

Metabase

Software System Development and Validation Documentation

Test Procedure

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Metabase Test Procedure

Purpose

The purpose of this Test Procedure is to verify the accurate performance and successful operation of Metabase. The test may be used both to validate Metabase operation and verify the continuing performance of Metabase. Although it is not intended as a tutorial, the Test Procedure may also be used as a step-by-step walk through to illustrate the main features and data flow for new users of Metabase. Running the test requires running and using the associated Blank SPF template file. Therefore, the Test Procedure also validates and verifies the performance of this component of Metabase as well.

Test Design

The test is designed to determine whether or not the software performs its intended functions when followed in a prescribed manner. The test consists of step-by-step procedures which carry a pre-defined study design and its corresponding simulated data files through all the major processes, VBA code procedures, and calculations performed by Metabase. The exact steps to follow are described clearly and concisely, and a description or illustration of the expected results follows each.

Figure 1 provides an overview of the data flow and logical operation of Metabase. The process is described in 10 steps that address the creation and importing of external data files as well as the internal collection and transfer of data within a Metabase file. Each of these steps is encountered in the course of performing the Test Procedure. As a cross-reference, a green circle with the data flow step number (see example) is shown in the margin next to the corresponding section in the Test Procedure.

Example:

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Although the Test Procedure provides a tour through the principle features of Metabase and will acquaint the user with the program's main operation, the test is not intended to serve as a complete tutorial on how to use Metabase. Comments are limited to what is needed to perform the test. For detailed information on the use and operation of Metabase, consult the Metabase Design Specifications document.

The test follows the steps involved in the typical setup and operation of Metabase, including all main data import and transfer operations. The objective is to insure that all these functions work properly. In practice, Metabase is quite flexible, allowing alternate paths to be followed in the assembly and management of its various databases and associated files. This flexibility is made possible because (1) the program is designed so that each function is handled by small, modular code groups and (2) each programmed action is accompanied with context-sensitive programming. The context-sensitivity insures that the action is not available if it is inappropriate. The intent of this design is to insure that the functions operate appropriately and predictably each time they are used, regardless of the order in which they are chosen. In summary, although it is not feasible or necessary to test every possible pathway available in Metabase, the Test Procedure is constructed to follow a logical set of actions that suffice to demonstrate the satisfactory operation of all the system's principle functions and its primary calculation algorithms.

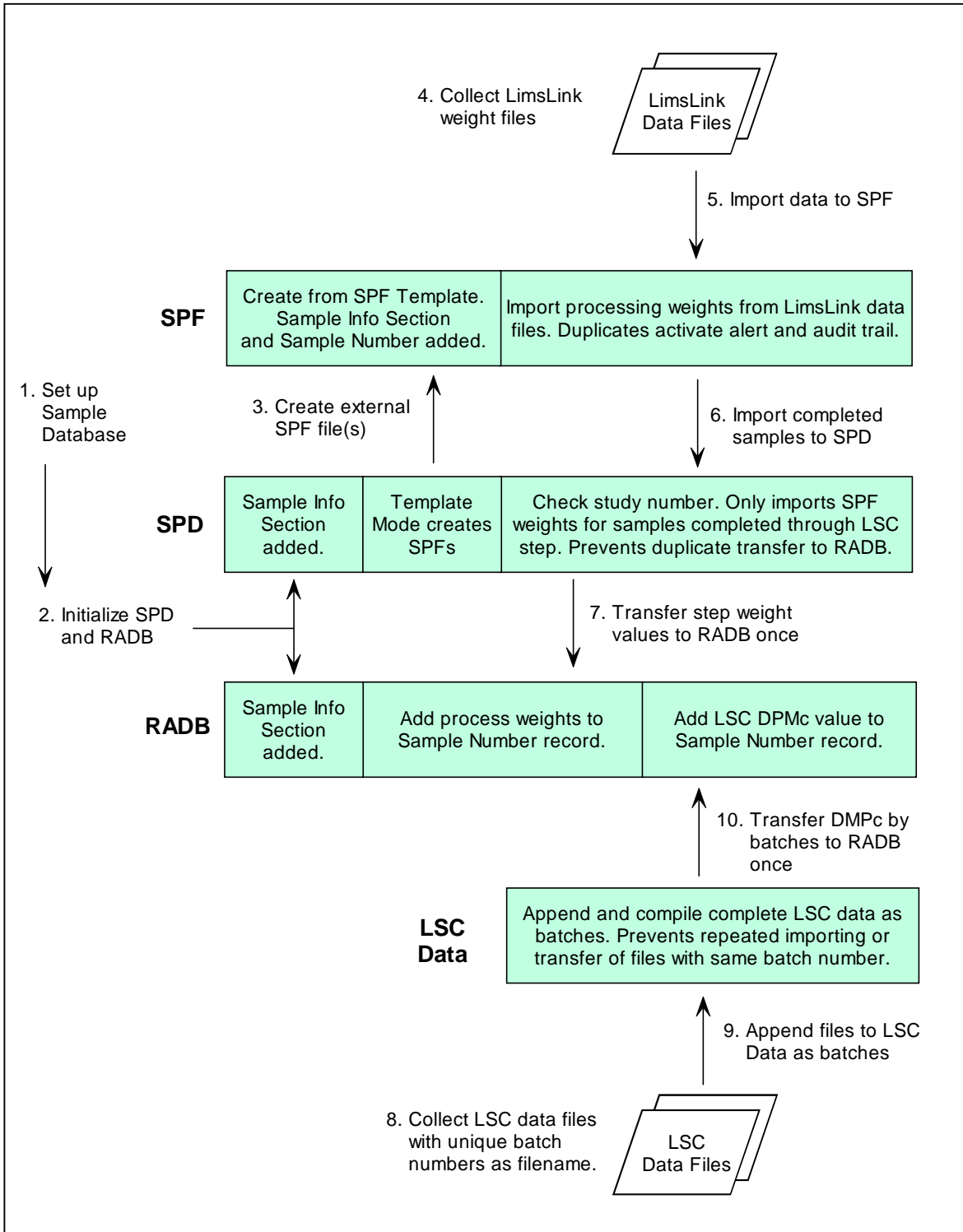


Figure 1. Illustration of Data Flow and Order of Procedures for Collection, Importing, and Internal Transfer of Sample Processing and LSC Data in Metabase

Excel Version and Operating System Requirements

This Test Procedure is applicable to Metabase version K-1.0. The test can be run with any of the following versions of Microsoft Excel™ for Windows:

- Microsoft Excel 5
- Microsoft Excel 95
- Microsoft Excel 97
- Microsoft Excel 2000

The test can be performed using the following Microsoft operating systems:

- Windows 3.1 (Excel 5 only)
- Windows 95
- Windows 97
- Windows NT
- Windows 2000

The Test Procedure assumes that the user has at least a basic knowledge of the use and operation of Excel and the Windows operating environment. Most actions in Excel can be accomplished several ways (e.g., menu options, keyboard short cuts, function keys, right mouse click, etc.). The user should follow the specific instruction given in the Test Procedure rather than use an alternate approach.

Metabase Validation Test Kits

All the files required to perform the Test Procedure are contained in the folder titled "Metabase Validation Kit." A separate "kit" (folder) is provided for running the Metabase Excel 5 or 95 version of Metabase or the Excel 97 and above version of Metabase. A ReadMe file in the folder identifies the version, as does the filename of the primary Metabase program template located in the enclosed Metabase Program File folder.

The two Excel versions of Metabase are absolutely identical in terms of the layout and content of the workbook, worksheets, and code modules. The difference between the two versions is only in terms of their Microsoft format characteristics.

Required Files

All the files needed to perform the Test Procedure are supplied in the folder titled "Metabase Validation Kit." (see above). **Important Note:** The folders and files originally supplied in this "kit" must not be removed, renamed, or altered in any way.

A ReadMe file is included in the kit folder to identify the Excel version appropriate for the enclosed files. The following is a list of the additional folders and files contained in the kit folder and needed to run and evaluate the Test Procedure:

 **Test Procedure Documentation (Folder)**

Metabase Test Procedure.doc A Microsoft Word 97 document file of this Test Procedure document.

 **Metabase Program Files (Folder)**

Metabase E97.xlt An Excel 97 template file. This is a copy of the original release version K-1.0 of Metabase using the Excel 97 format type.

Alternately, in the Excel 5/95 Kit:

Metabase E95.xlt An Excel 95 template file. This is a copy of the original release version K-1.0 of Metabase using the Excel 5/95 format.

 **SPF Files (Folder)**

Blank SPF.xlt An Excel template file (either the Excel 5/95 or Excel 97 and above version). Used to start a new Blank SPF workbook.

SPF1234 (completed).xlt An Excel template file (either the Excel 5/95 or Excel 97 and above version). Illustrates a Metabase workbook after completion of the Test Procedure.

 **LimsLink Test Data Files (Folder)**

LimsLink Test Data A.dat A *.dat file simulating a data file produced by using the LimsLink interface to a balance.

LimsLink Test Data B.dat A second *.dat file simulating a data file produced by using the LimsLink interface to a balance. Both files must be used in the Test Procedure.

 **LSC Test Data Files (Folder)**

P00AS001.csv A *csv file simulating a LSC data file output by a Wallac LSC Instrument

P00AS002.csv A second *csv file simulating a LSC data file output by a Wallac LSC Instrument. Both files must be used in the Test Procedure.

 **Completed Metabase File (Folder)**

Metabase 1234 Completed.xlt An Excel template file (either the Excel 5/95 or Excel 97 and above version). Illustrates a Metabase workbook after completion of the Test Procedure.

Performing the Test

The Test Procedure is based on running a simulated metabolism study consisting of 108 duplicated samples. The study number for the test is "1234". The Metabase E97 (or E95) workbook template is preconfigured with the manual inputs normally required to be in place in advance of using Metabase to prepare a Sample Database and begin collecting weight and LSC data from external sources. The specific areas that are preconfigured are the following:

Study Design Worksheet:	Design Table
Animal Data Worksheet:	Animal Number Assignment Table Terminal Body Weights Table
Dose Data Worksheet	Specific Activity Table Nominal Group Doses Table Individual Animal Doses Table

The external source files include two LimsLink weight files and two disk output files from the Wallac LSC instrument. The data in both the preconfigured data areas and the simulated external files are consistent with the type and range of values intended to be encountered and used during the normal operation of Metabase. However, the data values used are designed to provide an immediate indication of the accuracy of the test, rather than mimic a typical study, which would require detailed comparison of each result.

In sum, the test is designed to give an unambiguous and obvious verification of proper performance by showing the final calculation of the Average % Dose for the 108 test samples all having the value "1.00".

To perform the Test Procedure:

1. Insure that the proper Metabase Validation Kit folder for the version of Excel you are running is located on your hard drive.
2. Confirm that all the Metabase Validation Kit folders and files are present as described under Required Files.
3. Close all open applications on your computer.
4. Open the Metabase Program File folder in the validation kit.
5. Conduct steps 1 through 15 as described in the Test Procedure. This will require from 10 minutes to an hour depending on your familiarity with the procedure.
6. At the conclusion of the test (Step 15.3), compare the final RADB Printout page with the Metabase Validation Report Table. If the values in the final column (% of Dose), which is based on the calculated mean of for each of the 108 duplicate samples, is equal to 1.00 for all samples, then the performance of Metabase is verified and validated.
7. Save the completed Test Procedure workbook with another name in another location as a historical record of the test according to the appropriate internal SOP.

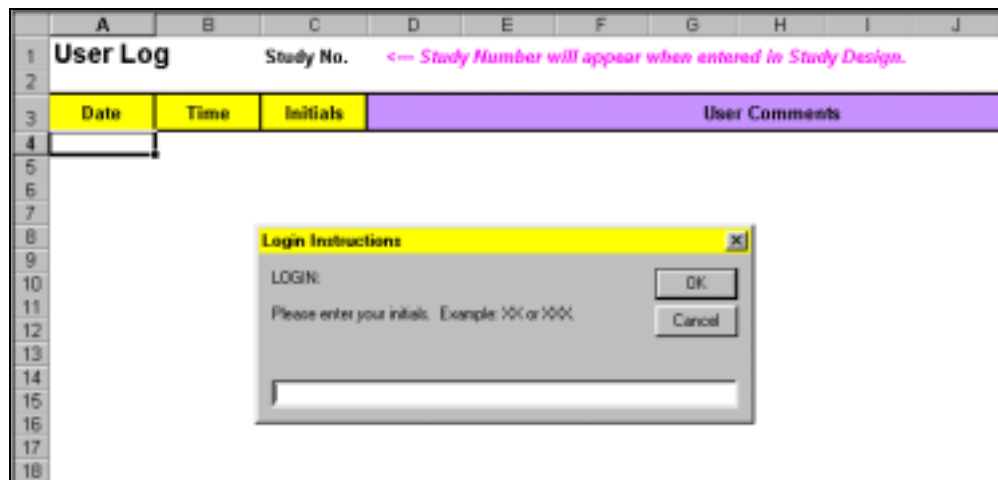
Test Procedure

1. Create a new test workbook and log in.

- 1.1 Make sure you are using the Metabase Validation Kit appropriate to the version of Excel you are using. Open the Metabase Program Files folder and double click on the appropriate Excel template. If you are using Excel versions 5.0 or 7.0 (also called Excel 95) open the file "Metabase E95.xlt". If you are using Excel 97 or Excel 2000, open the file "Metabase E97.xlt".

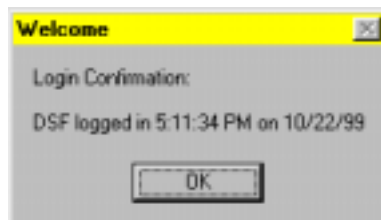
Note: The expected results for the each step are described or illustrated on the bulleted lines immediately following the step as follows:

- ◆ A new workbook is created and opens with the default name Metabase E9x1 (where x is the version you chose). Note the "1" appended to the file name signifying this is an instance (or copy) of the template file. The template itself is not opened.
- ◆ The workbook opens to the User Log worksheet and displays the Login Instructions input box as follows:



- 1.2 Enter your initials as two or three digits. If you one or more than 3 characters, the program will instruct you to correct your input or cancel. The program converts the input to upper case. Select OK to continue.

- ◆ The Welcome message confirms the login initials, time, and date as follows:



- 1.3 Click OK to confirm and continue with the login procedure.
- ◆ The login information is posted on the next available row on the User Log sheet, which is the first row when a new Metabase workbook is created. The cell under column D will be selected ready for you to type in a comment regarding the session.
- 1.4 Type in “Run test procedure” or some suitable entry in cell D4 and press Return.
- ◆ The login information and your session comment are entered in the User Log as follows:

	A	B	C	D	E	F	G	H	I	J
1	User Log		Study No.	<i><-- Study Number will appear when entered in Study Design.</i>						
2										
3	Date	Time	Initials	User Comments						
4	10/22/99	5:11 PM	DSF	Run test procedure.						
5										
6										
7										

- ◆ The User Log Entry Instructions message appears when the return key is pressed:



- 1.5 Click OK to close the User Log entry Instructions message.
- ◆ The message box closes.

2. Save the workbook.

- 2.1 **For users of Excel 5 or Excel 95 only.** Enable Metabase error handling routines before saving the workbook and insure that these are in effect when a workbook is opened again as follows: Select Tools|Options from the menu, and click the Module General tab in the Options dialog box. Make sure that the Break On All Errors option is not checked, and click Okay.
- ◆ This option allows the error handling code built into the Visual Basic procedures to operate, thereby avoiding unnecessary program interruption from run-time error messages.

- 2.2 Choose the File | Save As menu option and save the file using a suitable name such as “Metabase Test 092299.xlt”. Make sure the file is saved with the default workbook extension (*.xlt).
 - ◆ The new file name appears at the top of the current worksheet. You can close and reopen the file at any time. You can leave the test procedure and return to the place you left off. Each time you open the test file, you will have to complete the login steps.

3. Verify the version on the Study Notes worksheet.

- 3.1 Click the Study Notes sheet tab at the bottom of the window.
 - ◆ The Study Notes worksheet opens.
- 3.2 Click the square above “About”.
 - ◆ The Metabase “About” banner opens displaying the version number as follows:



- 3.3 Click on the banner.
 - ◆ The banner disappears.

4. Set up and test the Study Design worksheet features.

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- 4.1 Click the Study Design sheet tab.
 - ◆ The Study Design worksheet appears as illustrated below. **Do not make any changes to the study design table.**

Group	No. of Animals	Sex	Sample Type	Process Code	Sample Times (hr)																No. of Samples
					0	1	2	3	4	5	12	21	48	72	96	120	144	168			
1	1	M	SIL	2	0																
			CAR	3	0																
2	2	M	SIL	2		1															
			CAR	3			1														
3	2	F	SIL	1																	
			PLA	2																	
			FAT	3																	
			UNG	4																	
			SUT	5																	
			SUN	6																	
4	2	M	SIL	1																	
			PLA	2																	
			FAT	3																	
			UNG	4																	
			SUT	5																	
			SUN	6																	
5	1	M	URN	2		1	2	4	6	12	24	48	72	96	120	144	168		12		
			FEC	3		1	2	4	6	12	24	48	72	96	120	144	168		12		

- ◆ The sheet displays an example study design table preassembled for use in this test. This particular study design demonstrates the flexibility of Metabase and is intended to test the program's ability to handle the diverse types of sample descriptions likely to be encountered, including (1) different numbers of animals and sample types between groups, (2) single and multiple sample time points, (3) each of the six process codes, and (4) variation in the sex description.

4.2 Enter the Study Number "1234" in cell E1, as indicated by the purple instruction note in cell A26.

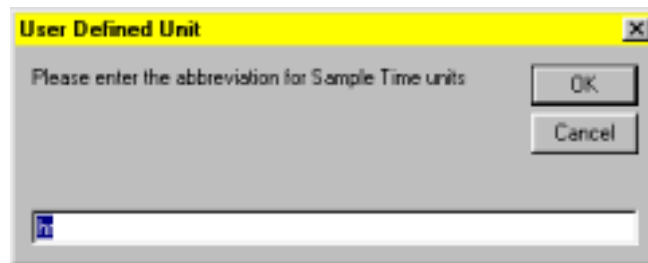
- ◆ The instruction note disappears and the entry appears in red text as follows:

	A	B	C	D	E
1	Study Design			Study No. 1234	
2					
3	Group	No. of Animals	Sex	Sample Type	Process Code

- ◆ The Study Number is automatically copied to the header area of all other worksheets.

4.3 Click anywhere on the blue column title bar titled "Sample Times (hr)", as indicated by the purple instruction note.

- ◆ The following user input box appears:



The image shows a dialog box titled "User Defined Unit" with a yellow header bar. The main area is gray and contains the text "Please enter the abbreviation for Sample Time units". Below the text is a white text input field with a blue cursor. To the right of the input field are two buttons: "OK" and "Cancel".

4.4 Note that the default unit of time is "hr" and select OK.

- ◆ The input box and the purple instruction note disappear, and the column title bar reads "Sample Time (hr)" as before.

4.5 Test the movable menu as follows:

4.5.1 Position the cursor anywhere in the green background of the Movable Menu. Click on the background when the cursor changes to the crossed arrows (do not select a button, which is indicated by the cursor changing to a hand).

- ◆ The selection indicators will appear around the menu object.

4.5.2 While the menu is selected, hold the mouse key down and drag the menu to the middle of the screen.

4.5.3 Click anywhere off the menu to deselect it.

4.5.4 Position the cursor over the blue square in the top right corner of the menu and click when the cursor changes to a hand.

- ◆ The menu returns to its home position.

4.6 Click on the User Notes bar under cell U1.

- ◆ The User Notes box opens in the middle of the screen.

4.7 Click on the opened User Notes text box.

- ◆ The User Notes box closes and returns to its original position.

4.8 Click on the Remove Outline button, and then on the Outline Button.

- ◆ The outline around the sample groups disappears.

4.9 Click on the Outline Table button

- ◆ The outline around the sample groups is redrawn. The program uses the change between blank and numbered cells under the Group column to determine the borders of a group.

5. Create Sample Database

5.1 Click on the Create Sample Database button in the Study Design worksheet.

- ◆ A splash screen is displayed momentarily while the program transforms the study design table into a database layout. When the transformation is complete, the Sample Database worksheet is displayed as follows:

The screenshot shows a spreadsheet titled 'Sample Database' with 'Study No. 1234'. The data table has the following columns: Sample Number, Group, Animal Number, Sex, Sample Type, Sample Time, and Process Code. The data is organized into groups based on the 'Group' column.

Sample Number	Group	Animal Number	Sex	Sample Type	Sample Time	Process Code
1	1	1	M	BLD	0	2
1	1	1	M	CAR	0	3
2	2	2	M	BLD	1	2
2	2	2	M	CAR	1	3
2	2	3	M	BLD	1	2
2	2	3	M	CAR	1	3
3	3	4	F	SLV	5	1
3	3	4	F	PLA	5	2
3	3	4	F	FAT	5	3
3	3	4	F	LNG	5	4
3	3	4	F	GUT	5	5
3	3	4	F	SHN	5	6
3	3	5	F	SLV	5	1
3	3	5	F	PLA	5	2
3	3	5	F	FAT	5	3
3	3	5	F	LNG	5	4
3	3	5	F	GUT	5	5
3	3	5	F	SHN	5	6
4	4	6	M	SLV	5	1
4	4	6	M	PLA	5	2
4	4	6	M	FAT	5	3
4	4	6	M	LNG	5	4
4	4	6	M	GUT	5	5
4	4	6	M	SHN	5	6
4	4	7	M	SLV	5	1
4	4	7	M	PLA	5	2
4	4	7	M	FAT	5	3
4	4	7	M	LNG	5	4

Two options panels are overlaid on the right side of the spreadsheet:

- Database Options:**
 - Duplicate Sample Records
 - Replace Animal No. with Animal ID
 - Sort Options:
 - Sort by Type, Time, Animal
 - Sort by Group, Type, Time
 - Assign Sample Numbers
- Transfer Options:**
 - Create Sample Labels Worksheet
 - Create Sample Processing and Radio Analytical Database worksheets

- ◆ Although it was not apparent, selecting this button also fills in the Animal Number and Group Number columns in the Animal Number Assignments Table on the Animal Data worksheet so they will be consistent with the Study design table and Sample database. This is illustrated later in the test procedure.

5.2 Click on the Duplicate Sample Records button on the Database Options menu.

- ◆ The following dialog box appears:



5.3 Click OK to close the box.

- ◆ The Sample Database records are duplicated and displayed.

5.4 Click on the Replace Animal Number with Animal ID button.

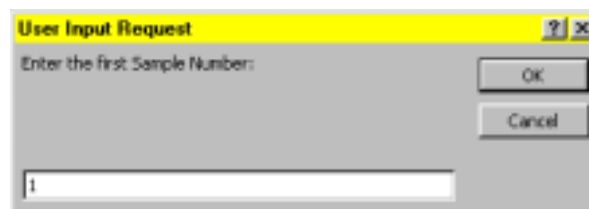
- ◆ The sequential animal numbers in the Animal Number column are replaced with Animal ID codes (taken from the Animal Data sheet).

5.5 **Important:** Click on Sort By Type, Time, Animal button in the Sort Options section of the Database Options menu before proceeding with the next step.

- ◆ The Sample Types will be sorted in ascending order beginning with six BLD samples.

5.6 Click on the Assign Sample Numbers button

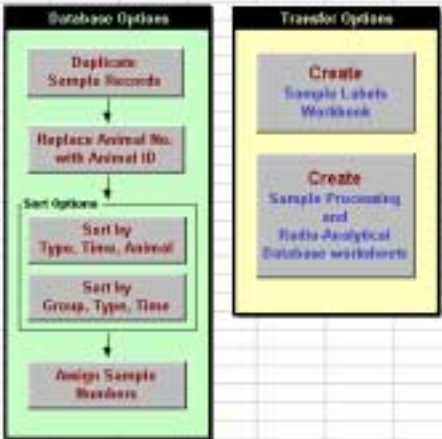
- ◆ The following input box appears with the default sample Number of 1:



5.7 Click OK to accept the default first Sample Number as 1.

- ◆ The box closes and the Sample Number column is filled beginning with 1. At the completion of these procedures, the Sample Database display appears as follows:

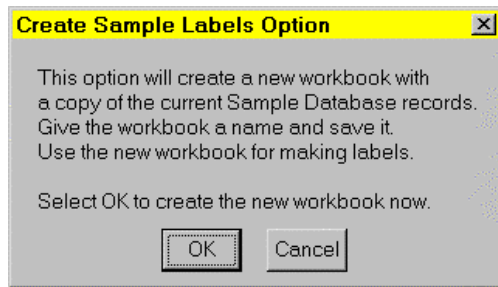
Sample Database Study No. 1234						
Sample Number	Group	Animal Number	Sex	Sample Type	Sample Time	Process Code
1	1	A1001	M	BLD	0	2
2	1	A1001	M	BLD	0	2
3	2	A2002	M	BLD	1	2
4	2	A2002	M	BLD	1	2
5	2	A2003	M	BLD	1	2
6	2	A2003	M	BLD	1	2
7	1	A1001	M	CAR	0	3
8	1	A1001	M	CAR	0	3
9	2	A2002	M	CAR	1	3
10	2	A2002	M	CAR	1	3
11	2	A2003	M	CAR	1	3
12	2	A2003	M	CAR	1	3
13	3	A3004	F	FAT	6	3
14	3	A3004	F	FAT	6	3
15	3	A3005	F	FAT	6	3
16	3	A3005	F	FAT	6	3
17	4	A4006	M	FAT	6	3
18	4	A4006	M	FAT	6	3
19	4	A4007	M	FAT	6	3
20	4	A4007	M	FAT	6	3
21	5	A5008	M	FEC	1	3
22	5	A5008	M	FEC	1	3
23	5	A5009	M	FEC	2	3
24	5	A5009	M	FEC	2	3
25	5	A5008	M	FEC	4	3
26	5	A5008	M	FEC	4	3
27	5	A5008	M	FEC	4	3
28	5	A5008	M	FEC	6	3
29	5	A5008	M	FEC	6	3
30	5	A5008	M	FEC	6	3
31	5	A5008	M	FEC	6	3



6. Create a Sample Labels workbook.

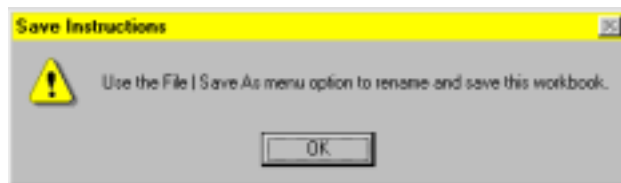
6.1 Click the Create Sample Labels Workbook button on the Transfer Options menu.

- ◆ The following message box appears



6.2 Click OK to close the Create Sample Labels Option message box.

- ◆ A new workbook with the file name “Book1.xls” is created containing a replica of the Sample Database. The following Save Instructions message appears:



6.3 Click OK to close the Save Instructions box.

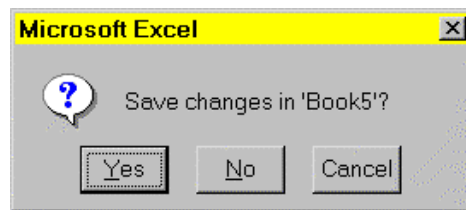
- ◆ The Save Instructions box closes and the first worksheet in the new workbook containing a copy of the Sample Database is displayed. Note the name of the worksheet is the same as the Study Number from the current Metabase file.

Typically, the sample workbook will be saved to disk using the File | Save As menu option. However, for this test, the file will be discarded without saving as follows.

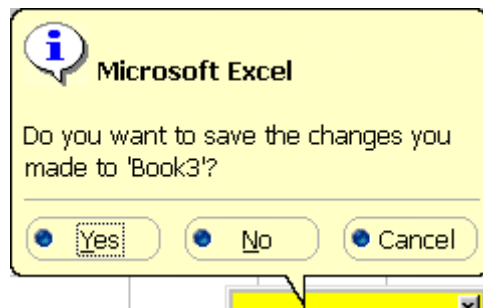
6.4 Choose File | Close from the menu to close the workbook.

- ◆ An Excel dialog box similar to one of the following appears:

For Excel 5 and Excel 95, display messages issued by Excel appear as below. A similar Excel message box appears in later versions of Excel (Excel 97 and above) if you are not using the Office Assistant help object.



For Excel 97 and above, if the Office Assistant is on, then Excel issued messages have the following appearance:



Note this difference in the format of Excel-issued messages during the remainder of the test procedure.

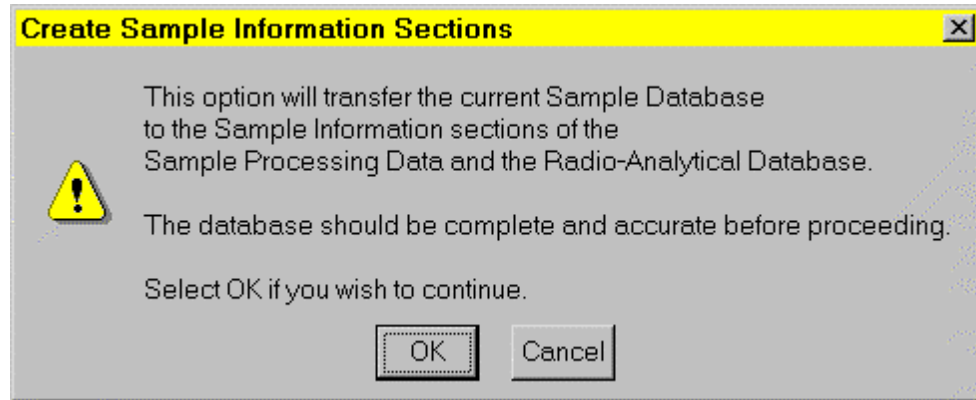
6.5 Click **NO** to close and discard the new workbook without saving changes.

- ◆ The box closes and the example Sample Labels workbook is discarded. The display returns to the Sample Database sheet as shown in section 5.7.

7. Transfer the Sample Database section to other worksheets.

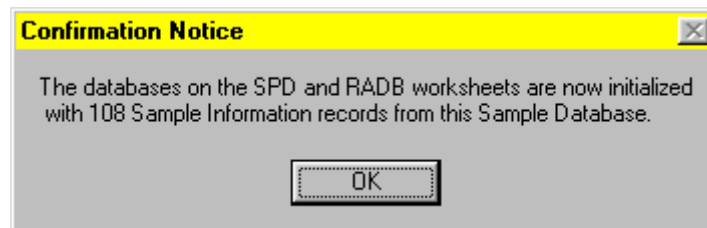
7.1 Click the Create Sample Processing and Radio-Analytical Database worksheets button on the Transfer Options palette.

- ◆ The Create Sample Information Section message box appears:



7.2 Click OK to close the above box and proceed with the transfer.

- ◆ The Sample Database is copied to the Sample Information sections on the Sample Processing Data and the Radio-Analytical Database (RADB) worksheets. This action effectively initializes these two database worksheets for use. A Confirmation Notice appears as follows:



7.3 Click OK on the Confirmation Notice message.

- ◆ The message box closes with the Sample Database sheet in view.

7.4 Click on the Sample Processing Data worksheet tab:

- ◆ The Sample Processing (SPD) worksheet is displayed as illustrated below. Initially, only the Sample Information section is filled. Note the red text "Template" indicating the worksheet is in the mode for making external Sample Processing Form (SPF) workbooks. It will remain in this mode and serve as a template to make SPF notebooks until the first time the Import SP Data button is used and the warning message accepted.

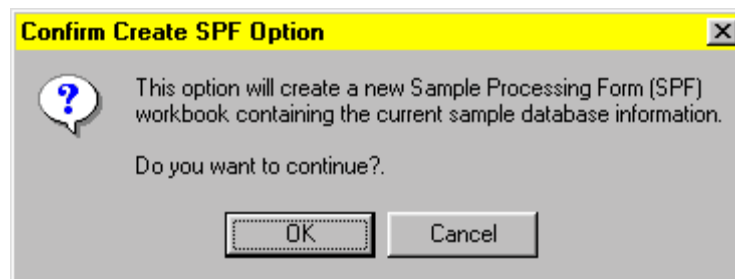
Sample Information							Total Collected Sample				
Sample Number	Group	Animal Number	Sex	Sample Type	Sample Time	Process Code	Time Weight	Date	Time + Sample	Date	Total Sample
1	1	A1001	M	BLD	0	2					
2	1	A1001	M	BLD	0	2					
3	2	A2002	M	BLD	1	2					
4	2	A2002	M	BLD	1	2					
5	2	A2003	M	BLD	1	2					
6	1	A1001	M	BLD	1	2					
7	7				0						
8	9				1						
9	10				1						
10	11				1						
11	12				1						
12	13				6						
13	14				6						
14	15				6						
15	16				6						
16	17				6						
17	18				6						
18	19				6						
19	20				6						
20	21				1						
21	22				1						
22	23				2						
23	24				2						
24	25				4						
25	26	5	A6008	M	FEC	4	3				
26	27	5	A6008	M	FEC	6	3				
27	28	5	A6008	M	FEC	8	3				

8. Create and save an external Sample Processing Form workbook.

3

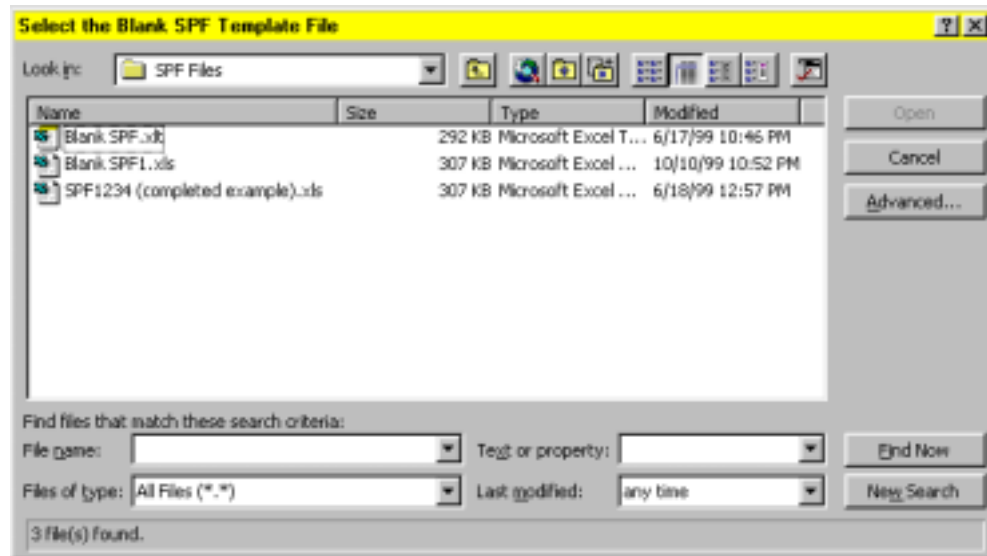
8.1 Click the Create New SP Form button on the Transfer Option menu palette.

- ◆ The Confirm Create SPF Option message box appears:

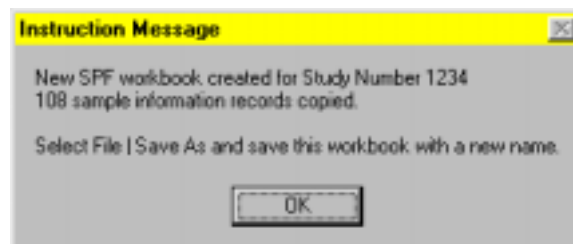


8.2 Click OK to close the above message.

- ◆ The Confirm Create SPF Option message closes and the standard Excel Open dialog box titled “Select the Blank SPF Template File” appears similar to the following:



- 8.3 Use the controls in the Open dialog box to navigate to the “Metabase Validation Kit” folder and drill down one level and open the “SPF Files” folder.
- ◆ The Open dialog box will appear as shown above. Additional files may be present from prior test runs.
- 8.4 Select the file “Blank SPF.xlt” (Excel template) and click Open.
- ◆ The template file will create a new workbook with the filename “BlankSPK1.xls”. The Metabase program will automatically copy the Sample Information section from the current Sample Processing Data worksheet to the Sample Processing Form (SPF) worksheet in the new workbook and add the current Study Number to the new worksheet. The new workbook will be opened to the SPF sheet with the following confirmation and instruction message:

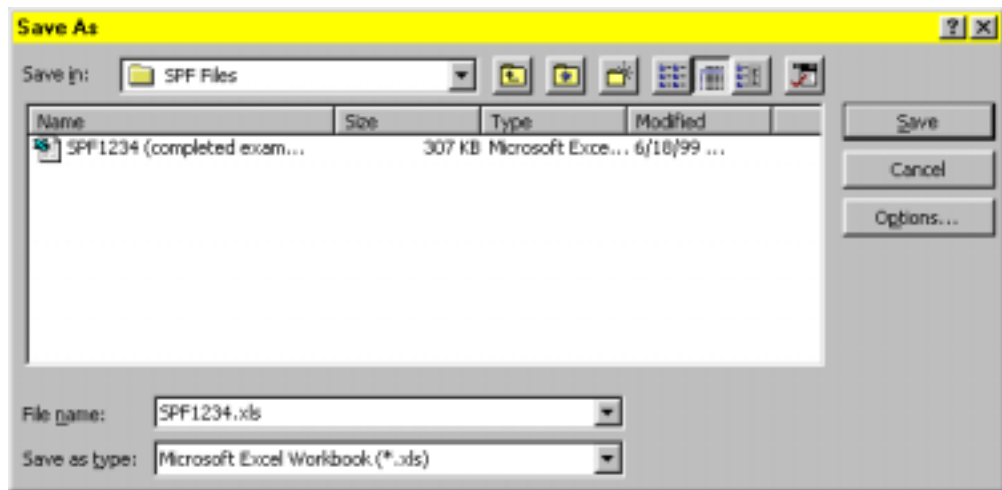


- 8.5 Click OK on the Instruction Message box.
- ◆ The message box closes with the new Blank SPF1 workbook open as shown below. Note that the SPF worksheet in the new workbook is nearly identical to the SPD worksheet in the parent Metabase workbook. The titles in the header distinguish the two sheets, as does the addition of a “Select” column (I) and the different Transfer Options menu in the SPF sheet.

Sample Information							Total Collected Sample				
Sample Number	Group	Animal Number	Sex	Sample Type	Sample Time	Process Code	Tare Weight	Date	Tare + Sample	Date	Total Sample
1	1	A1001	M	BLD	0	2					
2	1	A1001	M	BLD	0	2					
3	2	A3002	M	BLD	1	2					
4	2	A3002	M	BLD	1	2					
5	2	A3002	M	BLD	1	2					
6	2	A3002	M	BLD	1	2					
7	1					3					
8	1					3					
9	2					3					
10	2					3					
11	2					3					
12	3					3					
13	3					3					
14	3					3					
15	3					3					
16	4					3					
17	4					3					
18	4					3					
19	4					3					
20	5					3					
21	5					3					
22	5					3					
23	5					3					
24	5					3					
25	5					3					
26	5					3					
27	5					3					
28	5					3					
29	5	A6008	M	FEC	2	3					
30	5	A6008	M	FEC	4	3					
31	5	A6008	M	FEC	4	3					
32	5	A6008	M	FEC	6	3					
33	5	A6008	M	FEC	6	3					

8.6 Name and save the new SPF workbook by choosing File | Save As. If the SPF File folder is not opened by default, navigate to it and open it. Enter the file name as “SPF1234.xls” and save it in the SPF folder as illustrated.

- ◆ The Excel Save As dialog box should appear similar to the following prior to selecting Save:



- ◆ The current SPF workbook will be displayed as before but with the title SPF1234.xls.

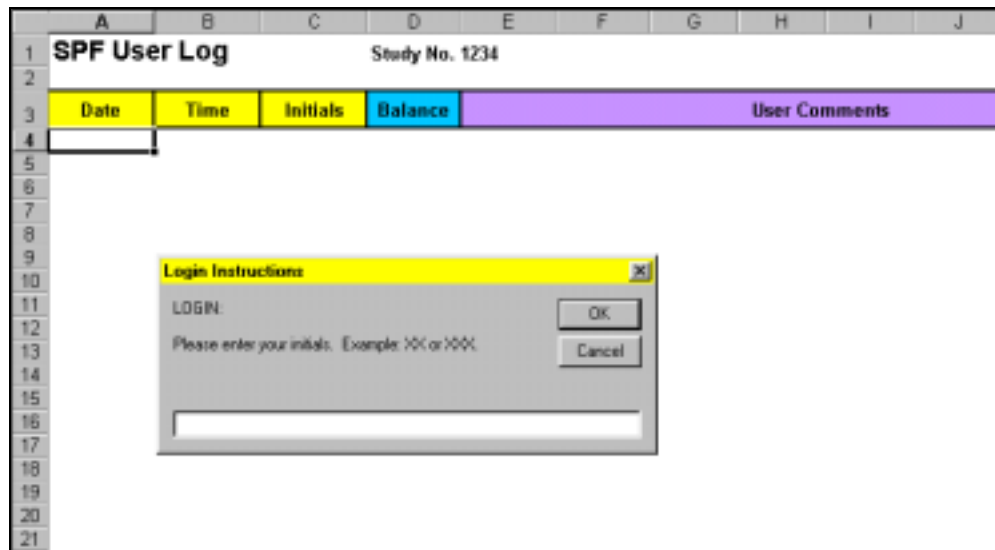
8.7 Choose File | Close from the menu to close the SPF1234.xls file.

- ◆ The new SPF1234.xls file is saved in the SPF Files folder and the original Metabase workbook is displayed with the SPD worksheet open. Notice that the Template mode is still active.

9. Open a Sample Processing Form workbook and import LimsLink weight data. 5

9.1 Choose the File | Open menu option and navigate to and open the previously saved SPF1234.xls file.

- ◆ Use the Open dialog box similar to the one shown in section 8.2 to locate and open the file.
- ◆ The file will open to the SPF User Log worksheet with the Login Instructions input box waiting for input as illustrated below.



9.2 Complete the login procedure by entering your initials, clicking OK, and entering a description such as "Run test procedure" under the User Comments column. The login steps for the SPF workbooks are identical to those described for a Metabase workbook in section 1.0 above.

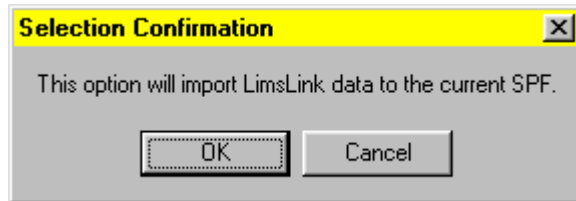
- ◆ The date, time stamp, user's initials, and user comments are entered on the SPF User Log sheet, which is returned to its protected mode.

9.3 Click the Sample Processing Form sheet tab.

- ◆ The worksheet opens as illustrated in section 8.5.

9.4 Click the Import LimsLink data button on the Transfer Options movable menu.

- ◆ The Selection Confirmation box appears:



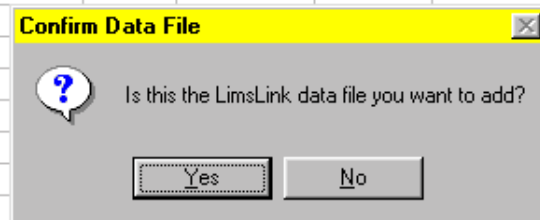
9.5 Click OK to close the confirmation box.

- ◆ A standard Open dialog box appears with the title "Select the LimsLink data File" (similar to section 8.2)

9.6 Use the Open dialog box to navigate to the LimsLink Test Data Files folder, then select and open the file "LimsLink Test Data A.dat".

- ◆ The LimsLink data file is opened, read into memory, and closed without becoming accessible to the user. The data in memory is parsed and displayed in a temporary new spreadsheet for user approval as follows:

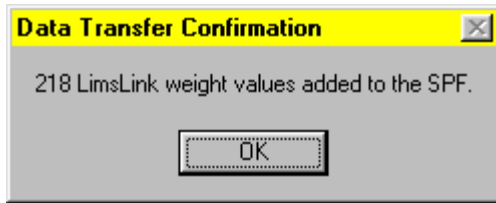
	A	B	C	D	E	F	G	H
1	Study Num	Study number here						
2	Description	Description and file name here						
3	Balance ID	balance id						
4	User	user id						
5	Sample No	SPF	Color	Weight (g)	Date	Time	Comment	
6	1				10/7/14/99	8:00:01 AM		
7	3				10/7/14/99	8:00:03 AM		
8	5				10/7/14/99	8:00:05 AM		
9	45				10/7/14/99	8:00:07 AM		
10	47				10/7/14/99	8:00:09 AM		
11	49				10/7/14/99	8:00:11 AM		
12	51							
13	61							
14	63							
15	65							
16	67							
17	69							
18	71							
19	73				10/7/14/99	8:00:27 AM		
20	75				10/7/14/99	8:00:29 AM		
21	77				10/7/14/99	8:00:31 AM		



9.7 Click Yes to close the Confirm Data File box.

- ◆ The program processes the copy of the LimsLink data file and imports the weight and date information for 218 values into the SPF sheet at the

appropriate Sample Number and Processing Step. The temporary worksheet is discarded. The Data Transfer Confirmation box appears on top of the SPF worksheet:



9.8 Click OK to close the Data Transfer Confirmation message.

- ◆ The SPF worksheet displays the results of the import.

9.9 Repeat steps 9.4 through 9.8, this time selecting to import the 100 additional data values in the file "LimsLink Test Data B.dat". **Note:** both LimsLink test data files must be imported during the test.

- ◆ The SPF sheet will show the final import results as follows:

Sample Information							Total Collected Sample				
Sample Number	Group	Animal Number	Sex	Sample Type	Sample Time	Process Code	Tare Weight	Date	Tare + Sample	Date	Total Sample
1	1	A1001	M	BLD	0	2	10.0000	7/14/99	20.0000	7/15/99	10.0000
2	1	A1001	M	BLD	0	2	10.0000	7/14/99	20.0000	7/15/99	10.0000
3	2	A2002	M	BLD	1	2	10.0000	7/14/99	20.0000	7/15/99	10.0000
4	2	A2002	M	BLD	1	2	10.0000	7/14/99	20.0000	7/15/99	10.0000
5	2	A2002	M	BLD	1	2	10.0000	7/14/99	20.0000	7/15/99	10.0000
6	2	A2002	M	BLD	1	2	10.0000	7/14/99	20.0000	7/15/99	10.0000
7	1	A1001	M	BLD	0	2	10.0000	7/14/99	20.0000	7/15/99	10.0000
8	1	A1001	M	BLD	0	2	10.0000	7/14/99	20.0000	7/15/99	10.0000
9	2	A2002	M	BLD	1	2	10.0000	7/14/99	20.0000	7/15/99	10.0000
10	2	A2002	M	BLD	1	2	10.0000	7/14/99	20.0000	7/15/99	10.0000
11	2	A2002	M	BLD	1	2	10.0000	7/14/99	20.0000	7/15/99	10.0000
12	1	A1001	M	BLD	0	2	10.0000	7/14/99	20.0000	7/15/99	10.0000
13	1	A1001	M	BLD	0	2	10.0000	7/14/99	20.0000	7/15/99	10.0000
14	2	A2002	M	BLD	1	2	10.0000	7/14/99	20.0000	7/15/99	10.0000
15	2	A2002	M	BLD	1	2	10.0000	7/14/99	20.0000	7/15/99	10.0000
16	2	A2002	M	BLD	1	2	10.0000	7/14/99	20.0000	7/15/99	10.0000
17	2	A2002	M	BLD	1	2	10.0000	7/14/99	20.0000	7/15/99	10.0000
18	3	A3003	M	FEC	2	3	1.0000	8/2/99	1.0000	8/2/99	1.0000
19	3	A3003	M	FEC	2	3	1.0000	8/2/99	1.0000	8/2/99	1.0000
20	3	A3003	M	FEC	2	3	1.0000	8/2/99	1.0000	8/2/99	1.0000
21	3	A3003	M	FEC	2	3	1.0000	8/2/99	1.0000	8/2/99	1.0000
22	3	A3003	M	FEC	2	3	1.0000	8/2/99	1.0000	8/2/99	1.0000
23	4	A4004	M	FEC	3	3	1.0000	8/2/99	1.0000	8/2/99	1.0000
24	4	A4004	M	FEC	3	3	1.0000	8/2/99	1.0000	8/2/99	1.0000
25	4	A4004	M	FEC	3	3	1.0000	8/2/99	1.0000	8/2/99	1.0000
26	4	A4004	M	FEC	3	3	1.0000	8/2/99	1.0000	8/2/99	1.0000
27	5	A5005	M	FEC	4	3	1.0000	8/2/99	1.0000	8/2/99	1.0000
28	5	A5005	M	FEC	4	3	1.0000	8/2/99	1.0000	8/2/99	1.0000
29	5	A5005	M	FEC	4	3	1.0000	8/2/99	1.0000	8/2/99	1.0000
30	5	A5005	M	FEC	4	3	1.0000	8/2/99	1.0000	8/2/99	1.0000
31	5	A5005	M	FEC	4	3	1.0000	8/2/99	1.0000	8/2/99	1.0000
32	5	A5005	M	FEC	4	3	1.0000	8/2/99	1.0000	8/2/99	1.0000
33	5	A5005	M	FEC	4	3	1.0000	8/2/99	1.0000	8/2/99	1.0000

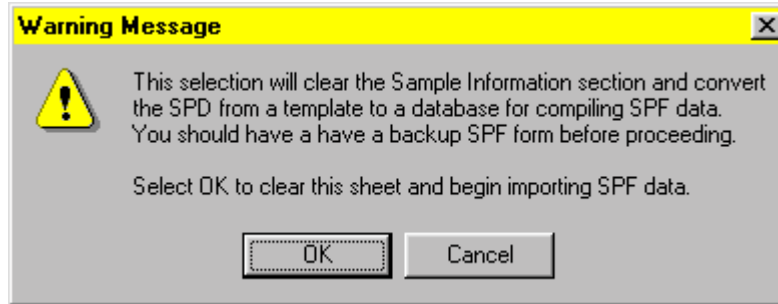
9.10 Choose File | Save and then File | Close from the menu bar.

- ◆ The SPF1234 workbook is saved to its location in the SPD Files folder and closed. The Metabase file is displayed at the SPD worksheet as it was at the beginning of section 8.

10. Import SPF weight data into the Metabase SPD database.

10.1 Make sure the Sample Processing Data worksheet is open and click the Import SP Data button on the Transfer Options menu.

- ◆ The following warning message appears

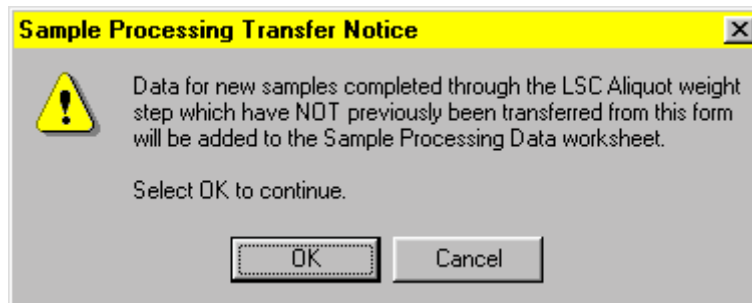


10.2 Click OK to acknowledge the warning.

- ◆ The warning message box closes and the standard Open File dialog box (similar to the one shown in section 8.2) with the title "Select SPF Workbook for this Study" is displayed.

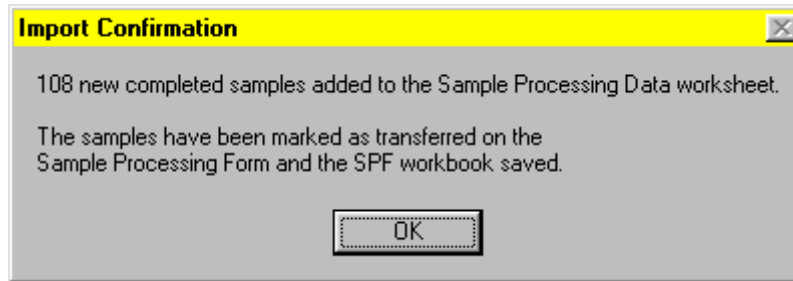
10.3 Use the dialog box to navigate to and open the previously saved file "SPF1234.xls" located in the SPF Files folder

- ◆ The SPF1234 workbook is opened at the SPF sheet, and the following notice displayed:



10.4 Click OK to continue.

- ◆ The program copies and appends sample weight data from the SPF sheet in the external workbook to the Metabase SPD sheet. Results are imported only for samples that have completed processing through to the LSC aliquot processing step. A "T" is placed in the Select column on the SPF sheet to both indicate transfer of sample weight data has occurred and to prevent duplicate transfers. The SPD1234 workbook remains open in the background and may be closed at any time. Upon completion of the import, the SPD sheet is displayed with the following confirmation:



10.5 Click OK to close the message box.

- ◆ The Import Confirmation message closes to reveal the SPD sheet with the imported weight data from the external SPF workbook (see below). Note the absence of the word “Template” in cell A2 signifying that the SPD is now in its database mode and can only be used to import additional weight records to its database.

Sample Information							Total Collected Sample				
Sample Number	Group	Animal Number	Sex	Sample Type	Sample Time	Process Code	Time Weight	Date	Time + Sample	Date	Total Sample
1	1	A1001	M	BLD	0	2	10.0000	7/14/99	20.0000	7/15/99	10.0000
2	1	A1001	M	BLD	0	2	10.0000	7/14/99	20.0000	7/15/99	10.0000
3	2	A2002	M	BLD	1	2	10.0000	7/14/99	20.0000	7/15/99	10.0000
4	2	A2002	M	BLD	1	2	10.0000	7/14/99	20.0000	7/15/99	10.0000
5	2	A2003	M	BLD	1	2	10.0000	7/14/99	20.0000	7/15/99	10.0000
6	2	A2003	M	BLD	1	2	10.0000	7/14/99	20.0000	7/15/99	10.0000
7									1.0000	8/2/99	1.0000
8									1.0000	8/2/99	1.0000
9									1.0000	8/2/99	1.0000
10									1.0000	8/2/99	1.0000
11									1.0000	8/2/99	1.0000
12									1.0000	8/2/99	1.0000
13									1.0000	8/2/99	1.0000
14									1.0000	8/2/99	1.0000
15									1.0000	8/2/99	1.0000
16									1.0000	8/2/99	1.0000
17									1.0000	8/2/99	1.0000
18									1.0000	8/2/99	1.0000
19									1.0000	8/2/99	1.0000
20									1.0000	8/2/99	1.0000
21									1.0000	8/2/99	1.0000
22									1.0000	8/2/99	1.0000
23									1.0000	8/2/99	1.0000
24									1.0000	8/2/99	1.0000
25									1.0000	8/2/99	1.0000
26									1.0000	8/2/99	1.0000
27									1.0000	8/2/99	1.0000
28									1.0000	8/2/99	1.0000
29									1.0000	8/2/99	1.0000
30									1.0000	8/2/99	1.0000
31									1.0000	8/2/99	1.0000
32									1.0000	8/2/99	1.0000
33									1.0000	8/2/99	1.0000

10.6 Examine the features of the Display Options menu by clicking on and then off the Hide A/Show A button on the menu.

- ◆ The Total Collected Sample region hides and unhides.

10.7 Click on the Color button once, then on the UnColor button.

- ◆ The Process Code color scheme is applied and then removed.

10.8 Bring the SPF1234.xls workbook to the front and close it as follows:

10.8.1 Choose Window on the menu and click on the SPF1234.xls file.

10.8.2 Choose File | Close from the menu.

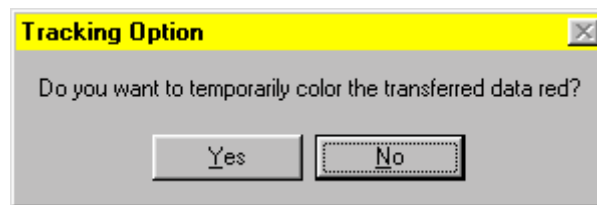
- ◆ The file is closed and the display returns to the Sample Processing Data sheet as depicted above (section 10.5).

11. Transfer SPD weight records to the Radio-Analytical Database.

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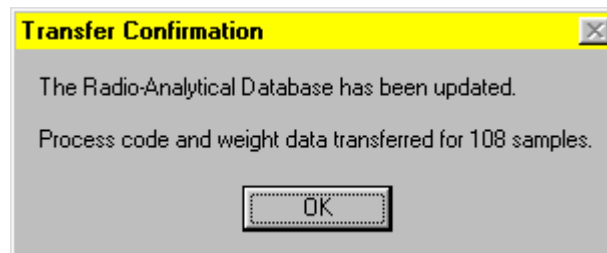
11.1 Click on the Transfer to RADB button on the Transfer Options menu.

- ◆ The Tracking Option message box appears which would allow you to temporarily apply a red color to the records about to be transferred:



11.2 Click No to decline the option.

- ◆ The total sample weights under the six process steps (A-F) are merged into the RADB and "T" is added to the Select column on the SPD for each record transferred: The following Transfer Confirmation message appears:

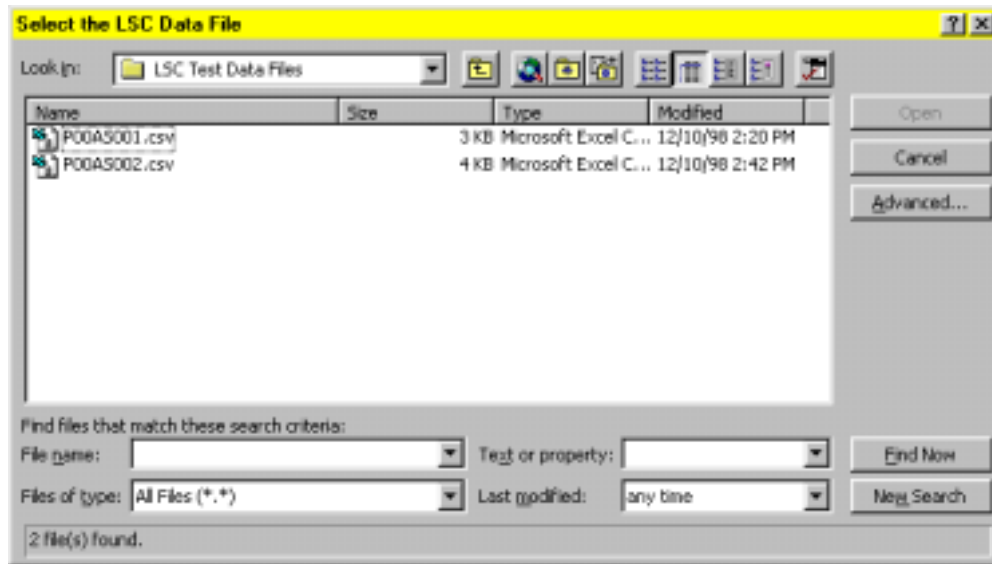


11.3 Click OK to dismiss the message.

- ◆ The conformation message box closes.

12.2 Click the Append New LSC Batch button on the LSC Batch Options menu.

- ◆ The standard Open file dialog box with the title “Select the LSC Data File” appears:



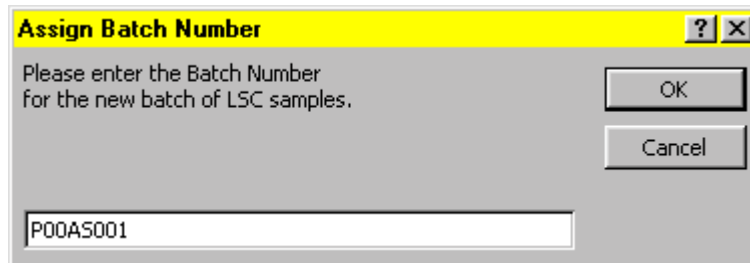
12.3 Use the controls to navigate to the LSC Test Data Files folder and select and open the batch LSC file named “P00AS001.csv” as illustrated above. Note that Metabase always sets the Files of type: option to All Files (*.*) when searching for files to open.

- ◆ The batch LSC file is opened, read into memory, and closed without becoming accessible to the user. The data in memory is parsed and displayed in a new spreadsheet for user approval as follows:

	A	B	C	D	E	F	G	H	I	J
1	FNCT1	POS	CTIME	SAQUM	SQPE	EFF1	DPMer1	CPM1	DPM1	
2	1	1	10	95	880.15	96.6	22.38	28950	30000	12
3	2	2	10	94	878.66	96.4	0.95	35319	36600	
4	3	3	10	94	880.84	96.58	0.98	34065	35300	
5	4	4	10	95	880.15	98.2	0.97	30205	31300	
6	5	5	10	93	878.66	97.5	0.99	32135	33300	
7	6	6	10	95	880.84	98.5	10.5	32135	33300	
8	45	7	10	95	880.15	96.6	0.95	214230	222000	
9	46	8	10	94	878.66	96.4	0.95	214230	222000	
10	47	9	10	94	880.84	96.58	0.95	214230	222000	
11	48	10	10	95	880.15	98.2	0.95	214230	222000	
12	49	11	10	93	878.66	97.5	0.95	321345	333000	
13	50	12					0.95	321345	333000	
14	51	13					0.95	321345	333000	
15	52	14					0.95	321345	333000	
16	61	15					0.95	21423	22200	
17	62	16					0.95	21423	22200	
18	63	17					0.95	21423	22200	
19	64	18					0.95	21423	22200	
20	65	19	10	95	880.15	96.6	0.95	32135	33300	
21	66	20	10	94	878.66	96.4	0.95	32135	33300	
22	67	21	10	94	880.84	96.58	0.95	32135	33300	
23	68	22	10	95	880.15	98.2	0.95	32135	33300	
24	69	23	10	93	878.66	97.5	0.95	21423	22200	
25	70	24	10	95	880.84	98.5	0.95	21423	22200	

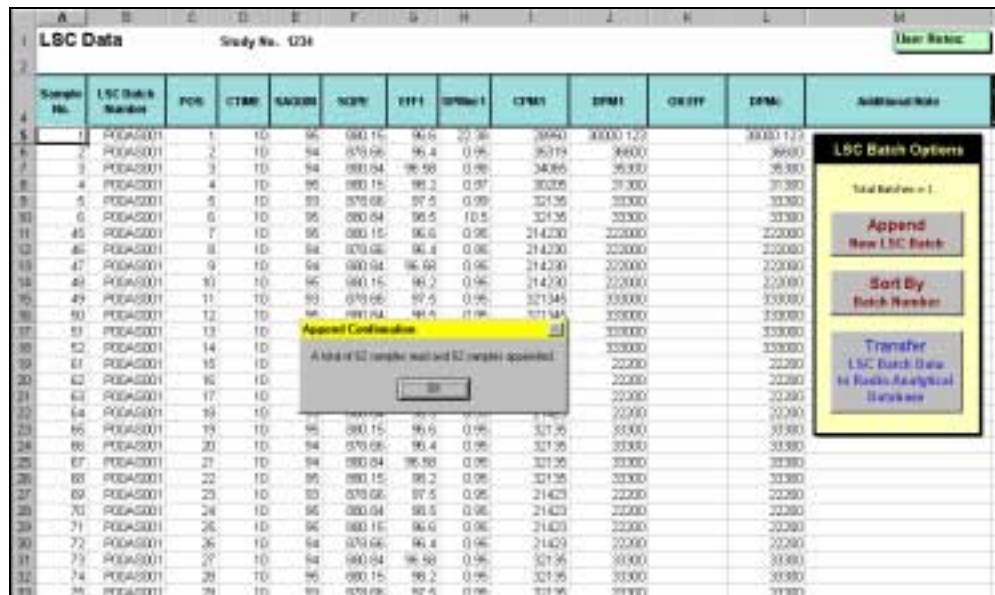
12.4 Click Yes to close the Confirm Data File box.

- ◆ The confirmation message box closes and is replaced by the Assign Batch Number input box. The default input for the batch number to be assigned to each sample record is automatically read from the filename of the selected csv file and appears as follows:



12.5 Click OK to accept the default batch number.

- ◆ The program processes the copy of the LSC batch file and appends 62 LSC data records to the database. The temporary worksheet is discarded. An Append Confirmation message appears on top of the worksheet as follows:



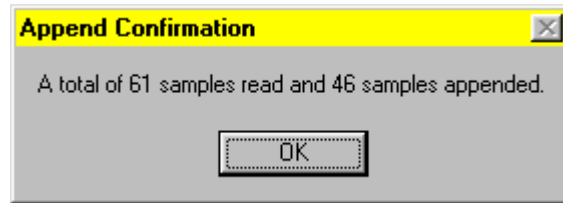
12.6 Click OK to close the confirmation message.

- ◆ The message box closes with the LSC Data sheet displaying the first batch of appended LSC data.

12.7 **Repeat steps 12.2 through 12.6.** This time, in step 12.2 select the LSC batch file “P00AS002.csv” in the LSC Test Data Files folder, and in step 12.4 accept the

default batch number "P00AS002". **Note:** both LSC test data files must be appended during the test.

- ◆ When you have successfully repeated appending the second csv file the following Append Confirmation box will appear:



The P00AS002.csv batch file was processed by the POE Calculator and has a slightly different content. The Append Confirmation box indicates there were 15 samples not appended. These are the reference oxidation standards included in the LSC batch run.

12.8 Click OK to close the confirmation message.

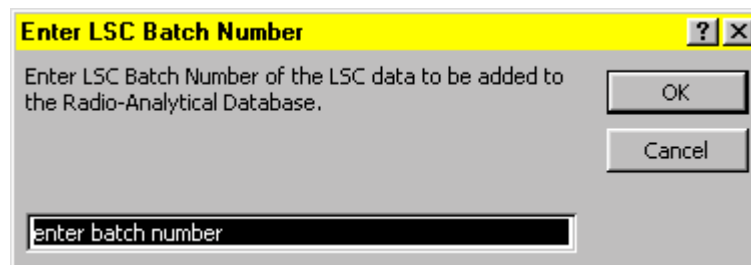
- ◆ The message box closes with the LSC Data sheet displaying the both batches of appended LSC data.

13. Transfer LSC batch records to the Radio-Analytical Database.

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13.1 Click on the Transfer LSC Batch Data to RADB button.

- ◆ The following input box appears:

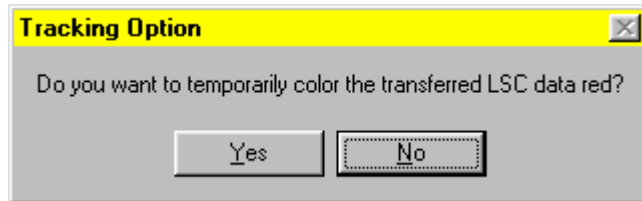


13.2 The batch number can be entered from the keyboard or with the mouse. Use the mouse as follows. Place the cursor over any cell in the LSC Batch Number column (column B) and select a cell.

- ◆ The input box will display the cell address, for example: =\$B\$25 which means it will use the batch number in cell B25 as the input.

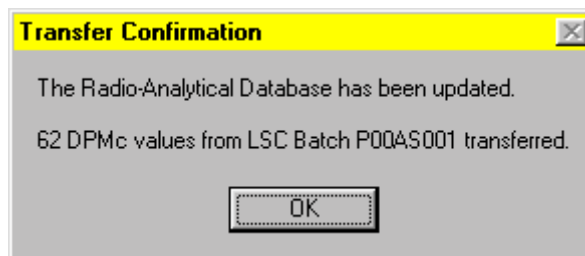
13.3 Click OK in the Enter LSC Batch Number box.

- ◆ The color option box appears:



13.4 Click No.

- ◆ The values in the DPMc column for all the samples in the specified batch are merged with their respective Sample Numbers in the RADB database. The Transfer Confirmation message appears:



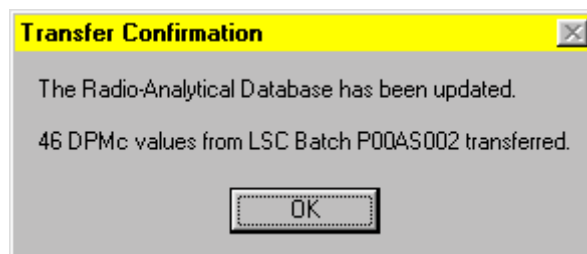
13.5 Click OK.

- ◆ The Transfer Confirmation message closes and the batch transfer is completed. The LSC Data worksheet remains in view.

13.6 Transfer the second LSC batch results to the RADB repeating steps 13.1 through 13.4 as follows:

- 13.6.1 Click the Transfer LSC Batch Data to RADB button (like step 13.1).
- 13.6.2 Scroll down the sheet and select a cell under column B in the second batch (P00AS002) (like step 13.2).
- 13.6.3 Click No on the color text Tracking Option message box (like step 13.3).

- ◆ The second Transfer Confirmation message appears:



13.6.4 Click OK to acknowledge the transfer (like step 13.4).

- ◆ The message box closes and the batch transfer is completed. The LSC Data worksheet remains in view.

14. Complete the Radio-Analytical Database upload and calculation options.

14.1 Click on the Radio-Analytical Database worksheet tab.

- ◆ The RADB worksheet is displayed as follows:

Sample Information							Sample Processing Weights							LSC	
Sample Number	Group	Animal Number	Sex	Sample Type	Sample Time (hr)	Process Code	Dose (GPM)	Terminal Weight (g)	Total Sample (g)	Sample Portion (g)	Total Heptane (g)	Heptane Aliquot (g)	Total Spot (mg)	LSC Aliquot (g)	Q/No
1	1	A1001	M					10.0000						1.0000	30000.120
2	1	A1001	M					10.0000						1.0000	30000.000
3	2	A2002	M					10.0000						1.0000	30000.000
4	2	A2002	M					10.0000						1.0000	31000.000
5	2	A2002	M					10.0000						1.0000	32000.000
6	2	A2002	M					10.0000						1.0000	33000.000
7	1	A1001	M					1.0000					1.0000	1.0000	30000.000
8	1	A1001	M					1.0000					1.0000	1.0000	30000.000
9	2	A2002	M					1.0000					1.0000	1.0000	30000.000
10	2	A2002	M					1.0000					1.0000	1.0000	30000.000
11	2	A2002	M					1.0000					1.0000	1.0000	30000.000
12	2	A2002	M					1.0000					1.0000	1.0000	30000.000
13	2	A2002	M					1.0000					1.0000	1.0000	30000.000
14	3	A3003	F					1.0000					1.0000	1.0000	30000.000
15	3	A3003	F					1.0000					1.0000	1.0000	30000.000
16	3	A3003	F					1.0000					1.0000	1.0000	30000.000
17	3	A3003	F					1.0000					1.0000	1.0000	30000.000
18	3	A3003	F					1.0000					1.0000	1.0000	30000.000
19	4	A4004	M					1.0000					1.0000	1.0000	30000.000
20	4	A4004	M					1.0000					1.0000	1.0000	30000.000
21	4	A4004	M					1.0000					1.0000	1.0000	30000.000
22	4	A4004	M					1.0000					1.0000	1.0000	30000.000
23	4	A4004	M					1.0000					1.0000	1.0000	30000.000
24	5	A5005	M					1.0000					1.0000	1.0000	30000.000
25	5	A5005	M					1.0000					1.0000	1.0000	30000.000
26	5	A5005	M					1.0000					1.0000	1.0000	30000.000
27	5	A5005	M					1.0000					1.0000	1.0000	30000.000
28	5	A5005	M					1.0000					1.0000	1.0000	30000.000
29	5	A5005	M					1.0000					1.0000	1.0000	30000.000
30	5	A5005	M					1.0000					1.0000	1.0000	30000.000
31	5	A5005	M					1.0000					1.0000	1.0000	30000.000
32	5	A5005	M					1.0000					1.0000	1.0000	30000.000
33	5	A5005	M					1.0000					1.0000	1.0000	30000.000
34	5	A5005	M					1.0000					1.0000	1.0000	30000.000
35	5	A5005	M					1.0000					1.0000	1.0000	30000.000
36	5	A5005	M					1.0000					1.0000	1.0000	30000.000
37	5	A5005	M					1.0000					1.0000	1.0000	30000.000
38	5	A5005	M					1.0000					1.0000	1.0000	30000.000
39	5	A5005	M					1.0000					1.0000	1.0000	30000.000
40	5	A5005	M					1.0000					1.0000	1.0000	30000.000

14.2 Click on the Upload Dose Data button on the Database Options movable menu.

- ◆ The Dose Table Selection box appears:

Dose Table Selection [?] [X]

Select the dose table from the Dose Data sheet to use for filling in the Dose column.

Dose Table

Nominal Group Doses

Individual Animal Doses

OK

Cancel

14.3 Make sure that the option button for the “Nominal Group Doses” is selected and click OK.

- ◆ The Dose (dpm) column (column H) is filled with data derived from the Nominal Group Doses Table (Dose Data worksheet).

14.4 Click on the Upload Terminal Body Weights button on the Database Options menu.

- ◆ The Terminal Body Weight column is filled with data derived from the Terminal Body Weights Table (Animal Data worksheet). The Tables section of the RADB appears as follows:

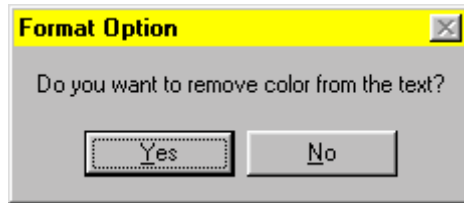
Radio-Analytical Database							Study No. 1234				
Sample Information							Tables		Sample Process		
Sample Number	Group	Animal Number	Sex	Sample Type	Sample Time (hr)	Process Code	Dose (DPM)	Term Body Weight (g)	Total Sample (g)	Sample Portion (g)	Total (Organic) (g)
6	1	1	A1001	M	BLD	0	2	33300000	100.0	10.0000	
7	2	1	A1001	M				33300000	100.0	10.0000	
8	3	2	A2002	M				33300000	100.1	10.0000	
9	4	2	A2002	M				33300000	100.1	10.0000	
10	5	2	A2003	M				33300000	100.2	10.0000	
11	6	2	A2003	M				33300000	100.2	10.0000	
12	7	1	A1001	M				33300000	100.0	1.0000	
13	8	1	A1001	M				33300000	100.0	1.0000	
14	9	2	A2002	M				33300000	100.1	1.0000	
15	10	2	A2002	M				33300000	100.1	1.0000	
16	11	2	A2003	M				33300000	100.2	1.0000	
17	12	2	A2003	M				33300000	100.2	1.0000	
18	13	3	A3004	F				22200000	100.3	1.0000	
19	14	3	A3004	F				22200000	100.3	1.0000	
20	15	3	A3005	F				22200000	100.4	1.0000	
21	16	3	A3005	F				22200000	100.4	1.0000	
22	17	4	A4006	M				33300000	100.5	1.0000	
23	18	4	A4006	M				33300000	100.5	1.0000	
24	19	4	A4007	M				33300000	100.6	1.0000	
25	20	4	A4007	M				33300000	100.6	1.0000	
26	21	5	A5008	M				33300000	100.7	1.0000	
27	22	5	A5008	M				33300000	100.7	1.0000	
28	23	5	A5008	M				33300000	100.7	1.0000	
29	24	5	A5008	M				33300000	100.7	1.0000	
30	25	5	A5008	M				33300000	100.7	1.0000	
31	26	5	A5008	M				33300000	100.7	1.0000	
32	27	5	A5008	M				33300000	100.7	1.0000	
33	28	5	A5008	M	FEC	6	3	33300000	100.7	1.0000	
34	29	5	A5008	M	FEC	12	3	33300000	100.7	1.0000	
35	30	5	A5008	M	FEC	12	3	33300000	100.7	1.0000	
36	31	5	A5008	M	FEC	24	3	33300000	100.7	1.0000	
37	32	5	A5008	M	FEC	24	3	33300000	100.7	1.0000	
38	33	5	A5008	M	FEC	48	3	33300000	100.7	1.0000	

14.5 Click on the Apply Calculations button on the Database Options menu.

- ◆ The appropriate formulas are written to the worksheet, lookup tables are refreshed and resized, and all calculations are applied. The calculation region is colored light yellow.

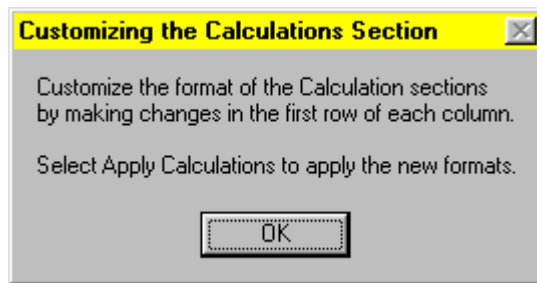
14.6 Click the Format Database button on the Database Options menu.

- ◆ The Format Option message is displayed.



14.7 Click No since color was not added to trace batches during the SPD and LSC transfer steps.

- ◆ The following message box appears:



14.8 Click OK to close the message box.

- ◆ Preset formats are applied to each column in the RADB to give it a uniform layout with appropriate display of significant figures in the calculations.

14.9 Click the Freeze Values button on the Database Options menu.

- ◆ The formula results are copied and pasted as values throughout the final two calculation sections of the RADB worksheet.

15. Prepare a Metabase validation report.

15.1 Click the Print Options button on the Database Options button menu on the RADB worksheet.

- ◆ The entire Radio-Analytical Database is copied to the RADB Printout worksheet, which is opened and displayed as follows:

	A	B	C	D	E	F	G	H	I	J	K	L
	Sample Number	Group	Animal Number	Sex	Sample Type	Sample Time (hr)	Process Code	Dose (DPM)	Term Body Weight (g)	Total Sample (g)	Sample Portion (g)	Total Impregnate (g)
2	1	1	A1001	M	BLD	0	2	33300000	100.0	10.0000		
3	2	1	A1001	M	BLD	0	2	33300000	100.0	10.0000		
4	3	2	A2002	M	BLD	1	2	33300000	100.1	10.0000		
5	4	2	A2002	M	BLD	1	2	33300000	100.1	10.0000		
6	5	2	A2003	M	BLD	1	2	33300000	100.2	10.0000		
7	6	2	A2003	M	BLD	1	2	33300000	100.2	10.0000		
8	7			M	CAR	0	3	33300000	100.0	1.0000		
9	8			M	CAR	0	3	33300000	100.0	1.0000		
10	9			M	CAR	1	3	33300000	100.1	1.0000		
11	10			M	CAR	1	3	33300000	100.1	1.0000		
12	11			M	CAR	1	3	33300000	100.2	1.0000		
13	12			M	CAR	1	3	33300000	100.2	1.0000		
14	13	3	A3004	F	FAT	6	3	22200000	100.3	1.0000		
15	14	3	A3004	F	FAT	6	3	22200000	100.3	1.0000		
16	15	3	A3005	F	FAT	6	3	22200000	100.4	1.0000		
17	16	3	A3005	F	FAT	6	3	22200000	100.4	1.0000		
18	17	4	A4006	M	FAT	6	3	33300000	100.5	1.0000		
19	18	4	A4006	M	FAT	6	3	33300000	100.5	1.0000		
20	19	4	A4007	M	FAT	6	3	33300000	100.6	1.0000		
21	20	4	A4007	M	FAT	6	3	33300000	100.6	1.0000		
22	21	5	A5008	M	FEC	1	3	33300000	100.7	1.0000		
23	22	5	A5008	M	FEC	1	3	33300000	100.7	1.0000		

15.2 Click the Select Output Columns button on the Printout Options menu.

- ◆ The Print Options Dialog box appears (the options may not be as shown):

Print Options Dialog [?] [X]

Sample information

Sample Number

Group

Animal Number

Sex

Sample Type

Sample Time

Process Code

Tables

Dose

Terminal Body Weight

Sample Processing Weights

ALL Processing Weights

Total Sample Weight

LSC Aliquot Weight

LSC Data

DPMc

DPM Calculations

ALL DPM Calculations

Factor

DPM Corrected

Activity Concentration

% DFA

Calculated Average Results

ALL Average Results

Activity Concentration

Amount Concentration

Total Activity

Total Amount

% Dose

Check columns to be included in print out.

- 15.3 Click the check boxes in the Print Options Dialog box as illustrated above (i.e., all checkboxes in the Sample Information group and the ALL Average Results checkbox in the Calculated Average results group).

Click OK

- ◆ The RADB Printout page will appear exactly as shown in the Validation Report Table shown below. **Note:** To facilitate comparison, the test calculations are designed to give a % Dose value of 1.00 for all 108 of the duplicate samples. If this condition is true, Metabase's performance test is passed.

End of test procedure.

Metabase Validation Report Table

Sample Number	Group	Animal Number	Sex	Sample Type	Sample Time (hr)	Process Code	Activity Conc (DPM/g)	Amount Conc (µg/g)	Total Activity (DPM)	Total Amount (µg)	Percent of Dose
1	1	A1001	M	BLD	0	2	33300	5.00	333001	50.00	1.00
2	1	A1001	M	BLD	0	2					
3	2	A2002	M	BLD	1	2	33300	5.00	333000	50.00	1.00
4	2	A2002	M	BLD	1	2					
5	2	A2003	M	BLD	1	2	33300	5.00	333000	50.00	1.00
6	2	A2003	M	BLD	1	2					
7	1	A1001	M	CAR	0	3	333000	50.00	333000	50.00	1.00
8	1	A1001	M	CAR	0	3					
9	2	A2002	M	CAR	1	3	333000	50.00	333000	50.00	1.00
10	2	A2002	M	CAR	1	3					
11	2	A2003	M	CAR	1	3	333000	50.00	333000	50.00	1.00
12	2	A2003	M	CAR	1	3					
13	3	A3004	F	FAT	6	3	222000	100.00	222000	100.00	1.00
14	3	A3004	F	FAT	6	3					
15	3	A3005	F	FAT	6	3	222000	100.00	222000	100.00	1.00
16	3	A3005	F	FAT	6	3					
17	4	A4006	M	FAT	6	3	333000	50.00	333000	50.00	1.00
18	4	A4006	M	FAT	6	3					
19	4	A4007	M	FAT	6	3	333000	50.00	333000	50.00	1.00
20	4	A4007	M	FAT	6	3					
21	5	A5008	M	FEC	1	3	333000	50.00	333000	50.00	1.00
22	5	A5008	M	FEC	1	3					
23	5	A5008	M	FEC	2	3	333000	50.00	333000	50.00	1.00
24	5	A5008	M	FEC	2	3					
25	5	A5008	M	FEC	4	3	333000	50.00	333000	50.00	1.00
26	5	A5008	M	FEC	4	3					
27	5	A5008	M	FEC	6	3	333000	50.00	333000	50.00	1.00
28	5	A5008	M	FEC	6	3					
29	5	A5008	M	FEC	12	3	333000	50.00	333000	50.00	1.00
30	5	A5008	M	FEC	12	3					
31	5	A5008	M	FEC	24	3	333000	50.00	333000	50.00	1.00
32	5	A5008	M	FEC	24	3					
33	5	A5008	M	FEC	48	3	333000	50.00	333000	50.00	1.00
34	5	A5008	M	FEC	48	3					
35	5	A5008	M	FEC	72	3	333000	50.00	333000	50.00	1.00
36	5	A5008	M	FEC	72	3					
37	5	A5008	M	FEC	96	3	333000	50.00	333000	50.00	1.00
38	5	A5008	M	FEC	96	3					
39	5	A5008	M	FEC	120	3	333000	50.00	333000	50.00	1.00
40	5	A5008	M	FEC	120	3					
41	5	A5008	M	FEC	144	3	333000	50.00	333000	50.00	1.00
42	5	A5008	M	FEC	144	3					
43	5	A5008	M	FEC	168	3	333000	50.00	333000	50.00	1.00
44	5	A5008	M	FEC	168	3					
45	3	A3004	F	GUT	6	5	22200	10.00	222000	100.00	1.00

46	3	A3004	F	GUT	6	5						
47	3	A3005	F	GUT	6	5	22200	10.00	222000	100.00	1.00	
48	3	A3005	F	GUT	6	5						
49	4	A4006	M	GUT	6	5	33300	5.00	333000	50.00	1.00	
50	4	A4006	M	GUT	6	5						
51	4	A4007	M	GUT	6	5	33300	5.00	333000	50.00	1.00	
52	4	A4007	M	GUT	6	5						
53	3	A3004	F	LNG	6	4	22200	10.00	222000	100.00	1.00	
54	3	A3004	F	LNG	6	4						
55	3	A3005	F	LNG	6	4	22200	10.00	222000	100.00	1.00	
56	3	A3005	F	LNG	6	4						
57	4	A4006	M	LNG	6	4	33300	5.00	333000	50.00	1.00	
58	4	A4006	M	LNG	6	4						
59	4	A4007	M	LNG	6	4	33300	5.00	333000	50.00	1.00	
60	4	A4007	M	LNG	6	4						
61	3	A3004	F	PLA	6	2	22200	10.00	222000	100.00	1.00	
62	3	A3004	F	PLA	6	2						
63	3	A3005	F	PLA	6	2	22200	10.00	222000	100.00	1.00	
64	3	A3005	F	PLA	6	2						
65	4	A4006	M	PLA	6	2	33300	5.00	333000	50.00	1.00	
66	4	A4006	M	PLA	6	2						
67	4	A4007	M	PLA	6	2	33300	5.00	333000	50.00	1.00	
68	4	A4007	M	PLA	6	2						
69	3	A3004	F	SKN	6	6	22200	10.00	222000	100.00	1.00	
70	3	A3004	F	SKN	6	6						
71	3	A3005	F	SKN	6	6	22200	10.00	222000	100.00	1.00	
72	3	A3005	F	SKN	6	6						
73	4	A4006	M	SKN	6	6	33300	5.00	333000	50.00	1.00	
74	4	A4006	M	SKN	6	6						
75	4	A4007	M	SKN	6	6	33300	5.00	333000	50.00	1.00	
76	4	A4007	M	SKN	6	6						
77	3	A3004	F	SLV	6	1	222000	100.00	222000	100.00	1.00	
78	3	A3004	F	SLV	6	1						
79	3	A3005	F	SLV	6	1	222000	100.00	222000	100.00	1.00	
80	3	A3005	F	SLV	6	1						
81	4	A4006	M	SLV	6	1	333000	50.00	333000	50.00	1.00	
82	4	A4006	M	SLV	6	1						
83	4	A4007	M	SLV	6	1	333000	50.00	333000	50.00	1.00	
84	4	A4007	M	SLV	6	1						
85	5	A5008	M	URN	1	2	33300	5.00	333000	50.00	1.00	
86	5	A5008	M	URN	1	2						
87	5	A5008	M	URN	2	2	33300	5.00	333000	50.00	1.00	
88	5	A5008	M	URN	2	2						
89	5	A5008	M	URN	4	2	33300	5.00	333000	50.00	1.00	
90	5	A5008	M	URN	4	2						
91	5	A5008	M	URN	6	2	33300	5.00	333000	50.00	1.00	
92	5	A5008	M	URN	6	2						
93	5	A5008	M	URN	12	2	33300	5.00	333000	50.00	1.00	
94	5	A5008	M	URN	12	2						
95	5	A5008	M	URN	24	2	33300	5.00	333000	50.00	1.00	
96	5	A5008	M	URN	24	2						
97	5	A5008	M	URN	48	2	33300	5.00	333000	50.00	1.00	
98	5	A5008	M	URN	48	2						
99	5	A5008	M	URN	72	2	33300	5.00	333000	50.00	1.00	
100	5	A5008	M	URN	72	2						
101	5	A5008	M	URN	96	2	33300	5.00	333000	50.00	1.00	
102	5	A5008	M	URN	96	2						
103	5	A5008	M	URN	120	2	33300	5.00	333000	50.00	1.00	
104	5	A5008	M	URN	120	2						
105	5	A5008	M	URN	144	2	33300	5.00	333000	50.00	1.00	
106	5	A5008	M	URN	144	2						
107	5	A5008	M	URN	168	2	33300	5.00	333000	50.00	1.00	
108	5	A5008	M	URN	168	2						