

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. 18

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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. ▲

32-Bit Excel Required for Excel Interface

Systems with 64-bit processors running 64-bit versions of Windows are now common. These systems allow Windows to use more physical and virtual memory than 32-bit systems. Microsoft Office 2010 now ships with both 32-bit and 64-bit versions. Which version of Office 2010 should you install on 64-bit Windows?

If you plan to use MSC-LIMS' integrated Excel interface you must install 32-bit Microsoft Office. The Excel interface requires transferring data to and from Excel and in many cases Excel initiates its own queries for LIMS data. These transfers require a 32-bit version of Excel to successfully communicate with MSC-LIMS, which is a 32-bit Access runtime application.

For best compatibility, Microsoft recommends 32-bit installations, which is the default version installed by Microsoft Office 2010:

The 32-bit version of Office 2010 is the recommended option for most people, because it prevents potential compatibility issues with other 32-bit applications, specifically third-party add-ins that are available only for 32-bit operating systems.

See Microsoft's article [Choose the 32-bit or 64-bit version of Microsoft Office](#) for more information. ▲

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From the Developer

It is hard to believe the first installation of MSC-LIMS occurred over 17 years ago when MSC-LIMS version 1.0 ran on 16-bit Microsoft Windows 3.1 systems using Microsoft Access 2.0. Microsoft Access has remained the development platform for MSC-LIMS but the move to a new version of Access is not without problems.

If it were my choice, we would continue developing MSC-LIMS with Access 2002 indefinitely because it is stable and proven. Unfortunately, further development with Access 2002 is no longer practical for two reasons. First, as we reported in previous issues of Insights, Windows 7 causes performance problems with the Jet 4.0 database engine used by Access 2002 and Microsoft has acknowledged they will not fix the problem because Jet 4.0 is out of mainstream support. Second, Office XP with Access 2002 is not easily found anymore making it difficult for new Full System licensees who want to customize the software.

Like most software, each new version of Microsoft Access adds new features and capabilities and either removes some features or changes how they work. MSC-LIMS includes an enormous amount of Visual Basic for Applications (VBA) software developed and tested for the specific Access version for which it was designed. Moving MSC-LIMS to a new version of Access is a significant undertaking. With many changes in a new version of Access, VBA code or user interface features may no longer work properly or may exhibit unexpected behavior. Each new Access version requires extensive MSC-LIMS changes, workarounds, rewrites and testing.

Our move to Access 2010 has been the most challenging to date. However, I think both new and existing MSC-LIMS users will be pleased and find our next release worth the wait. See "MSC-LIMS Version 4.0 Sneak Peek" below for a preview.

As always, all Annual Subscription licensees and Full System licensees with current Annual Maintenance will automatically receive the MSC-LIMS 4.0 upgrade.



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

MSC-LIMS Version 4.0 Sneak Peek

We hope to release MSC-LIMS version 4.0 by the end of 2012, marking the latest milestone in MSC-LIMS' long history:

<u>Year</u>	<u>Version</u>	<u>Access Version</u>
1995	1.0	2.0
1999	2.0	97
2004	3.0	2002
2012	4.0	2010

While a number of new features will be added to MSC-LIMS 4.0, the primary goal with this release is to move to a more current version of Access to solve performance problems on Windows 7 and allow new Full System licensees access to the required development tools. This article offers a glimpse at the changes you can expect.

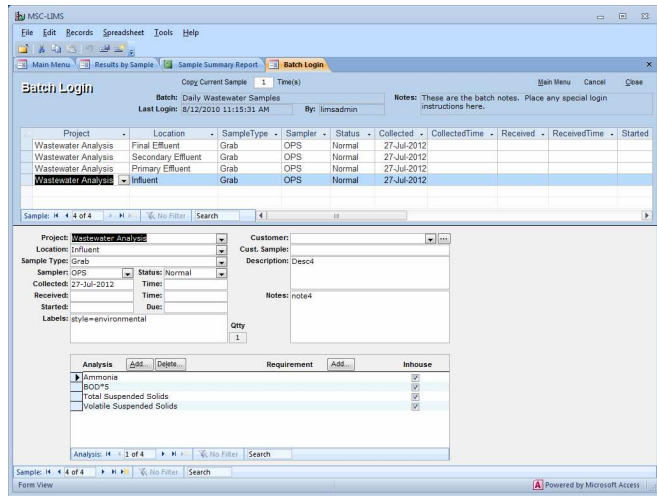
Screen Size and Color

When MSC-LIMS version 1.0 was first developed we chose 800 by 600 for a standard screen size, which was neither the lowest nor highest screen resolution at the time. Today, most systems use a higher screen resolution so we have increased the minimum required screen size in MSC-LIMS 4.0 to 1024 by 768 and resized all screens accordingly. The Batch Login screen below shows the benefits of the larger screen size. The summary view datasheet is now part of the screen so sample data can be entered in the datasheet or in the synchronized individual samples below.

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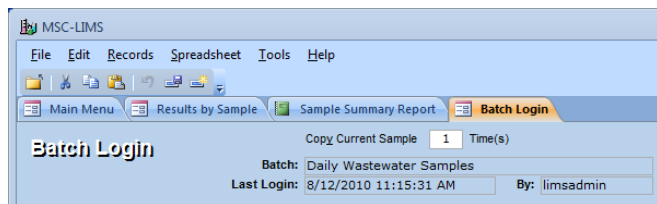
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Like previous versions, MSC-LIMS 4.0 screens use the current Windows color settings for most screen elements, which supports user preferences and accessibility options. The screen above shows MSC-LIMS 4.0 using the Windows 7 Basic theme.

Tabbed Windows

The image below shows the new tabbed windows used in version 4.0 instead of the previous overlapping windows. Each open screen and report will appear in its own tabbed window.

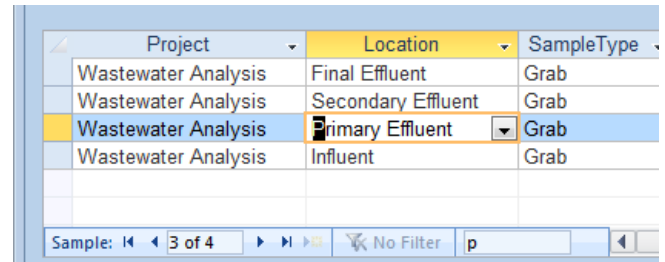


No Ribbon

If you have used Microsoft Office 2007 or 2010 you have experienced Microsoft's new ribbon interface, which replaces the earlier menus and tool bars. Consensus suggests you either love or hate the ribbon interface. Since the ribbon interface favors the mouse over the keyboard we have chosen to preserve MSC-LIMS' menus and tool bars to maintain familiar keystrokes for longtime users.

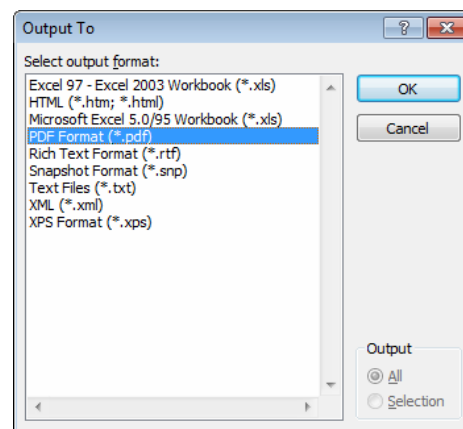
Navigation Search Field

Note the new Search field in the record navigation bars. As you type in the search field, the system will find and highlight the first occurrence of the search text in any field in the screen's records.



New Report Export Options

In MSC-LIMS 4.0 any report can now be saved or emailed in Portable Document Format (PDF) and XML Paper Specification (XPS) format without any additional software. Use File | Output To or File | Send while previewing any report then select the file format. Although snapshot format is still available it will soon be obsolete. XPS provides an open standard for electronic paper and provides an alternative to PDF documents. An XPS document viewer is included with Windows Vista, Windows 7, and can be downloaded for Windows XP.



System Requirements

Like MSC-LIMS 3.x with its Access 2002 runtime, MSC-LIMS 4.0 will install an isolated copy of the Access 2010 runtime. Workstations do not need a copy of Access 2010 and MSC-LIMS 4.0 can coexist with any installed version of Access. The system requirements to install MSC-LIMS 4.0 generally mirror those required for Office 2010:

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- 500 MHz or faster processor
- 512 MB RAM
- 3.0 GB available disk space
- 1024 x 768 or higher resolution monitor
- Windows XP SP3, Windows Vista SP1, Windows 7
- Internet Explorer 6 or later

MSC-LIMS 4.0 will run on 32-bit or 64-bit Windows. Note that if you are running or plan to install Microsoft Office 2010 you must install the 32-bit version, which Microsoft continues to recommend for most users. MSC-LIMS 4.0 is a 32-bit application and can not be installed on systems with 64-bit Office 2010.

Upgrade Procedures

Only MSC-LIMS version 3.3 databases can be upgraded to version 4.0. If you are still running an older version, you will need to update your database to version 3.3 before upgrading to version 4.0.

The upgrade procedures for an Annual Subscription system will be simple. You will download and install

How to Use Default Sample Descriptions

Available during sample login, the sample Description field will accept up to 255 alphanumeric characters. The Description field is often used to record useful descriptive information about the sample and is frequently displayed on Excel-based final reports.

MSC-LIMS' Default Sample Description fields, which are available on the Notes tab of both the Projects and Customers setup screens, offer a convenient method to add recurring data to a sample's Description field. During either single-sample or batch login, any data in the Default Sample Description field for the sample's project or customer is automatically appended to the sample's Description. If there is existing data in the Description field, the Default Sample Description data is appended beginning on a new line. If both the project and customer have a Default Sample Description, the project's data is appended first followed by the customer's data. Any appended data that would exceed the Description field's 255 character limit is truncated.

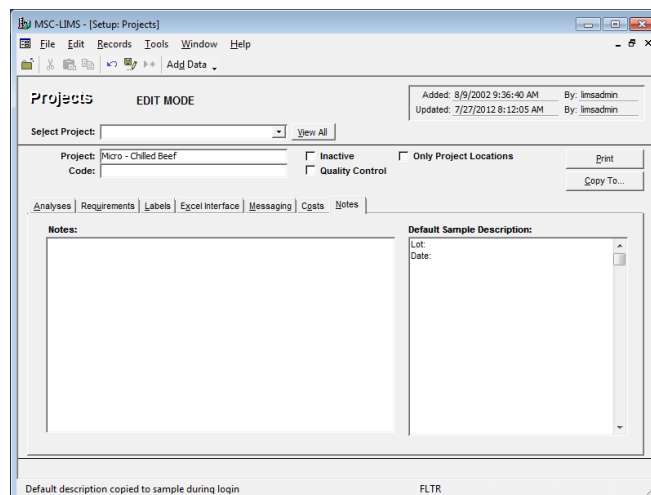
A good application of the Default Sample Description field is to add data that will effectively prompt the user to enter additional information during sample login. With this technique you can add project- or customer-

MSC-LIMS version 4.0 then copy and convert your existing LimsData database to version 4.0 format.

The procedures to upgrade a Full System installation with customizations will be more involved. Unlike the installation of a point release (e.g. 3.1, 3.2, etc.) where the update is automatically applied to your LimsCode3.mdb file, an upgrade to version 4.0 must begin with a new LimsCode4.mdb file to which your existing customizations are added.

If you have performed all customizations, the process to import and install your custom features in LimsCode4 should be straight forward. If we implemented your customizations, we can reapply your custom features to LimsCode4. However, we will need to track and bill for the time required performing this service. To minimize costs, where possible we plan to automate importing custom features such as bench sheets, reports, label styles, etc. Make sure your customizations documentation is current and complete to streamline this process. ▲

specific data to your samples. The screen below shows a simple example. Assume a QA lab in a food processor needs to record the lot number and production date for specific products. While the production date could be added as an analyte, their lot numbers are alphanumeric so they are not suitable for an analyte. They also prefer to enter this information during sample login rather than switching to a results entry screen after login.



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Adding "Lot:" and "Date:" on separate Default Sample Description lines for the required projects will automatically add this data to the sample's Description. During sample login the data is appended to the sample's Description when the sample record is first saved where the user can enter the additional information.

Analysis	Requirement	Expires	Preservative	Container Type	Amount	Inhouse
E. coli (pieces)		31-Jul-2012	N/A	N/A	0	<input checked="" type="checkbox"/>
Salmonella (Presumptive)		03-Aug-2012	N/A	N/A	0	<input checked="" type="checkbox"/>
Total Coliforms		31-Jul-2012	N/A	N/A	0	<input checked="" type="checkbox"/>
TPC 20°C		31-Jul-2012	N/A	N/A	0	<input checked="" type="checkbox"/>

matching characters. This example uses the asterisk wildcard character, which matches any number of characters, to find the word "Lot" followed by "ABC-123" anywhere within the Description field.

While Default Sample Descriptions are not a complete replacement for custom fields available with a full system license, they provide an important technique you should consider when you need to record additional project- or customer-specific data. 

The screen below shows how samples are queried by the contents of their Description using wildcard pattern

Notes from Technical Support


Printing Excel Invoices to PDF

A user generating invoices using one of the example Excel invoice templates recently asked:

Would it be possible to make the "Print and Update Invoice #" button create a PDF file instead of printing the invoice? Also, my invoices are two pages long with the second page being blank. I need to get rid of the second blank page.

After receiving this question, we updated the example Excel invoice templates and added a new Printer option to the Settings sheet. Add the name of an installed PDF printer to create PDF files.

If you don't already have a PDF printer you can download the free open source [PDFCreator](#) then set the Printer option on the Settings sheet to "PDFCreator". When printing to PDF, most utilities will allow you to specify the name of the file and the folder.

If you are getting an extra blank page you may have blank but used cells that are included in the print range. Export to the template then use print preview in Excel. When you close print preview you will see the file's print range. It is possible that you are getting extra pages because the columns do not fit within the margins of a single page. You can experiment with margins, and print setup options until you can preview a single page. Make the same changes to your template and that should solve the problem. 

Entering Results with Scientific Notation

Recently, a user asked:

How do I enter a result value of 5×10^9 ?

You can enter the value with all digits to the right of the decimal point but that can be cumbersome. To enter a result value in scientific notation in MSC-LIMS, use an "E" followed by the exponent.

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For example, to enter a value of 5×10^{-9} enter 5E-9. Note that the analysis' Report Format setting will determine how the result value is formatted on reports. ▲

Selecting Excel Template Folders

We often receive variations of this note:

[In the] workstation configuration screen, when I select folders and the import and export templates browse button there are no excel files to choose from but I know they are in those directories.

For Customers Only

This section of *MSC-LIMS Insights* is devoted to current users of MSC-LIMS. Here we briefly introduce only the most recent additions to MSC-LIMS.com Customers Only pages. Use your login name and password to log on to the Customers Only section of our website.

File Library

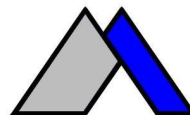
[Invoice Templates.zip](#)

Create custom invoices by exporting data from an MSC-LIMS invoice report to one of these templates (see template's Read Me worksheet for details). These templates were recently updated to allow printing to PDF. See "Printing Excel Invoices to PDF" above for more information.

The [Browse...] buttons on the Folders tab of the Workstation Configuration screen are used to choose folders where the template files reside and not individual template files. For this reason, the folder selection dialog shows only folders and not individual files in the folders. When the dialog shows a folder is empty it simply means the folder contains no other folders. ▲

Contact Us

**Questions, comments, suggestions?
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