



## **STORET Import Module (SIM) Training Manual**

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## Introduction

Welcome to the STORET Import Module (SIM) training manual. SIM is a software program that helps users quickly and conveniently load data into STORET. SIM allows you to describe the format of the data being imported, ensures that the data are consistent with STORET's requirements, and migrates the data into STORET.

This document contains five tutorials that will help you learn how to do the following:

- **Tutorial 1**—Prepare your data for uploading to SIM and STORET by creating data files and import configurations,
- **Tutorial 2**—Deal with SIM import errors,
- **Tutorial 3**—Back data out of SIM and STORET,
- **Tutorial 4**—Import results data into STORET, and
- **Tutorial 5**—Enter data into STORET in the correct order.

Each tutorial focuses on different aspects of SIM. There are text descriptions of the functions and associated concepts, then there are step by step instructions for using SIM. The step by step instructions for you to follow on your PC are called out in text boxes, separate from the text. Typically, these boxes will also contain screen captures to illustrate what your screen should look like.

This is an example of a text box that contains instructions for using SIM with the sample data. Buttons to click are in **bold face**.

Included with this training manual is a folder named SIMDataFiles, which contains the sample files necessary to complete these tutorials. Take a moment to locate this directory on your computer using Windows Explorer or a similar navigation program. Within the SIMDataFiles folder are several Excel and text files, plus two folders named “User Created” and “Provided Configuration.” Whenever you modify or create a file in these tutorials, be sure to save it to the User Created folder. The Provided Configuration folder contains files to assist you in completing Tutorial 4, if needed. Because you will be navigating to the SIMDataFiles folder location frequently in these tutorials, you should write down the full path location on a handy piece of paper or change your default settings in SIM so that the program automatically navigates to this directory.

To change your default settings, open SIM.

From the menu bar select **Advanced**, then **System Config**.

Locate the IMPORT\_PATH item in the table.

The Value column has a file location displayed beside the IMPORT\_PATH. Change this location to the pathway that routes to the SIMDataFiles folder.

Another document that will help you understand SIM is the SIM User's Guide and Reference Manual. This document assumes that you have reviewed that guide and the STORET Data Entry Module User Guide.

If you are a beginning user of STORET and SIM, it should take you about 4 to 5 hours to complete the five sections of this manual. If you are a more advanced user, it should take about 2 to 3 hours.

If you have questions about this tutorial, please contact EPA's STORET assistance hotline at 1-800-424-9067 or by e-mail at [STORET@epa.gov](mailto:STORET@epa.gov). You may also refer to EPA's STORET Web site at <http://www.epa.gov/storet/>.

## Tutorial 1. Data Preparation

This tutorial will help you become familiar with the methods for creating STORET Import Module (SIM) import configuration files tailored to your data format. It will also help you prepare your data so that they can be imported into SIM. By the end of this tutorial you should be able to

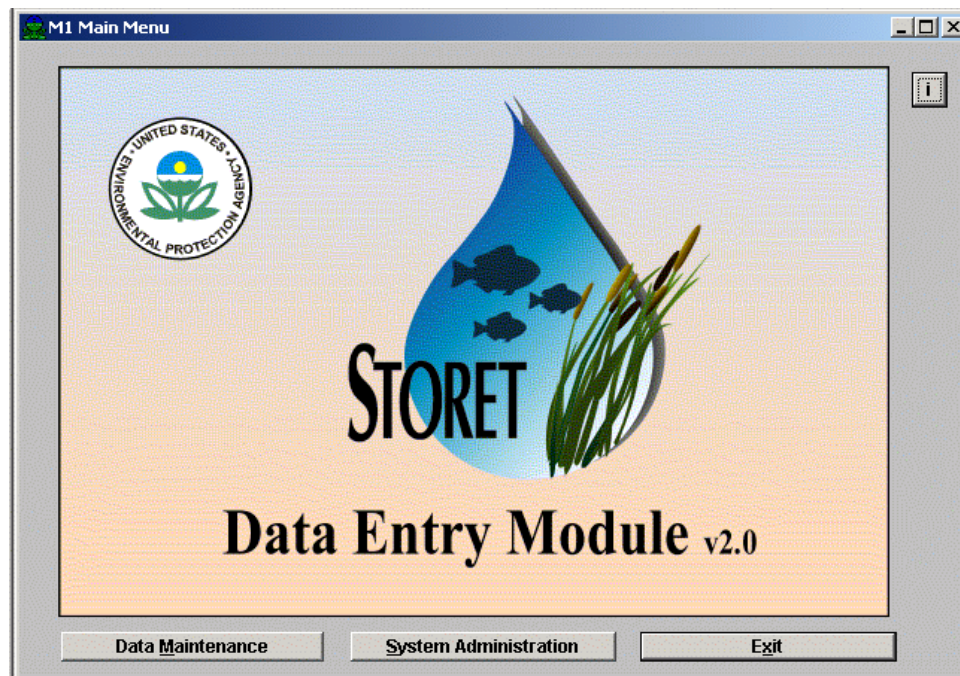
- Create an import configuration file in which you specify the data delimiters,
- Specify the fields in your data file and the order in which they appear,
- Specify default values for fields,
- Specify a data format for a field that requires formatted data in STORET, and
- Export data from an Excel spreadsheet to create a data file.

In this tutorial, you will specify a data format for importing data for projects.

### Projects Data Format in STORET

To understand the way that SIM validates your data, it is important that you understand how data is structured and stored in STORET. You will now briefly tour through the Data Entry Module before starting the tutorial in SIM.

Open the **STORET** Data Entry Module.



Click the **Data Maintenance** button to get the Organization Maintenance List window.

Select DEMOTEST under Organization ID and click the **Change** button to bring up the Organization Menu window.

03 Organization Menu

Organization DEMOTEST The Commission for a Good Clean Chesapeake Bay

Organization Information

Basic Information Personnel Information

Addresses Roles in Organization

Programs Preferences and Defaults

Cooperating Organizations Batch Update

Operational Activities

Stations Projects

Monitoring Activities

Trips, Sampling and Results Automated Data Recording Results

Close Help

Click the **Projects** button to open the Project Maintenance List window.



Click the **Add** button to get the Project Data Entry window.

The screenshot shows the 'PJ4 Project Data Entry' window. It features a title bar and several input fields. The 'Organization' field contains 'DEMOTEST' and 'The Commission for a Good Clean Chesapeake Bay'. The 'ID' field is empty. The 'Start Date' field is empty with the format 'MM-DD-YYYY' indicated above it. The 'Planned Duration' field is empty. The 'Name' field is empty. The 'Project Purpose' field is a large text area, currently empty. The 'Project Study Area' field is a text area, also empty. At the bottom of the window are four buttons: 'Additional Info', 'Save', 'Close', and 'Help'.

You will not enter project information at this time because you will learn how to do this using SIM in this tutorial. However, note that this window has five fields in dark green: ID, Start Date, Planned Duration, Name, and Project Purpose. These are data elements that STORET requires to define a project.

Close all open STORET windows by clicking on the **Close** button in each window.

In the Main Menu window, click **Exit** to leave the Data Entry Module.

## Creating a Data File

Now you will create a data file that you want to migrate into STORET. The data file you will migrate will contain project data with the following specifications:

- **Fields**—The file will contain the following fields in the following order: ProjectID, Name, Contact, Purpose, StartDate, Duration, Document/Graphic.
- **Delimiter**—The file will be pipe ( | ) delimited. Note that a comma delimited format would not work for this data because the Contact data element contains a comma (see table below).
- **File name**—The data file will be named “Tutorial1\_1 - Projects.txt.”
- **Data records**—The data will contain three records as defined in the following table:

ProjectID	Name	Contact	Purpose	StartDate	Duration	Document/ Graphic
TUT1-01	SIM Data Creation Exercise Proj1	John Smith, State Contact	Learning	05/20/2003	Ongoing	SOP.pdf
TUT1-02	SIM Data Creation Exercise Proj2		Learning	05/20/2003	Ongoing	
TUT1-03	SIM Data Creation Exercise Proj3	John Smith, State Contact	Learning	05/15/2000	Complete	

Using Notepad, create a new file named “Tutorial1\_1 - Projects.txt.”

Enter the following text (the pipe symbol “|” is made using the shift key with the backslash key; **note the double pipes on the second line where a data element is blank**):

```
TUT1-01|SIM Data Creation Exercise Proj1|John Smith, State Contact|Learning|05/20/2003|Ongoing|SOP.pdf
TUT1-02|SIM Data Creation Exercise Proj2||Learning|05/20/2003|Ongoing|
TUT1-03|SIM Data Creation Exercise Proj3|John Smith, State Contact|Learning|05/15/2000|Complete|
```

**Save** the file in the same location as your other sample files under the User Created folder. Be sure to keep files that you create or modify in this folder. It is important to remember where you saved the file.

**Close** the file.

## **Adding a Documents/Graphic into SIM**

Documents or graphic files can be imported into SIM and migrated to STORET for Projects, Stations, Station Visits, Activities, and Results. Documents can be in \*.txt or \*.pdf format. Common image format files such as \*.bmp and \*.jpg are normally accepted.

To add documents and graphic files to your import, they need to be placed in the SIM201 Documents folder. For Personal Oracle Installations, this folder should be located under your ..\STORET\Orasto2\SIM\ folder. For Client/Server Installations, the documents folder will be located on the Server. In the latter case, please contact your System Administrator for the full name and path of the folder. The complete name of the image/document file, without the path, needs to be added to the import data file. For the purpose of this tutorial, a document “SOP.pdf” will be added for the Project.

Navigate to the Provided Configuration folder under your ..\SIM Training Manual\SIM data files\ folder.

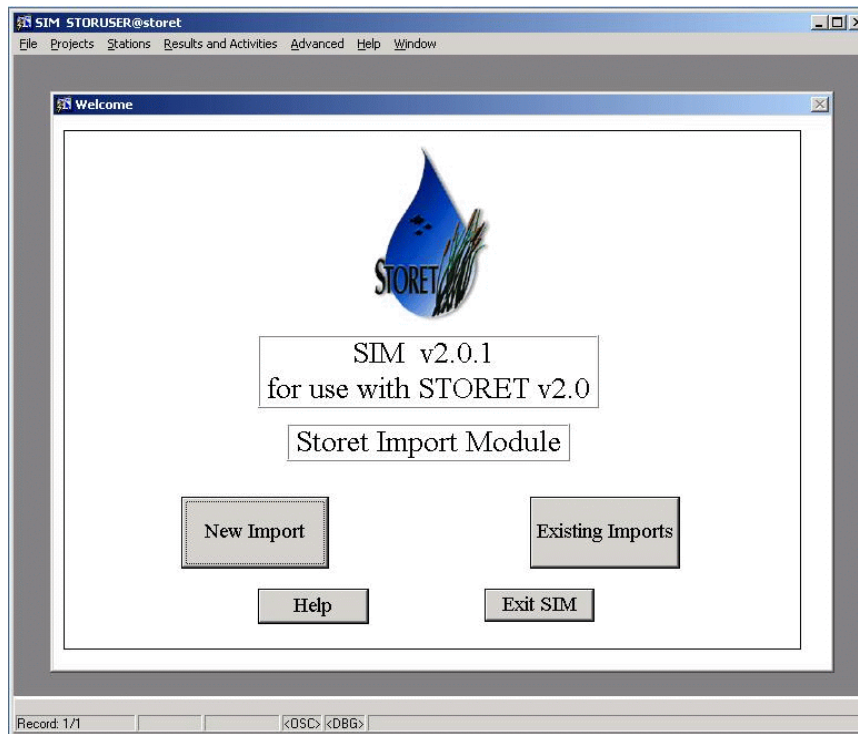
Copy the SOP.pdf file and paste it in the ..\STORET\orasto2\SIM\SIM201\_documents folder.

The documents must remain in the SIM201\_Documents folder until they have been migrated to STORET.

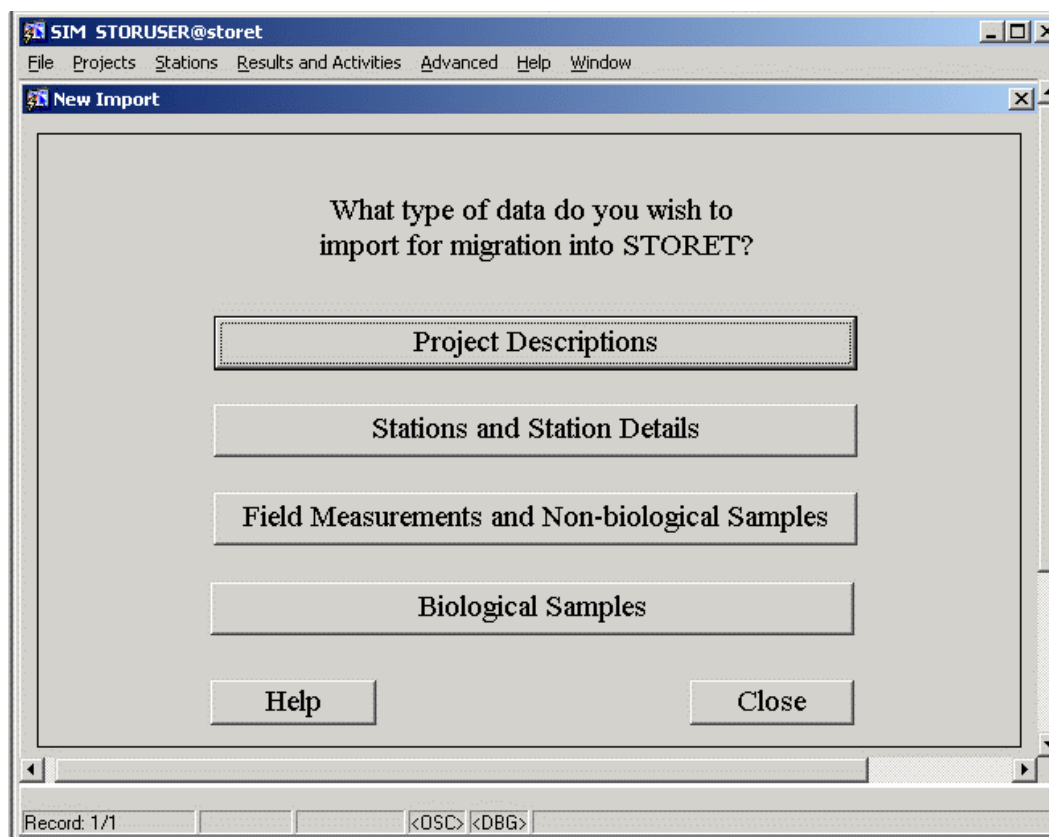
## Creating an Import Configuration File in SIM

Now you will create an import configuration file in SIM to match your data. The data configuration file defines the structure that you intend your data to have and provides the basis for how SIM will validate the data in the file that you are importing.

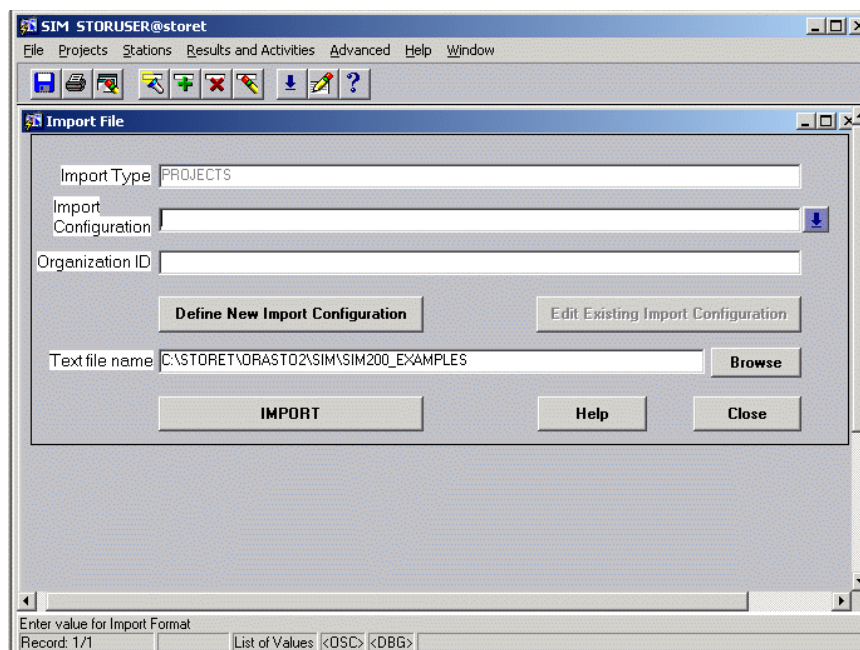
Open SIM.



From the Welcome window click the **New Import** button.



From the New Import window, click the **Project Descriptions** button to open the Import File window for a project data file.



This window contains the following elements:

- **Import Type**—This specifies the type of data you are importing. SIM fills this field based on your selection from the New Import window.
- **Import Configuration**—This is the name of the configuration file you plan to use. You will be creating a new file in this tutorial. You can get a list of the existing import files by clicking the downward arrow button on the right of the text field.
- **Organization ID**—All STORET data are connected with an organization. SIM will complete this field for you.
- **Define New Import Configuration/Edit Existing Import Configuration**—With these buttons, you can choose to create a new configuration file or edit an existing one. The **Edit Existing Import Configuration** button will only be active if you have selected a file from the **Import Configuration** field.
- **Text file name**—The path and name of the data file you will be importing using the configuration file you identified in the Import Configuration text box is identified here. You can browse for files by clicking the **Browse** button.
- **Import**—Once you have defined your configuration file and identified the data file, you can import the data using this button.

To create a new configuration file, click the **Define New Import Configuration** button in the Import File window to open the SIM-Import Configuration window. The selections made in this window are critical because they will determine how all of your data are imported.

**SIM - Import Configuration**

Name: Tutorial1\_1 - Projects

Type: PROJECTS | Projects load definition

Desc: File for demonstrating project data migration

Org ID: DEMOTEST | Delimiter: | Pipe

Buttons: Help, Copy Configuration, Load Configuration, Save, Close

Column	Pos	Req	Include	Generate	Default	Max Len	Fmt Option	Format	
ProjectID	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		8	Fretext		Translation
Name	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		60	Fretext		Translation
StartDate	3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		10	Defined Format		Translation
Duration	4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		15	Fretext		Translation
Purpose	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		1999	Fretext		Translation
Contact	6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		1999	Fretext		Translation
Document/Graphic	7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		256	Fretext		Translation
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					Translation
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					Translation
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					Translation

Import Format: ProjectID|Name|StartDate|Duration|Purpose

Update Format

Enter “Tutorial1\_1 - Projects” in the Name field.

Enter “File for demonstrating project data migration” in the Desc field.

You may change the column order to suit your needs by renumbering them in a two-step process. For example, to move Purpose and Contact, you must assign new numbers in the Pos fields next to Purpose and Contact.

Click the **Include** box next to “Contact” and also next to “Document/Graphic” so that these columns will be imported from the data file. Note that the check boxes for the field required by STORET cannot be deselected.

Click in the Pos cell next to Purpose, delete the 5, and enter the number 2.5.

Click in the Pos cell next to Contact, delete the 6, and enter the number 2.3 to position this column between Name and Purpose.

Click the **Save** button. SIM will reorder the rows from lowest to highest number and will renumber the fields with sequential whole numbers (1, 2, 3, etc.).

In your data set, we have left the Contact field blank in the second record, so here you will specify a default value. Enter the text “John Doe” in the Default cell for the Contact field.

Click the **down arrow** button to the right of the Format cell to select the format you want to use from a list of the possible formats. Do this for the StartDate.

Select the format MM/DD/YYYY and click the **OK** button to enter that value into the Format column.

Click **Save** to save the configuration you have created.



You have just created the configuration settings for your import file. Review the data fields of the Import Configuration window:

- **Name**—This is the name of the configuration file you are creating.
- **Type**—This specifies the type of data you will be importing.
- **Desc**—This is a field where you can enter a description for the configuration file.
- **Org ID**—This allows you to specify an organization that exists in STORET. Clicking the **down arrow** button to the right of the text field gives you the list of organizations in STORET.
- **Delimiter**—This is the character that will separate the data elements in your data file.

Under the **Columns** tab in the main section of the window, there are several columns of information:

- **Column**—This column lists each data element in the data file you plan to import.
- **Pos**—This defines the column position, or the order in which your columns are to appear in the data file.
- **Req**—This column indicates whether a field is required for importing data through SIM.
- **Include**—This column indicates the columns you have elected to include in your data file.
- **Generate**—This column allows you to generate a value for a field that is not in your data file.
- **Default**—This allows you to specify a value that will be placed in the given field by default if the field is empty in your data set.
- **Max Len**—This column specifies the maximum length of the field as dictated by STORET. For example, the ProjectID field can have at most eight characters.
- **Fmt Option**—This field describes the type of data that can be entered in the data field as dictated by STORET. Note the “Defined Format” value for this entry in the StartDate row. This means there are predefined data formats for the date that you can choose from in the Format column.
- **Format**—This field contains the format of the data in your import file. For example, a date could be in one of several different formats (e.g., MM/DD/YYYY, MM-DD-YYYY, MM/DD/YY).

Click **Close** to return to the Import File window.

## Importing Your Data File into SIM

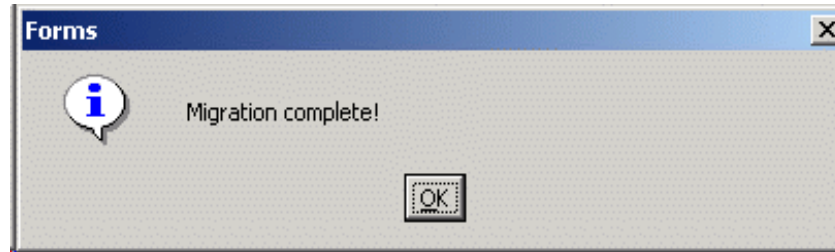
In the Import File window, change the name of the data file you want to import to the file you created earlier in this tutorial: click the **Browse** button, navigate to the location of “Tutorial1\_1 - Projects.txt,” and select it.

Click the **Import** button to import the data into SIM.

When the Import Complete message pops up, click **OK** to get to the Import Status Window.

The screenshot shows the 'SIM STORUSER@storet - [Import Status]' window. The title bar includes 'SIM STORUSER@storet - [Import Status]' and standard window controls. The menu bar contains 'File', 'Projects', 'Stations', 'Results and Activities', 'Advanced', 'Help', and 'Window'. The toolbar has icons for file operations. The main area is divided into sections: 'Import Configuration' with fields for 'Import ID' (100216), 'Import Type' (P), 'Org ID' (DEMOTEST), 'Import File' (training\_and\_Tech\_Support\Data\_and\_Tools\SIM documents\SIM exercises\Tut1\NewFileNames\Tutorial1\_1 - Projects.txt), and 'Import Configuration' (Tutorial1\_1 - Projects). Below this is an 'Edit Import Configuration' button. The 'Import Status' section shows 'Date Imported' (10-03-2003), 'Rows Read' (3), 'Rows with Errors' (0), and 'Projects Ready to Migrate' (3). To the right of these are buttons: 'View Import Errors', 'Preview Records with Errors', 'Migrate Records to STORET', and 'Delete Import From SIM'. The 'Export to Text' section has 'Export Path' (c:\) and 'Export File' (unmigrec.txt), with an 'Export Records with Errors' button. At the bottom right are 'Help' and 'Close' buttons. A status bar at the very bottom says 'Enter value for Import File' and 'Record: 1/1'.

Once the data are imported without errors into SIM, migrate the data to STORET by clicking the **Migrate Records to STORET** button.



Click **OK** on the “Migration complete” message.

**Close** all windows and **Exit** SIM.

The Import Status window should show that three records were read and three records are ready for migration. If the window indicates that there are errors, click the **Delete Import from SIM** button and review your file to make sure that it matches with the file “Tutorial1\_1 - Projects Correct.txt.” If it does, there may be an error in your configuration file. Try importing the “Tutorial1\_1 - Projects Correct.txt” file. If you still get errors, click the **Edit Import Configuration** button and make sure the configuration definition is correct.

## Checking the Data in STORET

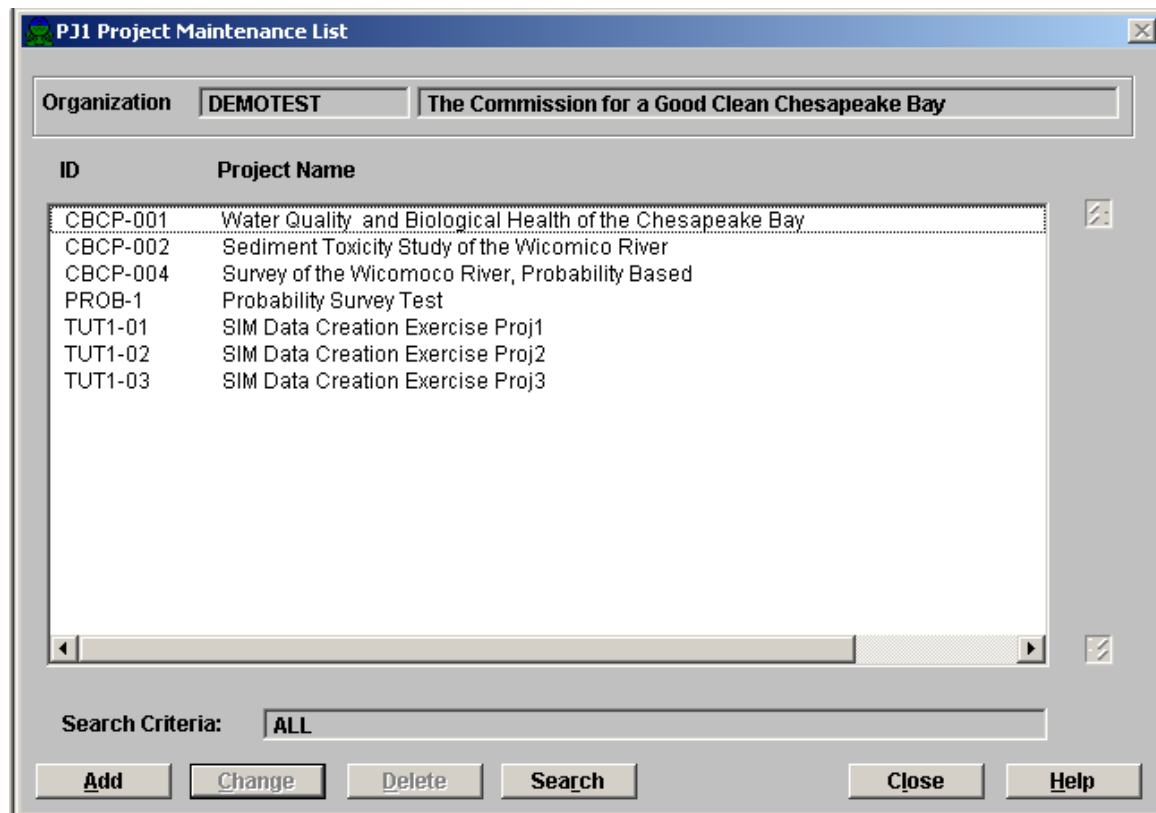
Now you can check STORET to view the data you just migrated.

Reopen the STORET Data Entry Module.

Click on **Data Maintenance**.

Select DEMOTEST and click on **Change**.

Select **Projects** from the Organization menu.



In the Project Maintenance List window you should see the three test projects you just loaded.

Select TUT1-01 from the list and click the **Change** button to bring up the Project Menu window.

Click **Project Description** in the Project Information section to bring up the Project Data Entry screen.

**PJ4 Project Data Entry**

Organization: DEMOTEST The Commission for a Good Clean Chesapeake Bay

ID: TUT1-01 Start Date: 05-20-2003 Planned Duration: Ongoing

Name: SIM Data Creation Exercise Proj1

Project Purpose: Learning

Project Study Area:

Additional Info Save Close Help

Note that the information entered in the form matches the data from your file. Note also that the Start Date, which in your data file was in MM/DD/YYYY format has been converted to STORET's format of MM-DD-YYYY.

Click the **Additional Info** button to bring up the Project Data Entry Page 2 window. Note that the contact information from your data file has been entered into the How/Where to Obtain Complete Plan text box.

Click **Close** until you go back to the Project Menu Window. Click on the Document/Graphic button. STORET will prompt you to enter your password, after which it will show you the document that you imported using SIM and migrated to STORET.

Click **Close** until you completely exit the Data Entry Module.



## **Exporting Data from an Excel Spreadsheet to Create the Data File**

Your original data that you want to migrate to STORET may be stored in a spreadsheet or database. These applications generally provide export tools that make it easy for you to generate a formatted file that can be read by SIM. Now you will create a data file in the same format as the file you created by hand earlier in this tutorial, except that the file will be tab delimited. You will need to change your configuration file to accommodate this. This example uses data in a Microsoft Excel spreadsheet.

Open Excel and open the spreadsheet “Tutorial1\_2 - Projects.xls.”

From the menu bar, select **File, Save As**.

In the Save as Type combo box, select “Text (Tab delimited) (\*.txt),” change the File Name to “Tutorial1\_2 - Projects.txt,” and **Save** the file to the User Created directory.

Excel will give you a warning that some data formatting may be lost. Click **Yes** to this message.

Close Excel.

You will create a new import configuration file that recognizes the tab delimiter by making a copy of the file you created earlier, loading it into SIM, and editing it to create the new configuration.

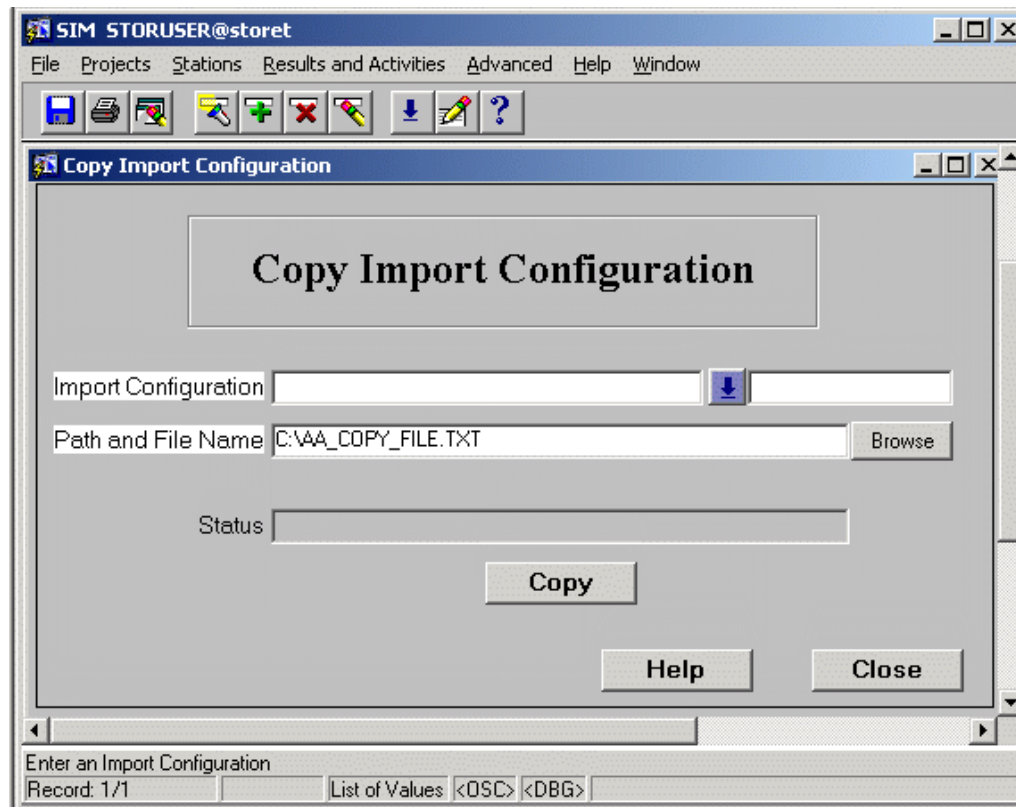
Reopen SIM.

From the Welcome window, select **New Import**.

From the New Import window, select **Project Descriptions**.

From the Import File window, click **Define New Import Configuration**.

From the Import Configuration window, click **Copy Configuration** to get to the Copy Import Configuration window.



Click the **down arrow** button to the right of the Import Configuration. Select “Tutorial1\_1 - Projects” from the list and click **OK**.

Click the **Browse** button and navigate to the User Created folder.

To export your configuration, type in “Tutorial1\_2-Projects Config.txt” in File Name and click **Open**.

Confirm that you have the path and file name you want and click **Copy**.

Click **OK** to the Copy Process Complete message and then **Close** to return to the Import Configuration window.



Click **Load Configuration** and then click the **Browse** button to the right of the Path and File Name field.

Navigate to the “Tutorial1\_2 - Projects Config.txt” file you just created, select it, and click **Open**. In the Configuration Name field, edit the entry so it reads “Tutorial1\_2 - Projects Config” and then click **Load**.

Click **OK** on the Load Process Complete message and then **Close** to return to the Import Configuration window. The format should be identical to the format you created earlier.

To change the delimiter to a tab, click the **down arrow** to the right of the Delimiter field, select Tab from the list, and click **OK**. The word “Tab” should appear in the field to the right of the downward arrow button.

Click **Save** to save the file and then **Close** to return to the Import File window.

Click **Browse** to select the “Tutorial1\_2 - Projects.txt” file you created from Excel, then click **Import**.

Click **OK** at the Import Complete message to go to the Import Status window.

All three records should have been read with no errors. If you have errors, double check your import configuration and the input file “Tutorial1\_2 - Projects.txt” to confirm that they are formatted correctly. After correcting any errors, click **Delete Import from SIM** and repeat the steps listed above to import the new file.

You can now migrate the records to STORET and look in STORET to confirm that they were migrated properly.

Click on **Migrate Records to STORET**.

Click **OK** in the “Migration complete” window.

Exit SIM.

Open the STORET Data Entry Module to view the migrated data.

Click **Data Maintenance**.

Select DEMOTEST and then click on **Change**.

Click on **Projects** to reach the Project List window. You should see “TUT1-04,” “TUT1-05,” and “TUT1-06” in the list. These are your migrated records.

Now you can exit STORET completely.

## **Tutorial 2. Dealing with Import Errors**

If you spend much time importing data into SIM and migrating it to STORET, you will eventually encounter some errors, so it is important for you to understand how to interpret the error messages and take corrective actions. This tutorial is designed to expose you to some of the errors you may encounter and teach you how to address those errors. During this tutorial you will

- Import data into SIM with errors,
- Review and interpret SIM import error messages,
- Export records with errors,
- Correct errors in your data and re-import them into SIM, and
- Set up translations.

In this tutorial, you will be working with Station data. To understand some of the errors that you may encounter with these data, you need to first understand the structure of the data in STORET. You can gain some clues about the STORET data structure by looking at the data definitions in the SIM configuration file.

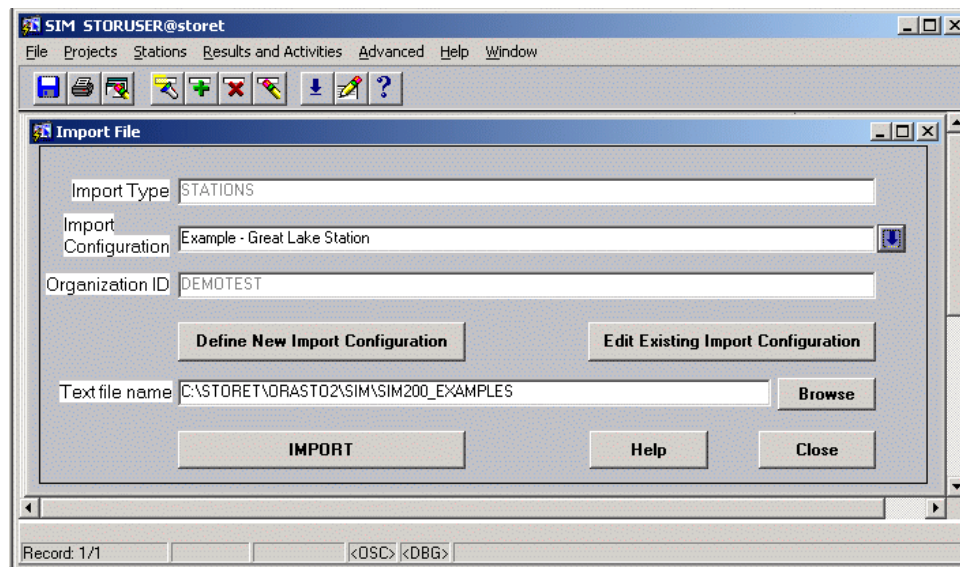
### **Example SIM Configuration File for Great Lake Station Data**

You will look at the “Example - Great Lake Station” import configuration file.

Reopen SIM and click **New Import** in the opening SIM menu.

Click **Stations and Station Details**.

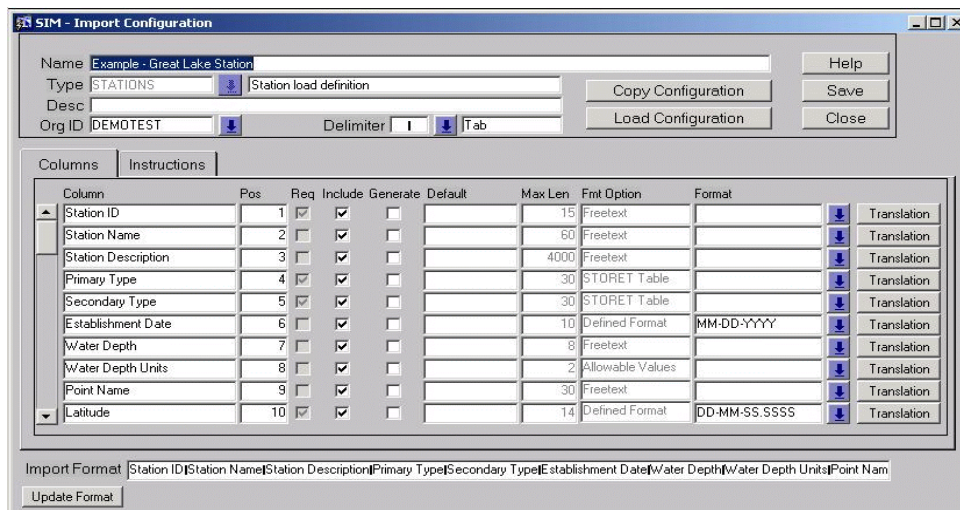
Click **Station Descriptions** to get to the Import File window.



Click the **down arrow** button next to the **Import Configuration** text box to bring up the list of existing station configuration files.

Select “Example - Great Lake Station” from the list and click **OK**.

Click the **Edit Existing Import Configuration** button.



Note that the configuration file specifies a tab-delimited data file. Also note the list of data elements and the order in which they are expected to appear in the data file.

Review the list of data elements included in the configuration file (i.e., the elements whose **Include** column box is checked). Note the maximum length for each field (**Max Len**), the type of data allowed in the field (**Fmt Option**), and the format defined for the data (**Format**).

Click **Close** to return to the Import File window.

## Correcting Import Errors

Now you will learn how to correct import errors in SIM by importing two data files, one that is correct and one that contains errors. Next, you will review the error log in SIM so that you can become familiar with SIM's error messages. After correcting all of these problems, you will re-import a corrected data file and migrate the two data sets into STORET.

In the Import File window, click on the **down arrow** button to the right of the Import Configuration text box.

Select the "Example - Great Lake Station" configuration from the list and click **OK**.

Click on the **Browse** button beside the Text File Name text box and locate the directory that contains all the sample files for this tutorial.

Select "Tutorial2 - Great Lake.txt" and click **Open**.

In the Import file window, click on **Import**.

Click **OK** in the Import Complete message box.

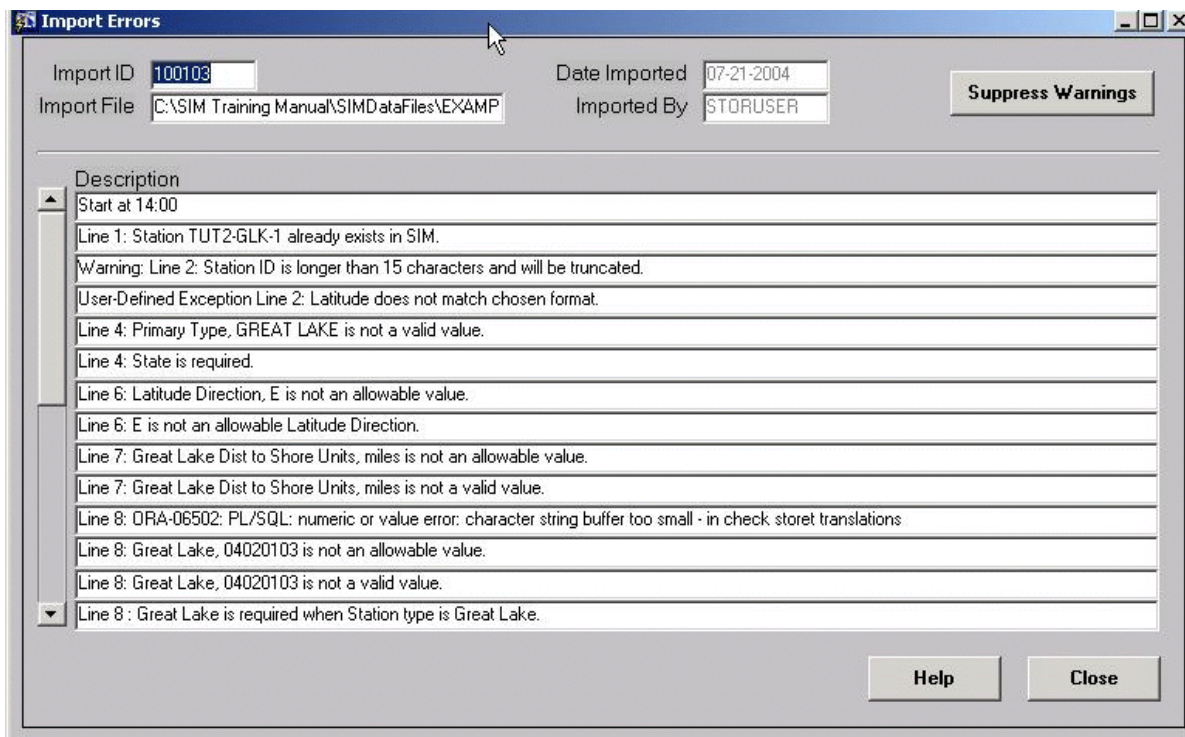
The Import Status window should show an import of one record into SIM. Do **not** migrate the record to STORET.

**Close** the Import Status window and return to the Import File window.

Keep the Import Configuration the same, but now browse to the data file "Tutorial2 - Great Lake with Errors.txt."

Click **Import** and review the status of the import in the Import Status window. There should be seven rows with errors and ten rows total.

Click **View Import Errors** to look at the error messages relating to the attempted import.

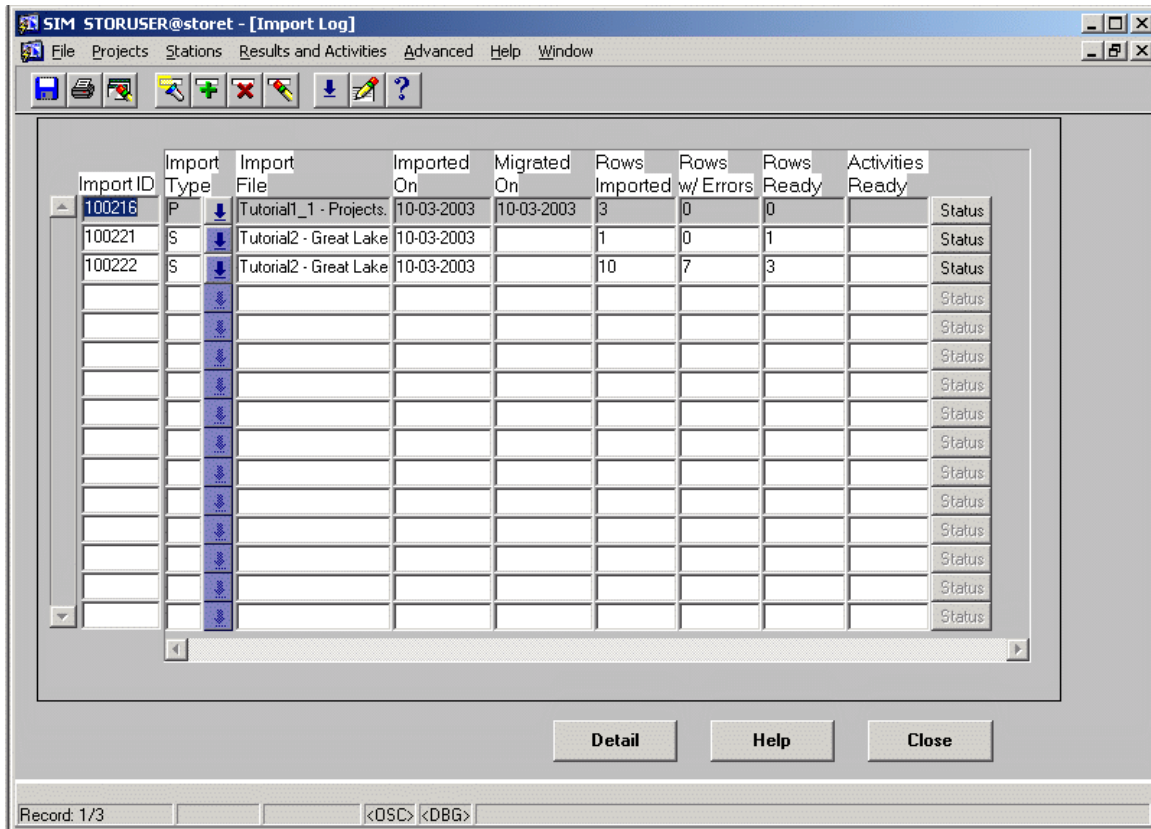


You will review the messages associated with each of the records and correct these problems. In general, each data record takes one line in your data file. Consequently, the line number in the SIM error or warning message will correspond to the number of the record with the problem.

- The first error message is “Line 1 - Station TUT2-GLK-1 already exists in SIM.” This indicates that a station record with the same Station ID has already been imported to SIM. In this case, the record in the file “Tutorial2 - Great Lake.txt,” which you imported into SIM first, has the same Station ID as the first record in “Tutorial2 - Great Lake with Errors.txt.”

Open the “Tutorial2 - Great Lake with Errors.txt” and “Tutorial2 - Great Lake.txt” files and compare them to confirm these duplicate Station IDs. Close both data files.

To look at the list of data files currently imported into SIM, select **Advanced** from the SIM menu bar and choose **Import Log**.



The Import Log window will show the two station imports. It may also show other imports that you have made previously. To fix the first error, you will need to delete the first import from SIM.

Click the **Status** button next to the record for the import of “Tutorial2 - Great Lake.txt.”

In the Import Status window, click **Delete Import from SIM**.

Click **Yes** to confirm the deletion, then **Close** the Import Log window, which should return you to the Import Errors window.



- The second message is “Warning: Line 2: Station ID is longer than 15 characters and will be truncated,” which is a warning message for the second record relating to the length of the Station ID field. The Station ID should not be longer than 15 characters.

Open the “Tutorial2 - Great Lake with Errors.txt” data file and you will see that the Station ID for the second record is “TUT2-GLK-1-TOO\_LONG,” which is longer than 15 characters. SIM will still import this record, but the ID will be truncated to the maximum 15 characters.

To fix the problem, change the ID to “TUT-GLK-1B” in the data file.

Save the data file as “Tutorial2 - Great Lake Corrected.txt” in your User Created folder.

- The third message is “User-Defined Exception Line 2: Latitude does not match chosen format.” Note that you are able to define formats in your import configuration file. It is important that your data file format matches the configuration file format.

If you scan the second record in “Tutorial2 - Great Lake Corrected.txt” you will note that the latitude value is “47.4” which is in decimal degrees format rather than degrees-minutes-seconds, the format specified for this data field in the configuration file.

Change the data value to “47-40-20”

Save the file again.

- The fourth message is “Line 4: Primary Type, GREAT LAKE is not a valid value.” At first glance this message may not make sense. Other records in this data set have a Primary Type value of “Great Lake” and do not generate an error message. The problem here is that the Primary Type value must match the allowed values in STORET, and the case of the text must match as well. In other words, “Great Lake” is valid, but “GREAT LAKE” and “Great lake” are not.

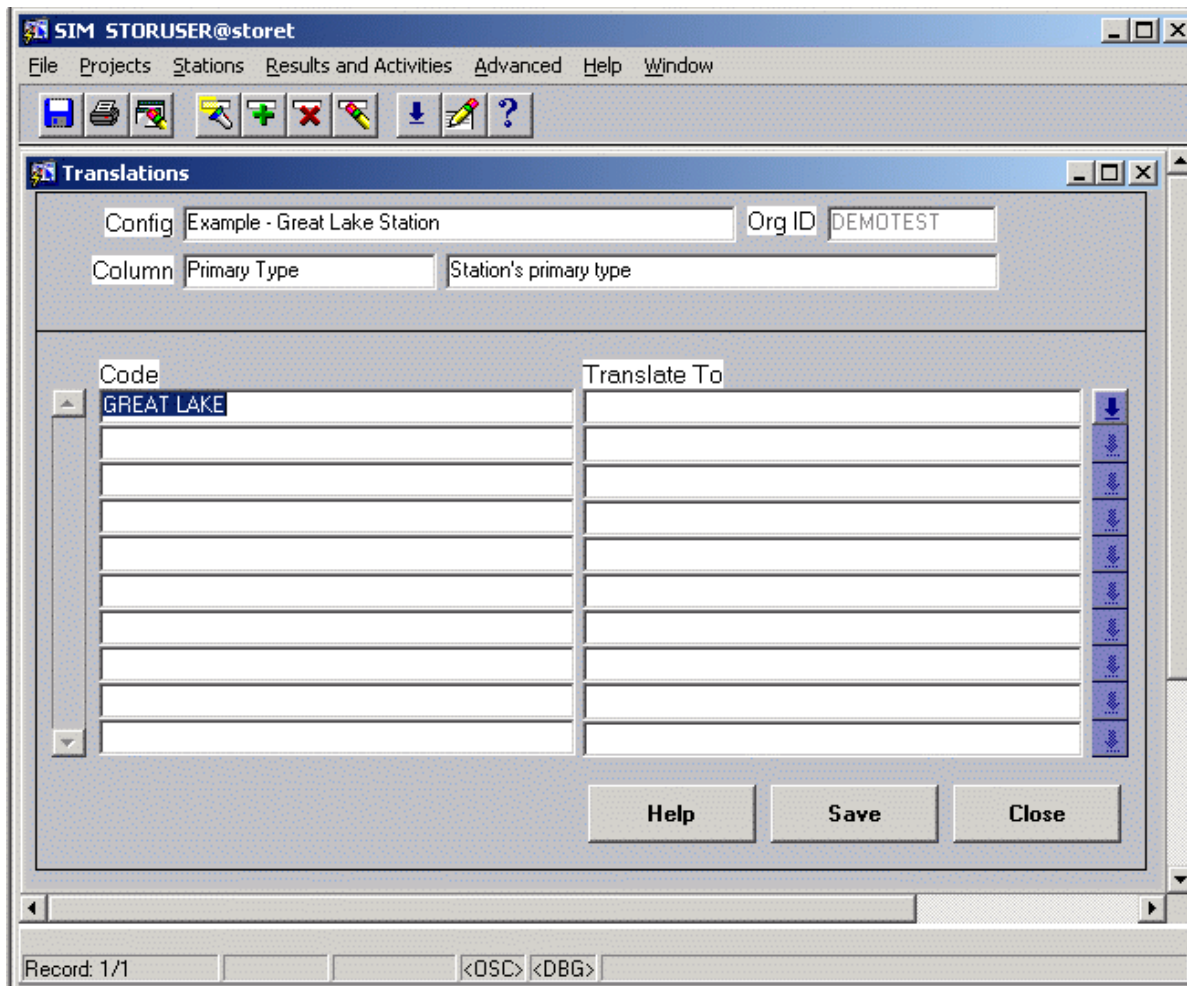
## Using Translations

Instead of further correcting the “Tutorial2 - Great Lake Corrected” file, you will correct this error using a translation. A translation transforms values in your data set to new values that are valid in STORET. Instead of manually changing the data in an import file to match STORET’s requirements, translations allow you to preserve your data in its original format and correct the conversion in SIM. In this case, the translation will convert the value “GREAT LAKE” in your data set to “Great Lake,” which matches the case for the Primary Type data element in STORET.

**Close** the SIM Import Errors window to access the SIM Import Status window.

Click **Edit Import Configuration**.

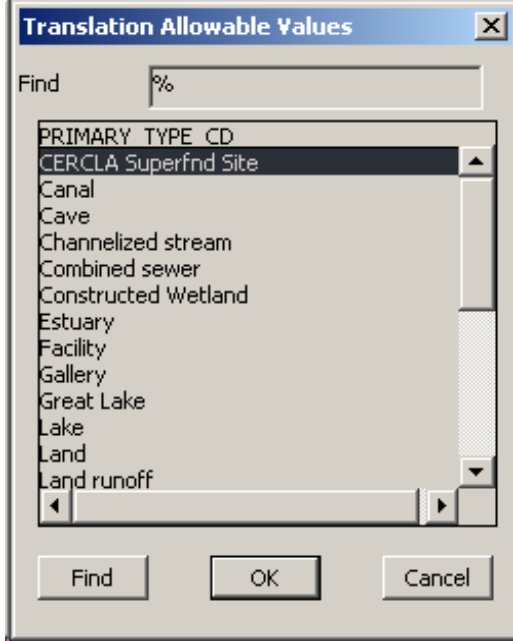
In the Import Configuration window under the Column tab, go to the row for the Primary Type column (row 4) and click the **Translation** button on the right side of the window.



In the first row under the Code column, type “GREAT LAKE” in all capital letters.

Now click the **down arrow** button next to the Translate To column in the first row. This opens a Translation Allowable Values window containing a list of acceptable values in STORET.

Note that for longer lists, like characteristics, you can either click the value you want from the list, or you can use the Find text box at the top to narrow the list of values. The % symbol is a wild card for the search.

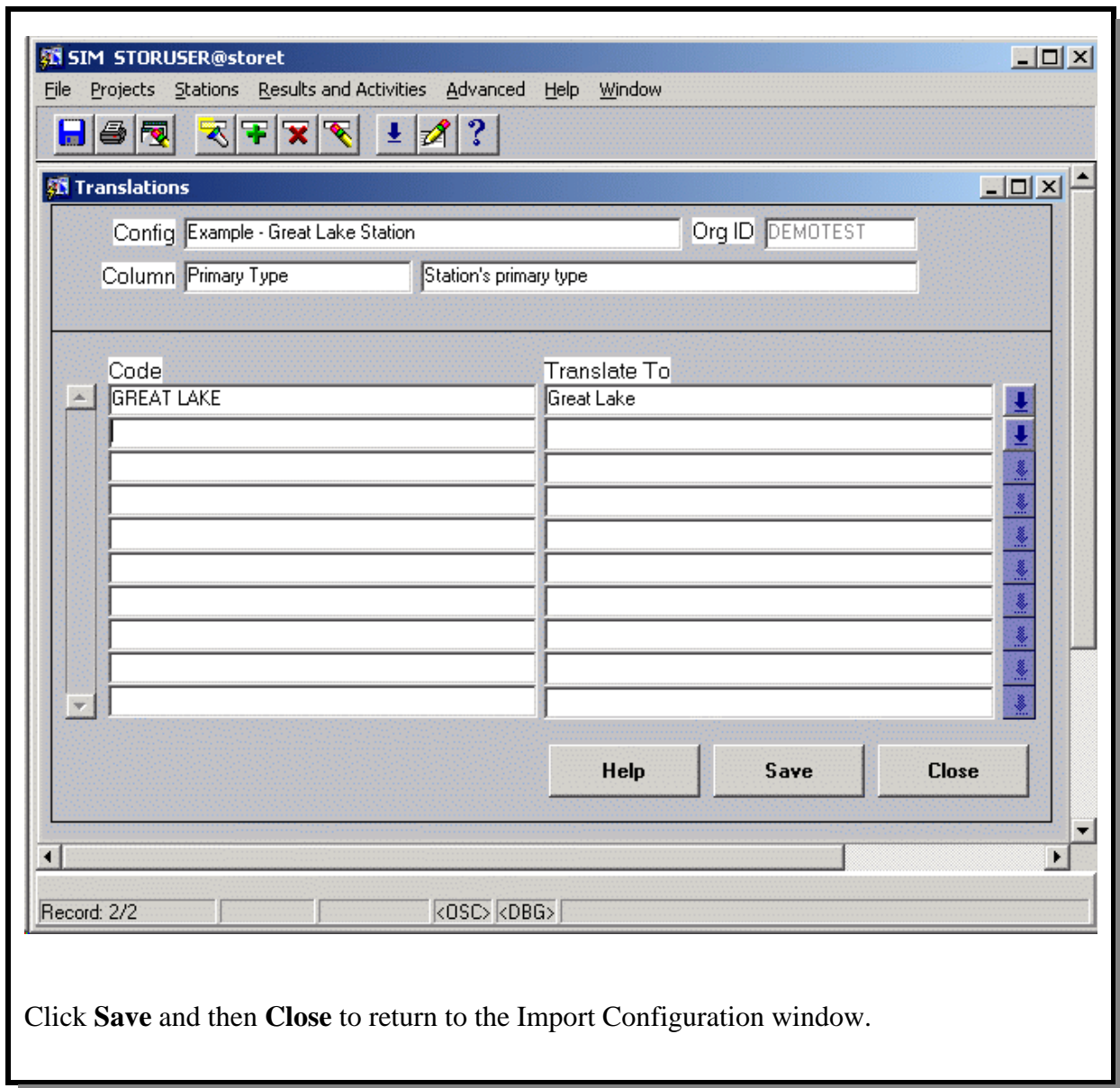


To narrow the list to all entries starting with the letter G, click in the Find text box in front of the % symbol, and type “G.”

Click the **Find** button. The list of values should only include those that begin with the letter G.

Select “Great Lake” from the list and click **OK**.

Note that the search is not case sensitive, so typing a lower case g would produce the same result. To search for a list containing a certain substring anywhere in the string, type the substring after the % symbol. For example, to get a list of all entries with the string “Lake” in them, type “%Lake” in the Find text box and click the **Find** button.



Click **Save** and then **Close** to return to the Import Configuration window.

Note that to delete a Translation, you navigate to the Translations Screen, click on the line of the translation you want to change, and click the button with the red X on the main toolbar.

These are all the errors you will correct now.

**Close** the Import Configuration window to return to the Import Status window.

Delete the “Tutorial2 - Great Lakes with Errors.txt” import from SIM by clicking **Delete Import from SIM** and clicking **Yes** to confirm the deletion.

Return to the Import File window and make sure “Example - Great Lake Station” is still selected as the Import Configuration. Click **Browse** to select the “Tutorial2 - Great Lake Corrected.txt” data file.

Click the **Import** button and then click **OK** to get to the Import Status window. There should now be four rows with errors.

### Exporting Records with Errors

At this point you will export the records with errors, correct those errors, and import the corrected records. These steps are extremely helpful when you have a large number of records that need to be changed.

Notice the Export to Text box on the right of the Import Status window. Ensure that the Export Path text box maps to the ..SIM Data Files\User Created\ directory. Type in the correct file path if necessary.

Name the Export File “Tutorial2 - Export File.txt.”

Click the **Export Records with Errors** button to export the records with errors and click **OK** in the Export Complete message box.

Note that the Import Status window data has now changed so that it shows only the status of the records that were imported into SIM without errors.

You will now proceed to migrate error-free records to STORET and correct the errors in the remaining records.

Click on **Migrate Records to STORET** to migrate these error-free rows to STORET.

Click **OK** in the Migration Complete message box.

Open the “Tutorial2 - Export File.txt” data file in Notepad.

View the import errors in SIM by clicking the **View Import Errors** button.

- For Line 6, which refers to the TUT2-GLK-5 record (the first record in the “Tutorial2 - Export File”), the messages are “Latitude Direction, E is not an allowable value.” and “E is not an allowable Latitude Direction.” This entry should have been “N” instead of “E.”

Correct this error manually in “Tutorial2 - Export File.txt” by changing the E after the latitude value of 47-40-20 to N in the first row of the file.

- The error messages for Line 7, which refers to the TUT2-GLK-6 record, the second record in “Tutorial2 - Export File.txt,” are “Line 7: Great Lake Dist to Shore Units, miles is not an allowable value.” and “Line 7: Great Lake Dist to Shore Units, miles is not a valid value.” In this case STORET does not recognize the units “miles” spelled out in full, but instead expects the abbreviation “mi” for miles.

Correct this error by using a translation.

**Close** the SIM Import Errors window to access the SIM Import Status window.

Click on **Edit Import Configuration**.

Under the Column tab in this window, locate the “Great Lake Dist to Shore Units” entry and click the **Translation** button next to this data element.

In the Translation window, type “miles” in the first row under the Code column.

Click on the **down arrow** button in this first row.

In the Translation Allowable Values window, locate “mi” in the list. Select “mi” and click on **OK**.

Back in the Translations window, click on **Save** and then **Close** to keep this translation.

- The error messages for Line 8, which refers to the TUT2-GLK-7 record, are “ORA-06502: PL/SQL: numeric or value error: character string buffer too small - in validate huc.,” “Great Lake, 04020103 is not an allowable value.,” “Line 8: Great Lake, 04020103 is not a valid value.,” and “Line 8: Great Lake is required when Station type is Great Lake.” In this case the error messages refer to two fields, HUC and Great Lake, because the field values have been switched in the data file.

Correct this manually in “Tutorial2 - Export File.txt.”

- The error message for Line 10, which refers to the TUT2-GLK-1 record, is “Line 10 - Station TUT2-GLK-1 already exists in SIM.” As you may recall, a record with the Station ID of TUT2-GLK-1 was already present earlier in the original input data file.

Correct this by changing the Station ID value to TUT2-GLK-10 in “Tutorial2 - Export File.txt.” Save the file.

You will now import the corrected records.

Close the Import Configuration and Import Status windows in SIM to return to the Import File window.

Ensure you have deleted the previous import files with errors from SIM by double-checking the Import Log.

Make sure that “Example - Great Lake Station” is selected as the Import Configuration and click the **Browse** button to select “Tutorial2 - Export File.txt.”

Click the **Import** button.

Four rows should be ready for migration, and there should be no errors.

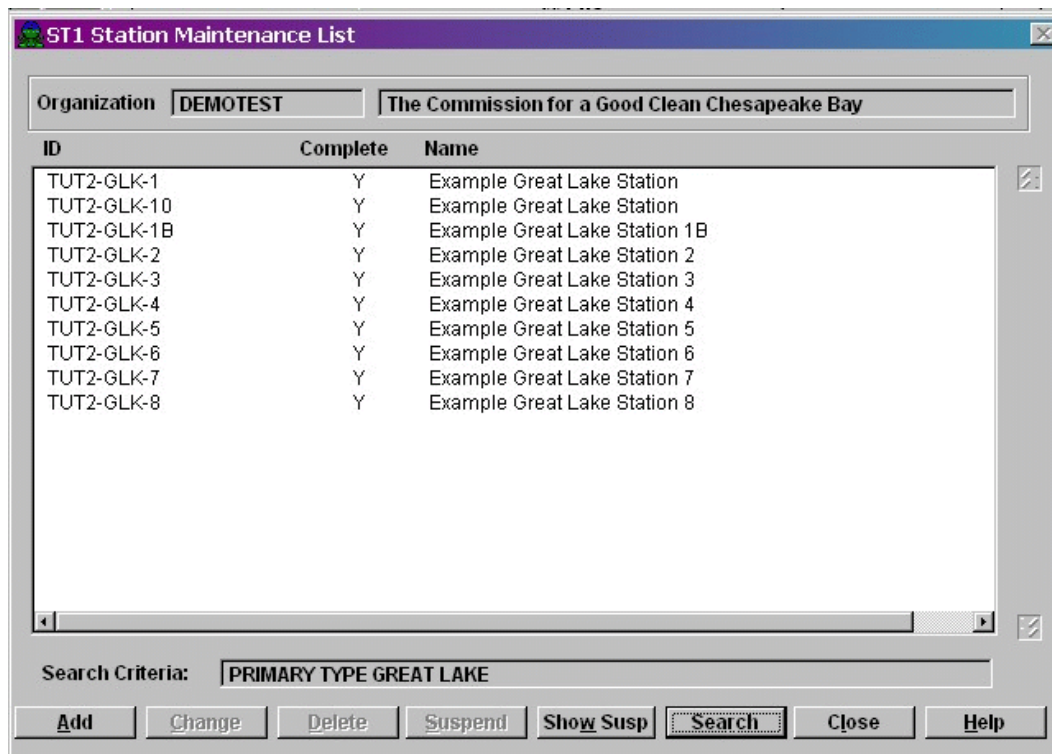
Go ahead and **Migrate** these rows to STORET.

You can verify that your records migrated to STORET.

Open the STORET Data Entry Module and click **Data Maintenance**.

Select DEMOTEST and click **Change**.

Click on **Stations**. Scroll through the station list until you see the 10 Great Lake stations you migrated.



Exit STORET and return to SIM.

Now that you have confirmed the migration to STORET, return to your Import Status window in SIM.

Go to **Advanced, Import Log**.

Delete the "Tutorial2 - Great Lake Corrected.txt" and "Tutorial2 - Export File.txt" imports.

Exit SIM.



## **Tutorial 3. Backing Data Out of STORET**

When you work with SIM, you will likely find at some point that you need to remove old data or data with errors from SIM. You may also occasionally need to remove data that you have migrated to STORET.

Suppose you have a set of stations for which you have migrated data to STORET. Later you discover that the station names have been changed to match a new data format that has recently been adopted by your agency. For a small number of stations, you could make the changes manually using the STORET Data Entry Module, but if there are a lot of stations, a manual approach would be time consuming, tedious, and error prone.

In this tutorial, you will review how to remove an import from SIM and learn how to remove migrated data from STORET.

### **Importing and Deleting Data in SIM**

First you will migrate an old data file to STORET and then you will remove it from STORET so that you can move in the new data. It may be helpful to view the data files before you import them so you can become familiar with the data types and formats that SIM accepts.

Open the data files “Tutorial3 - Great Lake Old Names.txt” and “Tutorial3 - Great Lake New Names.txt” using Notepad.

When you are done familiarizing yourself with the two data files, close them.

Open SIM and open the Import Log window by selecting **Advanced, Import Log** from the menu bar.

If there are station imports in SIM from a prior tutorial, delete them from SIM by clicking the **Status** button to go to the Import Status window for each import and then clicking the **Delete Import from SIM** button.

Close the Import Log window to return to the SIM Welcome window, and click **New Import**, then **Stations and Station Details**, then **Station Descriptions** to get to the Import File window.

Click the **down arrow** to the right of the Import Configuration field and select “Example - Great Lake Station.” Then click the **Browse** button and select “Tutorial3 - Great Lake Old Names.txt.”

Click **Import**. This should generate a successful import of five rows into SIM.

Migrate these records to STORET by clicking the **Migrate Records to STORET** button in the Import Status window.

Close the Import Status window to return to the Import File window for importing new Station information.

Make sure the “Example - Great Lake Station” configuration is selected and click **Browse** to select the file “Tutorial3 - Great Lake New Names.txt.”

Click **Import** and then **OK** to get to the Import Status window.

Confirm that there are errors in all five records due to duplication of Station IDs by clicking the **View Import Errors** button to review the import error messages.

Close the messages window and delete the import from SIM by clicking **Delete Import from SIM**.

**Close** your open SIM windows until you reach the Welcome window.

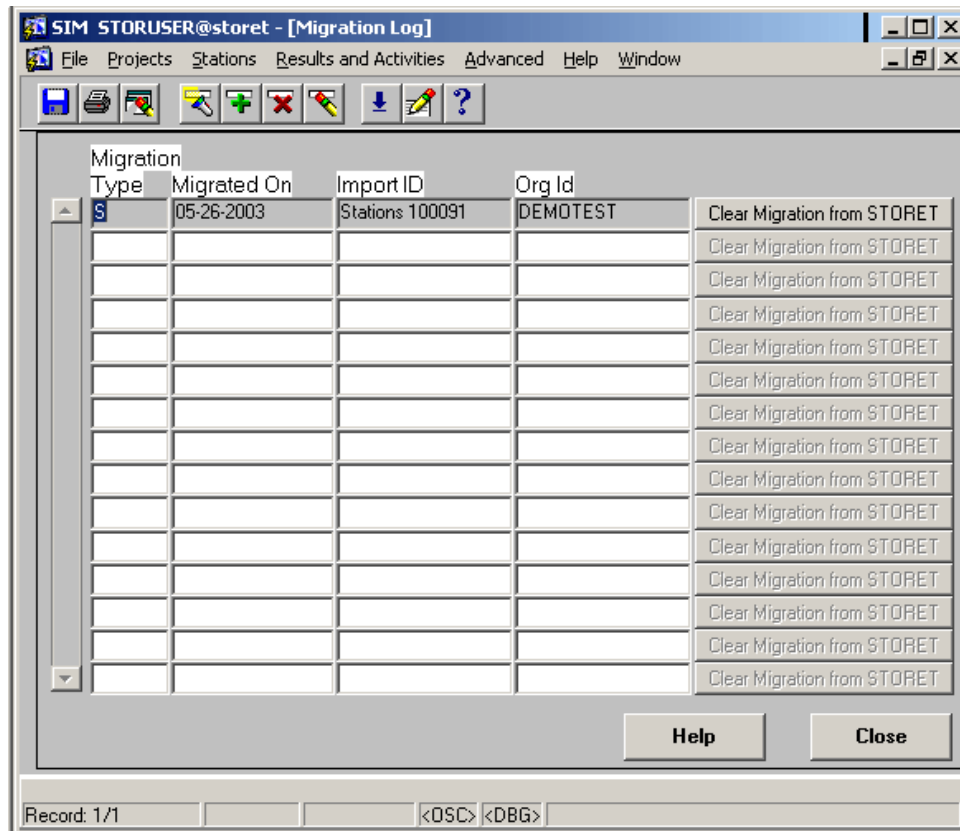
## Removing Data from STORET

You need to remove the old data from STORET before you can migrate the new data successfully.

To remove the old data from STORET, from the menu bar select **Advanced, Migration Log** to bring up the Migration Log window. This window will list any migrations you have done, including the one you did as part of this tutorial.

Locate the data you just migrated by finding the last entry with today's date and a migration type "S," which stands for stations. To remove this migration from STORET, click the **Clear Migration from STORET** button to the right of the record for this import.

Click **Yes** to proceed with the removal.



You have removed the migration from STORET and can now delete this import from SIM.

Return to the Import Log window by selecting **Advanced, Import Log** from the menu.

Click the **Status** button next to the “Tutorial3 - Great Lakes Old Names.txt” import record and click **Delete Import from SIM**.

Confirm that you want to delete the import.

**Close** the Import Log, returning to the Welcome window.

Now that the old data have been removed from STORET and SIM, you are ready to import the new, correct data and migrate it to STORET. You will now migrate data from “Tutorial3 - Great Lake New Names.txt” by importing it into SIM and migrating it to STORET.

Click on **New Import** and then **Stations and Station Details**.

Click on **Station Descriptions** to reach the Import File window.

Select the “Example - Great Lake Station” import configuration.

Browse to the “Tutorial3 - Great Lake New Names.txt” file for your import file.

Click on **Import** and then **OK** in the message window.

The Import Status window should show that 5 records were read and are ready for migration to STORET. If you have errors, double-check the Import Log and Migration Log to ensure that you removed the old data from STORET and SIM. Retry importing the new file.

Once your import is ready with no errors, click on **Migrate Records to STORET** and **OK** in the Migration message box.

**Close** all open SIM windows until you return to the Welcome window.

As always, you should view your migrated data in STORET to confirm proper migration.

Open the STORET Data Entry Module and navigate to the Organization menu for DEMOTEST.

Click on **Stations**. You should see five new stations at the bottom of the list.

ID	Complete	Name
TUT2-GLK-1	Y	Example Great Lake Station
TUT2-GLK-10	Y	Example Great Lake Station
TUT2-GLK-1B	Y	Example Great Lake Station 1B
TUT2-GLK-2	Y	Example Great Lake Station 2
TUT2-GLK-3	Y	Example Great Lake Station 3
TUT2-GLK-4	Y	Example Great Lake Station 4
TUT2-GLK-5	Y	Example Great Lake Station 5
TUT2-GLK-6	Y	Example Great Lake Station 6
TUT2-GLK-7	Y	Example Great Lake Station 7
TUT2-GLK-8	Y	Example Great Lake Station 8
TUT3-GLK-1	Y	Great Lakes Station 1
TUT3-GLK-1B	Y	Great Lakes Station 1B
TUT3-GLK-2	Y	Great Lakes Station 2
TUT3-GLK-3	Y	Great Lakes Station 3
TUT3-GLK-4	Y	Great Lakes Station 4

Search Criteria: PRIMARY TYPE GREAT LAKE

Add Change Delete Suspend Show Susp Search Close Help

Exit STORET.

To complete this tutorial, select **Advanced, Migration Log** from the menu bar to bring up the Migration Log window.

Clear all migrations that you have done for these SIM tutorials from STORET and then **Close** the Migration Log window.

Select **Advanced, Import Log** from the menu bar.

If there are imports in SIM from these tutorials, delete them from SIM. All of the tutorial files must be deleted. Click the **Status** button to go to the Import Status window for each import and then click the **Delete Import from SIM** button.

Exit SIM.

You should make a habit of confirming that migrations are successful by viewing them in STORET. It is also recommended that you clear your Migration and Import Logs in SIM as soon as migrations are finalized and completed.

## **Tutorial 4. Importing Results Data into STORET**

This tutorial covers importing results data into STORET using biological data as an example. Its intent is to give you experience in the following:

- Organizing data from a sampling event,
- Preparing a data file for import into SIM,
- Creating a SIM configuration file for data import,
- Importing the data into SIM,
- Viewing the data in SIM,
- Migrating the data to STORET,
- Viewing the data in STORET, and
- Using Instructions to generate station or visit IDs.

To learn these skills, you will work through three examples:

- Example 1: Example Taxon Abundance Sampling Event,
- Example 2: Example Fish Tissue Sampling Event, and
- Example 3: Example Benthic Macroinvertebrate Sampling Event.

This tutorial will walk you through the process of migrating three sets of hardcopy data (Examples 1–3) from a fictitious sampling trip into SIM and then STORET, including creating the configuration and electronic data files required to accomplish this. It will also cover how to use a tool called Instructions to generate station or visit IDs (Example 1). Although a biological measurement may be something as simple as the weight and length of a fish, storing the information in STORET is complicated by the additional information associated with each measurement (e.g., the method for catching the fish; the location, time, and date of the sampling event). Many individual data elements must be entered for each biological result data record. Breaking these pieces of data into manageable, logically related groups will not only help you think about and structure your data but also make it easier to identify which data are constant across groups of results and which data change from result to result.

## Example 1: Example Taxon Abundance Sampling Event

This example uses a fictitious routine sample collected to describe the fish community in the Blackwater National Wildlife Refuge. The example includes a multi-taxon population census (MTPC) and a single taxon frequency class (STFC) count. Information about the sampling event is summarized below.

In general, a sampling event involves a **trip** to a **station** for a particular **project**, during which a sampling **activity** takes place. This activity involves the use of a **sampling procedure** that generates **results**.

In this example, Dr. Lee Manning has recently completed a sampling event in support of a project entitled “Water Quality and Biological Health of the Chesapeake Bay,” which has been given the identification number CBCP-001. This ongoing project, which began in 1991, has 3 specific objectives:

1. Determine the sources of pollution causing or contributing to existing or anticipated pollution problems in the Bay and its estuaries.
2. Evaluate the effectiveness of efforts to reduce or eliminate those sources of pollution.
3. Evaluate progress toward achieving and maintaining water quality standards and toward protecting and restoring the fisheries, shell-fisheries and other living resources of the Bay.

This sampling event occurred at the Blackwater National Wildlife Refuge station on January 2, 2000. During this routine sampling event, Dr. Manning counted and measured fish in order to assess taxon abundance.

As an experienced STORET user, Dr. Manning knew that STORET requires an identification number for each trip, so he assigned his trip the identifier 01-2000-2. This is his first visit to this particular station.

Dr. Manning used sampling procedures and gear that have already been entered into STORET. These include the otter trawling sampling procedure (SP-009), which uses net/horizontal tow gear (NTOT) and the Chesapeake Bay Otter Trawl-1 gear configuration (CBG-014), a highly modified Otter Trawl custom designed by the Manning Scientific & Correctional Facility Supply. Dr. Manning elected to store his fish samples in amber bottles containing a 70 percent formalin solution (STS-009).

Details of the sampling event are included in the field data sheet on page 4-3, which provides an example of both multi-taxon population census and single taxon frequency class results (counts for a single species according to size ranges). For the multi-taxon population census, Dr. Manning recorded total counts for each species identified during the sampling event. In this example, there were 54 largemouth bass (*micropterus salmoides*), 12 yellow bullhead (*ictalurus natalis*) and 67 brown bullhead (*ictalurus nebulosus*).



In a single taxon frequency class, STORET allows you to separate subject taxon individuals into classes based on physical parameters (e.g., length, weight). Counts may be entered for each range of the selected physical parameter. In this example, Dr. Manning used fish fork length to separate subject taxon individuals (*micropterus salmoides*) into three groups (0–20 cm; 21–40 cm; and 41–60 cm).

## FISH SAMPLING FIELD DATA SHEET (FRONT)

page 1 of 1

STREAM NAME	LOCATION <u>Blackwater National Wildlife Refuge</u>	
STATION <u>408C-009</u> RIVERMILE	STREAM CLASS	
LAT _____ LONG _____	RIVER BASIN	
STORET #	AGENCY <u>Chesapeake Bay Commission</u>	
GEAR <u>otter trawl</u>	INVESTIGATORS	
FORM COMPLETED BY <u>Dr. Lee Manning</u>	DATE <u>1-2-2000</u> TIME <u>09:00</u> <u>AM</u> PM	REASON FOR SURVEY <u>Routine sample</u>

SAMPLE COLLECTION	How were the fish captured? <input type="checkbox"/> backpack <input type="checkbox"/> tote bag <input checked="" type="checkbox"/> other <u>Net/ Horiz. tow</u>
	Block nets used? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
	Sampling Duration: Start time <u>09:00</u> End time <u>09:30</u> Duration <u>30 min</u>
	Stream width (in meters) Max _____ Mean _____
HABITAT TYPES	Indicate the percentage of each habitat type present <input type="checkbox"/> Riffles _____ % <input type="checkbox"/> Pools _____ % <input type="checkbox"/> Runs _____ % <input type="checkbox"/> Snags _____ % <input type="checkbox"/> Submerged Macrophytes _____ % <input checked="" type="checkbox"/> Other (wetland) <u>100</u> %
GENERAL COMMENTS	<u>Sampled at midwater, 23 ft. from surface.</u> <u>Distance fished = 2 nmi.</u>

SPECIES	TOTAL (COUNT)	OPTIONAL: LENGTH (mm)/WEIGHT (g) (25 SPECIMEN MAX SUBSAMPLE)	ANOMALIES*									
			D	E	F	L	M	S	T	Z		
Largemouth Bass	54											
( <i>Micropterus salmoides</i> )												
Yellow Bullhead	12											
( <i>Ictalurus natalis</i> )												
Brown Bullhead	67											
( <i>Ictalurus nebulosus</i> )												

Field data sheet for taxon abundance.

## **Organizing Biological Data for STORET (Example 1)**

To enter the data from this example sampling event into STORET, you will need to provide not just the results, but also the associated data relating to the project, station, trip, and sampling procedures used. These categories of information are discussed in the following sections.

**Project Information.** Detailed information about this project has already been entered into STORET. Therefore, all you need to do to associate the sampling event with the project is provide the project ID number. In this case, the project ID number is CBCP-001.

**Station Information.** The Station number for the Blackwater National Wildlife Refuge station is CBC-008, as indicated in the upper left-hand corner of the field data sheet. STORET already contains the detailed information about this station.

**Trip Information.** Each trip must have a trip identification number, which in this case has been specified as 01-2000-2. Other data about the trip that will be included in the data file are as follows:

<b>Data Element</b>	<b>Value</b>
Trip ID	01-2000-2
Trip Start Date	1/2/2000
Station Visit Number	1
Station Visit Arrival Date	1/2/2000
Visit Comments	First visit

**Activity Information.** Information that you will need to enter into STORET about this sampling event include identifiers for the sampling activities, information about the type of activity, and the time and date the activity began and ended. The activity data elements you will enter into STORET from this sampling event are summarized in the following table.

Data Element	Value
Activity ID	TUT4EX1
Medium	Biological
Activity Type	Sample
Activity Category	Routine Sample
Intent	Taxon Abundance
Community	Fish/Nekton
Activity Start Date	1/2/2000

**Sampling Procedure and Sampling Information.** In all cases, the details regarding the standard sampling procedures used during a sampling event will already be contained in STORET. You will need to know the appropriate ID numbers to be able to reference them. In this example, the sample collection procedure, gear and gear configuration, and sample preservation/transportation/storage methods have already been entered into STORET. Site-specific details of the sampling event which need to be recorded in STORET are also noted, such as details relating to where in the waterbody the sample was taken and the duration of the sampling event. The following table shows the sampling procedure and sampling data elements that you will enter into STORET from this sampling event.

Data Element	Value
Sample Collection Procedure ID	SP-009
Gear ID	NTOT
Gear Configuration ID	CBG-014
Sample Preservation Transport and Storage ID	STS-009

**Results Information.** Now that you have worked through all the data that support the results, you are ready to identify the results data. A group ID number and a biological results type are required in STORET if the intent of the sampling event is to measure taxon abundance. In this example, you have two types of biological sampling results: multi-taxon population census and single taxon frequency class. You can simply assign group IDs of 1 and 2 to these results. For the multi-taxon population census, you have a characteristic (the species name) and a result value (the total number of the species found). The result is an actual count of the number of each species, so the value unit is “count” and the value type is “actual” (since it is not an estimated or calculated value). A summary of the multi-taxon population census data record for largemouth bass is shown in the following results table:

Data Element	Value
Bio Results Type	Multi-Taxon Population Census
Bio Results Group ID	1
Characteristic Name	<i>Micropterus salmoides</i>
Result Value	54
Result Value Units	count
Value Type	Actual

For single taxon frequency class results, you must enter the frequency analysis type (P for physical measures such as fork length or B for biological conditions such as lifestage), the upper and lower bounds for each range, and the associated units. For the single taxon frequency class data, you have results for largemouth bass for each of 3 fork length ranges (0-20 cm, 21-40 cm, and 41-60 cm). A summary of the data for the 0-20 cm size range is shown in the table below:

Data Element	Value
Subject Taxon	<i>Micropterus salmoides</i>
Frequency Analysis Type	P
Common Class Descriptor	Fish Fork Length
Common Class Descriptor Units	cm
Frequency Class Count	12
Bio Group Count Type	actual
Lower Class Bound	0
Upper Class Bound	20

**Data Summary.** The following table provides a complete list of each of the data elements from the sampling event that will be loaded into STORET. Note that there are a handful of additional data elements that have been added that were not included in the information provided in the example. Generating this table from the unformatted information provided by the example completes a major portion of the work required to load the biological sampling data into STORET. The next step is creating a SIM configuration file to import these data into SIM.

Data Type	Data Element	Column Order	Record 1	Record 2	Record 3	Record 4	Record 5	Record 6
<b>Project</b>	<i>Project ID</i>	1	CBCP-001	CBCP-001	CBCP-001	CBCP-001	CBCP-001	CBCP-001
<b>Station</b>	<i>Station ID</i>	2	CBC-008	CBC-008	CBC-008	CBC-008	CBC-008	CBC-008
<b>Trip</b>	<i>Trip ID</i>	3	01-2000-2	01-2000-2	01-2000-2	01-2000-2	01-2000-2	01-2000-2
	<i>Trip Start Date</i>	4	1/2/2000	1/2/2000	1/2/2000	1/2/2000	1/2/2000	1/2/2000
	<i>Station Visit Number</i>	5	1	1	1	1	1	1
	<i>Station Visit Arrival Date</i>	6	1/2/2000	1/2/2000	1/2/2000	1/2/2000	1/2/2000	1/2/2000
	<i>Visit Comments</i>	7	First visit	First visit	First visit	First visit	First visit	First visit
<b>Activity</b>	<i>Activity ID</i>	8	Tut4Ex1	Tut4Ex1	Tut4Ex1	Tut4Ex1	Tut4Ex1	Tut4Ex1
	<i>Medium</i>	9	Biological	Biological	Biological	Biological	Biological	Biological
	<i>Activity Type</i>	10	Sample	Sample	Sample	Sample	Sample	Sample
	<i>Activity Category</i>	11	Routine Sample	Routine Sample	Routine Sample	Routine Sample	Routine Sample	Routine Sample
	<i>Intent</i>	12	Taxon Abundance	Taxon Abundance	Taxon Abundance	Taxon Abundance	Taxon Abundance	Taxon Abundance
	<i>Community</i>	13	Fish/Nekton	Fish/Nekton	Fish/Nekton	Fish/Nekton	Fish/Nekton	Fish/Nekton
	<i>Activity Start Date</i>	14	1/2/2000	1/2/2000	1/2/2000	1/2/2000	1/2/2000	1/2/2000
<b>Sampling Procedure</b>	<i>Sample Collection Procedure ID</i>	15	SP-009	SP-009	SP-009	SP-009	SP-009	SP-009
	<i>Gear ID</i>	16	NTOT	NTOT	NTOT	NTOT	NTOT	NTOT
	<i>Gear Configuration ID</i>	17	CBG-014	CBG-014	CBG-014	CBG-014	CBG-014	CBG-014
	<i>Sample Preservation Transport and Storage ID</i>	18	STS-009	STS-009	STS-009	STS-009	STS-009	STS-009

(continued)

## Tutorial 4. Importing Results Data into STORET

Data Type	Data Element	Column Order	Record 1	Record 2	Record 3	Record 4	Record 5	Record 6
Results	Bio Results Type	19	Multi-Taxon Population Census	Multi-Taxon Population Census	Multi-Taxon Population Census	Single Taxon Frequency Classes	Single Taxon Frequency Classes	Single Taxon Frequency Classes
	Bio Results Group ID	20	1	1	1	2	2	2
	Subject Taxon	21				Micropterus salmoides	Micropterus salmoides	Micropterus salmoides
	Frequency Analysis Type	22				P	P	P
	Common Class Descriptor	23				Fish Fork Length	Fish Fork Length	Fish Fork Length
	Common Class Descriptor Units	24				cm	cm	cm
	Characteristic Name	25	Micropterus salmoides	Ictalurus natalis	Ictalurus nebulosus			
	Result Value	26	54	12	67			
	Result Value Units	27	count	count	count			
	Value Type	28	Actual	Actual	Actual			
	Frequency Class Count	29				12	35	7
	Bio Group Count Type	30				Actual	Actual	Actual
	Lower Class Bound	31				0	21	41
	Upper Class Bound	32				20	40	60

## Preparing the Data File (Example 1)

Although the table form of the data is well structured, it is not in a format that can be imported into SIM. SIM expects each data record to be in a row, with each data element separated by the delimiter specified in the configuration file (in this example, a tab). This requires transposing the data from the table format (in which each record is a column). You could create the data file from the data summary table by going down the column for each record, starting with the Record 1 column, and typing the data value in each cell followed by a tab character. However, a data file in the correct format is provided with this tutorial (Tutorial4\_1 - MTPC\_STFC.xls).

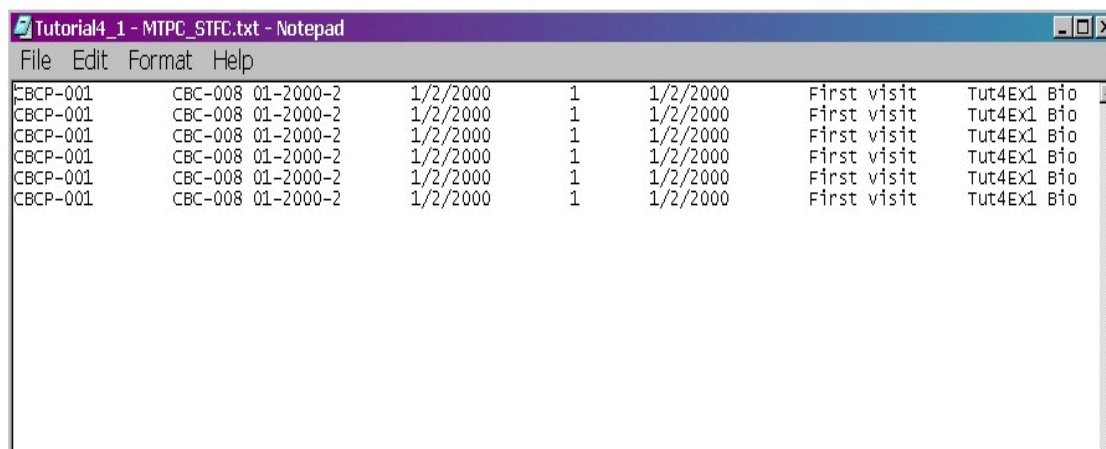
Open the “Tutorial4\_1 - MTPC\_STFC.xls” file in Excel. The rows of data should match the data table on pages 4-7 and 4-8.

Delete the first row, which contains the column headers. Please note that SIM cannot distinguish the header row from the data to be imported, so it must be removed from the data before importing.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Project ID	Station ID	Trip ID	Trip Start Date	Station Visit Number	Station Visit Arrival Date	Visit Comments	Activity ID	Medium	Activity Type	Activity Category	Intent	Community	Activity Start Date
2	CBCP-001	CBC-008	01-2000-2	1/2/2000	1	1/2/2000	First visit	Tut4Ex1	Bio	S	Routine Sample	Taxon Abund	Fish/Nektc	1/2/20
3	CBCP-001	CBC-008	01-2000-2	1/2/2000	1	1/2/2000	First visit	Tut4Ex1	Bio	S	Routine Sample	Taxon Abund	Fish/Nektc	1/2/20
4	CBCP-001	CBC-008	01-2000-2	1/2/2000	1	1/2/2000	First visit	Tut4Ex1	Bio	S	Routine Sample	Taxon Abund	Fish/Nektc	1/2/20
5	CBCP-001	CBC-008	01-2000-2	1/2/2000	1	1/2/2000	First visit	Tut4Ex1	Bio	S	Routine Sample	Taxon Abund	Fish/Nektc	1/2/20
6	CBCP-001	CBC-008	01-2000-2	1/2/2000	1	1/2/2000	First visit	Tut4Ex1	Bio	S	Routine Sample	Taxon Abund	Fish/Nektc	1/2/20
7	CBCP-001	CBC-008	01-2000-2	1/2/2000	1	1/2/2000	First visit	Tut4Ex1	Bio	S	Routine Sample	Taxon Abund	Fish/Nektc	1/2/20
8														
9														
10														

Save this file as a tab-delimited text file, “Tutorial4\_1 - MTPC\_STFC.txt.” Click **Yes** when Excel warns you that formats will be lost.

View your new file in Notepad. It should look like this:



```
Tutorial4_1 - MTPC_STFC.txt - Notepad
File Edit Format Help
CBCP-001 CBC-008 01-2000-2 1/2/2000 1 1/2/2000 First visit Tut4Ex1 Bio
CBCP-001 CBC-008 01-2000-2 1/2/2000 1 1/2/2000 First visit Tut4Ex1 Bio
CBCP-001 CBC-008 01-2000-2 1/2/2000 1 1/2/2000 First visit Tut4Ex1 Bio
CBCP-001 CBC-008 01-2000-2 1/2/2000 1 1/2/2000 First visit Tut4Ex1 Bio
CBCP-001 CBC-008 01-2000-2 1/2/2000 1 1/2/2000 First visit Tut4Ex1 Bio
CBCP-001 CBC-008 01-2000-2 1/2/2000 1 1/2/2000 First visit Tut4Ex1 Bio
```

If the lines are wrapping, select **Format** from the menu and click on **WordWrap** to uncheck it.

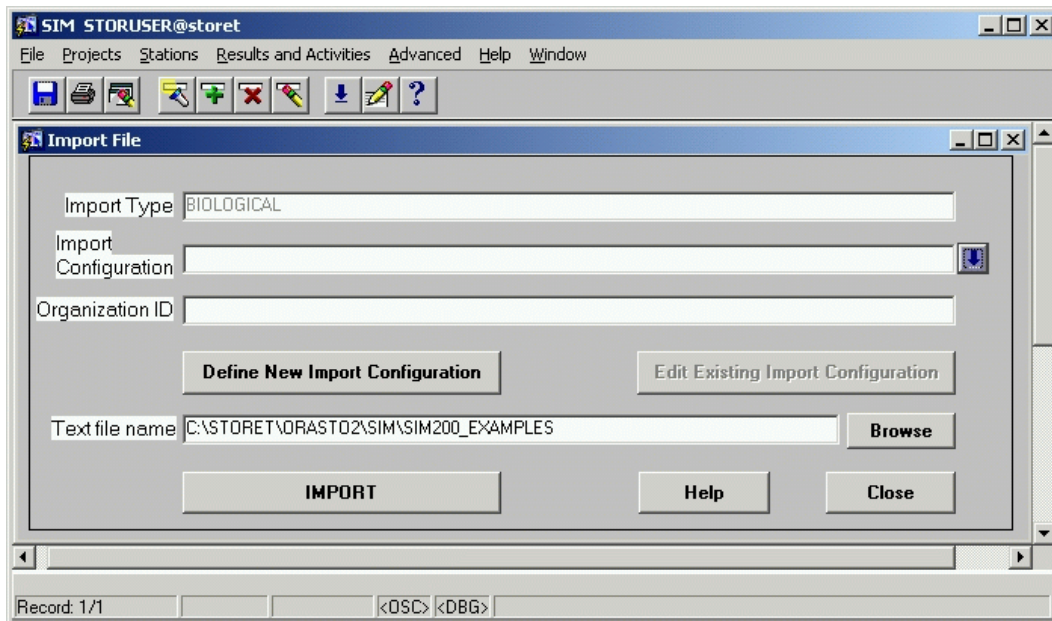


## Creating the SIM Configuration File (Example 1)

Now that you have a well-structured data file, you need to create a configuration file that will allow you to import this data into SIM.

Start SIM and select **New Import** from the Main Menu.

Select **Biological Samples** from the New Import window.



Select **Define New Import Configuration**.

Column	Pos	Req	Include	Generate	Default	Max Len	Fmt Option	Format	Translation
Trip ID	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		15	Fretext		<input checked="" type="checkbox"/>
Trip Start Date	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		10	Defined Format		<input checked="" type="checkbox"/>
Trip Stop Date	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		10	Defined Format		<input checked="" type="checkbox"/>
Trip Name	4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		60	Fretext		<input checked="" type="checkbox"/>
Station ID	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		15	STORET Table		<input checked="" type="checkbox"/>
Point Type	6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		16	Allowable Values		<input checked="" type="checkbox"/>
Sequence Number	7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		4	STORET Table		<input checked="" type="checkbox"/>
Well or Pipe ID	8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		15	Fretext		<input checked="" type="checkbox"/>
Additional Location Information	9	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		254	Fretext		<input checked="" type="checkbox"/>
Station Visit Number	10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		3	Fretext		<input checked="" type="checkbox"/>

Import Format: Trip ID|Station ID|Station Visit Number|Project ID|Activity ID|Medium|Activity Type|Activity Category|Intent|Activity Start Date

Update Format

In the Name field of the Import Configuration window, type “Tutorial4\_1 - MTPC\_STFC.”

Include in the import configuration file the fields in the example data table on pages 4-7 and 4-8.

For each item in the Data Element column of the example data table, find the corresponding entry in the Column column of the configuration file.

Click the check box in the Include column so that it is checked. Note that fields required by STORET are already checked.

You will need to use the scroll bar on the left side of the window to scroll down through the list of data elements. You should be able to find an entry for each Data Element item, and you should have 32 data elements selected when you are done.

Once you have selected all the data elements, you must identify the order they are listed in the data table, any formats you want to use, the file delimiter, and any translations you want to use.

Number each element in the data file sequentially and enter the sequence numbers in the Pos column so that the order matches the column order of data elements in the example data table on pages 4-7 and 4-8.

Click the **down arrow** next to the Format field for Trip Start Date and select the MM/DD/YYYY format from the list.

Select the same format for the Station Visit Arrival Date.

Click the **down arrow** next to the Delimiter field and select Tab from the list.

Click on **Save** to save the configuration file so far.

Click the **Translation** button beside the Medium field.

In the Translations window, type “Bio” in the Code column and “Biological” in the Translate To column.

Click **Save** and then **Close** to return to the Import Configuration window.

Repeat these translation steps for the Activity Type field, translating “S” to “Sample,” and for the Bio Results Type field, translating “MTPC” to “Multi-Taxon Population Census” and “STFC” to “Single Taxon Frequency Classes” in the Translations window for each field.

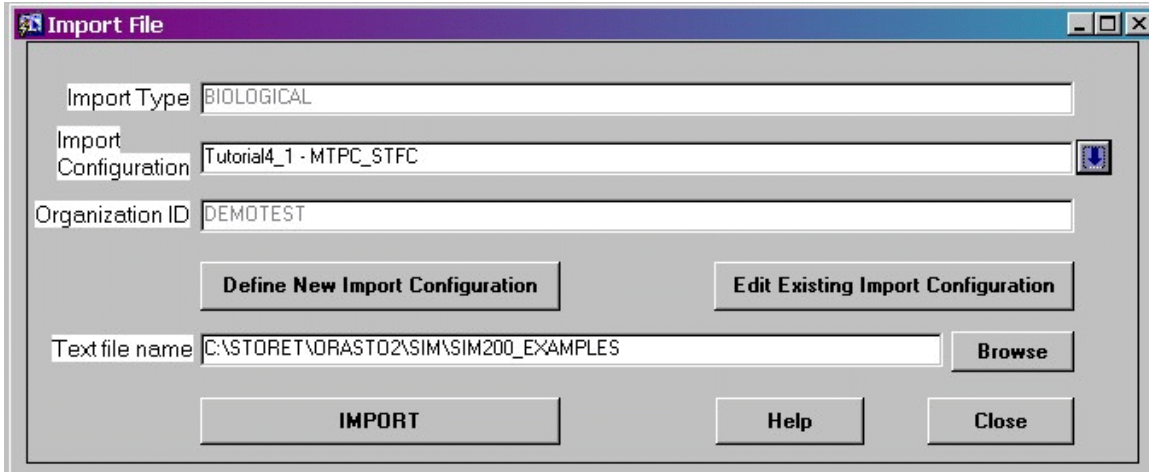
Click the **Save** button again.

**Close** the Import Configuration window.

## Importing the Data into SIM (Example 1)

You are now ready to load the data into SIM using the configuration file you created. This example uses the configuration you created, “Tutorial4\_1 - MTPC\_STFC,” which includes data elements for both multi-taxon population census and single taxon frequency class.

If you are not in the Import File window, open it by selecting **New Import** from the **Main Menu** and selecting **Biological Samples**.



The screenshot shows the 'Import File' window with the following fields and buttons:

- Import Type:** BIOLOGICAL
- Import Configuration:** Tutorial4\_1 - MTPC\_STFC (with a dropdown arrow)
- Organization ID:** DEMOTEST
- Buttons:** Define New Import Configuration, Edit Existing Import Configuration
- Text file name:** C:\STORET\ORASTO2\SIM\SIM200\_EXAMPLES (with a Browse button)
- Bottom Buttons:** IMPORT, Help, Close

Click on the **down arrow** next to the Import Configuration text box to view the available configurations and select “Tutorial4\_1 - MTPC\_STFC.”

Click on **Browse** and find the User Created directory.

Select “Tutorial4\_1 - MTPC\_STFC.txt,” then click **IMPORT**.

**Import Status**

Import ID: 100176    Import Type: B

Org ID: DEMOTEST

Import File: Training\_and\_SIM\Deliverables\SIM Exercises\March 2004 draft\SIMDataFiles\User Created\Tutorial4\_1 - MTPC\_STFC.txt

Import Configuration: Tutorial4\_1 - MTPC\_STFC

[Edit Import Configuration](#)

**Import Status**

Date Imported: 03-09-2004

Rows Read: 6

Rows with Errors: 0

Results Ready to Migrate: 6

Activities Ready to Migrate: 1

[View Import Errors](#)

[Preview Records with Errors](#)

[Migrate Records to STORET](#)

[Delete Import From SIM](#)

**Export to Text**

Export Path: c:\

Export File: unmigrec.txt

[Export Records with Errors](#)

[Help](#)    [Close](#)

When the import is complete, the Import Status window will appear. This example should contain no errors.

**Migrate Records to STORET** once your import is error-free.

If you do get import errors, try the following:

- Click on **View/Import Errors** to read SIM's error messages.
- Double-check your Import Configuration to confirm that you included all necessary data elements and sequenced them in the same order as they appear in the data file.

If you still cannot import your file, load the provided configuration file, found under the Provided Configuration folder. Correct configuration files for Examples 1 - 3 in Tutorial 4 are available here. However, you should only use these files if you cannot create the configuration yourself.

## **Viewing the Data in STORET (Example 1)**

Open the STORET Data Entry Module to view the migrated data.

Select **Data Maintenance** from the Main Menu.

Highlight the organization “DEMOTEST” and click on **Change**.

Click on **Trips, Sampling and Results**.

Highlight Trip ID “01-2000-2” and click on **Change**.

Click on **Trip Summary**.

Select station ID “CBC-008” and click **Change**. From here you can review the various data elements imported in this example.

## **Using Instructions to Generate Trips and Station Visits**

Sometimes in preparing data for STORET it is difficult to define a trip or identify the station visit number. Trip lengths are highly variable and can include multiple visits to a particular station. If these data aren’t collected as part of the standard data collection process for a state, adding this information after the fact can be very difficult, especially for hundreds or thousands of data records. The Instructions feature allows SIM to automatically generate this information for you. The SIM Instructions feature is useful for

- Finding data elements that require a translation,
- Autogenerating Trip IDs, and
- Autogenerating Station Visit Numbers.

During the years 2000 and 2001, Dr. Manning has gone every month to the Patuxent River Mouth and performed counts of fish in different length ranges. The data file for the biological sampling events is provided in the file “Tutorial4\_1b - Instructions.xls.” The file does not contain Trip Identification numbers or Station Visit numbers. If you try to import this data into SIM using the configuration file you just created, you will generate a long list of error messages in the error log.

Open “Tutorial4\_1b - Instructions.xls” in Excel. You should see blank columns of data under Trip ID and Station Visit Number.

Delete the first row, which contains the column headers, and save this as a tab-delimited text file named “Tutorial4\_1b - Instructions.txt” in your User Created directory.

Close Excel.

You will now modify the configuration file to use Instructions to automatically generate the missing data so that the data set can be imported successfully into SIM and migrated into STORET.

Return to SIM and locate the Import Configuration window for Tutorial4\_1 - MTPC\_STFC.

Select the **Instructions** tab to bring up the Instructions information.

The screenshot shows the 'SIM - Import Configuration' window with the 'Instructions' tab selected. The window has a title bar with standard window controls. Below the title bar, there are input fields for 'Name' (Tutorial4\_1 - MTPC\_STFC), 'Type' (BIOLOGICAL), 'Def' (Biological results load definition), 'Org ID' (DEMO TEST), and 'Delimiter' (Tab). To the right of these fields are buttons for 'Help', 'Copy Configuration', 'Save', 'Load Configuration', and 'Close'. Below the input fields are two tabs: 'Columns' and 'Instructions'. The 'Instructions' tab is active, showing a table with two columns: 'Instruction' and 'Instruction Choice'. The table has several rows, with the first three containing data: 'Station Visits' with choice 'Create one station visit per day', 'Trips' with choice 'Read existing trip from data file', and 'Result Translations' with choice 'Dont create translations for Activity and Result fields'. To the right of the 'Instruction Choice' column is a vertical column of blue down arrow buttons. At the bottom of the window, there is an 'Import Format' field containing a list of field names separated by tabs, and an 'Update Format' button.

Instruction	Instruction Choice
Station Visits	Create one station visit per day
Trips	Read existing trip from data file
Result Translations	Dont create translations for Activity and Result fields

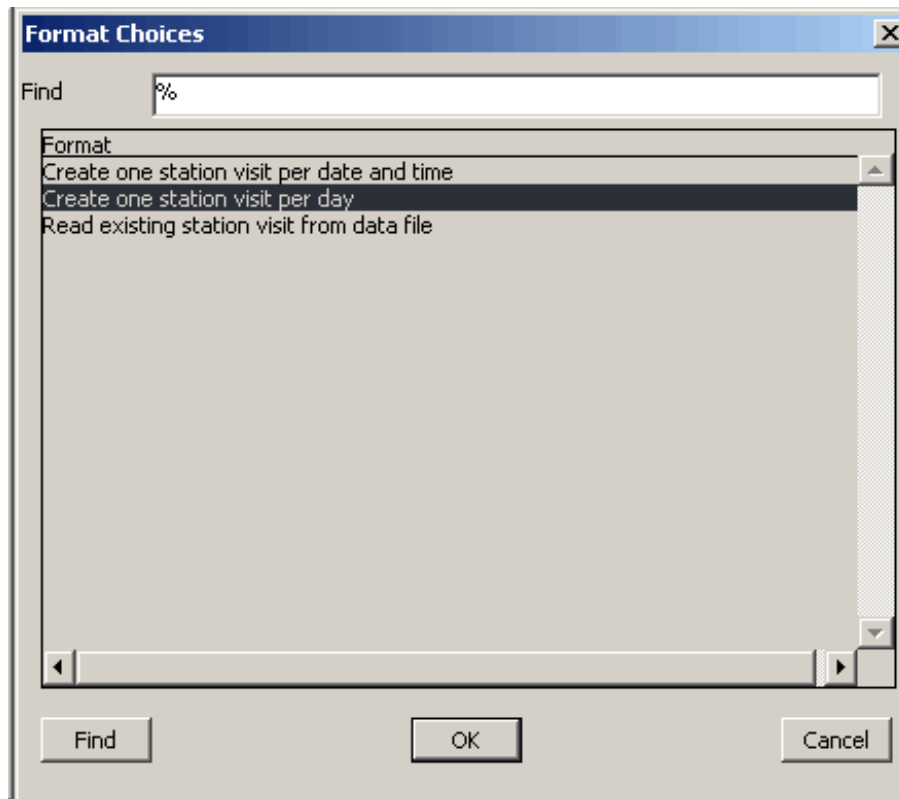
Import Format: Project ID|Station ID|Trip ID|Trip Start Date|Station Visit Number|Station Visit Arrival Date|Visit Comments|Activity ID|Medium|Activity Type|

Update Format

The left hand column indicates the field or topic that the instruction relates to, and the right hand column shows the instruction choice.

Click in the Instruction Choice text box next to Station Visits and then click on the **down arrow** button next to the Instruction Choice field to bring up the choice of instructions.





Select “Create one station visit per day” and click **OK**. This tells SIM to create a new station visit for each day that a sampling event is reported for a station.

Click in the text box for the Instruction Choice for Trips and then click on the **down arrow** button next to the Instruction Choice field to bring up the choice of instructions.

Select “Create one trip per year” and click **OK**. This tells SIM to create a Trip ID number for the year and place all Station Visits within that year. The Station Visit number will be selected based on when during the year the station was visited.

Keep the default option for Results Translations, which is “Don’t create translations for Activity and Result fields.”

Based on these Instructions, SIM will break the data into two trips, one for the year 2000 and one for the year 2001. The 12 sampling events in 2000 will have Station Visit numbers numbered sequentially from 1 to 12, and the 12 sampling visits in 2001 will also be numbered sequentially from 1 to 12.

**Save** your configuration file and **Close** the Import Configuration window.

Import the data file “Tutorial4\_1b - Instructions.txt.” You should have 72 rows imported successfully covering 24 activities.

**Import Status**

Import ID: 100177    Import Type: 3  
Org ID: DEMOTEST  
Import File: -Training\_and\_SIM\Deliverables\SIM Exercises\March 2004 draft\SIMDataFiles\User Created\Tutorial4\_1b - Instructions.txt  
Import Configuration: Tutorial4\_1 - MTPC\_STFC  
[Edit Import Configuration]

**Import Status**

Date Imported: 03-09-2004  
Rows Read: 72  
Rows with Errors: 0  
Results Ready to Migrate: 72  
Activities Ready to Migrate: 24

[View Import Errors]  
[Preview Records with Errors]  
[Migrate Records to STORET]  
[Delete Import From SIM]

**Export to Text**

Export Path: c:\  
Export File: unmigrec.txt  
[Export Records with Errors]

[Help] [Close]

Click on **Migrate Records to STORET**.

Exit SIM.

Return to your STORET window.

To view the data in STORET, from the O3 Organization Menu window click **Trips, Sampling, and Results**.

ID	Start Date	Trip Name
02-1991-1	02-02-1991	Monthly Sampling-February-1
02-1991-2	02-05-1991	Monthly Sampling-February-2
03-1991-1	03-01-1991	Monthly Sampling-March-1
2000	01-01-2000	
2001	01-01-2001	
PROP1	03-03-2003	

You should see two trips with the IDs 2000 and 2001, respectively. SIM created these trip IDs for you.

Select Trip 2001, click **Change**, and click **Trip Summary** from the T2 Field Trip Menu.

The T17 Trip Activity Summary List should show the monthly station visits in 2001 numbered from 1-12. SIM assigned the station visit numbers for you. You can scroll all the way over to the right to view the times and dates for the field activities.

Close your open STORET windows until you return to the T1 Field Trip Maintenance List shown above.

## **Example 2: Example Fish Tissue Sampling Event**

This example uses a fictitious sampling event for collecting fish tissue samples in the Blackwater National Wildlife Refuge during the same trip described in Example 1 on taxon abundance data. Information about the sampling event and results is summarized below.

During his trip to the Blackwater National Wildlife Refuge to assess taxon abundance, Dr. Manning has also taken samples to measure metals concentrations in the livers of largemouth bass. For this fish tissue sampling, he used a different method to catch the fish than the method he used for the taxon abundance sampling in Example 1. For the tissue sampling, he used a standard method for netting fish (SP-007), which was a kick-net with 1 mm mesh (gear identification NNKK, gear configuration identification number CBG-010), to catch the fish. He then opened the abdominal and thoracic cavities of the fish and totally immersed the fish in Dietrich's fixative in clear one-gallon polypropylene containers (preservation and transportation method STS-003). The field data from this sampling event are shown on the field data sheet

He then sent the fish samples to Environmental Dynametrics, whose information has already been entered into STORET under identification number ED-001. The lab analyzed the samples for metals using U.S. EPA method 200.11. The results from the lab analysis are shown in the table following the field data sheet.

FIELD DATA SHEET Tissue Sampling			
Station # <u>CBC-008</u>	Water Body _____	Date <u>1-2-2000</u>	
Location <u>Blackwater National Wildlife Refuge</u>			
County _____	Municipality _____		
Collector <u>Dr Lee Manning</u>	Agency _____	Coll.# _____	
COMPLETE FOR NEW STATIONS			
Quad. Name _____	Quad.# _____		
Lat. (inches N) _____	Long. (inches W) _____	RMI _____	
Method: <input type="checkbox"/> Electrofishing <input type="checkbox"/> Rotenone <input type="checkbox"/> Seine <input type="checkbox"/> Angling <input checked="" type="checkbox"/> Other (specify) <u>Kick Net</u>			
Tissue Type: <input type="checkbox"/> Whole Fish <input type="checkbox"/> Skin-on Fillet – Scaled <input type="checkbox"/> Skinless Fillet <input type="checkbox"/> Skin-on Fillet – Not Scaled <input checked="" type="checkbox"/> Other (specify): <u>Liver</u>			
SPECIES	TL (inches)	WT (lbs. oz)	CONDITION*
1. <u>Micropterus salmoides</u>			
2. <u>Ictalurus nebulosis</u>			<u>Ventral tumor</u>
3. <u>Ictalurus natalis</u>			
4. <u>Micropterus salmoides</u>			
5. <u>Micropterus salmoides</u>			<u>Lesion near left pectoral fin</u>
6. <u>Micropterus salmoides</u>			
7. _____			
8. _____			
9. _____			
10. _____			
*Note tumors, lesions, and general condition (if needed)			
Comments: (water/weather conditions, man-hours expended, problems, etc.)			
<u>weather conditions: clear no wind</u>			
<u>Activity start time: 9:00 am Activity end time: 9:30 am</u>			
SHIPPED TO: <u>ED-001 Environmental Dynamics</u>			

Field data sheet for fish tissue sampling.

## Lab Analysis Results from Fish Tissue Sampling Event

Date: January 23, 2000

Analytical Method: Metals in Fish Tissue by ICP-AES (U.S. EPA method 200.11)

Sample Number	Species	Part	Analyte Concentration (mg/kg wet weight)				
			Lead	Copper	Mercury	Cadmium	Chromium
Tut4Ex2-01	<i>Micropterus salmoides</i>	Liver	4.56	0.12	0.023	1.24	2.31
Tut4Ex2-02	<i>Ictalurus nebulosus</i>	Liver	1.79	0.24	0.056	0.92	3.90
Tut4Ex2-03	<i>Ictalurus natalis</i>	Liver	9.17	0.92	0.065	3.09	2.39
Tut4Ex2-04	<i>Micropterus salmoides</i>	Liver	0.52	—*	—	—	—
Tut4Ex2-05	<i>Micropterus salmoides</i>	Liver	2.2	—	—	—	—
Tut4Ex2-06	<i>Micropterus salmoides</i>	Liver	1.56	—	—	—	—

\* — sample not analyzed for this component

## Organizing Biological Data for STORET (Example 2)

In this example, you have a sampling activity to look for metals in fish tissue. Once again, you need to think about how to organize the information into a structured data file that can be imported into SIM. In general, the types of data in this example are the same as in Example 1: project information, station information, trip information, sampling information, analysis information, and results. In this example, however, the samples were sent to a lab for analysis, so you will include some information about the lab and the lab analysis methods in the data file.

This activity occurred during the same trip as the taxon abundance sampling event described in Example 1. Consequently, the project, station, and trip information are the same as in that example, except for the notation regarding the weather in the comments section of the field data sheet, which you can add in the visit comments field in STORET. The project, station, and trip information are not discussed again here. However, the information about the activities, sampling procedures, analysis procedures, and results are different and are described in the following sections.

**Activity Information.** The types of information you will need to enter into STORET about this sampling event are similar to those in Example 1. Looking at the following table, you will notice three differences in the activity data elements: the addition of a new entry for Subject Taxon, which indicates the type of fish that was sampled; the addition of a new entry for Bio Part, which indicates the part of the fish that is used to make up the fish tissue sample; and the

omission of the Community field. The entry for Bio Part comes from a defined list of possible values that are allowed in STORET.

The previous example had only a single activity, which included both single taxon and multi-taxon data. This example includes samples from six different fish: four *Micropterus salmoides*, one *Ictalurus natalis*, and one *Ictalurus nebulosus*. Each fish sample is considered a separate activity and thus requires a unique activity identifier. The activity data elements you will enter into STORET from this sampling event are summarized in the following table.

Data Element	Values					
Activity ID	Tut4Ex2-01	Tut4Ex2-02	Tut4Ex2-03	Tut4Ex2-04	Tut4Ex2-05	Tut4Ex2-06
Medium	Biological	Biological	Biological	Biological	Biological	Biological
Activity Type	Sample	Sample	Sample	Sample	Sample	Sample
Activity Category	Routine Sample	Routine Sample	Routine Sample	Routine Sample	Routine Sample	Routine Sample
Intent	Tissue	Tissue	Tissue	Tissue	Tissue	Tissue
Subject Taxon	<i>Micropterus salmoides</i>	<i>Ictalurus nebulosus</i>	<i>Ictalurus natalis</i>	<i>Micropterus salmoides</i>	<i>Micropterus salmoides</i>	<i>Micropterus salmoides</i>
Bio Part	Liver	Liver	Liver	Liver	Liver	Liver
Activity Start Date	1/2/2000	1/2/2000	1/2/2000	1/2/2000	1/2/2000	1/2/2000

**Sampling Procedure and Sampling Information.** The sampling procedure data elements are similar to those for the previous example, except that the elements relating to the fishing distance and duration have been omitted since the fishing technique is not a trawling method. The elements are identical for all six activities in this example and are summarized in the following table. See if you can find the information that should be entered in the table and compare your answers to the data shown.

Data Element	Value
Sample Collection Procedure ID	SP-007
Gear ID	NNKK
Gear Configuration ID	CBG-010
Sample Preservation Transport and Storage ID	STS-003

**Results Information.** The results from the metals analysis on the fish tissue samples taken during this site visit are shown in the table following the field data sheet in the section describing this example sampling event. Several of the fish samples were analyzed for multiple metals, while some were analyzed only for lead. To import these data into STORET, you will need to

#### *Tutorial 4. Importing Results Data into STORET*

set up a separate data record for each analyte. The data elements needed for each record are shown in the following table.

Data Element	Record 1	Record 2	Record 3	Record 4	Record 5
Characteristic Name	Lead	Copper	Mercury	Cadmium	Chromium
Result Value	4.56	0.12	0.023	1.24	2.31
Result Value Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Value Type	Actual	Actual	Actual	Actual	Actual
Weight Basis	Wet	Wet	Wet	Wet	Wet
Sample Fraction	Total	Total	Total	Total	Total

This table provides an example of the results data for one of the six sampling activities (Tut5Ex2-01). Review the table to make sure you understand where the data come from, and see if you can fill in the same table for one or more of the other sampling activities in this example. You should find results for six activities. Activities Tut4Ex2-01 through Tut4Ex2-03 have multiple analyte results, while activities Tut4Ex2-04 through Tut4Ex2-06 contain results only for lead.

**Analysis and Lab Information.** In this example, the samples were sent to a laboratory, which ran a specific analysis to generate the results discussed in the previous section. The data you enter into STORET should include information about the laboratory and the analytical methods. The specific data elements you will include are shown in the following table.

Data Element	Values					
Activity ID	Tut4Ex2-01	Tut4Ex2-02	Tut4Ex2-03	Tut4Ex2-04	Tut4Ex2-05	Tut4Ex2-06
Laboratory ID	ED-001	ED-001	ED-001	ED-001	ED-001	ED-001
Analysis Date	1/23/2000	1/23/2000	1/23/2000	1/23/2000	1/23/2000	1/23/2000
Field/Lab Procedure	200.11	200.11	200.11	200.11	200.11	200.11
Field/Lab Procedure Source	USEPA	USEPA	USEPA	USEPA	USEPA	USEPA

In this example, the data for the analysis and lab information data elements are identical for each result within an activity. The table below shows the data for each activity. You should be able to find all the data for this table in the results table presented earlier.



## Preparing the Data File (Example 2)

In Excel, open the spreadsheet “Tutorial4\_2 - Tissue Sample.xls” included with this example. Note that Excel spreadsheets and data sets containing the field names in the first row cannot be imported directly into SIM.

Delete the first row of the Excel file.

Save this file as a tab-delimited text file named “Tutorial4\_2 - Tissue Sample.txt” in the User Created directory.

Close Excel.

**Generation of Columns Not Included in the Import File.** During data preparation for STORET, there might be cases when some data is missing or has not been properly recorded. Manually adding values for these missing fields in hundreds of thousands of records might be a tedious process. In these cases SIM allows the user to automatically generate values for fields that are not present in the import file using the “Generate” feature. The Generate feature allows users to

- Automatically generate values for any fields missing in the import file by specifying a default value that SIM uses to populate these fields.
- For Station visits and Trips, the default column can be left blank if an instruction has been chosen that will generate these values automatically.

For the fish tissue sampling event at Blackwater National Wildlife Refuge, the Bio Part has not been included in the data file provided. We will use the generate function provided by SIM to automatically generate this column by providing a default value.

## **Creating the SIM Configuration File (Example 2)**

Now you need to create the configuration file that SIM needs to import the data set you just created. If you do not recall the steps required to create or load a configuration file, refer back to the previous example on page 4-11. The fields you should include in your configuration file and the order in which they should appear are summarized in the following table.

<b>Column Order</b>	<b>Configuration File Data Elements</b>
1	Project ID
2	Station ID
3	Trip ID
4	Trip Start Date
5	Station Visit Number
6	Station Visit Arrival Date
7	Visit Comments
8	Activity ID
9	Medium
10	Activity Type
11	Activity Category
12	Intent
13	Subject Taxon
14	Activity Start Date
15	Sample Collection Procedure ID
16	Gear ID
17	Gear Configuration ID
18	Sample Preservation Transport and Storage ID
19	Characteristic Name
20	Result Value
21	Result Value Units
22	Value Type
23	Weight Basis
24	Sample Fraction
25	Laboratory ID
26	Analysis Date
27	Field/Lab Procedure
28	Field/Lab Procedure Source

Make sure you check the Include box for the 28 data elements.

Make sure you number the data elements correctly using the Column Order in the previous table for assistance.

Click the **down arrow** next to the Format field for all the date fields and select the MM/DD/YYYY format from the list.

Locate the Bio Part field and check the Generate box next to it as shown in the figure below. Enter “Liver” in the default column. SIM will now automatically add a value for the Bio Part field as “Liver” in all the records.

Set the Delimiter to Tab.

Name this new configuration “Tutorial4\_2 - Tissue Sample Config.”

**Save and Close** the Import Configuration.

**SIM - Import Configuration**

Name: Tutorial 4\_2 - Tissue Sample Config

Type: BIOLOGICAL (Biological results load definition)

Desc:

Org ID: DEMOTEST

Delimiter: Tab

Buttons: Help, Copy Configuration, Save, Load Configuration, Close

Columns | Instructions

Column	Pos	Req	Include	Generate	Default	Max Len	Fmt Option	Format	
Station Visit Number	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		3	Fretext		Translation
Station Visit Arrival Date	6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		10	Defined Format	MM/DD/YYYY	Translation
Visit Comments	7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		4000	Fretext		Translation
Activity ID	8	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		12	Fretext		Translation
Medium	9	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		20	Allowable Values		Translation
Activity Type	10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		13	Allowable Values		Translation
Activity Category	11	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		30	STORET Table		Translation
Intent	12	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		20	Allowable Values		Translation
Subject Taxon	13	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		60	STORET Table		Translation
Bio Part	14	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Liver	30	STORET Table		Translation

Import Format: Project ID|Station ID|Trip ID|Trip Start Date|Station Visit Number|Station Visit Arrival Date|Visit Comments|Activity ID|Medium|Activity Type|

Update Format

## **Importing the Data into SIM and Migrating the Data to STORET (Example 2)**

Using the data file and configuration created for this example, you can now import the data into SIM and migrate it into STORET. The steps for doing this were described in the previous example. See if you can repeat them for this example.

In the Import File window, select the “Tutorial4\_2 - Tissue Sample Config” as the Import Configuration.

Import the data file you created, “Tutorial4\_2 - Tissue Sample.txt.”

The Import Status window should show that 18 rows are ready for migration. If you received import errors, select **View Import Errors** and double-check your import configuration.

When you are ready, **Migrate Records** to STORET.

Exit SIM and return to STORET.

From the T1 Field Trip Maintenance List select Trip 01-2000-2 and click **Change**.

Click on **Trip Summary** to find the STORET screen for the T17 Trip Activity Summary List window, which should look like this:

**Trip** 01-2000-2

**Field Activities on Trip**

Station ID	Visit #	Activity ID	Activity Type	Medium	Category
CBC-008	1	TUT4EX2-01	Sample	Biological	Routine
CBC-008	1	TUT4EX2-02	Sample	Biological	Routine
CBC-008	1	TUT4EX2-03	Sample	Biological	Routine
CBC-008	1	TUT4EX2-04	Sample	Biological	Routine
CBC-008	1	TUT4EX2-05	Sample	Biological	Routine
CBC-008	1	TUT4EX2-06	Sample	Biological	Routine

**QC Samples on Trip**

QC Sample ID	QC Sample Type	Name	Creation Date
--------------	----------------	------	---------------

Sort Field Activities By: Station ID Trip Chronology

Change Delete Close Help

You can select each of the activities Tut4Ex2-01 through Tut4Ex2-06 and click the **Change** button, then click the **Results** button in the FA1 Field Activity Menu window to view the results data you have migrated to STORET.

### **Example 3: Example Benthic Macroinvertebrate Sampling Event**

This example uses a fictitious sampling event for collecting benthic macroinvertebrate samples in the Blackwater National Wildlife Refuge during the same trip described in Examples 1 and 2. Information about the sampling event and results is summarized below.

To complete his field trip, Dr. Manning also took samples of benthic macroinvertebrates to provide some information about the ecological health of the Blackwater National Wildlife Refuge. The relative counts of macroinvertebrate species can be an early indicator of pollution problems.

The field data from this sampling event are shown on the field data sheet. See if you can identify the gear and sampling methods used from the field data sheet.

The collected samples were sent to Dewberry & Davis Environmental Laboratory (DD-001) for analysis. The laboratory data are shown on the laboratory bench sheet. See if you can identify the macroinvertebrate species identified and the count results from the laboratory bench sheet.

## BENTHIC MACROINVERTEBRATE FIELD DATA SHEET

STREAM NAME	LOCATION <u>Blackwater National Wildlife Refuge</u>	
STATION # <u>CB-000</u> RIVERMILE _____	STREAM CLASS _____	
LAT _____ LONG _____	RIVER BASIN _____	
STORET # _____	AGENCY <u>Chesapeake Bay Commission</u>	
INVESTIGATORS <u>Dr Lee Manning</u>	LOT NUMBER _____	
FORM COMPLETED BY _____	DATE <u>1/2/2000</u> TIME <u>12:10</u> <u>PM</u> <u>end: 45</u>	REASON FOR SURVEY <u>macroinverts.</u> <u>taxon abundance</u>

HABITAT TYPES	Indicate the percentage of each habitat type present <input type="checkbox"/> Cobble _____% <input type="checkbox"/> Snags _____% <input type="checkbox"/> Vegetated Banks _____% <input type="checkbox"/> Sand _____% <input type="checkbox"/> Submerged Macrophytes _____% <input type="checkbox"/> Other ( ) _____%
SAMPLE COLLECTION	Gear used <input type="checkbox"/> D-frame <input checked="" type="checkbox"/> kick-net <input type="checkbox"/> Other _____ How were the samples collected? <input type="checkbox"/> wading <input type="checkbox"/> from bank <input checked="" type="checkbox"/> from boat Indicate the number of jabs/kicks taken in each habitat type. <input type="checkbox"/> Cobble _____ <input type="checkbox"/> Snags _____ <input type="checkbox"/> Vegetated Banks _____ <input type="checkbox"/> Sand _____ <input type="checkbox"/> Submerged Macrophytes _____ <input type="checkbox"/> Other ( ) _____ <u>gear configuration CBG-D10</u>
GENERAL COMMENTS	<u>Sampled @ 2 feet depth from bottom for 30 minutes</u> <u>Weather: clear, NW wind 5 mph</u> <u>Samples taken 45° relative to current, 90° relative to wind.</u> <u>Collected in Nalgene bottles, per method STS-002</u>

## QUALITATIVE LISTING OF AQUATIC BIOTA

Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare, 2 = Common, 3 = Abundant, 4 = Dominant

Periphyton	0	1	2	3	4	Slimes	0	1	2	3	4
Filamentous Algae	0	1	2	3	4	Macroinvertebrates	0	1	2	3	4
Macrophytes	0	1	2	3	4	Fish	0	1	2	3	4

## FIELD OBSERVATIONS OF MACROBENTHOS

Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare (1-3 organisms), 2 = Common (3-9 organisms), 3 = Abundant (>10 organisms), 4 = Dominant (>50 organisms)

Porifera	0	1	2	3	4	Anisoptera	0	1	2	3	4	Chironomidae	0	1	2	3	4
Hydrozoa	0	1	2	3	4	Zygoptera	0	1	2	3	4	Ephemeroptera	0	1	2	3	4
Platyhelminthes	0	1	2	3	4	Hemiptera	0	1	2	3	4	Trichoptera	0	1	2	3	4
Turbellaria	0	1	2	3	4	Coleoptera	0	1	2	3	4	Other	0	1	2	3	4
Hirudinea	0	1	2	3	4	Lepidoptera	0	1	2	3	4						
Oligochaeta	0	1	2	3	4	Sialidae	0	1	2	3	4						
Isopoda	0	1	2	3	4	Corydalidae	0	1	2	3	4						
Amphipoda	0	1	2	3	4	Tipulidae	0	1	2	3	4						
Decapoda	0	1	2	3	4	Empididae	0	1	2	3	4						
Gastropoda	0	1	2	3	4	Simuliidae	0	1	2	3	4						
Bivalvia	0	1	2	3	4	Tabinidae	0	1	2	3	4						
						Culicidae	0	1	2	3	4						

Field data sheet for benthic macroinvertebrates.

BENTHIC MACROINVERTEBRATE LABORATORY BENCH SHEET (FRONT)

page 1 of 1

STREAM NAME		LOCATION	
STATION # CBC-008	RIVERMILE	Blackwater National Wildlife Refuge	
LAT	LONG	STREAM CLASS	
STORET #		RIVER BASIN	
COLLECTED BY Dr Lee Manning		AGENCY Chesapeake Bay Commission	
DATE 4/1/2000		LAB: Dewberry and Davis Environmental	
2/12/00, 11:11		SUBSAMPLE TARGET <input type="checkbox"/> 100 <input type="checkbox"/> 200 <input type="checkbox"/> 300 <input type="checkbox"/> Other	

Enter Family and/or Genus and Species name on blank line.

Organisms	No.	LS	TI	TCR	Organisms	No.	LS	TI	TCR
Oligochaeta					Megaloptera	C. cornutus 22			
Hirudinea					Coleoptera				
Isopoda	A. communis 87								
Amphipoda					Diptera	R. exiguus 35			
Decapoda						G. lobiferus 90 Δ			
Ephemeroptera	B. intercalaris 123 *								
	E. rotunda 165 Δ				Gastropoda				
Plecoptera					Pelecypoda				
					Other				
Trichoptera	H. betteni 23								
	C. obscura 67								
Hemiptera									

Taxonomic certainty rating (TCR) 1-5: 1=most certain, 5=least certain. If rating is 3-5, give reason (e.g., missing gills). LS= life stage; I = immature; P = pupa; A = adult TI = Taxonomists initials

Total No. Organisms

Total No. Taxa

\* Calculated mean  
Δ Estimated maximum

Lab data sheet for benthic macroinvertebrates.



### Organizing Biological Data for STORET (Example 3)

This example includes a sampling activity to assess multi-taxon frequency census data for macroinvertebrate species. By now, the types of data should look familiar from the previous two examples. These include project information, station information, trip information, sampling information, analysis information, results, lab information, and lab analysis information.

This activity occurred during the same trip as the sampling events described in Examples 1 and 2. Consequently, the project, station, and trip information are still the same, except for the notation regarding the weather in the comments section of the field data sheet. As in Example 1, all data were collected during a single activity. Although some of the Activity data are different from those in Example 1, the Activity data elements are the same. Looking at the data sheets for this example, you should be able to identify the changes in the data needed for the Activity ID and Activity Start and End Times.

**Sampling Procedure and Sampling Information.** Many of the sampling procedure data elements are the same as those for Example 1. There are some differences in the data elements because the sampling method in this example is a kick net, whereas in Example 1, a trawling method was used.

**Results Information.** The results data elements in this example are the same as those included in Example 1 for multi-taxon frequency census data. Eight macroinvertebrate species are identified in the results. Each species will need to be in a separate record in the data file. The following table provides results for *Baetis intercalaris*. Make sure you can see where the data can be found in the data sheets and data table presented earlier, and then see if you can identify the information that would need to be entered for the other seven species.

Data Element	Value
Bio Results Type	Multi-Taxon Population Census
Bio Results Group ID	1
Characteristic Name	<i>Baetis intercalaris</i>
Result Value	123
Result Value Units	count
Value Type	Calculated

**Analysis and Lab Information.** As in Example 2, the samples for this example were sent to a laboratory, which ran a specific analysis to generate the results discussed in the previous section. No information is provided about the analysis method, but information is provided about the lab and the analysis date. The data, shown in the following table, are identical for all records.

Data Element	Values
Activity ID	Tut4Ex3
Laboratory ID	DD-001
Analysis Date	2/12/2000

### **Preparing the Data File (Example 3)**

Open “Tutorial4\_3 - MTPC\_Benthic.xls” in Excel. You should see eight rows of data.

As you did in previous examples, delete the first row, which contains column headers.

Save this as a tab-delimited text file named “Tutorial4\_3 - MTPC\_Benthic.txt” in the same directory as the other sample files.

Close Excel.

### **Creating the SIM Configuration File (Example 3)**

Now you need to create the configuration file that SIM needs to import the data set you just created. The fields you should include in your configuration file and the order in which they should appear (based on the data file “Tutorial4\_3 - MTPC\_Benthic.txt”) are summarized in the following table.

Column Order	Configuration File Data Elements
1	Project ID
2	Station ID
3	Trip ID
4	Trip Start Date
5	Station Visit Number
6	Station Visit Arrival Date
7	Visit Comments
8	Activity ID
9	Medium
10	Activity Type
11	Activity Category
12	Intent
13	Community
14	Activity Start Date
15	Sample Collection Procedure ID
16	Gear ID
17	Gear Configuration ID
18	Sample Preservation Transport and Storage ID
19	Bio Results Type
20	Bio Results Group ID
21	Characteristic Name
22	Result Value
23	Result Value Units
24	Value Type
25	Laboratory ID
26	Analysis Date

As noted earlier, several of the data elements in this example are identical to those included in Example 1 of this tutorial. When you have a new data file that somewhat resembles a data file you've already imported into SIM, you can often save time by copying the existing configuration, loading the copy into SIM, and modifying the copy to correspond to your new data file. For this example, you will copy and load the configuration you created in Example 1 and modify it to meet the format requirements of Example 3.

From the Import File window, select Tutorial4\_1 - MTPC\_STFC for your Import Configuration. If you do not see this configuration in your drop-down list, make sure that your Import Type is BIOLOGICAL.

Click on **Edit Existing Import Configuration**.

In the Import Configuration window, click **Copy Configuration**.

From the Copy Import Configuration window, click on **Browse** and navigate to your User Created directory.

Type in “Tutorial4\_1 - Config Export.txt” in the File Name text box and click on **Open** to return to the Copy Import Configuration window.

Click **Copy** and then click **OK** in the Copy Process Complete message box.

**Close** the Copy Import Configuration window to return to the Import Configuration window.

You have just copied, or exported, your configuration design from Tutorial 4, Example 1. You could save this file onto a CD or server to share your configuration with other SIM users who may not be on your STORET system. Now you will load the configuration back into SIM so that you can modify it for the Example 3 data.

Click on **Load** to reach the Load Import Configuration window.

Click on **Browse** to locate the file you just copied, “Tutorial4\_1 - Config Export.txt,” and then click **Open**.

Back in the Load Import Configuration window, type in “Tutorial4\_3 - MTPC\_Benthic\_Config” in the Configuration Name field.

Click **Load** and then click **OK** in the Loading Complete message box.

**Close** the Load Import Configuration window and the Import Configuration window.

Now that you have loaded a copy of the Example 1 configuration, you can modify this copy as you would a configuration you created from scratch. The first 20 data elements in this configuration are identical to the data elements needed for Example 3. You will need to deselect the data elements specific to Example 1 (and not used in Example 3) and then select the additional data elements needed for Example 3.

The first 20 data elements of the import configuration should already match those in Example 3.

Uncheck the Include box for all the data elements that were used for Example 1 but are not included in the Example 3 data file.

Check the Include box for data elements that are new in Example 3 and were not in the Example 1 configuration.

Confirm that the sequence of data elements follows the Column Order listed in the table on page 4-36.

Confirm that you have selected Tab as your delimiter.

**Save** your configuration.

### **Importing the Data into SIM and Migrating the Data to STORET (Example 3)**

Using the data file and configuration created for this example, you can now import the data into SIM and migrate it into STORET. The steps for doing this were described in Example 1. See if you can repeat them for this example.

If you have import errors, double check your import configuration and view the Import Errors messages. Once you have successfully migrated the data to STORET, exit SIM.

Now you will return to STORET to view your migrated data.

In STORET, navigate to the T1 Field Trip Maintenance List window, select Trip 2000, and click **Change**.

From the T17 Trip Activity Summary List window, select the TUT4EX3 activity and click **Change**.

Click the **Results** button from the FA1 Field Activity window.

Select Multi-Taxon Population Census from the RG1 Results Group Maintenance List window and click **Change**.

From the RG3 Result Group Modification window, click the **Results** button to bring up the Result Maintenance List window shown below.

Display Name	SP #	Value
Ephemerella rotunda		165
Corydalus cornutus		22
Chimarra obscura		67
Asellus communis		87
Glyptotendipes lobiferus		90

Exit STORET and SIM.

You have now learned how to import results data into STORET with SIM. Although initial preparation of configuration files may require a time investment, you will be able to use the same configurations to add similar data thereafter.

## Tutorial 5. Entering Data into STORET in the Correct Order

Because of certain data relationships required in STORET, data migrations to STORET must be done in the correct order to avoid errors. For example, data for Additional Locations and Wells at a Station cannot be entered until the Stations data have been added to STORET. Similarly, results for specific stations cannot be imported before their station descriptions. This tutorial will illustrate how to import and migrate your data in the correct order for Stations and Wells.

### Structure of Stations and Wells Data in STORET

To understand the relationship of Stations and Wells data, you will look first at some of these data in STORET.

Open the STORET Data Entry Module, click **Data Maintenance**, select DEMOTEST and click **Change**, then click **Stations** to bring up the list of Stations in STORET.

Find CBC-001 Easton Public Drinking Supply in the list and select it, then click **Change**.

From the Stations Menu window, click **Wells** to bring up the Well Maintenance List.

Select the well named “MD1879234” and click **Change**.

Well	Status	Use Code	Water P
MD1879234	Active	Withdrawal of Water	Public W
MD8932122	Active	Withdrawal of Water	Public W

**WL2 Well Menu**

Station: CBC-001      Easton Public Drinking Supply

Well: MD1879234      Easton Primary Supply

Buttons: Basic Well Information, Latitude/Longitude, Interval, Pump, Log, Well Legal Entities

Close      Help

From the Well Menu click **Basic Well Information** to bring up the Well Data Entry window. Note that the Well Data Entry form contains station information at the top indicating that the well is associated with Station CBC-001, Easton Public Drinking Supply.

**WL3 Well Data Entry**

Station: CBC-001      Easton Public Drinking Supply

Well Number: MD1879234      ☒ Natural Flow      ☒ Disinfected

Well Name: Easton Primary Supply      Status: Active

Well Use: Withdrawal of Water      Water Primary Use: Public Water Supply

Construction Method: Air Percussion      Gradient: Unknown

Construction Date: MM-DD-YYYY

Construction Start Date: 01-08-1907      Development Method: Air Lift

Construction End Date: 01-14-1907      Initial Pumping Duration: 23.0 days

Initial Pumping Rate: 12 gal/min

Initial Bore Hole Diameter: 6.00 in

Depth at Completion from Ground Surface: 1200.000 ft

Casing Height Measure: 6.000 ft

Depth of Hole from Ground Surface: 1250.000 ft

Depth to Bedrock: 1200.000 ft

Depth of Unconsolidated Material: 56.000 ft

Buttons: Accept, Cancel, Help

Exit STORET.



Now you will try to import Wells data and Stations data into SIM in the wrong order, and then you will import the data in the correct order.

## Importing Data into SIM

Open the “Tutorial5 - Wells 2.txt” file in Notepad to view the data you will be importing. This file contains errors.

When you are done familiarizing yourself with this file, close Notepad.

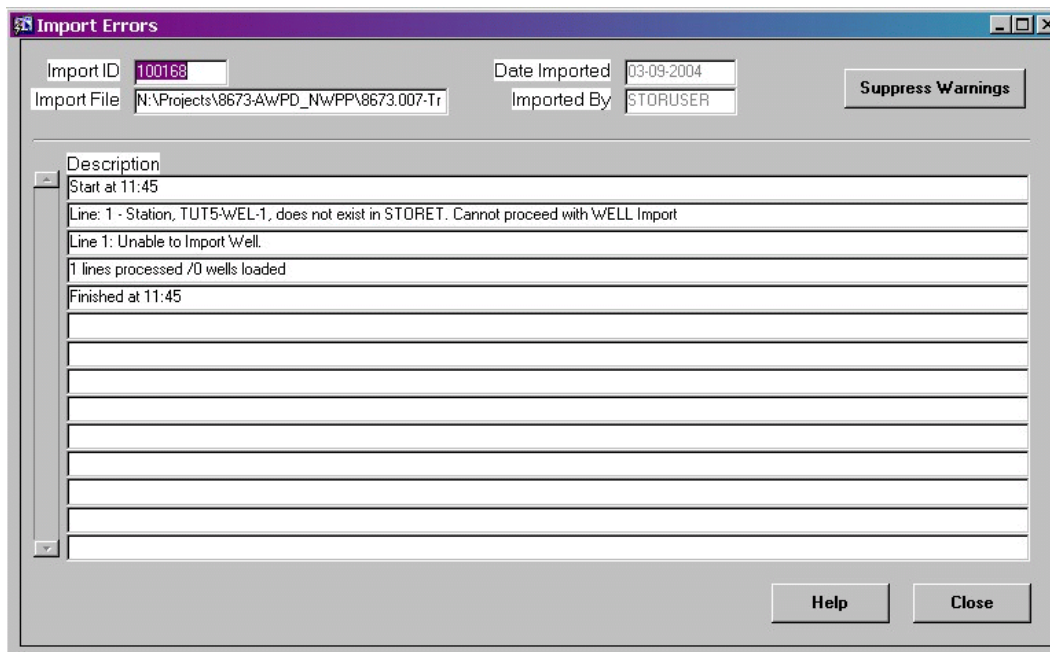
From the opening SIM menu, click **New Import**, then **Station and Station Details**, then **Wells** to get to the Import File window.

Click the **down arrow** button next to the Import Configuration text box and select the “Example - Wells” configuration.

Click the **Browse** button next to the Text File Name text field and navigate to “Tutorial5 - Wells 2.txt” and select it.

Click the **Import** button and click **OK** to get to the Import Status window. The window should show one row with errors.

Click the **View Import Errors** button.



The error message is “Line: 1 - Station, TUT5-WEL-1, does not exist in STORET. Cannot proceed with WELL Import,” indicating that the well cannot be imported because the associated station data have not been migrated to STORET.

To correct this problem, you will import the station data in the “Tutorial5 - Well Stations.txt” file and remove the incorrect import file.

**Close** the error message window and click **Delete Import from SIM**.

**Close** windows until you reach the Station Choice window.

Click on **Station Descriptions**.

Select the “Example - Other Stations” import configuration. Browse to the “Tutorial5 - Well Stations.txt” file. Click on **Import**. You should have two rows ready to migrate.

**Migrate Records to STORET** and click **OK** in the migration message box.

Now you can import the Wells data into SIM.

**Close** any open SIM windows until you reach the Station Choice - Import window.

Click on **Wells**.

Repeat the import steps you did earlier for the well file by selecting the “Example - Wells” configuration and browsing to the “Tutorial5 - Wells 2.txt” import file.

Click on **Import** to reach the Import Status window.

The one row should import successfully. Migrate the well to STORET. The well should migrate without errors.

Now you will confirm that the Wells data have successfully been migrated to STORET without errors.

Open the STORET Data Entry Module.

Find the well record: click **Data Maintenance**, select DEMOTEST and click **Change**, then click **Stations**.

Select TUT5-WEL-1 and click **Change**, then **Wells**. This takes you to the Well Maintenance List window for TUT5-WEL-1. Well 1, the only well listed, is the one you migrated.

Select the well and click **Change** to get to Well Menu WL2.

WL2 Well Menu

Station	TUT5-WEL-1	Well Station 1
Well	1	Well One

Basic Well Information	Pump
Latitude/Longitude	Log
Interval	Well Legal Entities

Close	Help
-------	------

The data you view using the **Basic Well Information** button and the **Latitude/Longitude** button should match with the data from the “Tutorial 5 - Wells 2.txt” data file.

**WL4 Well Absolute Location Data Entry**

Station	TUT5-WEL-1	Well Station 1
Well	1	Well One
Absolute Location Point Type	WELL HEAD	
Absolute Location Point Name		

	Latitude			Longitude		
-OR-	Latitude	41	6	Longitude	111	31
-OR-	Decimal Minutes	41	6.0000	Decimal Minutes	111	31.8000
-OR-	Decimal Degrees	41.1000000		Decimal Degrees	111.5300000	
	Latitude Direction	North		Longitude Direction	West	

**Geopositioning**

Method	Interpolation - Digital Map Source (TIGER)	
Datum	North American Datum 1983	
Scale		Measurement Date
		11-15-1998

**Elevation Information**      **Save**      **Close**      **Help**

You have migrated a well into STORET successfully.

Exit STORET.

Before you conclude your training session, be sure to clear your SIM logs of all the files you imported and migrated for these tutorials.

In SIM, select **Advanced, Migration Log** from the menu.

Click on **Clear Migration from STORET** for any file migrated for this training.

Now that you have removed the data from STORET, select **Advanced, Import Log** from the menu.

Click on **Status** and **Delete Import from SIM** for any data imported for this training.

Exit SIM.

Now that you have finished all tutorials of the SIM Training Manual, you should feel comfortable

- Importing data files into SIM and migrating them into STORET,
- Viewing all types of migrated data in the STORET Data Entry Module,
- Troubleshooting common import errors in SIM,
- Backing migrated data out of STORET and deleting imports from SIM,
- Using Translations and Instructions to make the data port from your original files into STORET smoother, and
- Anticipating STORET sequence and format requirements that will affect how you use SIM to migrate your data.

As you become more accustomed to working in SIM and STORET, you should consult other useful guides and references available at <http://www.epa.gov/STORET>.

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