

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. 21

January 2014

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 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. ▲

Time to Upgrade from MSC-LIMS 3.x or Windows XP

If you are still using MSC-LIMS 3.x, you should consider upgrading to MSC-LIMS 4.0 soon. If you are running MSC-LIMS 3.x on Windows 7 your system is already subject to poor performance for reasons we have discussed in past *Insights* issues (see the [archives](#) for more information). MSC-LIMS 4.0 has no performance problems on either Windows XP or Windows 7.

If you are still using Windows XP on any workstations you should be aware that Microsoft officially ends support for Windows XP SP3 on April 8, 2014. Since automatic security updates and non-security hotfixes end on that date, Windows XP systems may become more vulnerable to security risks and viruses. See [Support ends in 2014 for Windows XP](#) for more information. ▲

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From the Developer

This issue of *MSC-LIMS Insights* marks the 10th anniversary of our biannual newsletter. Looking back, the first issue reveals information that is still timely including the benefits of compacting your LimsData database. During technical support calls we frequently ask how often a site's LimsData database is compacted, only to learn that compacting is rarely if ever performed.

Compacting LimsData is a quick and painless way to verify the health and integrity of your database. The numerous performance benefits are a bonus. If you aren't already compacting regularly, consider compacting weekly if you can or monthly at the very least. Visit the [MSC-LIMS Insights archive](#) on our web site and use your browser's search function to locate compacting articles.

Finally, if you are still running an MSC-LIMS 3.x version or running Windows XP on any LIMS workstation, it is time to upgrade. See the related article in this issue for more information.



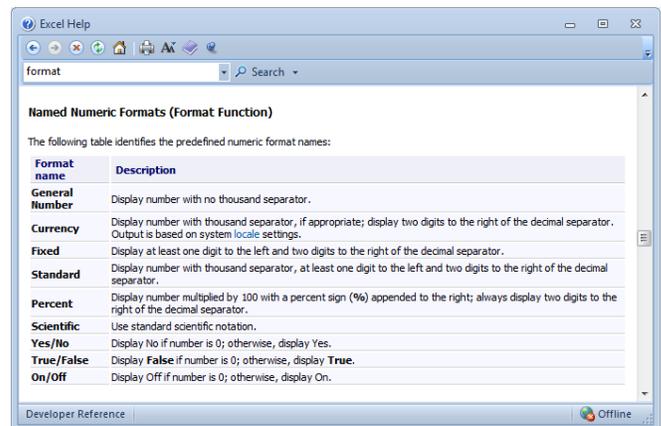
Rick Collard is the founder of Mountain States Consulting, LLC and the principal developer of the MSC-LIMS software. You can reach Rick by email at rcollard@msc-lims.com.

Result Value Formatting for Custom Numbers

The Report Format field on the Analyses setup screen enables formatting analysis results with various options including decimal place and significant figure rounding. However, the formatting options available are not limited to the field's pick list, which only provides commonly used formats.

The Report Format field allows any of the formatting options supported by the Visual Basic for Applications (VBA) Format function. To see a list of the predefined named date and number formats and user-defined format options, open Excel, use Alt+F11 to open the VBA editor, use F1 to open Excel VBA Help, search for "Format" then select the "Format Function" topic.

The image below shows the available named numeric formats, some of which you will already find in the Report Format field's pick list. To test a named numeric format, open the Analyses setup screen, switch to edit mode and select any analyte, then click the [Test...] button adjacent to the Report Format field. In the Result Report Format popup screen enter "Currency" in the Format field. Since currency is not a numeric format commonly used in a LIMS it is omitted from the pick list. However, with the example values you will see that since it is a valid named numeric format option for VBA's Format function it will work properly in MSC-LIMS. Try the "Percent" named numeric format as well.



User-defined numeric formats use characters for digit and decimal placeholders, thousands separator, and literal characters. For example, both "0" and "#" are digit placeholders. A "0" displays a digit, or a zero if the number does not have a digit in the position where the zero appears in the format. A "#" displays a digit, or nothing if the number does not have a digit in the position where the "#" character appears.

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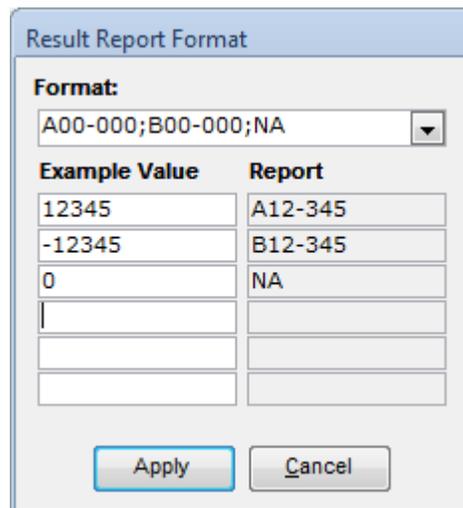
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Below are a few examples:

<u>Format</u>	<u>Value</u>	<u>Report</u>
0.00	.123	0.12
#.00	.123	.12
#,##0	.123	0
#,##0	1234.5	1,235

Custom number formats can include literal characters. Use this capability to create formatted results for results you cannot enter directly. For example, if a manufacturer's lot numbers are listed as two digits followed by a dash and three digits, use a report format of "00-000" and enter only the digits for the result value. That is, enter a result value of 12345 with this user-defined format to report the lot number as 12-345. If lot numbers are always prefaced with the letter "L" use "L00-000" for the report format to produce L12-345.

An often overlooked feature of user-defined numeric formats is the option to include different formats for positive, negative, and zero values. These are created by separating the formats with a semicolon (;) in the report format field. Following our current example, assume lot numbers are identified with either a leading "A" or "B" depending on the manufacturing plant. With only two lot number formats, we can use different positive and negative formats to create the lot number. A positive result value is used for "A" lot numbers and a negative value for "B" lot numbers. We can also use a zero result to indicate no lot number. The screen below shows the format with example result values.



If more than two distinct options are necessary for lot identification characters, result types can be used with result values. The table below shows results for example result types using a "00-000" analysis report format.

<u>Result Type</u>	<u>Rpt. Format</u>	<u>Value</u>	<u>Report</u>
Lot A	A#	12345	A12-345
Lot B	B#	1234	B01-234
Lot C	C#	123	C00-123

Note that the VBA Format function also supports named and user-defined date and time formats. See "Using Date and Time Analyses" in [MSC-LIMS Insights Issue No. 19](#) for more information. With user-defined analysis report formats, capturing and reporting data with special-purpose analytes is a viable option. ▲

How to Use Location-Specific Analyses

An MSC-LIMS project defines the analyses to be performed for samples logged for the project. Project default analyses are those added to the project without a location so they may apply to any sample collection location. Location-specific project analyses include a designated location and are only assigned to samples collected from that location. Location-specific analyses enable an alternate set of analyses or alternate analysis specifications (i.e. result and warning minimum and maximum) for samples collected at a specific location.

An MSC-LIMS project can have one of the following configurations:

- Default analyses only
- Default and location-specific analyses
- Location-specific analyses only

While you can create any number of projects, understanding project default and location-specific analyses will help you define appropriate projects and minimize the number of projects needed in your implementation. Let's look at each of these configurations through simple examples below.

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Default Analyses Only

The image below shows a project with only default analyses. Regardless of the sample location specified during sample login with this project, all samples logged will automatically receive all of the project's analyses. Use a project with only default analyses when a list of analyses is frequently performed for samples collected at many locations.

Location*	Analysis	Units	Result Max	Warn M
	E. coli(species)	cfu/g	1E+99	100000
	Salmonella (Presumptive)	Pos/Neg	0	0
	Total Coliforms	cfu/g	1E+99	100000
	TPC 20°C	cfu/g	1E+99	100000
Salmonella Only	Salmonella (Presumptive)	Pos/Neg	0	0

Location*	Analysis	Units	Result Max	Warn M
	Benzene	mg/kg	1E+99	1E+99
	Toluene	mg/kg	1E+99	1E+99
	Ethylbenzene	mg/kg	1E+99	1E+99
	Xylenes	mg/kg	1E+99	1E+99
	Total Volatile Hydrocarbons	mg/kg	1E+99	1E+99
	Total Semi-Vol. Hydrocarbons	mg/kg	1E+99	1E+99
	Total Petroleum Hydrocarbons	mg/kg	1E+99	1E+99
	Oil & Grease	mg/kg	1E+99	1E+99

Location-Specific Analyses Only

Finally, a project may include only location-specific analyses as shown in the example below. Note that the "Only Project Locations" option is enabled to limit sample login for this project to only the locations included in the project. If this option were not enabled, selecting any other location at sample login would result in no analyses added to the sample since the project has no default analyses. To avoid confusion at sample login, always enable the "Only Project Locations" option when a project has only location-specific analyses.

Location*	Analysis	Units	Result Max	Warn M
Hoback Final	Ammonia	mg/L	300	0.2
Hoback Final	BOD*5	mg/L	1000000	100000
Pinedale Final	Ammonia	mg/L	300	0.3
Pinedale Final	BOD*5	mg/L	1000000	100000

Default and Location-Specific Analyses

A project can also use a combination of default and location-specific analyses for added flexibility. In the example in the image below, all samples logged for the project will normally receive the same three analyses. However, when a sample is logged for the project with location "Site 1" the solids analyses will receive different specifications.

Location*	Analysis	Units	Result Max	Warn M
	Ammonia	mg/L	300	200
	Total Suspended Solids	mg/L	5000	3500
	Volatile Suspended Solids	mg/L	5000	2800
Site 1	Ammonia	mg/L	300	200
Site 1	Total Suspended Solids	mg/L	5000	2000
Site 1	Volatile Suspended Solids	mg/L	5000	1800

The combination of default and location-specific analyses offers considerable flexibility when defining your projects. Put these options to work and make sample login more intuitive and more productive. 

A project with default and location-specific analyses can also be configured to assign different analyses to project samples as shown in the example below. Here, if a sample is logged with location "Salmonella Only" a single salmonella analysis is assigned, otherwise the four default analyses are added to the sample.

Notes from Technical Support

Export a Customer List

Recently, we received the following question:

I need to import our customers into a newsletter application on our new website in something like a CSV file but apparently I can also do it from a table within a database. Can you tell me how I can export our customer details into a CSV file or the like or access the table in the database?

To get a customer list in Excel, export the Customers report on the Setup menu to the generic "MSC-LIMS Export Template" template. If this template does not exist in your Excel export templates folder, which you will find specified on the Folders tab of the Workstation Configuration screen, just copy it from folder C:\MSC-LIMS\Examples\Excel Export Templates. The MSC-LIMS Export Template's macros are empty so you can export any LIMS report to this template to get the raw data behind the report. When you export the Customers report you will get all fields for all customers. Just delete the columns you don't need then use File | Save and set the file type to CSV to create a CSV file to import into another application. See "Exporting to the Generic Template" in [MSC-LIMS Insights Issue No. 12](#) for more information. 

Conclusions Field Character Limit

A user whose final reports are created with an Excel template recently submitted this request:

What is the character limit of the conclusions field? Can that size be changed to allow for more characters? On a rare report, not all of the conclusions field appears in the Excel report after exporting.

There is no limit on both the Notes and Conclusions fields in MSC-LIMS. Both are stored in an Access field with a Memo data type, which has no character limit. However, there is a 512-character limit when exporting fields to Excel. Beginning with MSC-LIMS version 2.2, released in November of 2000, this limit was imposed when we discovered Excel 97 consistently crashed with longer memo fields. Recent tests show that Excel 2002 still exhibits the same problem but Excel 2010 successfully handled doubling the limit to 1024 characters. We plan to make the character limit when exporting to Excel configurable in a future version. 

Report Results to more Decimal Places

We recently received this request to report results with more digits to the right of the decimal point:

We need to have the results on the first page to be in (.xxxx). LIMS only allows up to (.xxx)

The Report Format field on the Analyses setup screen is not limited to the options in the pick list. If you need four digits to the right of the decimal point enter "0.0000" in the Report Format field. See "Result Value Formatting for Custom Numbers" above for more applications of the Report Format field. 

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For Customers Only

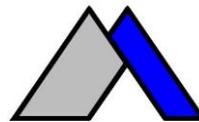
This section of *MSC-LIMS Insights* is devoted to current users of MSC-LIMS. Here we briefly introduce only the most recent additions to MSC-LIMS.com Customers Only pages. Use your login name and password to log on to the Customers Only section of our website.

MSC-LIMS Insights Archive

All past issues of MSC-LIMS Insights are [archived](#) on our web site and accessible to current MSC-LIMS users. You will find valuable tips, techniques, and technical articles to help you get the most out of your MSC-LIMS implementation. Use your browser's search function to locate topics in the article index. 

Contact Us

Questions, comments, suggestions?
Reach us at:



Mountain States Consulting, LLC
970 West Broadway #471
PO Box 30000
Jackson, Wyoming 83002 USA
Ph +1 307-733-1442
Fax +1 303-379-6850

info@msc-lims.com
www.msc-lims.com

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