

MSC-LIMS™ *Insights*

The source for news and tips of interest to users of MSC-LIMS,
an affordable laboratory information management system for small labs.

Issue No. 13

February 2010

Welcome

Welcome to **MSC-LIMS *Insights***.

This newsletter will help current MSC-LIMS users get the most out of their software, and will complement the product literature and downloadable demo that prospective users can find on our web site at www.msc-lims.com.

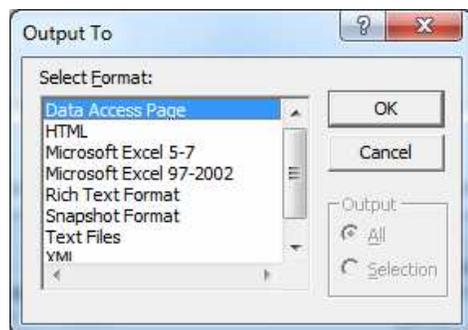


Join our mailing list for more information. Sign up at www.msc-lims.com/lims/maillist.html.

This newsletter is for and about MSC-LIMS users. We welcome your comments, and your suggestions for topics you would like to see addressed in upcoming issues. Please send your thoughts to newsletter@msc-lims.com. ▲

Save LIMS Reports to PDF Files

While previewing any MSC-LIMS report, you can use File | Output To to save the report to one of several file formats supported by Microsoft Access 2002. If you try the available formats you may find the rich text format useful. However, the snapshot format is the only format in the Output To dialog that preserves the layout and formatting of the original report. But recipients of a snapshot file must download and install either the free Microsoft Snapshot Viewer program from the Microsoft Download Center or the MSC-LIMS Report Viewer to view and print snapshot files.



Note that the Excel format in the Output To dialog is much less useful than exporting the report to an Excel template using MSC-LIMS' Excel interface with File | Export to MS Excel Template.

The widely used Portable Document Format (PDF) also preserves the layout and formatting of the original report. A PDF reader, such as Adobe Reader and Foxit Reader, are available as free downloads and are commonly found on most PCs. Although the Output To dialog in MSC-LIMS 3.x does not include a PDF option, you can easily create PDF files from your MSC-LIMS reports using a PDF print driver.

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From the Developer

This year marks the 15th anniversary of the first installation of MSC-LIMS. For a software developer, 15 years is a very long time to devote to the same project. If we were a larger business, I believe it would be difficult to keep talented programmers motivated to work on the same product. And I speak from experience. Prior to founding MSC, I moved from one company to the next seeking exciting projects and the newest technology. And prior to developing MSC-LIMS, I worked on many software projects for clients always with an eye open to other projects.

While some prospective customers believe a larger staff is an important criterion for their LIMS vendor, I think consistency in development personnel is a more important criterion. With help from user's comments and suggestions, I have kept my hands deep in the code helping to enhance and improve our product for all 15 years. Will I be working on MSC-LIMS for another 15 years? I certainly hope so! And see *What's Next for MSC-LIMS?* in this issue for an overview of what will be keeping us busy to start the next 15 years.



Rick Collard is the founder of Mountain States Consulting and the principal developer of the MSC-LIMS software. You can reach Rick by email at rcollard@msc-lims.com.

What's Next for MSC-LIMS?

With the recent release of Microsoft Windows 7 and the upcoming release of Microsoft Office 2010, now is a good time to take a look at where we are headed with MSC-LIMS.

By the end of this year, we will be releasing MSC-LIMS version 3.3. All MSC-LIMS 3.x versions are based on Access 2002, the version of Access in Microsoft Office XP. We expect version 3.3 to be the last Access 2002 version. We will have more information about what is coming in version 3.3 in the next issue of *MSC-LIMS Insights*. Please let us know if you have specific features you would like to see in an upcoming version. We do our best to incorporate any feature that will be useful to other users.

We are currently evaluating Access 2007 and we will be reviewing Access 2010 following its release later this year. One of these versions of Microsoft Access will be the basis for MSC-LIMS version 4.0, which will follow version 3.3 by about two years. Although we have considered moving MSC-LIMS' backend database to another database engine such as Microsoft's SQL Server, version 4.0 will continue to use an MDB file for LimsData. ▲

MSC-LIMS and Windows 7

We have found that MSC-LIMS 3.x runs without problem on Windows 7. However, if you are planning to upgrade to Microsoft's latest operating system you should be aware of two anomalies we have noticed.

First, when starting MSC-LIMS, Windows 7's user account control (UAC) security feature will ask for permission to allow program runaccess.exe to make changes to your system. Windows 7 standard users will need a password to an account with administrative privileges to proceed past the UAC prompt. Users with Windows 7 administrative privileges only need to acknowledge the UAC prompt.

Second, Windows 7 does not maintain the MSC-LIMS shortcut's icon when showing the running application in the Windows 7 taskbar if runaccess.exe was used to start the software. Windows 7 shows the Access 2002 icon instead.

Runaccess.exe is the utility program we use to start MSC-LIMS with the Access 2002 runtime. If you have other versions of Access installed on your machine, runaccess.exe saves the registry settings for your current version of access, starts the Access 2002 runtime which may change the registry, then restores the saved registry settings. In essence, runaccess.exe enables MSC-LIMS to coexist with other versions of Access.

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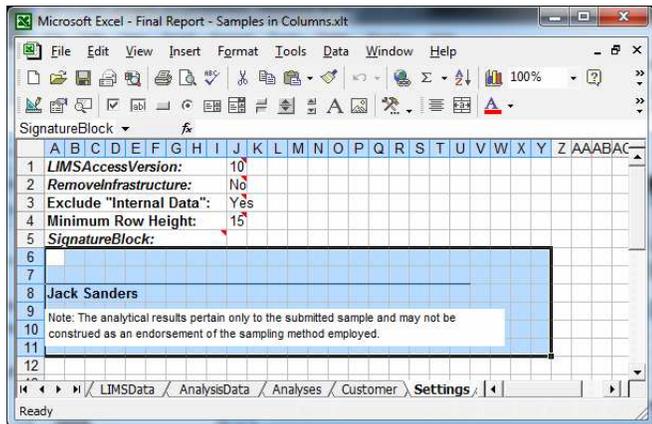
Notes from Technical Support

Automated Final Report Footnotes in Excel

An MSC-LIMS user recently queried:

*Is there some way you could write a macro when doing the COAs to put an automatic footer on the report if in the results there is an *? In our old system, * stood for Estimated plate count and when a report had the * it would automatically put the footer in.*

An Excel template's AfterTransferFromLIMS macro could be updated to scan the report's data for an asterisk and append a footnote if detected. However, that requires modifying VBA code to change the footnote and is more difficult to transfer from one template to another.



A better solution is to use an Excel formula in a cell to append the footnote. This solution is simple if your report was created from one of MSC-LIMS' example final report templates.

To decide where to add the formula, first determine whether your template uses a SignatureBlock named range, which is automatically copied to the first worksheet following the report's data. Look for the SignatureBlock named range in your template in the Name box immediately above the intersection of row and column labels. If it exists, select the SignatureBlock name to see the cells that comprise the range, which are normally on the Settings worksheet (see above).

Select a cell within the range and use Insert | Rows to automatically expand the SignatureBlock range for the new footnote. If your template does not have a SignatureBlock named range but includes a signature line or disclaimer on the report worksheet, add the footnote formula above these cells. Use the following formula to display a footnote:

```
=IF(SUMPRODUCT(ISNUMBER(SEARCH("~*", AnalysisResultFormatted)))+0) > 0, "*" Estimated plate count", "")
```

The formula above looks for an asterisk anywhere within the AnalysisResultFormatted named range. The AnalysisResultFormatted range is automatically created by the template's AfterTransferFromLIMS macro and contains the formatted result for each analysis exported. If an asterisk exists it displays the given text string, otherwise it lists an empty string. Note that an asterisk and a question mark are wildcard characters for the SEARCH function. To find either of these characters with the SEARCH function they must be preceded by the tilde (~).

You can use multiple formulas to add other footnotes for other result qualifiers. Add this formula to your templates and make your final reports smarter adding footnotes only when the report's data require the note. 

Investigating Analysis Use

The following technical support question highlights the need for a new LIMS report:

Is there an existing excel export template or could you create one to do the following:

If I want a list of all analytes associated with a project(s), I have to look at both the project and requirements. Or I want to select an analyte(s) and find all projects and requirements where it exists. Or list all analytes that are not currently associated with any active projects or requirements.

Until such a report is added in a future version of MSC-LIMS, you can investigate analysis use in your own system by adding the following SQL statement to the MSC-LIMS Data Query workbook (available in the File Library on our web site):

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```
SELECT Project.Name AS Project,
Requirement.Name AS Requirement,
Analysis.Analyte FROM Analysis INNER JOIN
((Requirement INNER JOIN (Project INNER JOIN
ProjectRequirement ON Project.ProjectID =
ProjectRequirement.ProjectID) ON
Requirement.RequirementID =
ProjectRequirement.RequirementID) INNER JOIN
RequirementAnalysis ON
Requirement.RequirementID =
RequirementAnalysis.RequirementID) ON
Analysis.AnalysisID =
RequirementAnalysis.AnalysisID UNION SELECT
Project.Name AS Project, "" AS Requirement,
Analysis.Analyte FROM Analysis INNER JOIN
(Project INNER JOIN ProjectAnalysis ON
Project.ProjectID =
ProjectAnalysis.ProjectID) ON
Analysis.AnalysisID =
ProjectAnalysis.AnalysisID UNION SELECT "" AS
Project, Requirement.Name AS Requirement,
Analysis.Analyte FROM Analysis INNER JOIN
(Requirement INNER JOIN RequirementAnalysis
ON Requirement.RequirementID =
RequirementAnalysis.RequirementID) ON
Analysis.AnalysisID =
```

```
RequirementAnalysis.AnalysisID WHERE
Requirement.RequirementID Not In (SELECT
RequirementID FROM ProjectRequirement) UNION
SELECT "" AS Project, "" AS Requirement,
Analysis.Analyte FROM Analysis WHERE
Analysis.AnalysisID Not In (SELECT AnalysisID
FROM ProjectAnalysis) AND Analysis.AnalysisID
Not In (SELECT AnalysisID FROM
RequirementAnalysis) ORDER By Project,
Requirement, Analyte;
```

The results of the SQL statement above can be used to determine any of the following:

1. Analytes added to a project
2. Analytes added to a project via a requirement
3. Analytes in requirements where the requirements aren't added to any projects
4. Analytes not added to any requirements or projects

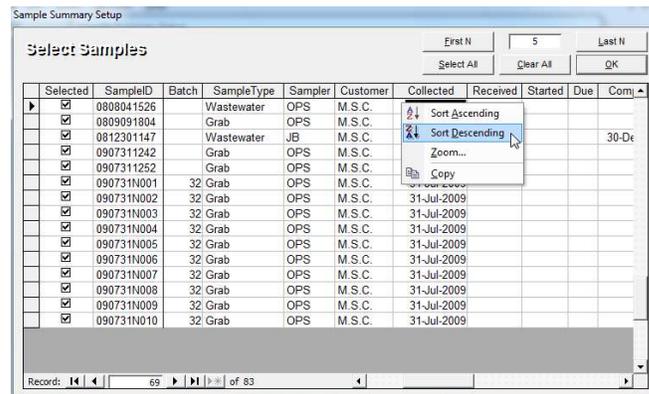
The query lists project, requirement, and analyte names. Use Excel's sorting feature to sort by either of the columns. To use the MSC-LIMS Data Query workbook, make sure MSC-LIMS is running on your workstation then open the workbook. Enter the SQL statement above on the Query worksheet then click the [Query] button and your results will be displayed on the LimsData sheet. ▲

Refine Queries by Selecting Samples

MSC-LIMS query by example (QBE) controls are powerful tools for querying LIMS samples. When a query can not be accomplished easily with the QBE controls, a structured query language (SQL) expression can often be used. Constructing an SQL expression requires knowledge of MSC-LIMS database field and table names.

Refining your query by selecting or deselecting samples after querying is another solution for queries not easily accomplished with the QBE controls. Throughout MSC-LIMS wherever the QBE controls are available to query samples, you will find a [Select] button below the [Query] button that you can use to refine your query. For example, if you need to find all samples logged last week from a specific customer excluding those collected on Wednesday you may find it easier to simply query all samples for the week then remove Wednesday's samples.

After querying, use the [Select] button to open the Select Samples screen. The Selected and SampleID columns are fixed on the left side of the screen. Use the bottom scroll bar to display additional fields. You can temporarily rearrange columns by clicking a



column header once then click and drag to reposition. Resize a column's width by clicking and dragging the right border of the column label. You can also sort the samples by right-clicking in a column and selecting the sort order as shown in the screen above. To sort by multiple columns, first rearrange the columns so the sort columns are adjacent with the primary sort column to the left. Now select all columns to sort and right click above the selected columns to choose the sort order. Use the Selected check box on the left to select or deselect individual samples. ▲

For Customers Only

This section of *MSC-LIMS Insights* is devoted to current users of MSC-LIMS. In this *Insights'* column, articles featured in past issues of *MSC-LIMS Insights* are summarized. Use your login name and password to log on to the Customers Only section of our website, and follow the links to *MSC-LIMS Insights* archives.

Resource: MSC-LIMS *Insights* Archive

In *MSC-LIMS Insights* Issue No. 10, dated August 2008, we provided a brief synopsis of all articles published in *Insights* Issues 1 through 9. The list demonstrated that *Insights* is a valuable source of far-reaching information. The archive has even become a handy reference tool for customer support, and both new and experienced users alike have found the means to get even more value from their MSC-LIMS.

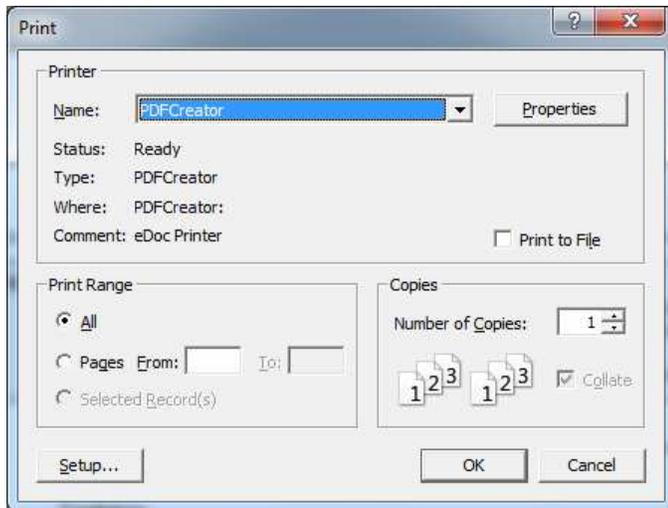
We encourage users to continue to mine the library of past issues for valuable information.

Use your login name and password to log on to the Customers Only section of our website, and follow the links to *MSC-LIMS Insights* archives. 

Save LIMS Reports to PDF Files

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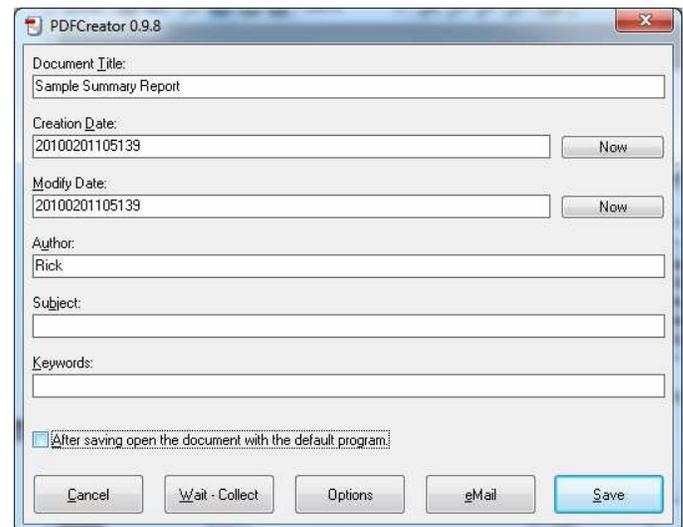
If your workstation already includes the commercial Adobe Acrobat software you can print your MSC-LIMS reports to the Adobe PDF driver to create a PDF file.



If you do not already have a PDF print driver, download and install the free open source [PDFCreator](#). With a PDF print driver such as PDFCreator you can create PDF files from any Windows software that can print including MSC-LIMS.

To create a PDF file for any MSC-LIMS report simply print the report to the PDFCreator printer.

Use PDFCreator's [Save] button to enter a file name and select the folder where the PDF file will be created. Use PDFCreator's [Wait] button to create a single PDF file from multiple MSC-LIMS reports and any other Windows document. For example, combine your own Word cover letter document followed by one or more MSC-LIMS reports into a single PDF file to email to your customers.



With PDFCreator you can also use MSC-LIMS Messaging to automatically email PDF final reports created from your own Excel templates. If you aren't already distributing LIMS reports as PDF files, give PDFCreator or any other PDF print driver a try. 

MSC-LIMS™ *Insights*

MSC-LIMS AND Windows 7

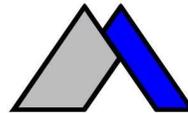
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If you do not have other versions of Access on your workstation, you can solve both anomalies by changing "runaccess.exe" to "msaccess.exe" in the Target property of the shortcut used to start MSC-LIMS thereby eliminating the use of the runaccess.exe utility.

Neither of these anomalies has any affect on MSC-LIMS' operation. They are simply annoyances and should not dissuade anyone from installing MSC-LIMS 3.x on a Windows 7 workstation. 

Contact Us

Questions, comments, suggestions?
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