.59	8.72	258	26.95	26.87	280
7	01/02/2001 12:00	8.66	8.58	112	26.77	26.98	307
8	01/02/2001 13:00	8.4	8.65	147	27	26.75	123
9	01/03/2001 10:00	8.52	8.34	183	27.27	27.22	11
10	01/03/2001 11:00	8.41	8.53	358	27.33	27.27	450
11	01/03/2001 12:00	8.32	8.43	160	27.21	27.35	319
12	01/03/2001 13:00	8.35	8.33	64	27.35	27.19	162

This completes the **Get Records** lesson. Next, see how to use the **Show When** function.

CHAPTER 7

Show When Function

Create **Show When** queries quickly by pulling data entered on a spreadsheet. Enter the **Show** statements in a column on the spreadsheet. Enter the **When** statements in the next column.

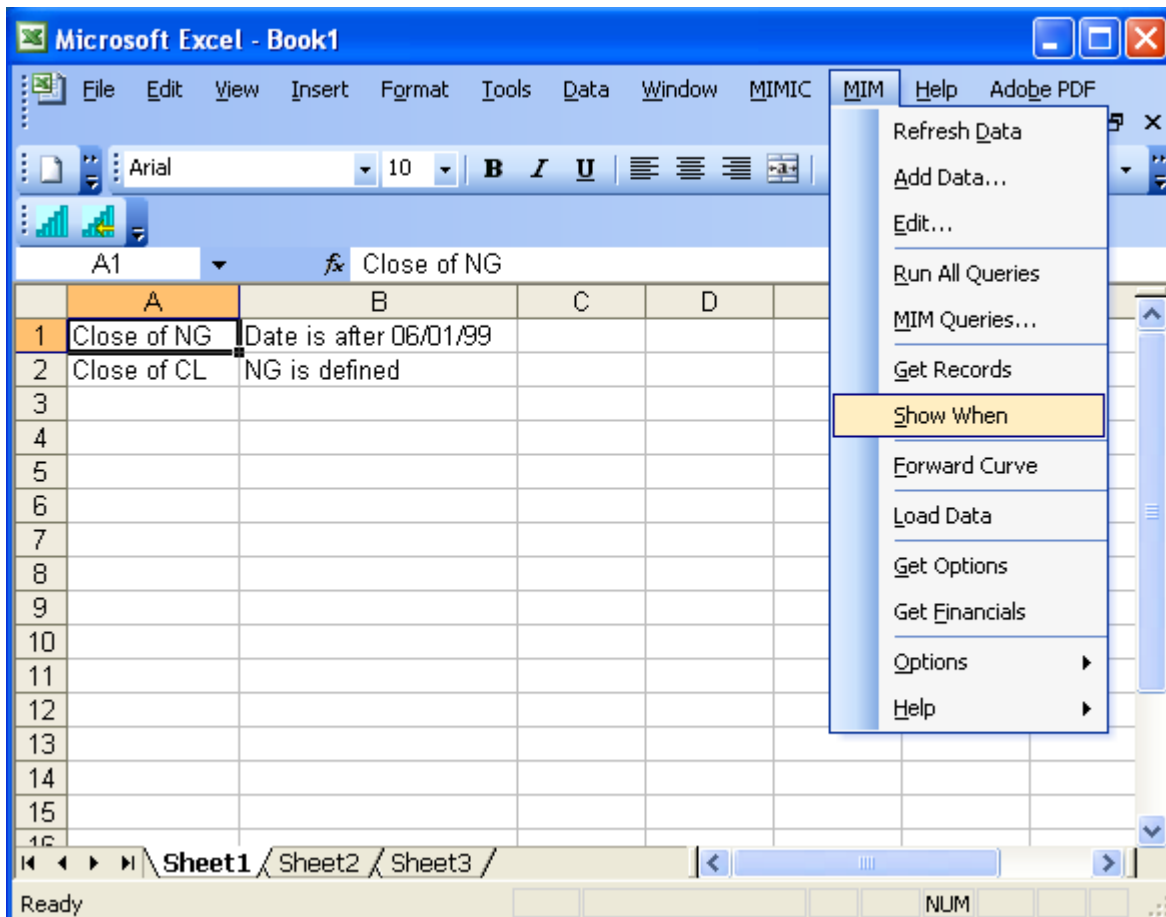
The program will automatically fill in the **Show-When Query Server** dialog box with your fields. The program will skip a row and put the answers at the beginning of the next row. (For the following example Row 4.)

Problem

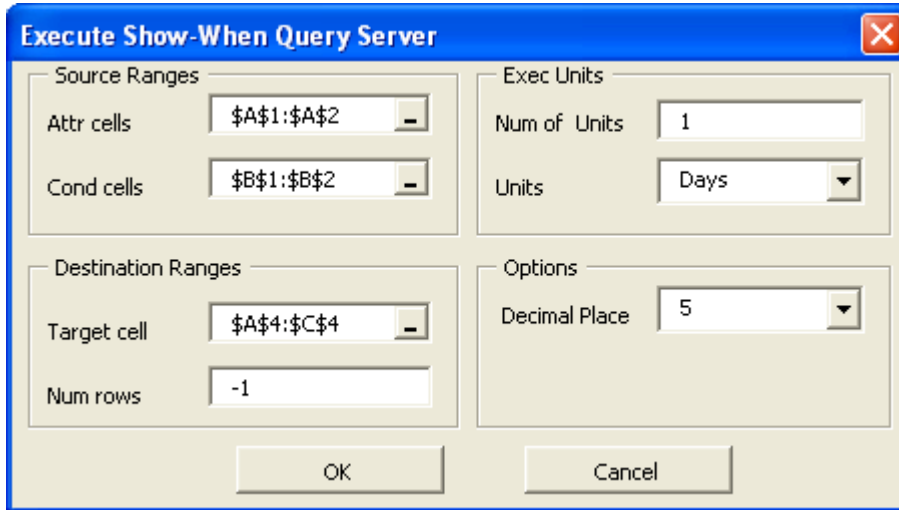
For this example, let's find the Close of Natural Gas Futures (symbol is NG) and Crude Oil, Light Sweet Futures (symbol is CL) when the date is after June 1, 1999.


Step-by-Step Solution

1. Type the following information into the Excel spreadsheet: The **Show** statements are: **Close of NG**, **Close of CL**. The **When** statements are: **Date is after June 1, 1999** and **NG is defined**. When you are finished entering the data make sure you click back on the first entry. This cell designates the starting point for the data entries.
2. Select **Show When** from the **MIM** menu.



The **Execute Show-When Query Server** dialog box displays. The program automatically fills in the source and destination ranges based on where the data is entered on the spreadsheet.



If you want to change which data is selected, you can put your cursor in the **Attr cells** text box, go to the Excel spreadsheet and then select the desired cells in the spreadsheet. Another method for selecting data is to select the bar next to the destination cell then select the data from the spreadsheet. Using the  button returns you to the **Execute Show-When Query Server** dialog box.

3. For **Destination Ranges** the program skips a row and then displays the data on the next row. The **Num rows** box has a default value of **-1**. When **-1** is entered, all the data for the query will display. If you would like a certain number of rows of data to display enter a specific number.
4. For the **Exec Units** category, enter a value in the **Num of Units** box. The current default is **1**. This field controls how often the data will display. For example, if this value was set to **5**, every fifth day would display on the spreadsheet.
5. For the **Units** box, select a type of unit such as Years, Quarters, Months, Weeks, Days, Hours or Minutes. For our example select **Days**.
6. For the **Options** category, select a decimal place setting in the **Decimal Place** box.
7. Select **OK** to close this dialog box.

8. The **Show When** query will run and display in the designated target cells as shown below.

	A	B	C	D	E	F	G
1	Close of NG	Date is after 06/01/99					
2	Close of CL	NG is defined					
3							
4	Date	1	2				
5	06/02/1999	2.407	16.65				
6	06/03/1999	2.397	16.74				
7	06/04/1999	2.437	17.32				
8	06/07/1999	2.442	17.86				
9	06/08/1999	2.393	17.66				
10	06/09/1999	2.46	17.99				
11	06/10/1999	2.355	17.85				
12	06/11/1999	2.378	18.43				
13	06/14/1999	2.372	18.33				
14	06/15/1999	2.367	18.55				
15	06/16/1999	2.327	17.94				
16	06/17/1999	2.395	18.10				

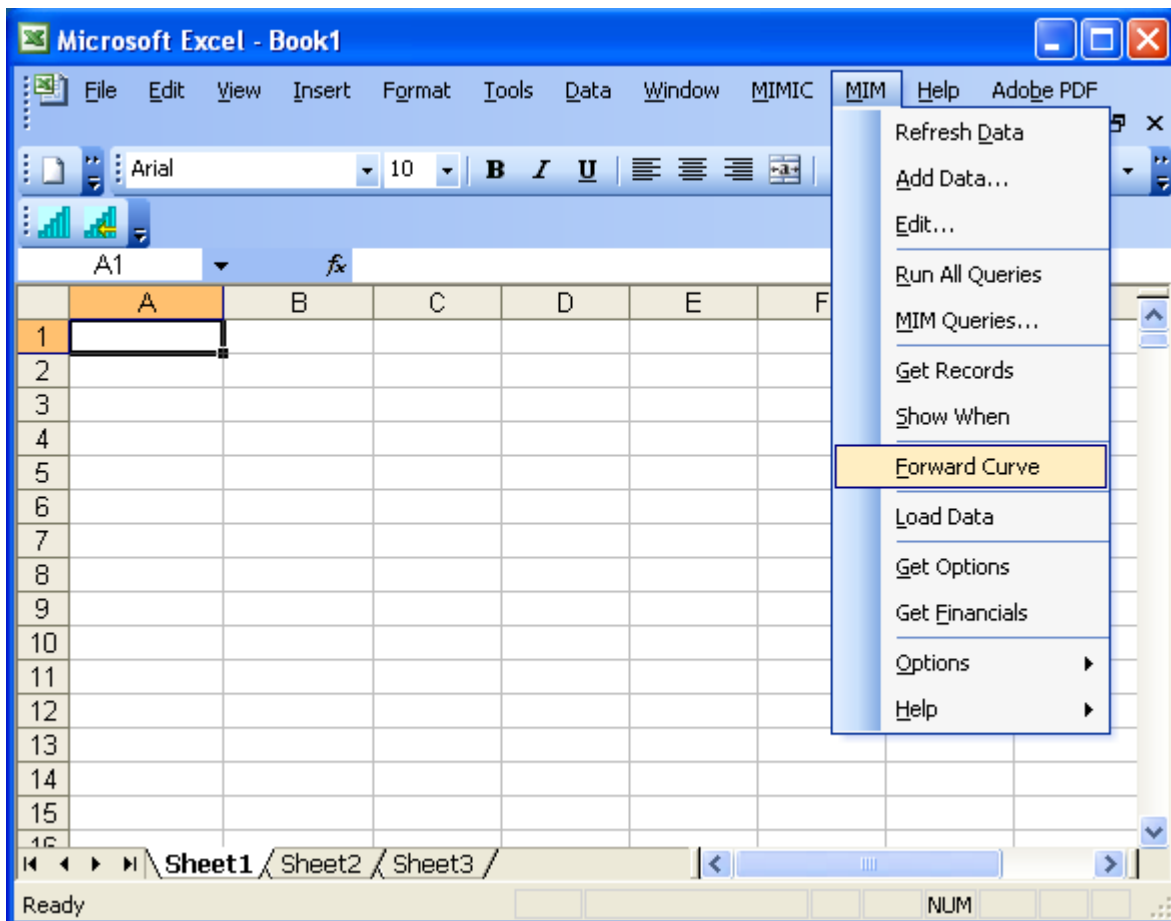
9. Clear the screen before proceeding to the next example.

CHAPTER 8

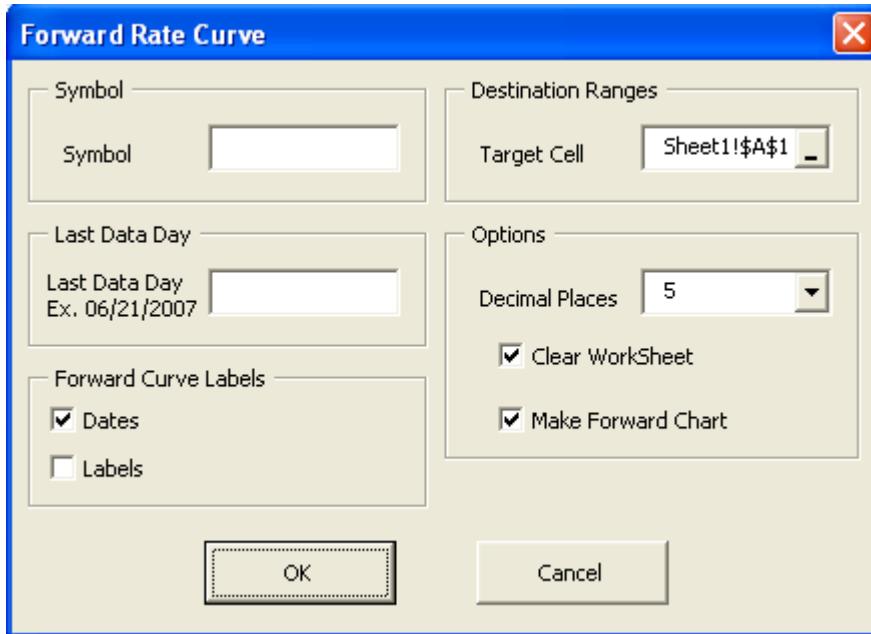
Forward Curve

Use the **Forward Curve** function to create a study where multiple contracts can be charted over several years easily on a single chart. The following will show how to set the options for a forward curve.

1. From the **MIM** menu, select **Forward Curve**.



The **Forward Rate Curve** dialog box displays.



2. Enter a symbol in the **Symbol** box. For our example, enter NG.
3. The **Last Data Day** field uses the most recent date available unless a specific date is entered. For our example, enter 05/13/2002.
4. In the **Forward Curve Labels** category, you can set **Dates** or **Labels** to display on the chart. For our example keep the default.
5. In the **Destination Ranges** category, select a **Target Cell** in the spreadsheet where you would like the data to begin displaying.
6. In the **Options** category, you can change the decimal place setting using the pull-down in the **Decimal Places** box. **Clear Worksheet** will clear the contents of the worksheet before displaying the new data.

Make Forward Chart will create the **Forward Rate Curve** chart. For our example, keep the default settings. Select **OK** to display the data and chart in the spreadsheet.

Forward Rate Curve

Symbol: NG

Destination Ranges: Target Cell: Sheet1!\$A\$1

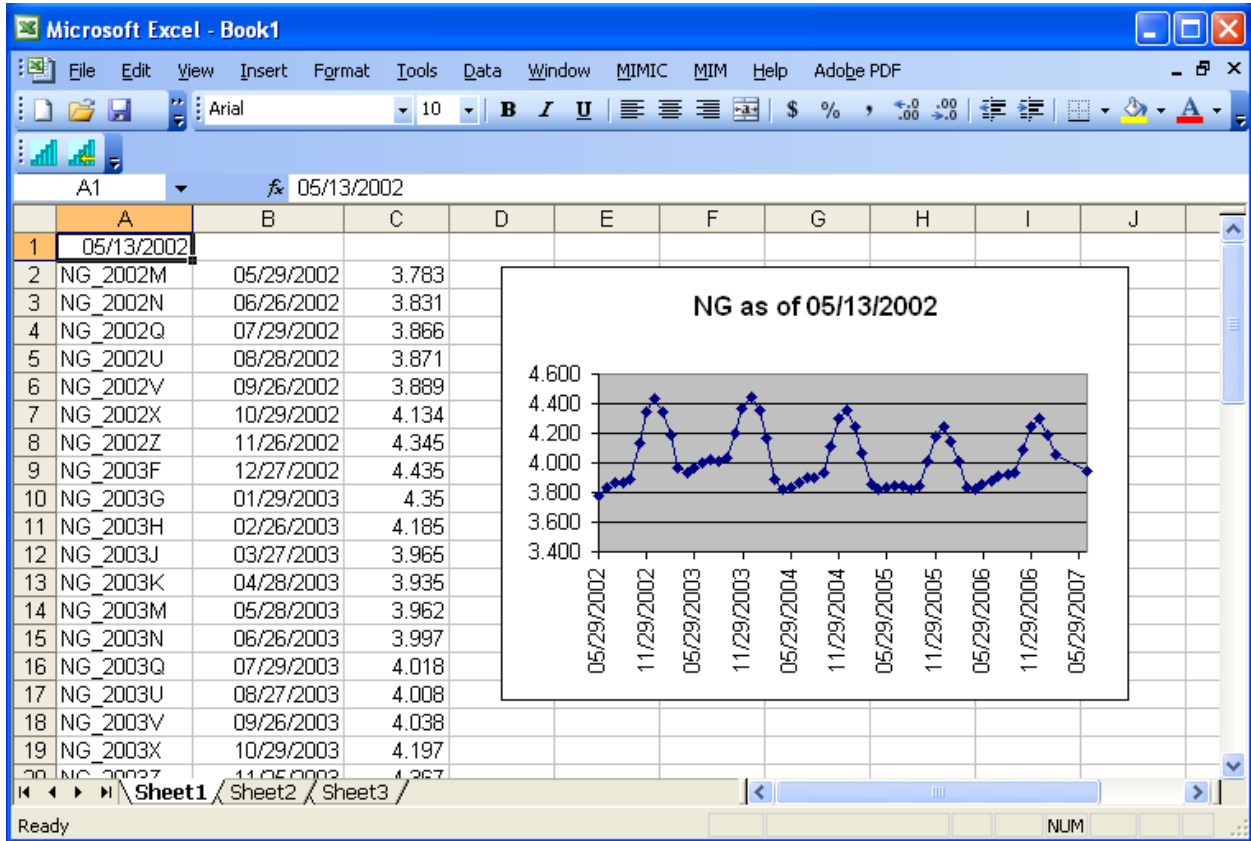
Last Data Day: 05/13/2002 (Ex. 06/22/2007)

Forward Curve Labels: Dates, Labels

Options: Decimal Places: 5, Clear WorkSheet, Make Forward Chart

OK Cancel

The following shows the results of the **Forward Curve** chart settings for the NG (Natural Gas) futures.



CHAPTER 9

Load Data

Data can be loaded into the MIM via the MIM Excel Add-in. It is first necessary to install the data load servlets to setup the Web server. For instructions on setting up the Web server, please see the “[Data Loader: Server Setup Instructions](#)” chapter in the *MIM Data and Development Guide*.

How to Use the Data Loader

The following gives detailed instructions on how to load data using the **Load Data** selection on the **MIM** menu.

Enter Data on the Spreadsheet

The first step in using the data loader feature is to enter the data on the Excel spreadsheet in the following format:

- First cell contains the relation name.



The relation name can either be a new name, or one that is currently in the database.

- The next cell, moving horizontally across the spreadsheet, contains the column name.



The column name must be a name that is already assigned in the MIM database. To see what column names can be used, see the column catalog located at: http://customers.lim.com/menu/column_catalog.htm.

- The third cell should contain the date in any format that Excel will accept. If you add a time to this column, the data loader will assume the data is of an intra-day format (i.e., minutely).



Data at less than minute frequency (tick) is not supported. The time entry is optional and the format should be HH.MM.

The data will usually be loaded by default into TopRelation:User but custom locations may be configured for some systems. For more information see the “[Data Loader: Server Setup Instructions](#)” chapter in the *MIM Data and Development Guide*.

- The fourth cell contains the data. The data can be either an integer or a float, depending on the column assigned. The data will be converted to the correct format by the system if necessary.
- The fifth cell contains the description for the symbol. If more than one description is entered for a symbol only the first entry will be used, any other entries will be ignored.



Column F must be left blank otherwise you will get an error message. You may enter text in Column G and beyond, but in order for the data loader to work you must have a blank column after the description column (fifth column).

- In the last blank row type `END_OF_DATA` exactly as shown in the first column. This marker designates to stop loading data at this point.

	A	B	C	D	E	F	G
1	WID.LONESTAR_3	Close	08/02/2003 1:00	8.02	Lonestar Pipeline3 - Widgets Inc.		
2	WID.LONESTAR_3	Close	08/03/2003 2:00	8.03			
3	WID.LONESTAR_3	Close	08/04/2003 3:00	8.02			
4	WID.LONESTAR_3	Close	08/05/2003 4:00	8.02			
5	WID.LONESTAR_3	Close	08/06/2003 0:01	8.02			
6	WID.LONESTAR_3	Close	08/07/2003 14:00	8.02			
7	WID.LONESTAR_3	Close	08/08/2003 15:00	8.02			
8	END_OF_DATA						
9							
10							
11							
12							

The following scenarios may apply:

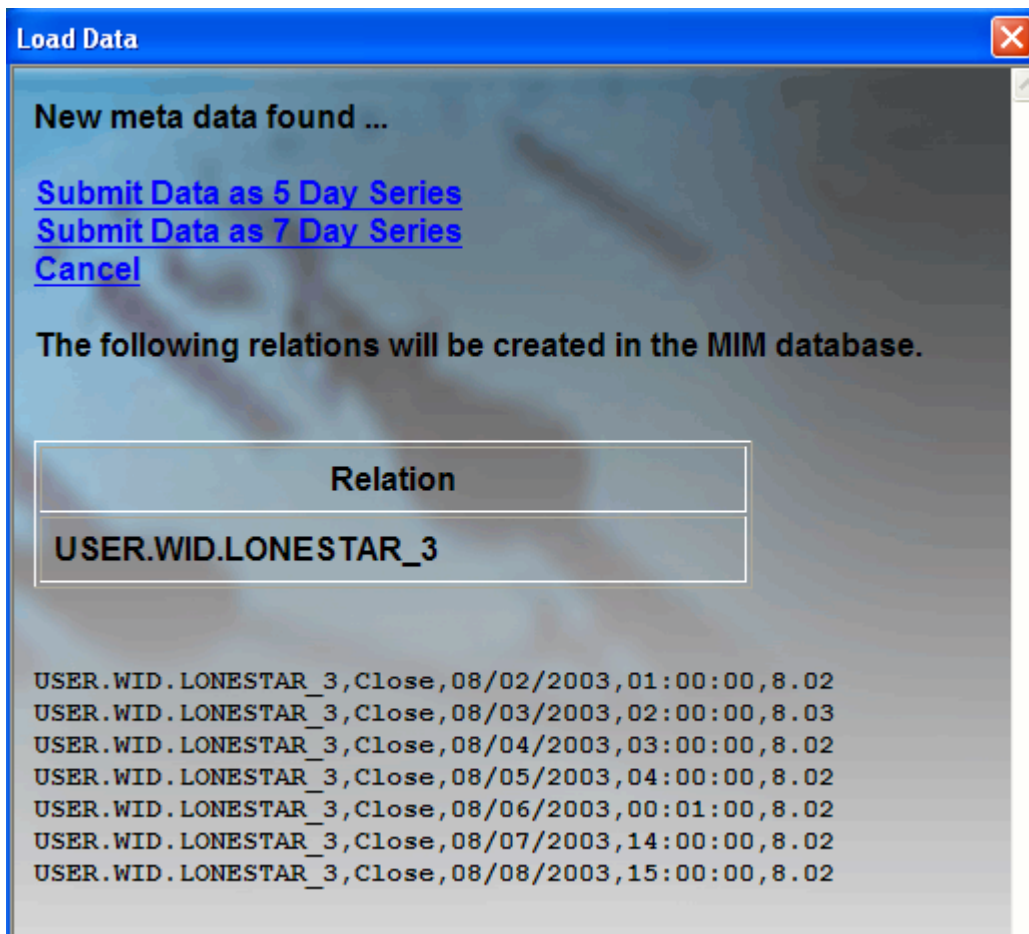
- The relation name is one that is already in the system.
- The relation name is a new name.
- The column name does not exist.
- The updates package is running and the data is waiting in the queue to load.

Each of these scenarios will be covered in further detail.

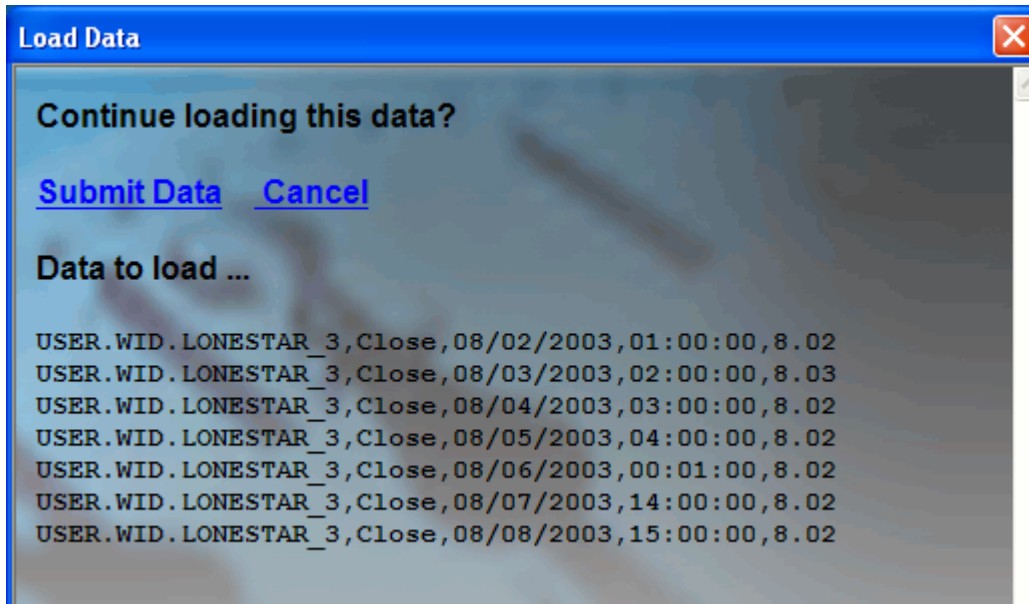
Load Data from the MIM Menu

The following shows the steps for running the data loader from the MIM menu.

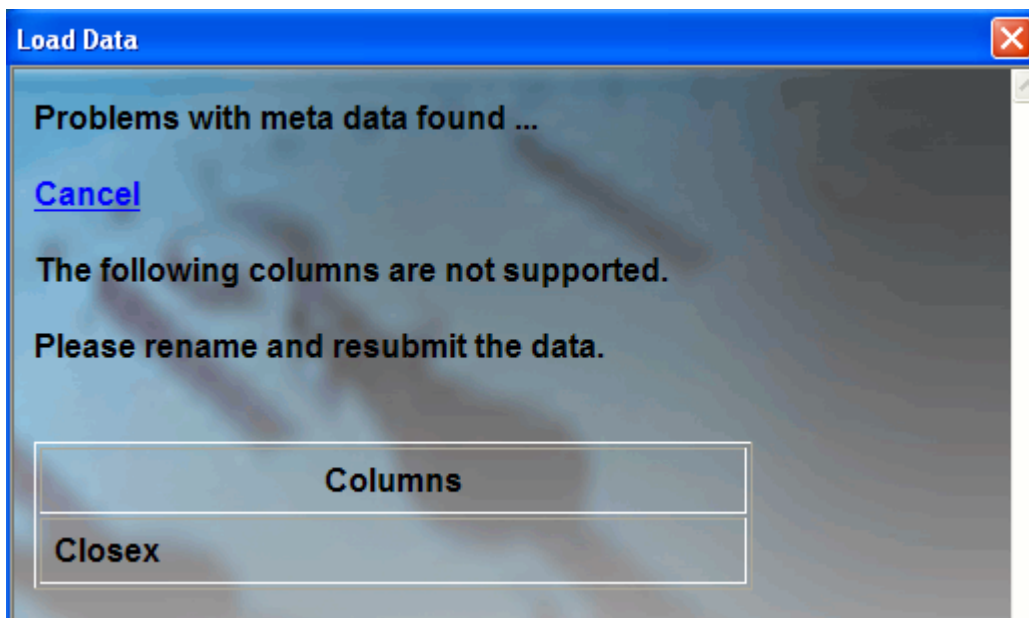
1. After the data is entered in the spreadsheet, click off of the cell containing the last entry and then click back anywhere on the spreadsheet.
2. From the MIM menu, select **Load Data**. Each of the items below shows a possible scenario when loading data:
 - a. If the relation name is new, the dialog box will prompt the user to **Submit the Data as 5 Day Series**, **Submit the Data as 7 Day Series** or **Cancel**.



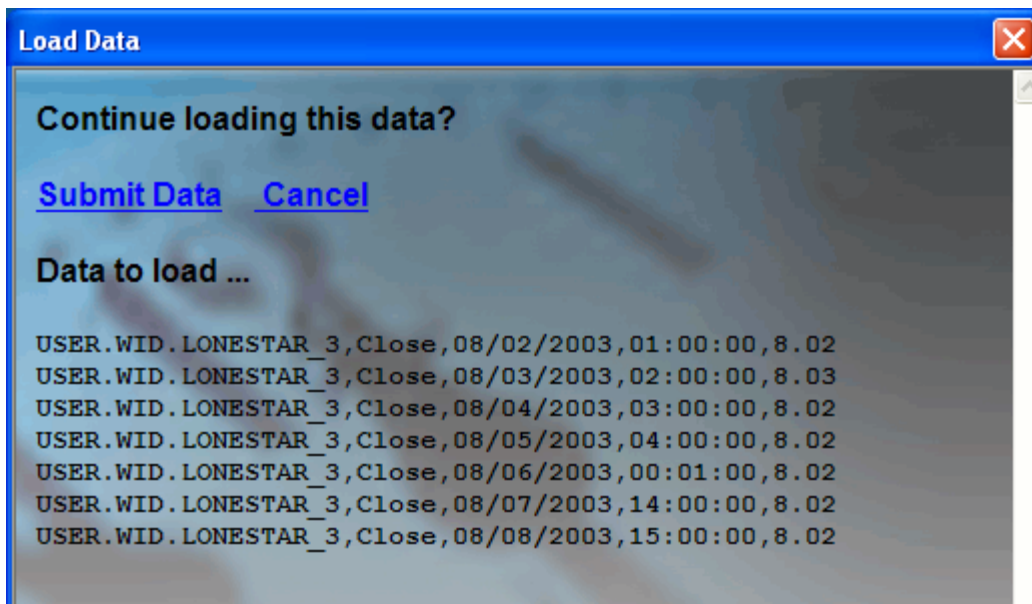
- b. If the relation name is not new and no problems are found, the user is prompted to **Submit the Data** or **Cancel**.



- c. If a problem is encountered. For example: the following graphic shows the user loading the data with the column set to Closex. If the column name does not exist, the message **The following columns are not supported** will return.



Fix the column name, then resubmit the data. Select **Submit Data** to load this data.



After the data is submitted, the data will be put into the queue for loading. If an updates package is running, the data will remain in the queue until the package has finished loading. When the data has loaded successfully, a confirmation window will display.

CHAPTER 10

Get Options and the Options Facility

Introducing the Options Facility

The Options Facility refers to a portion of the MIM Data Warehouse that has been organized to allow specialized analysis of options data. There are several LIM applications developed for extracting data from the Options Facility. This section specifically outlines how to use the Get Options feature in the MIM Excel Add-in. For more information on extracting data using other tools, please see the [Options Facility](#) document.

Options Data Offerings

The data in the Options Facility can be divided into three distinct categories:

- Options contracts
- Standardized at-the-money forwards
- Underlying equities

LIM has over 6 years of US equity and index option history available including: a complete history of the individual options contracts, standardized at-the-money forwards, and a full compliment of options related information for the underlying equities.

The options contracts and standardized options are updated daily for pricing, premium, implied volatility, and sensitivities. The underlying equities have options summary data including: option volume totals, open interest totals, and implied volatility.

Tools for Extracting Options Data

There are two applications that have been developed to extract data from the Options Facility: the **Get Options** feature in the MIM Excel Add-in and a customized **Options Command Line** application.

The MIM API was enhanced to allow this integration of customized applications with options analysis. By using C API calls to **XmimGetRecordsOptions** our applications were developed to extract data from the Options Facility.

Using these tools, one can filter the options data by put/call, strike price, expiration date, and perform special handling for non-computable values. In addition, the options product suite extends the capability to unlimited possibilities for an options trader to develop and monitor trading methodologies.

Important Note for Options Contracts

The standardized at-the-money forwards and underlying equities can be researched using any of our suite of analysis tools: XMIM, MIMIC or the MIM Excel Add-in. It is important to make the distinction that the options contracts are accessible using the following tools: the MIM Excel Add-in and the Options Command Line application. For more information on the Options Command Line application, please see the [Options Facility](#).

Columns for Options Data

The following list outlines the columns available for use with options data:

- Date (values always returned)
- Expiration Date (values always returned)
- Put/Call (values always returned)
- Strike Price (values always returned)
- BidPrice
- OfferPrice
- LastTradeDate
- Volume
- OpenInterest
- ImpVol
- OptionDelta
- OptionGamma
- OptionVega
- OptionTheta

Each equity, as the underlying issue, will have some additional columns of options related data:

- CallVol
- PutVol
- TotalVol
- ImpVol



Note that this column is the average of the 30 put and 30 call in the standardized options.

- CallOI
- PutOI
- TotalOI

Get Options

Use the MIM Excel Add-in **Get Options** feature to access the special columns established for analyzing options data. This function takes the data that is entered on the spreadsheet and automatically populates the relation, column, date, expiration date, strike price and put/call fields in the program.

Working Example

Look at the option Gamma for IBM for dates ranging from 5/7/2002 to 6/12/2002 and expiration dates ranging from 5/02 to 6/02 with strike prices ranging from 50 to 70.

Step by Step Solution

Overview

In order for the software to automatically pick up the entries from the spreadsheet and fill in the dialog box, the user must fill out the spreadsheet in a specified order and click on the first relation cell entry before choosing **Get Options** from the MIM menu. Selecting the first relation cell entry on the spreadsheet, tells the program where the data entries begin on the spreadsheet. All the data entered will automatically populate the corresponding fields in the display box.



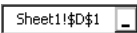
The user may start entering data from any point on the spreadsheet but must follow the specified order from that point on.


Enter relation data on any row of the spreadsheet. On the next row enter the column data. The following row is reserved for the date fields in the first two columns, the expiration dates in the next two columns, the strike price range in the next two columns and the put/call/both option in the last column cell. The data in the spreadsheet must be aligned in a contiguous manner so that all the data will be selected. If this format is not followed the data will not populate the next dialog box correctly.



The user has the option of entering data on any of the cells in the spreadsheet, not in a contiguous manner. After **Get Options** is selected from the MIM menu the dialog box will display. Instead of having the data automatically populate the fields in the display box, the user can select the individual cells in the spreadsheet to fill in each field of the display box.

The following is an example of how to select information in a cell on a spreadsheet to populate a field in the display box:

1. Select the bar next to the destination cell.  The dialog box will close and the Excel Worksheet opens.

2. Select the desired cell on the spreadsheet, then select the  icon to return to the dialog box. The dialog will now contain the spreadsheet entry.

Spreadsheet Entries

The following outlines the process in detail. Follow along with this example to learn how to enter options data in a spreadsheet and have the entries automatically populate the query dialog box.



An older version of the Options Facility allowed the user to enter as many relations as they wanted, but because of the new formatting functionality in the latest version, the user can only enter and view data for one relation at a time.

1. Enter the symbol names in the first row. Type **IBM_Options** in cell A:1.
2. Next, enter the column data. Type **OptionGamma** in cell A:2. If you wanted more than one column, then you would enter the next column data in cell **B:2**, then **C:3** etc.
3. On the next row, enter the dates, expiration dates, strike price ranges and the put/call options. Enter **P** or **p** for Put and **C** or **c** for Call. If left blank the default is to display both Puts and Calls. The following graphic details the entries:



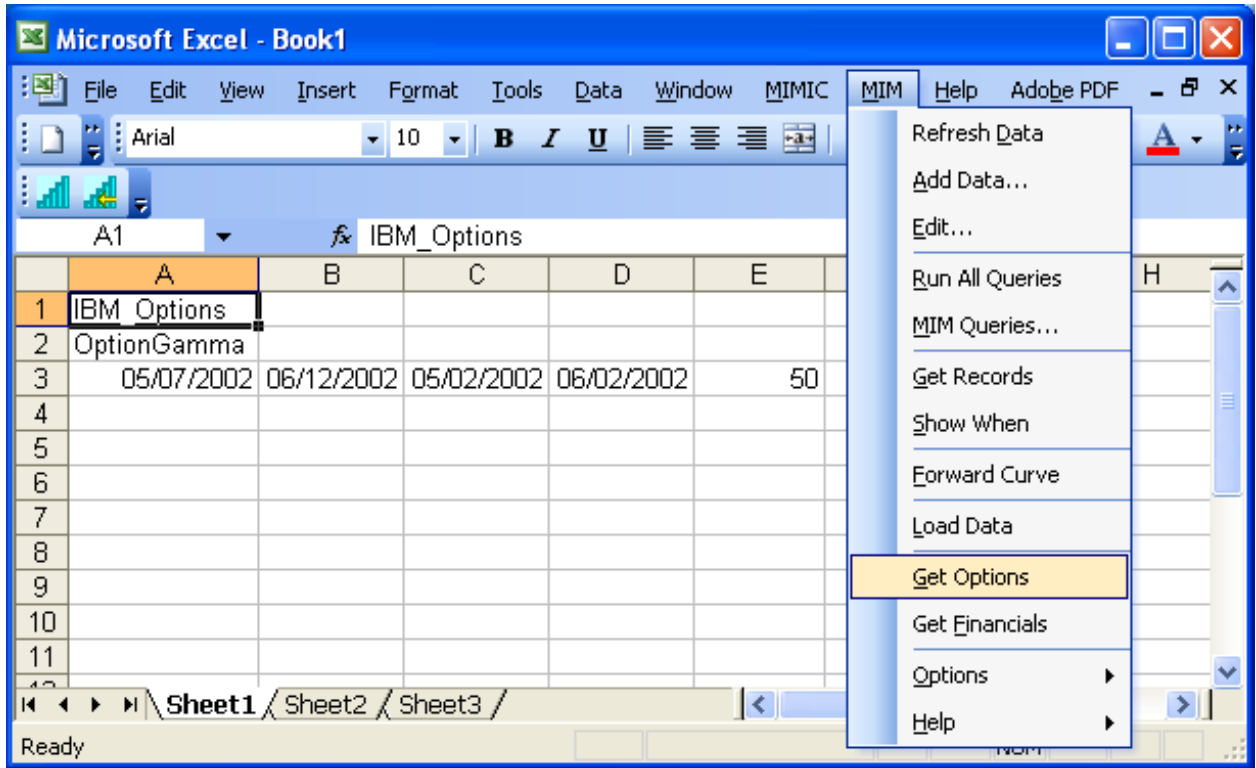
In Excel, sometimes the cells pickup the formatting of a previous cell entry. The Strike Price entries may get reformatted as Date entries. To fix this, right-click on the Strike Price cells and select **Format Cells**, then change the formatting to **General**.

	A	B	C	D	E	F	G
1	IBM_Options						
2	OptionGamma						
3	05/07/2002	06/12/2002	05/02/2002	06/02/2002	50	70	P
4							

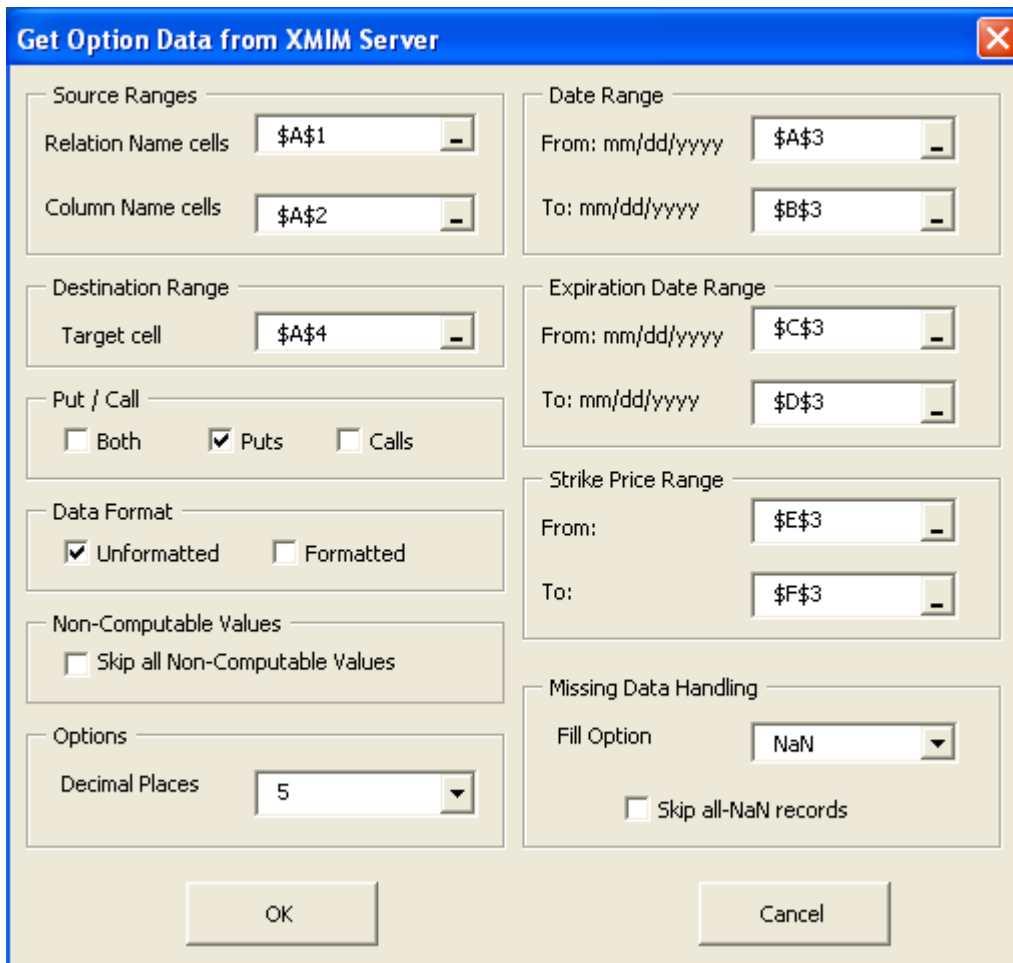
From Date
To Date
Expiration From Date
Expiration To Date
Strike Price From
Strike Price To
Put/Call or Both

4. Select cell A:1 then select **Get Options** from the **MIM** menu.

You must select the first relation cell entry to designate where the program will start pulling the data from the spreadsheet.



The following screen displays:



5. The fields will automatically populate the fields. For **Source Ranges**, cells A:1 will display for the **Relation Name cells**. Cells A:2 will display for the **Column Name cells**.
6. For **Destination Range**, the data will populate in cell A:4.
7. For **Put/Call**, the default is for the **Both** box to be checked. Checking the **Both** box will list both Puts and Calls. On our spreadsheet, we entered a “P” for **Put** so the **Put** box is automatically checked.
8. For **Data Format**, the default is for Unformatted to be checked. If you want to format the output so that the data is listed in a column format check **Formatted**. For the following example keep the default **Unformatted** option. At the end of the example we will show how the **Formatted** data will display.
9. For **Non-Computable Values**, select this check box so that **-99.99 non-computable values** will not display on the spreadsheet. For our example, check the **Skip all Non-Computable Values** check box. By default, this box is not checked. Note: “non-computable value (-99.99)” means that the value is trading outside its intrinsic value and therefore is not meaningful or applicable.

10. The **Date Range** field will automatically populate with a date range from cell A:3 for the From box and B:3 for the To box. The date range fields are optional. If a **Date Range** is not entered, all the dates for the symbol will be queried. The **Date Range** must be entered in the following format: **mm/dd/yyyy**.
11. The **Expiration Date Range** field will automatically populate with a date range from cell C:3 for the From box and D:3 for the To box. The expiration date range fields are optional. If an **Expiration Date Range** is not entered, all the dates for the symbol will be queried. The **Expiration Date Range** may be entered as mm/yy or mm/dd/yyyy. If mm/yy is entered, the cell will display as mm/01/yyyy.
12. The **Strike Price Range** field will automatically populate with a date range from cell E:3 for the From box and F:3 for the To box. The Strike Price Range fields are optional.
13. Select a **Fill Option** from the pull-down menu. A default **NaN** is filled if there is no data point available for a given date. Use the pull-down menu to have the data filled in other ways (e.g. Filled Forward or Backward, Linear, Geometric or Logarithmic interpolated values). If **Skip all-NaN records** is selected then all the **NaN** values will not display.
14. Select **OK** to continue.

Results

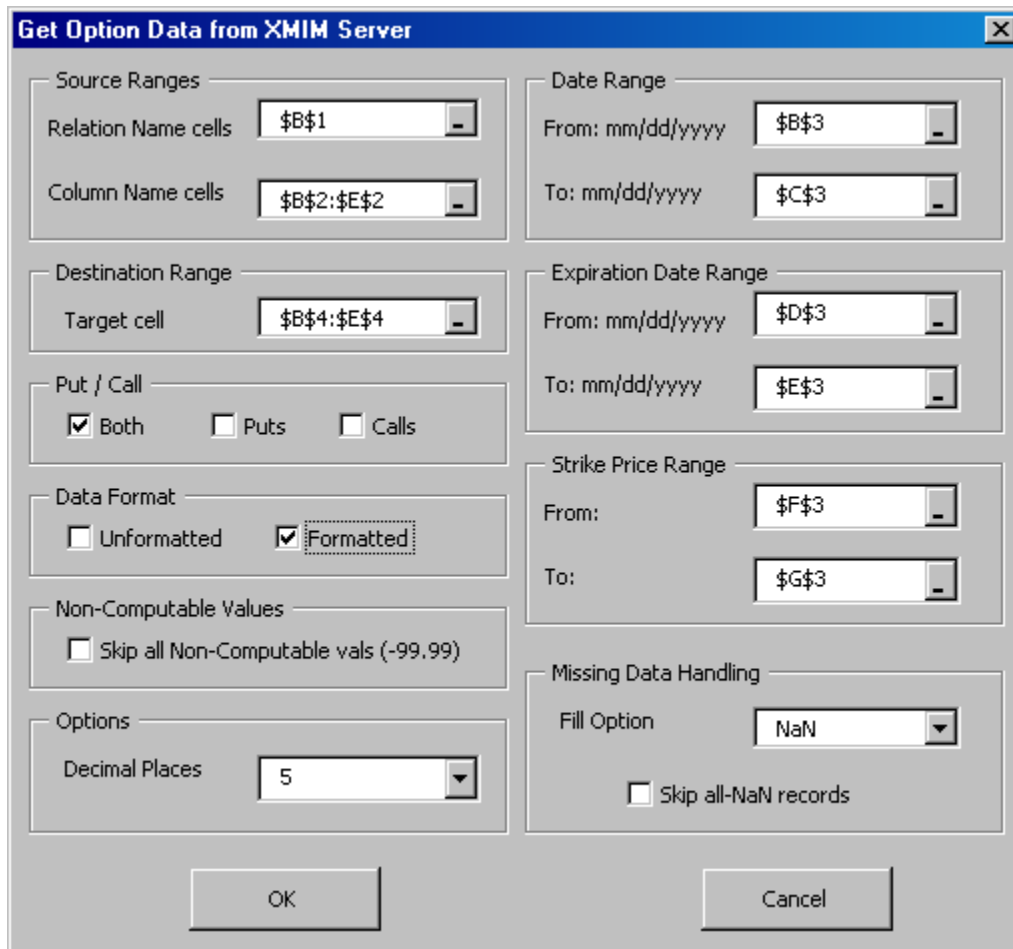
The following shows a portion of the results of the query with the **Unformatted** option selected:

	A	B	C	D	E	F	G
1	IBM Options						
2	OptionGamma						
3	5/7/2002	6/12/2002	2-May	2-Jun	50	70	P
4	Date	Strike Date	Put/Call	StrikePrice	OptionGamma		
5	5/7/2002	5/18/2002	Put	55	0.00332		
6	5/7/2002	5/18/2002	Put	60	0.00609		
7	5/8/2002	5/18/2002	Put	60	0.00312		
8	5/7/2002	5/18/2002	Put	65	0.01346		
9	5/8/2002	5/18/2002	Put	65	0.0049		
10	5/9/2002	5/18/2002	Put	65	0.00635		
11	5/7/2002	5/18/2002	Put	70	0.03454		
12	5/8/2002	5/18/2002	Put	70	0.00861		
13	5/9/2002	5/18/2002	Put	70	0.0158		

For the next example, we've added a few more greeks to the list: **OptionDelta**, **OptionTheta** and **OptionVega**. We've started the entries on cell B:1 to show that you can start your entries anywhere on the spreadsheet. This time we're just entering the start date **5/2/2002**. All the data will display back to 5/2/2002 and both **Puts** and **Calls** will be listed.

	A	B	C	D	E
1		IBM Options			
2		OptionGamma	OptionDelta	OptionTheta	OptionVega
3		5/2/2002			
4					

Now put your cursor back on the IBM_Options cell, cell B:1 and select **MIM>Get Options**. Remember that we can enter data starting at any point on the spreadsheet and we have to select the starting cell before we choose Get Options. We are going to show how the data displays when the **Formatted** option is selected.



Note that under **Data Format**, the **Formatted** option is checked.

The following graphic shows a portion of the results.

	A	B	C	D	E	F	G	H	I
1		IBM Options							
2		OptionGamma	OptionDelta	OptionTheta	OptionVega				
3		5/2/2002							
4		Quote	Expiration	Underlyer	Option Type				
5		5/2/2002	5/17/2002	83.86	Call	85	90	95	100
6					Gamma	0.06995	0.06995	0.06995	0.06995
7					Delta	0.42777	0.42777	0.42777	0.42777
8					Theta	-27.5406	-27.5406	-27.5406	-27.5406
9					Vega	6.66092	6.66092	6.66092	6.66092

The Quote date, Expiration date and Underlying prices are listed as well as both Puts and Calls and each Option type.

CHAPTER 11

Using MIMICExcel

Synopsis

Objectives

1. Launching MIMICExcel.
2. Embedding a query.
3. Using the MIMICExcel Advanced Refresh Mode option.
4. Using the Query Manager in MIMICExcel.
5. Exporting an embedded query.

Market Brief



MIMICExcel is an applet or application that you use from within Microsoft Excel®. When you open Excel and then run MIMICExcel, you have all the functionality of MIMIC from within the Excel environment. With MIMICExcel, you can seamlessly incorporate table data from your queries into your Excel spreadsheet.

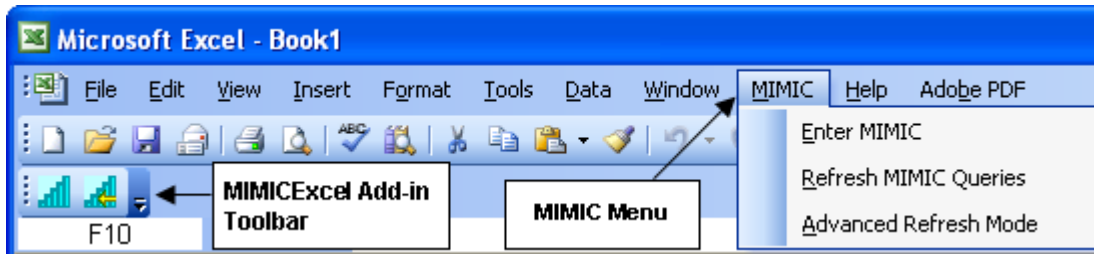
To obtain this functionality, make sure you have MIMIC version 3.0 or higher installed on your system. For details on installing the MIMIC application, see the “[MIMIC Installation and Purchase Options](#)” chapter in the *Client Application Installation Guide*.





You must have Java version 1.4 or higher. To obtain a free Java download, go to: <http://www.java.com>.

After installing MIMIC 3.0 or higher, start Microsoft Excel. You will notice the addition of the **MIMIC** menu in the Excel menu bar, and the addition of the MIMICExcel Add-in toolbar, which contains two buttons:

- The **Enter MIMIC**  button. (MIMIC>Enter MIMIC from the Excel menu bar.)
- The **Refresh MIMIC Queries**  button. (MIMIC>Refresh MIMIC Queries from the Excel menu bar.)



To open MIMICExcel, select the **Enter MIMIC**  button. The first time you enter MIMICExcel, an authentication message displays. Select **Yes** if you want the authentication window to come up each time you select the **Enter MIMIC**  button. Select **Always** to always authenticate MIMICExcel (recommended choice – you will not see this dialog again unless the MIMIC software is upgraded).

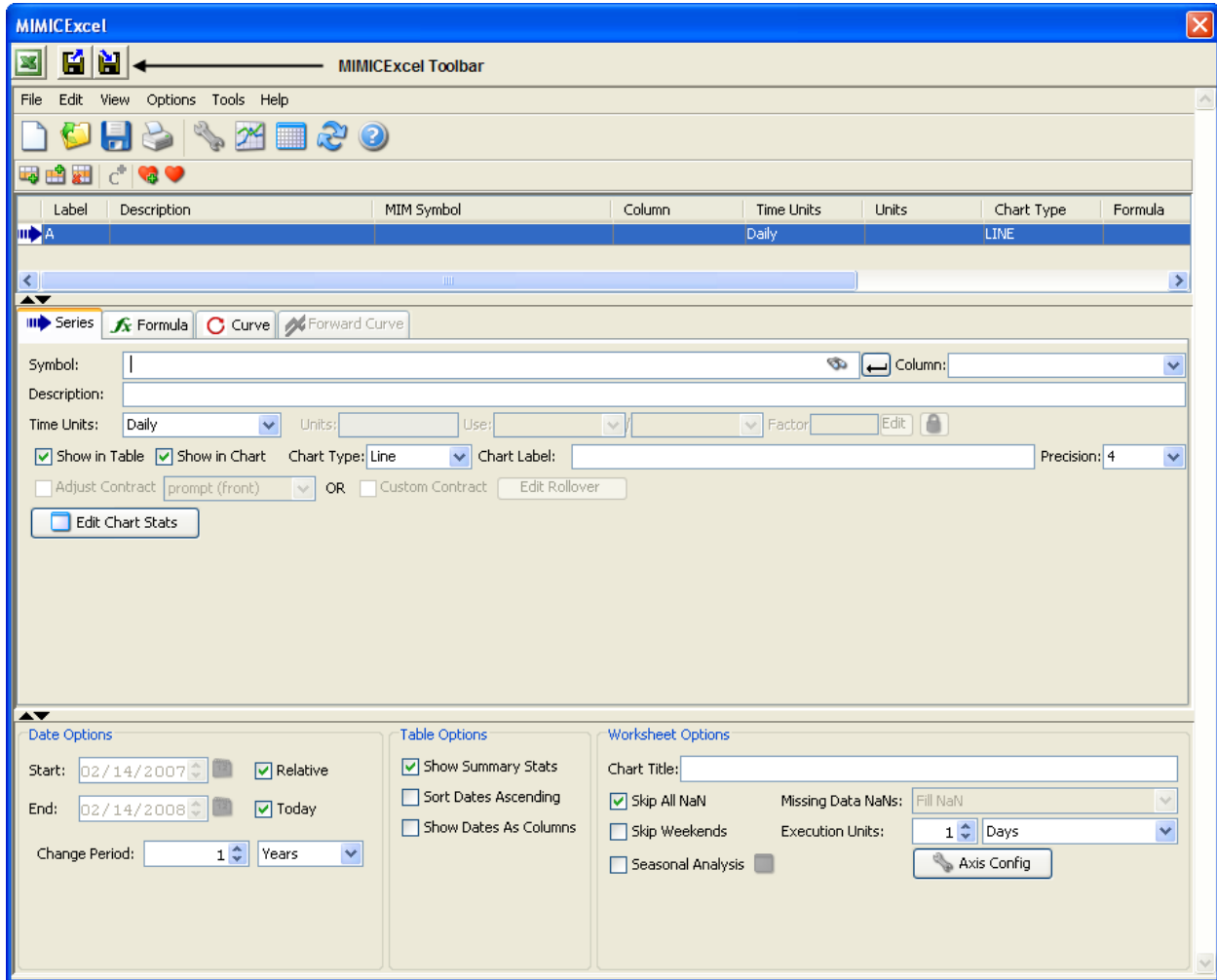






The MIMIC Java Certificate expired as of February 21, 2005. If you selected **Always** to trust the certificate, you will not see the expired certificate message and you will not be required to take any action. To upgrade your certificate, so that you do not receive an expired certificate message, please go to the LIM “[Downloads](#)” Web page and install the latest MIMIC application.

Note the following information regarding expired certificates:

- If the certificate displays with an expired message, MIMICExcel can still be started by selecting **Yes** or **Always**.
- Users who have selected **Always** to trust the certificate will not see the expired certificate message and will not be required to take any action.
- MIMIC stand-alone is not affected by the expired certificate.

Once authenticated, the **MIMICExcel** window displays:



The MIMICExcel interface is the exact same as the MIMIC interface with the addition of the MIMICExcel toolbar at the top of the window. The MIMICExcel toolbar contains three buttons: 1) The **Back to Excel**  button to close MIMICExcel and return to the Excel spreadsheet (If you close **MIMICExcel** instead of using the **Back to Excel**  button, it will take longer to open MIMICExcel the next time.), 2) The **Query Manager**  button to manage previously saved embedded queries in MIMICExcel and 3) The **Embed Query**  button to save or embed an active query within MIMICExcel.

Problem


This problem will show how to create a query within MIMICExcel, save or embed the query, and display the results in an Excel spreadsheet. For this exercise, you can show the Close of NG (Natural Gas Futures) and CL (Crude Oil, Light Sweet Futures) from June 1 to September 30 for the last two years. You want the results of this embedded query to appear in the Excel spreadsheet in cell A:1 (default location).





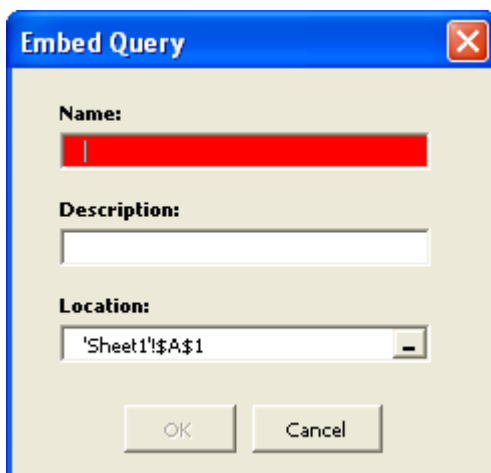
In MIMICExcel, queries that you save are referred to as embedded queries. This means that your queries are available within MIMICExcel and the query results can be refreshed or updated, with the results tabled to your Excel spreadsheet.

Step-by-Step Solution

Creating an Embedded Query in MIMICExcel

If you are not already in MIMICExcel, select the **Enter MIMIC**  button in Excel (or select **MIMIC>Enter MIMIC** from the Excel menu bar).

1. Enter the symbol ng , then press **Enter**. Verify that **Close** is selected for the **Column**. Change the **Units** to **BBL**, so you will be comparing the same units of measure as the Crude Oil Light Sweet Futures (CL).
2. Add a new row by selecting the **Add Row**  button. Then, enter the symbol CL and press **Enter**. Verify that **Close** is selected for the **Column**.
3. For the start date, uncheck **Relative** and enter the date 06/01/2001.
4. For the end date, uncheck **Today** and enter the date 09/30/2003.
5. In the **Worksheet Options** pane, uncheck **Skip all NaN**, and then from the **Missing Data NaNs** pull-down, select **Fill Blank**. This choice will fill all missing data with a blank. This option is very useful when working in Excel with formulas where the results are calculated values from the query results.
6. Select the **Table**  button. The first time you select the **Table** button, MIMICExcel displays the **Embed Query** window, and asks you to save and embed your query:





Enter a name for your query in the **Name** field and a description for the query in the **Description** field. Leave the **Location** field for now, but note that you can change the location by selecting the **Browse**

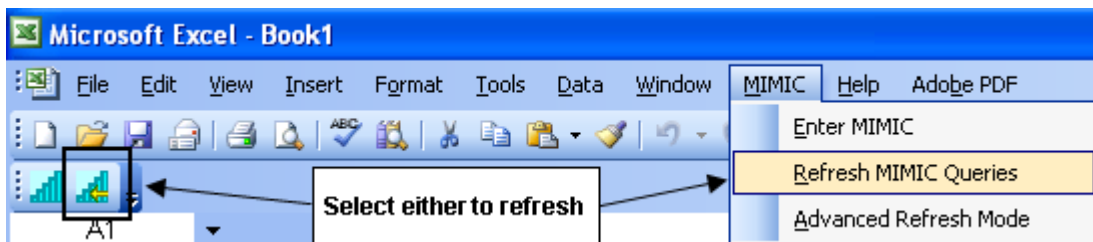
button to the right of this field. Next, select **OK**. The **Embed Query** and **MIMICExcel** windows close, and the results of the query appear in your Excel spreadsheet:

	A	B	C	D
1	Dates	NG - Close	CL - Close	
2		NYMEX: Henry Hub Nat	NYMEX: Light, Sweet Crude Oil	
3	6/1/2001	22.794	27.93	
4	6/4/2001	23.6002	28.13	
5	6/5/2001	22.5736	28.24	
6	6/6/2001	22.0458	27.72	
7	6/7/2001	21.982	27.75	
8	6/8/2001	22.7476	28.33	
9	6/11/2001	24.2382	29.04	
10	6/12/2001	24.9458	29.18	
11	6/13/2001	23.8496	28.84	
12	6/14/2001	23.4204	29.04	
13	6/15/2001	23.0782	28.51	
14	6/18/2001	22.8462	27.55	
15	6/19/2001	23.0898	27.48	
16	6/20/2001	21.6572	26.5	
17	6/21/2001	21.7326	26.56	
18	6/22/2001	21.7036	26.83	
19	6/25/2001	19.9868	27.25	
20	6/26/2001	19.7026	26.98	



In MIMIC, table data is displayed in the **Table** window. In MIMICExcel, table data is displayed in your Excel spreadsheet.

You can open MIMICExcel again to view your query by selecting the **Enter MIMIC**  button. You can also run the query again to update the data in your spreadsheet by selecting the **Refresh MIMIC Queries**  button or by selecting **MIMIC>Refresh MIMIC Queries** from the Excel menu bar:




- Now, save your Excel spreadsheet. From the Excel menu bar, select **File>Save**. Create a name for your spreadsheet and save it to your Desktop. Your spreadsheet will be saved with an Excel .xls file extension.

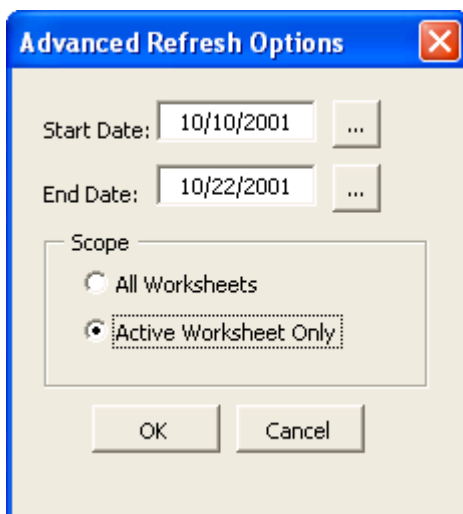


If you do not save your Excel spreadsheet, you will lose the data in your spreadsheet as well as any queries you have created in MIMICExcel.

Narrowing the Date Range using Advanced Refresh

Next, you will narrow the date range using the **Advanced Refresh Mode** option. This option saves time because you do not have to go back into the query and modify the dates for each item listed.

1. Highlight the contents of the spreadsheet, right-click and select **Clear Contents**.
2. Next, put your cursor in the cell where you want the data to display. For this example, select cell **A:1**.
3. To narrow the date range, turn on the **Advanced Refresh Mode** option by selecting **MIMIC>Advanced Refresh Mode** from the Excel menu bar. Then, select the **Refresh MIMIC Queries**  button or select **MIMIC>Refresh MIMIC Queries** from the menu bar. Enter a start and end date of 10/10/2001 and 10/22/2001. Select **Active Worksheet Only**, then select **OK** to continue.



The following shows the results of the date range:

	A	B	C
1	Dates	NG - Close	CL - Close
2		NYMEX: Henry Hub	NYMEX: Light, Sweet
3	10/10/2001	14.384	22.53
4	10/11/2001	14.6798	23.34
5	10/12/2001	14.094	22.5
6	10/15/2001	13.7924	22.29
7	10/16/2001	15.0336	22
8	10/17/2001	14.0244	21.81
9	10/18/2001	14.4188	21.31
10	10/19/2001	15.5498	21.83
11	10/22/2001	16.2806	21.76
12	Sum	132.2574	199.37
13	Average	14.6953	22.1522
14	Average (+)	14.6953	22.1522
15	Average (-)	0	0
16	Percent (+)	100	100
17	Percent (-)	0	0
18	Maximum	16.2806	23.34
19	Minimum	13.7924	21.31
20	Std Deviation	0.7571	0.5578
21	Zstat	19.4109	39.7101
22	Variance	0.5731	0.3112
23	Last	16.2806	21.76

4. Save your Excel spreadsheet.




Make sure that you save your Excel spreadsheet before exiting Excel. The next time you open the Excel spreadsheet you will be able to refresh the queries, and when you open MIMICExcel you will be able to see any queries that were created.

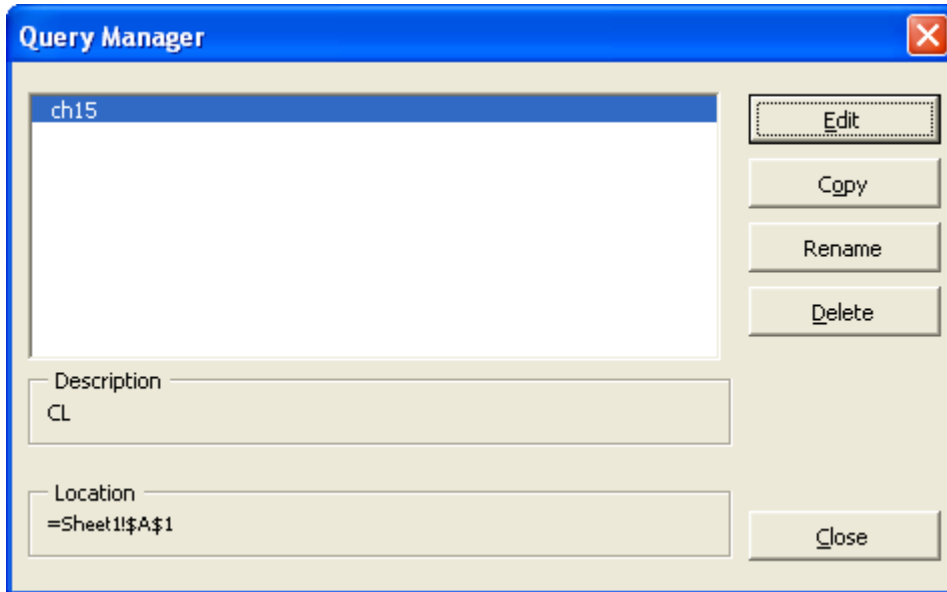
Using the Query Manager in MIMICExcel

In MIMICExcel, you can save and embed more than one query. Embedded queries are stored in the Query Manager. You can open and edit an embedded query, or copy, rename or delete a query.

You already saved a query earlier in this chapter by saving your Excel spreadsheet, so now you can access that query.

1. Open your Excel spreadsheet.
2. Within Excel, select the **Enter MIMIC**  button. MIMICExcel opens.

- From the MIMICExcel toolbar, select the **Query Manager**  button. The **Query Manager** window displays with your previously saved query:



- Select **Edit**, and then **Cancel** on the next pop-up window. MIMICExcel displays the details of the query.




You can only access an embedded query by using the Query Manager. You cannot open a query from the menu bar or from the MIMIC toolbar.

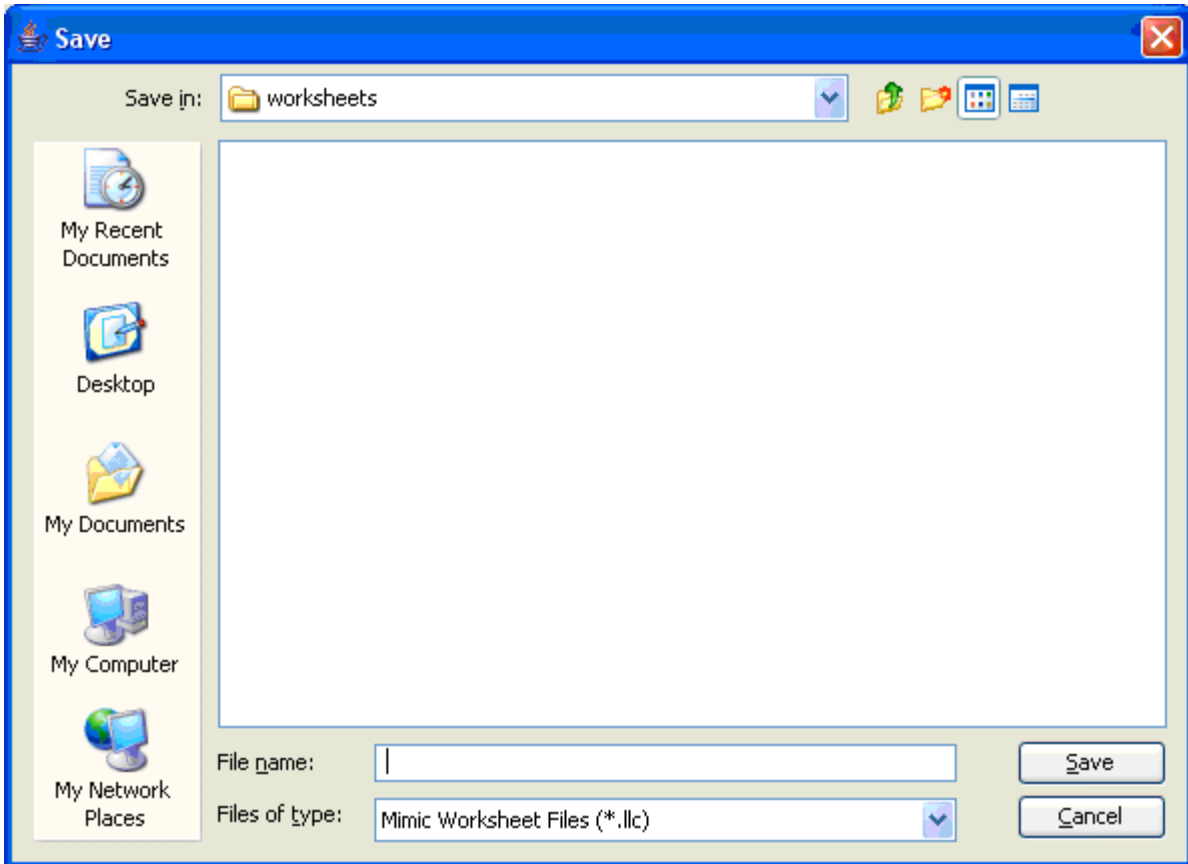


If you make changes to a query, you can save it with a new name, thus creating a new query, or save it with the same query name. If you save it with the same query name, MIMICExcel will ask you to overwrite the query. Each time you create a new embedded query, you must save the Excel spreadsheet.

Exporting an Embedded Query

You can also export an embedded query as an LLC worksheet that can be used in stand-alone MIMIC.

1. From the menu bar within MIMICExcel, select **File>Save** or **File>Save As**, or select the **Save**  button from the toolbar. The **Save** window appears:



2. Enter a name for the query and select **Save**.



You must save each embedded query as its own LLC worksheet.

Problem Solvers

1. Practice bringing in an existing MIMIC .llc file into Excel.
2. In MIMICExcel, create a query and save the results starting in cell D:8.

CHAPTER 12

XmimGetData

With XmimGetData you can pass the results of a MIM query into the cell of a worksheet. There are four input parameters for XmimGetData:

relation, column, start date, end date (optional)

The following is an example of how to enter the string:

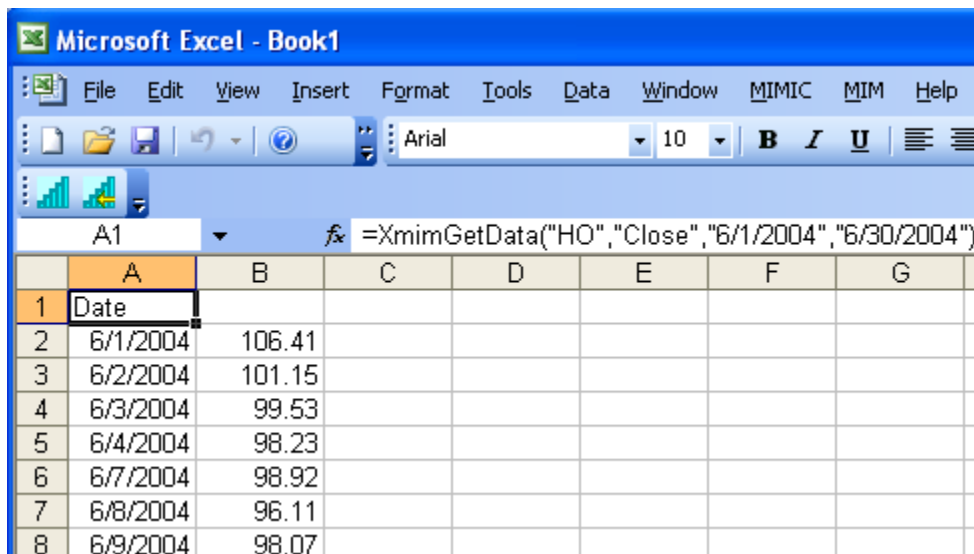
```
=XmimGetData("HO", "Close", "6/1/2004", "6/30/2004")
```

where:

- “HO” is the relation name
- “Close” is the column name
- “6/1/2004” is the start date
- “6/30/2004” is the end date

Select **MIM>Refresh Data** from the Excel menu bar to return a value back into the selected cell on the worksheet.

The following graphic shows the XmimGetData string entry and how the data result is returned back into the selected cell. The MIM query equivalent to this entry would be **Show Close of HO When date is 6/1/2004 to 6/30/2004**.



The user can also just pass the start date and no end date. The graphic below shows an example of only entering a starting date:

The screenshot shows an Excel spreadsheet with the following data:

	A	B	C	D	E	F	G
1	6/1/2004)						
2	6/1/2004	106.41					
3	6/2/2004	101.15					
4	6/3/2004	99.53					
5	6/4/2004	98.23					
6	6/7/2004	98.92					
7	6/8/2004	96.11					
8	6/9/2004	98.07					

Each argument can be passed to XmimGetData directly or indirectly. In the example above the argument is passed directly as the symbol, column and date information is entered directly in the string field.

To pass an argument indirectly, a user can specify the relation, column, start and end dates on another location in the spreadsheet. In the example below, the user is indirectly referencing the argument strings in cells D1, E1, D2 and E2.

The screenshot shows an Excel spreadsheet with the following data:

	A	B	C	D	E	F	G
1	Date			CL	Close		
2	3/1/2004	36.86		3/1/2004	3/15/2004		
3	3/2/2004	36.66					
4	3/3/2004	35.8					
5	3/4/2004	36.64					
6	3/5/2004	37.26					
7	3/8/2004	36.57					
8	3/9/2004	36.28					
9	3/10/2004	36.1					
10	3/11/2004	36.78					
11	3/12/2004	36.19					
12	3/15/2004	37.44					

An argument may be passed both directly and indirectly by entering some of the information in the string field and referencing some of the information from the worksheet cells. In the example below, the relation name **CL** and the column name **Close** is entered in the string field. The start date **3/1/2004** is referenced in cell **D2** and the end date **3/15/2004** is referenced in cell **E2**.

The screenshot shows the Microsoft Excel interface with the following data table:

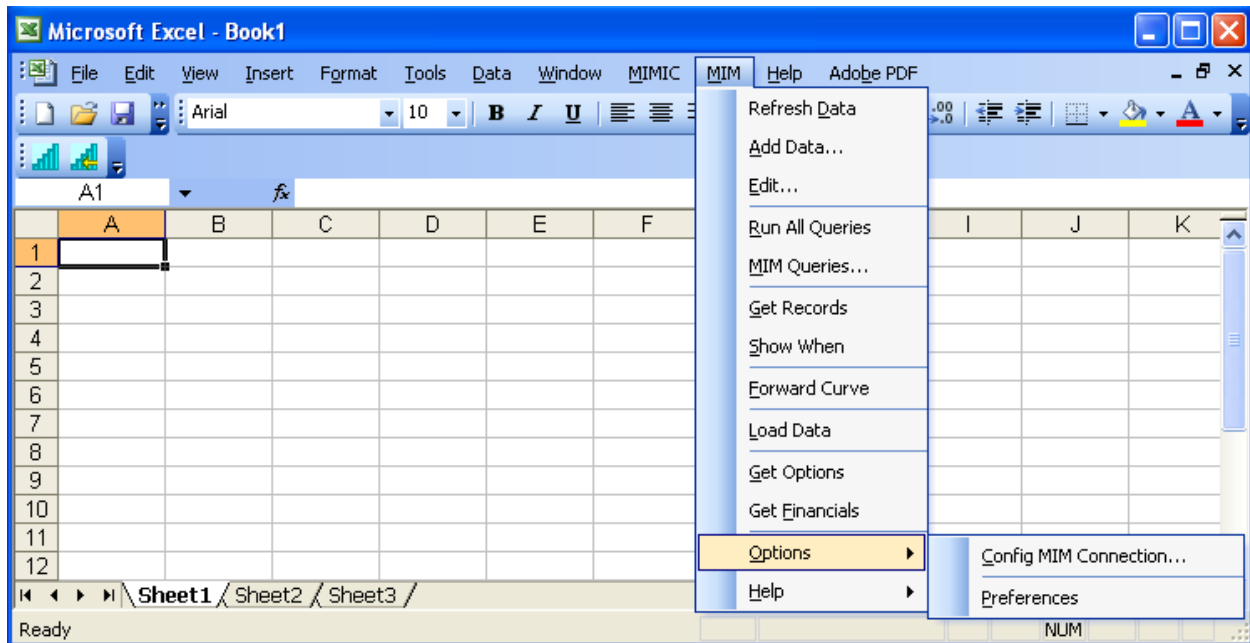
	A	B	C	D	E	F	G
1	Date			CL	Close		
2	3/1/2004	36.86		3/1/2004	3/15/2004		
3	3/2/2004	36.66					
4	3/3/2004	35.8					
5	3/4/2004	36.64					
6	3/5/2004	37.26					
7	3/8/2004	36.57					
8	3/9/2004	36.28					
9	3/10/2004	36.1					
10	3/11/2004	36.78					
11	3/12/2004	36.19					
12	3/15/2004	37.44					

CHAPTER 13

Option & Help Settings

MIM>Options

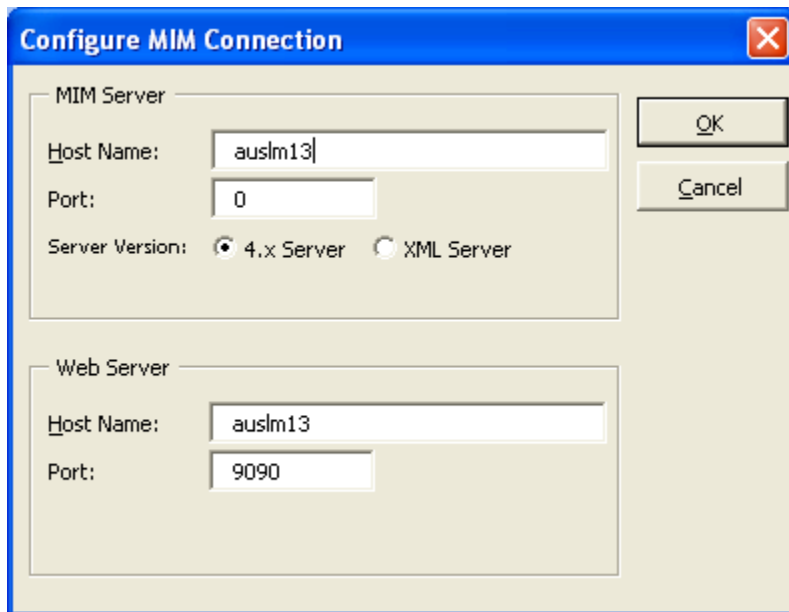
In the **MIM** menu, there are two choices next to the **Options** heading: **Config MIM Connection** and **Preferences**.



Options>Configure MIM Connection

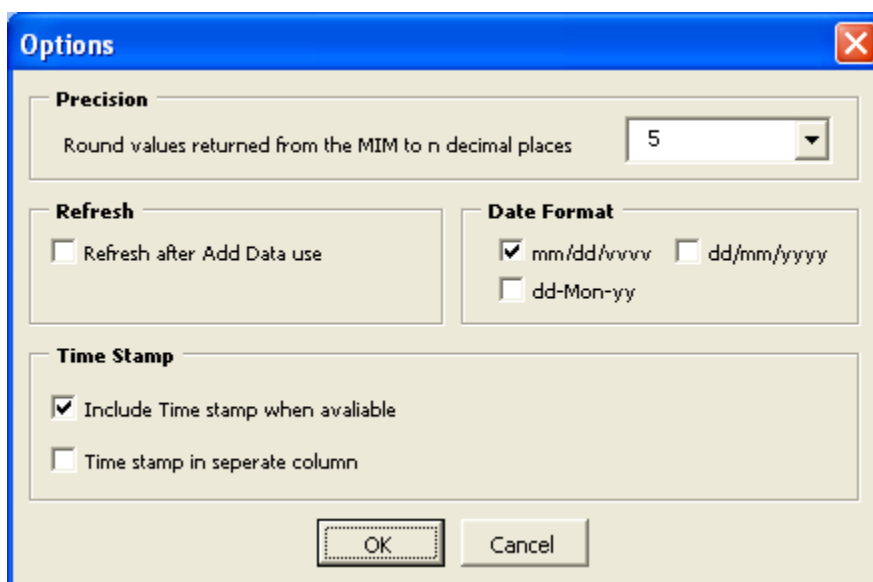
The **MIM Server** pane shows the MIM server and port that you are pointing to. These parameters are filled in during the installation process. You can change these setting to point to a different host or port number. For **Host Name**, specify the machine by host or IP address. A **Port** number is required.

The **Web Server** pane allows you to change the Web host and port for loading data.



Options>Preferences

In the **Preferences** dialog box the user can set the precision of the decimal place, control when the data is refreshed, choose a date format and choose whether to have a time stamp.



The following describes each field:

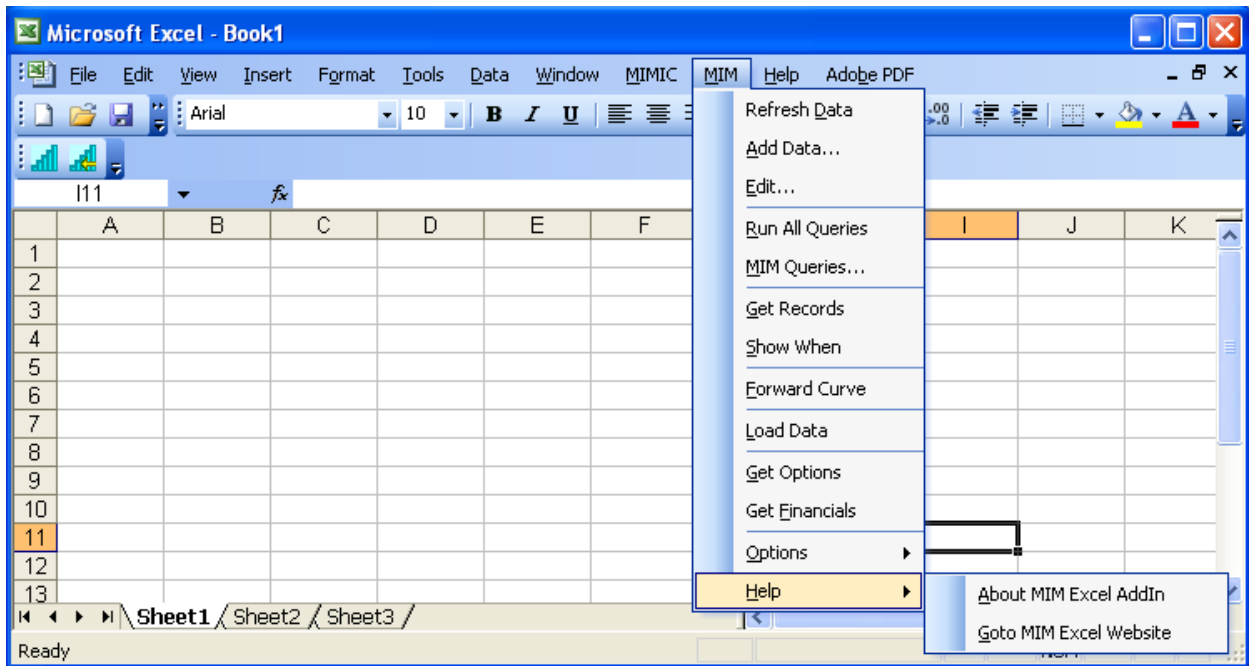
- **Precision** - Use this field to set the **decimal place** settings for the data.
- **Refresh** - When this box is checked data will automatically refresh and populate the Excel spreadsheet. If this box is not checked, the user must select **MIM>Refresh Data** from the menu bar to run the queries and populate data in the spreadsheet.
- **Date Format** - Choose the date format, either mm/dd/yyyy or dd/mm/yyyy.
- **Time Stamp** - When **Include Time stamp when available** box is selected, the time will display in the format: hh:mm:ss am/pm. The time will display in the same column as the date unless the **Time stamp in separate column** box is checked.

MIM>Help

In the MIM menu, there are two choices next to the **Help** heading: **About MIM Excel AddIn** and **Goto MIM Excel Website**

Help>About MIM Excel Add-In

This returns the MIM Add-in version number, date of release and support options.



Help>Goto MIM Excel Website

The MIM Excel Web site will open in your browser. See the on-line tour and movie for more information on the features in the MIM Excel Add-in.

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