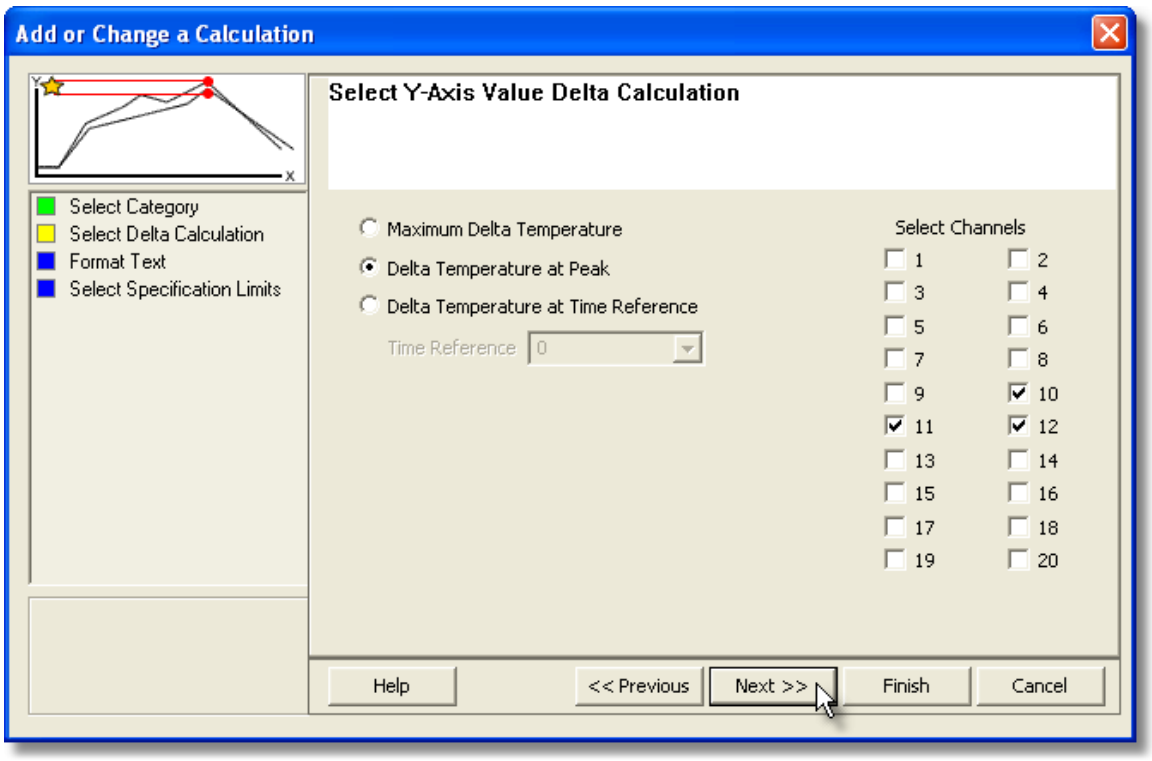
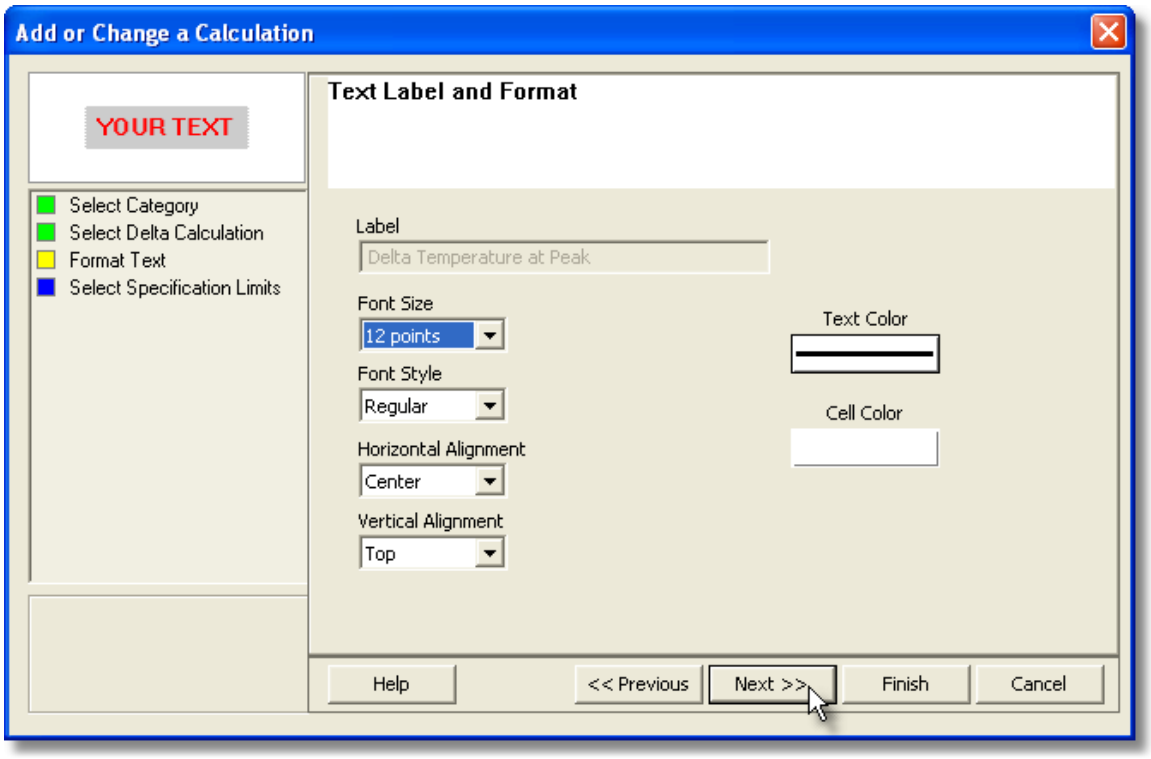


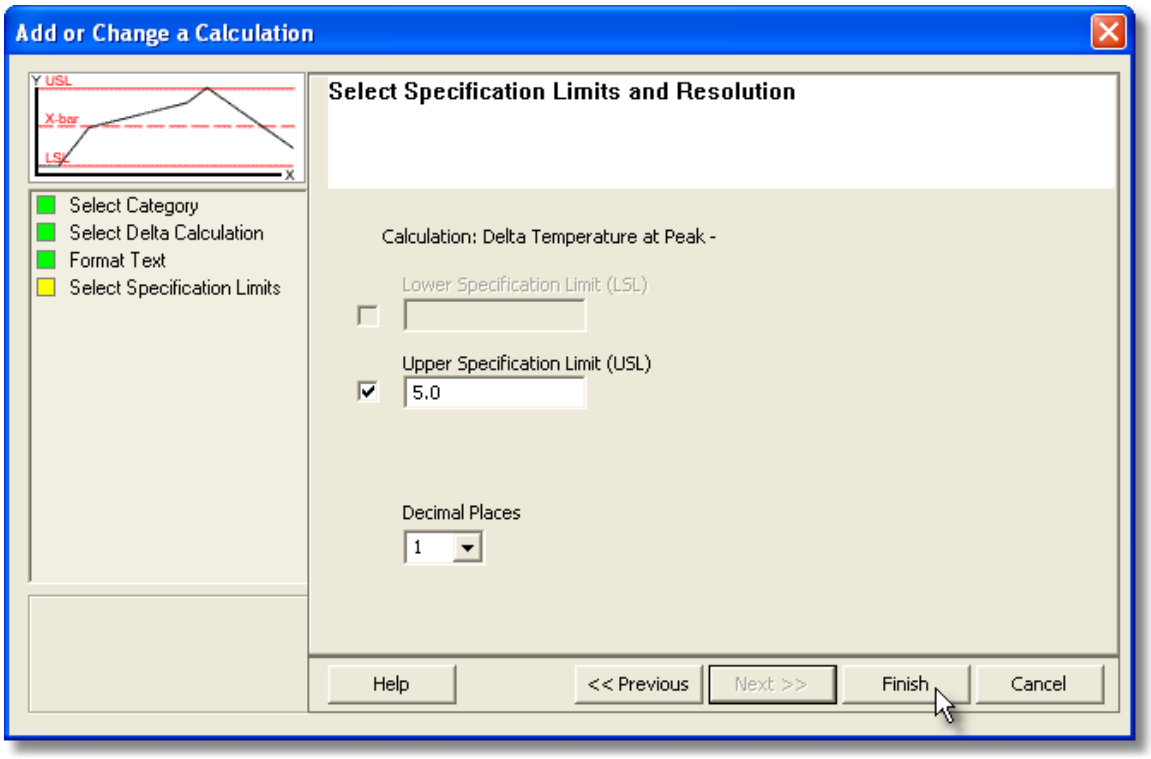

6) Select the ***Next*** command button.

7) Select desired text formatting options.




8) Select the ***Next*** command button.

9) Select Specification Limits and Units. If these values are violated colored bars will appear in the formatted template cell. Refer to topic ***Software>Page Tabs>Spreadsheet>Template>Specification Limit Indicators*** for more information.




10) Select the ***Finish*** command button to complete the wizard and display the new calculation data in the selected template cell.

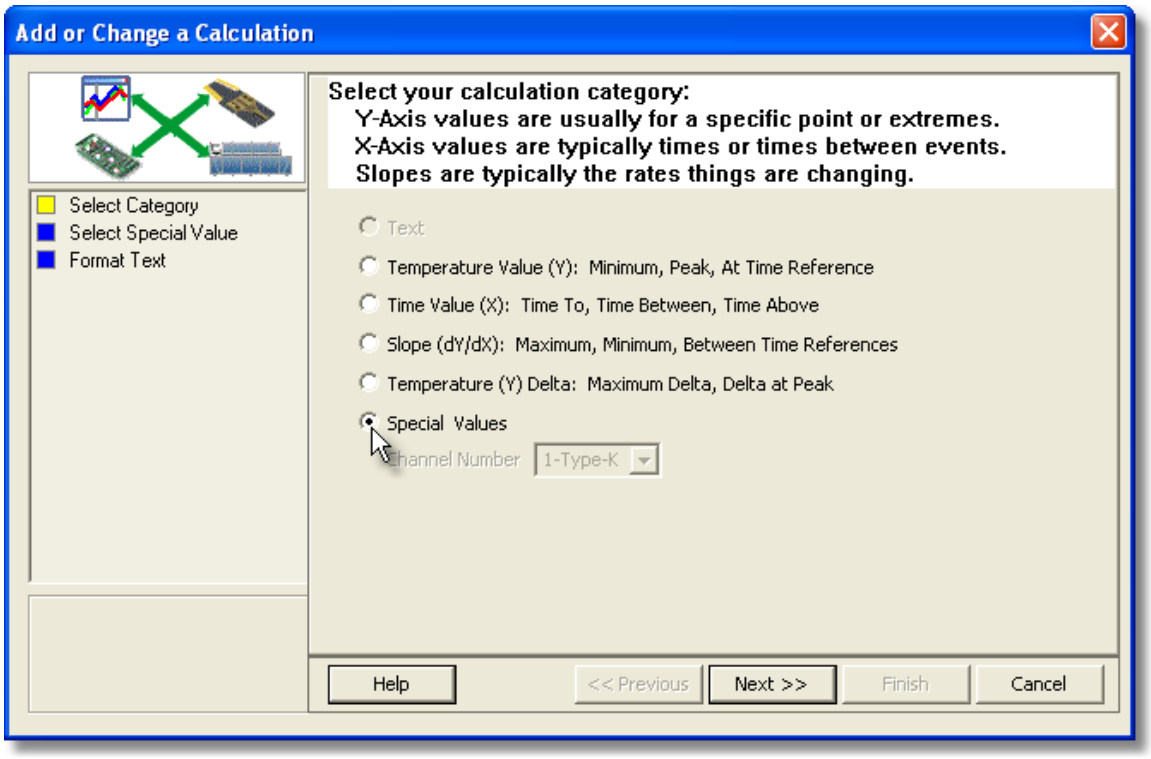
### 5.4.3.2.1.5. Special Value

**To add or edit Special Value content:**

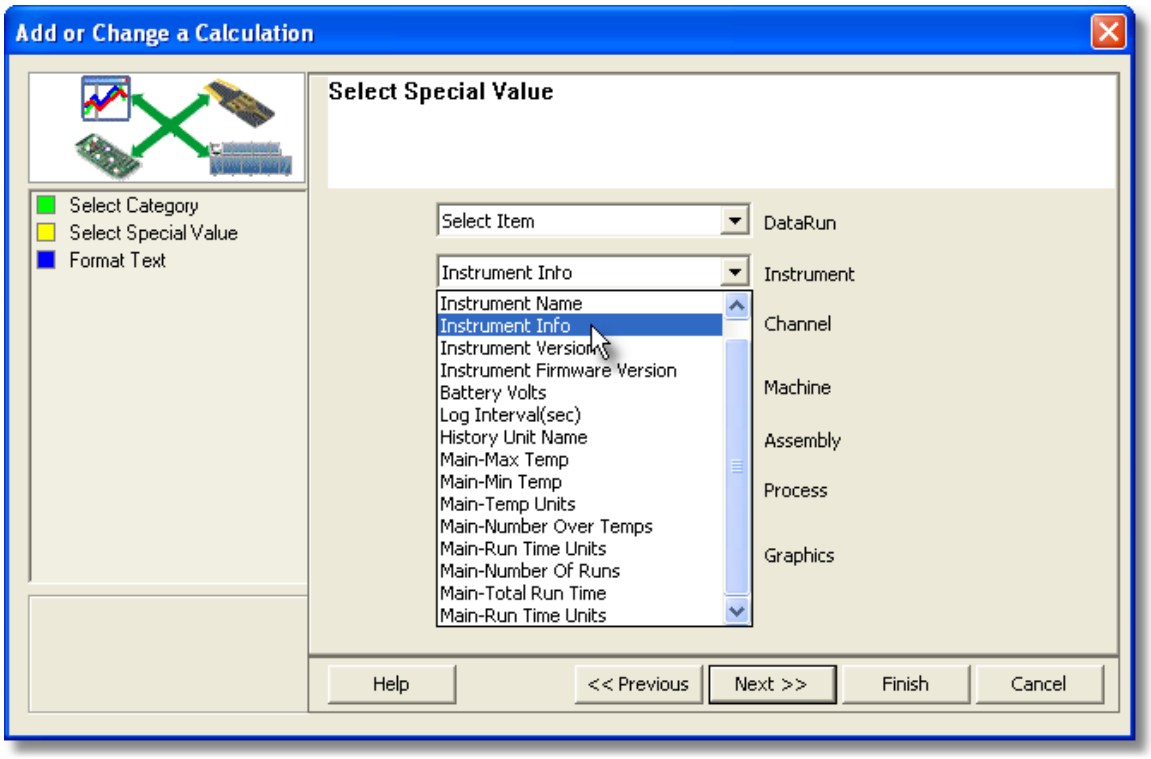
1) Right-click a template cell and a shortcut menu appears.
2) Select ***Add Content*** or ***Edit Content*** from the shortcut menu and the ***Add or Change a Calculation*** wizard appears.

> When navigating through the wizard, the step list on the left uses a color key to inform the user of the current step, steps that have been completed and remaining steps.
>
> Current  Completed  Remaining

3) Click ***Special Value***.

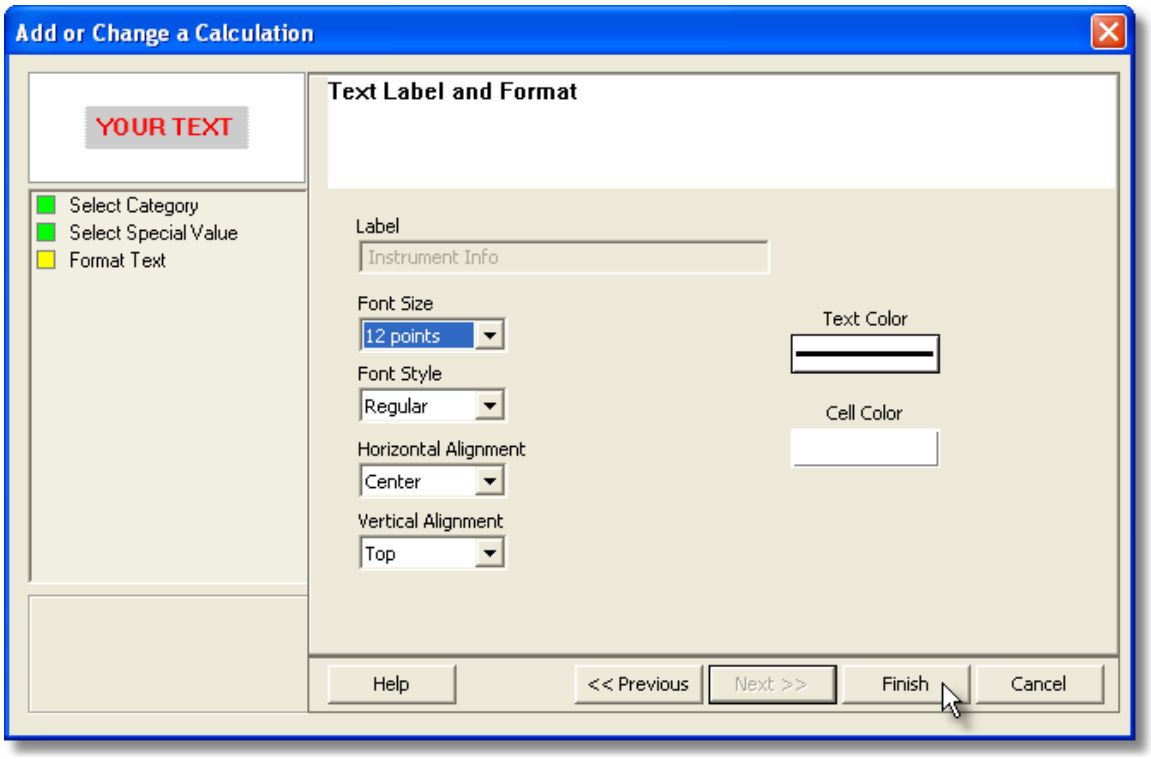



4) Select the ***Next*** command button.
5) Select a Special Value type.




6) Select the ***Next*** command button.

7) Select desired text formatting options.

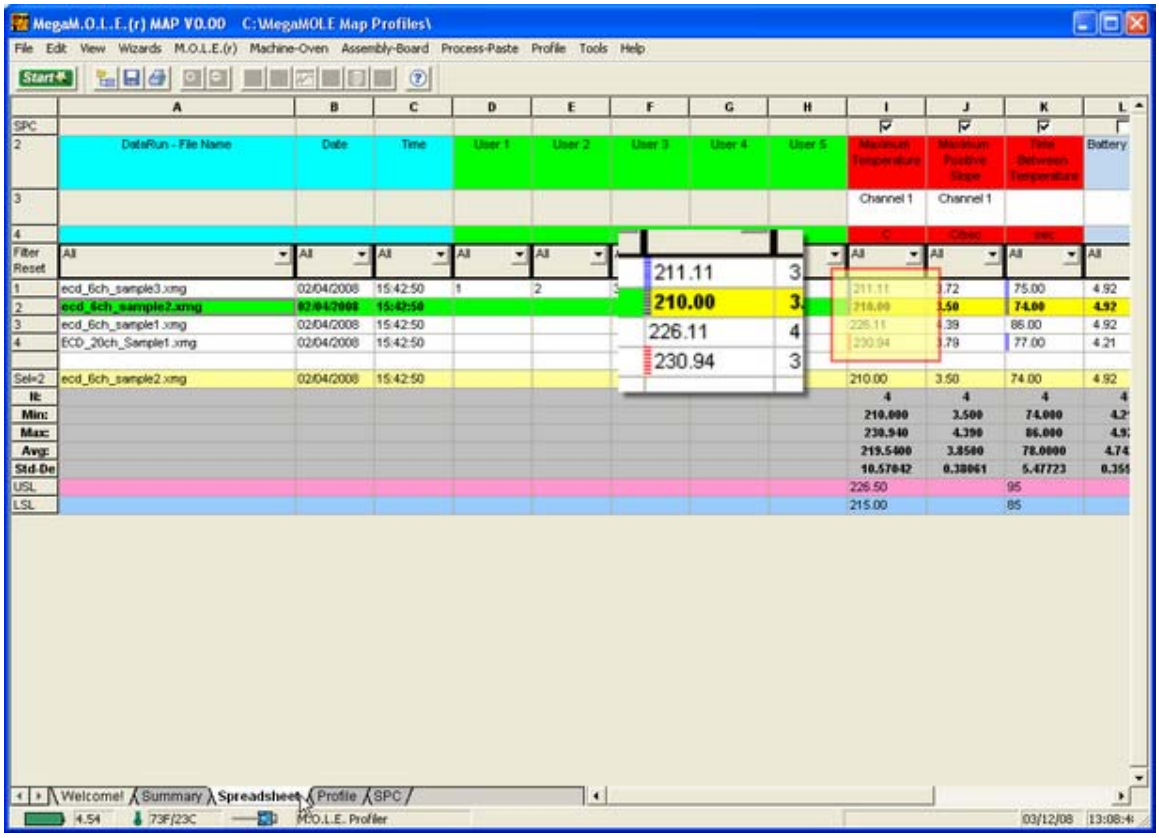



8) Select the ***Finish*** command button to complete the wizard and display the new calculation data in the selected template parameter column.

### 5.4.3.2.2. Specification Limit Indicators

Each Parameter displayed on the Spreadsheet Page Tab can have both Lower and Upper specifications applied. If a specification limit is violated, the software displays a red or blue indicator on the left edge of the Data Table cell.

If a USL has been exceeded, that parameter indicator will appear in **red** (indicating it is above the specification limit). If a parameter is less than the user specified LSL, that parameter indicator will be appear in **blue** (indicating below the specification limit).




**Refer to topic *Software>Page Tabs>Spreadsheet>Template>Add & Edit Content* for information on how to apply LSL and USL values.**

### 5.4.3.3. Parameters

When parameters are displayed on the Spreadsheet template, they include header, labels and unit cells. These parameters can be color coded with the associated Parameter Labels so they can be easily identified together.

The width of each column can be adjusted to be larger or smaller by placing the mouse pointer over a split line dividing the columns and sliding it to the desired width.

### Parameter Headers

The software includes two default parameter headers that display data run and user defined information. All headers displayed to the right of those display the description of the parameter.

When editing or adding parameters, the software does not allow the default parameter description to be modified.

**Data Run Parameter Group:**

This group contains file information associated with the run such as; date and time, (of profile) and the data file tag.

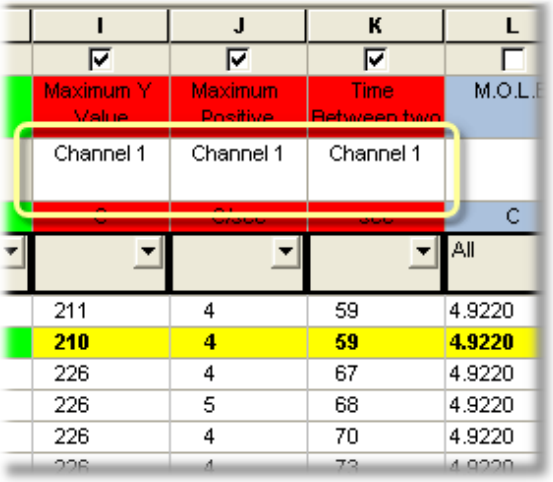
**User Defined Parameter Group:**

These parameter columns can be used to enter text to help identify the row with unique information about that run (i.e. shift, operator, line number, part number). This information will also appear in the Tool Status box on the Profile worksheet.

| A | B | C | D | E | F | G | H | I | J | K | L |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | ☑ | ☑ | ☑ | ☐ |
| DataRun - File Name | Date | Time | User 1 | User 2 | User 3 | User 4 | User 5 | Maximum Y Value | Maximum Positive | Time Between two | M.O.L. |
| | | | | | | | | Channel 1 | Channel 1 | Channel 1 | |
| | | | | | | | | C | Cdec | sec | C |
| All | All | All | All | All | All | All | All | | | | All |
| SM_CMPTRNAME_000109.xmg | 04/25/2007 | 08:42:00 | | | | | | 211 | 4 | 59 | 4.9220 |
| **SM_CMPTRNAME_000108.xmg** | **05/29/2007** | **10:16:13** | | | | | | **210** | **4** | **59** | **4.9220** |
| SM_CMPTRNAME_000107.xmg | 05/29/2007 | 10:16:08 | | | | | | 226 | 4 | 67 | 4.9220 |
| SM_CMPTRNAME_000106.xmg | 05/29/2007 | 10:16:00 | | | | | | 226 | 5 | 68 | 4.9220 |
| SM_CMPTRNAME_000105.xmg | 05/29/2007 | 10:15:54 | | | | | | 226 | 4 | 70 | 4.9220 |

## Parameter Labels

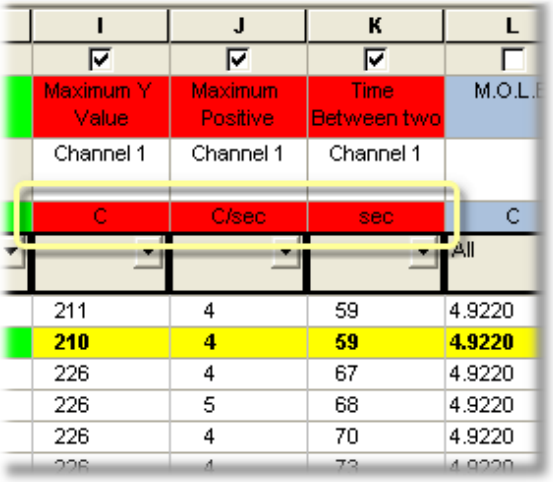
The Parameter Labels display details associated with the displayed parameters.




For example, in the ***Maximum Y Value*** parameter, the label is ***Channel 1***.

## Parameter Units

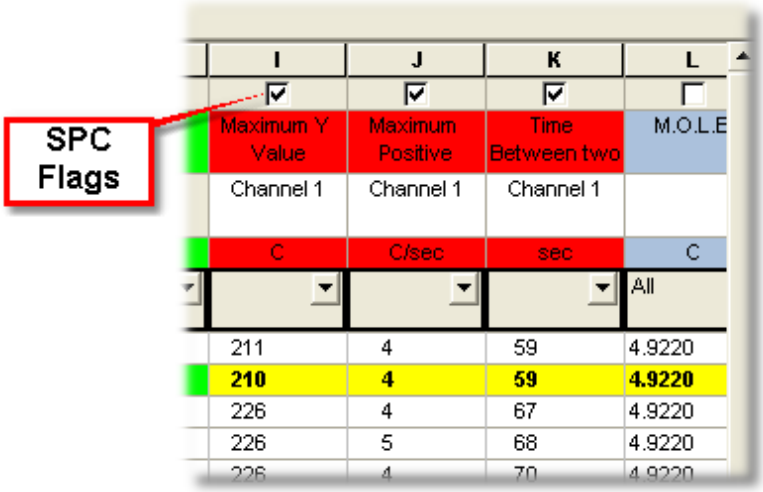
The Parameter Units are the units of measurement for the displayed parameter.




For example, in the ***Maximum Positive Slope*** parameter, the parameter unit is ***°C/sec***.

### 5.4.3.4. SPC Flags

SPC Flags allow the user to flag parameters so they are displayed on the SPC Page Tab. For each Parameter listed after the User defined Parameters, there is an SPC Flag. To display the parameter data in an X-Bar and R-Chart format, select the desired SPC Flag. Refer to topic ***Software>Page Tabs>SPC Page Tab*** for more information.



### 5.4.3.5. Data Run Rows

All of the data runs in the Selected working directory are listed on the Spreadsheet Page Tab as individual rows. The first data run uploaded or imported into the directory is on the bottom and the most recent data run is on the top.

When any data run row is selected, all of the cells in the entire row are highlighted in purple and blue. The purple cells indicate that the cells can be modified and the blue cells indicate the data cannot be modified.

When any individual data cell in a data run row is selected, all of the cells in the entire row are highlighted in green and yellow. The green cells indicate that the cells can be modified and the yellow cells indicate the data cannot be modified.

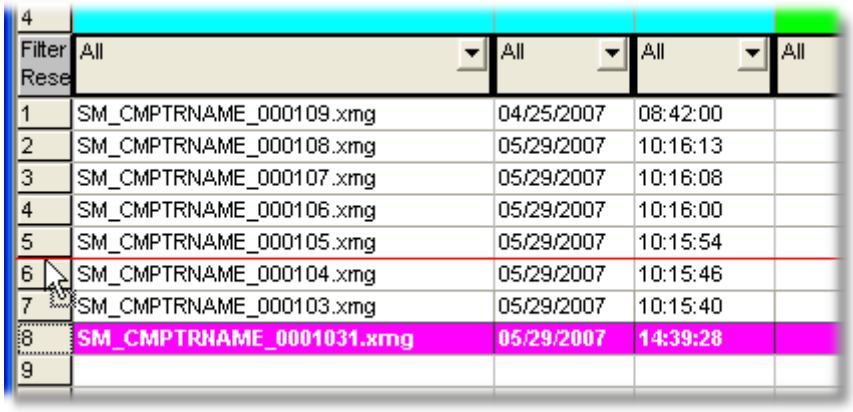
When a data run row is selected, the data for that row will also be displayed in the ***Sel=*** row located at the bottom of the data run rows. This row allows the user to easily compare the selected data row to the statistics calculations located below the selected run row.

**Selected rows and columns can be "copied" by pressing keys [CTRL + C] and then "pasted" [Ctrl + V] into other applications.**

The data run rows can also be moved into any order desired. This is useful when the user wants to place similar data runs together.

**To change the order of the data run:**

1) Select the number cell of a data run row with the mouse pointer. The row will then become highlighted in purple and blue.
2) Drag the row and drop it to a desired location.



| | | | | |
|---|---|---|---|---|
| 4 | | | | |
| Filter Rese | All | All | All | All |
| 1 | SM_CMPTRNAME_000109.xmg | 04/25/2007 | 08:42:00 | |
| 2 | SM_CMPTRNAME_000108.xmg | 05/29/2007 | 10:16:13 | |
| 3 | SM_CMPTRNAME_000107.xmg | 05/29/2007 | 10:16:08 | |
| 4 | SM_CMPTRNAME_000106.xmg | 05/29/2007 | 10:16:00 | |
| 5 | SM_CMPTRNAME_000105.xmg | 05/29/2007 | 10:15:54 | |
| 6 | SM_CMPTRNAME_000104.xmg | 05/29/2007 | 10:15:46 | |
| 7 | SM_CMPTRNAME_000103.xmg | 05/29/2007 | 10:15:40 | |
| 8 | SM_CMPTRNAME_0001031.xmg | 05/29/2007 | 14:39:28 | |
| 9 | | | | |

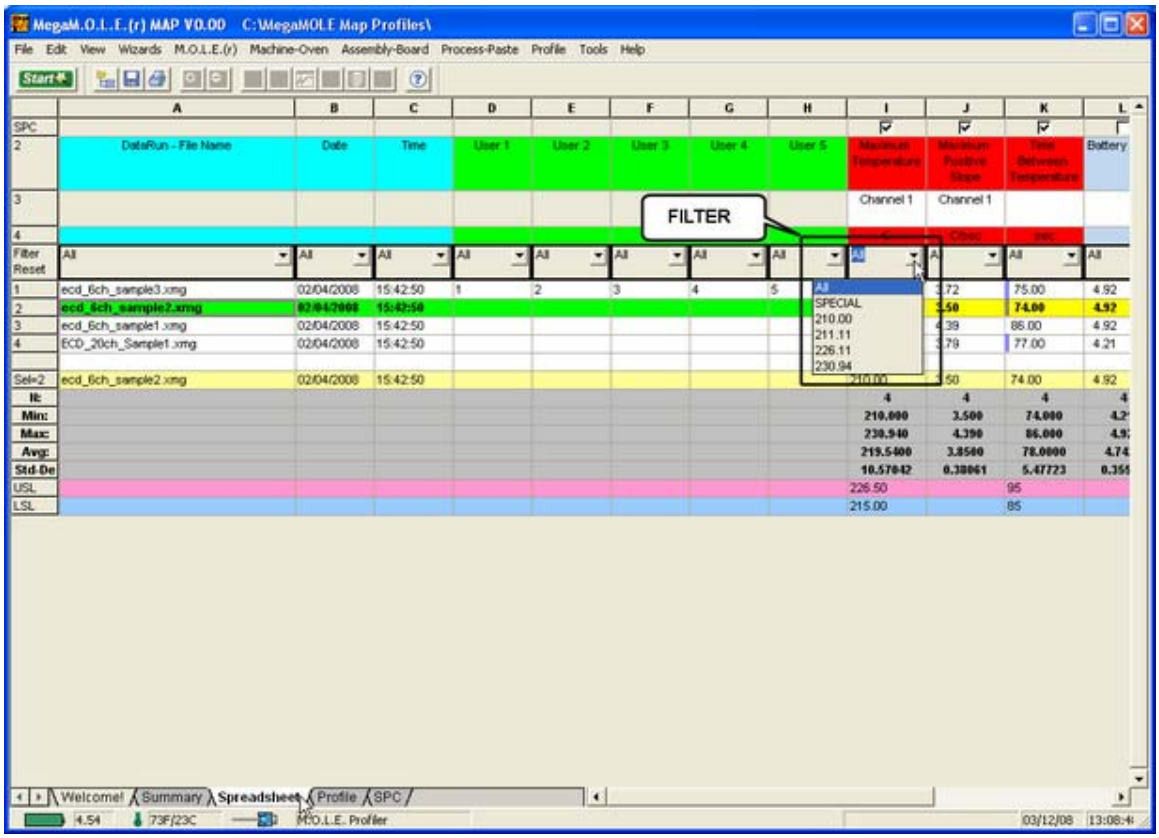
### 5.4.3.6. Filters

There are Filters for each parameter label that user can filter specific data out.

**Filtering more than one column at a time acts as a Logical AND Function. All conditions of all set filters must be met for data row(s) to remain visible.**

**How to use the Filter function:**

1) Click the ***Filter*** button to reveal the unique data as populated in that column under that particular parameter label.
2) Select a desired data value to filter, or the two standard filters ***All*** and ***Special***.




**To use the All option:**

1) Select ***All*** to reset the filter for that column and view all of the data run rows that meet the other column filters.

**To use the Special option:**

1) Select ***Special*** to select data run rows within a range of values. There are multiple options to select information to filter by clicking the appropriate relational operators option button. The user can either select data from a populated list or type it in the text box on the top of the column.

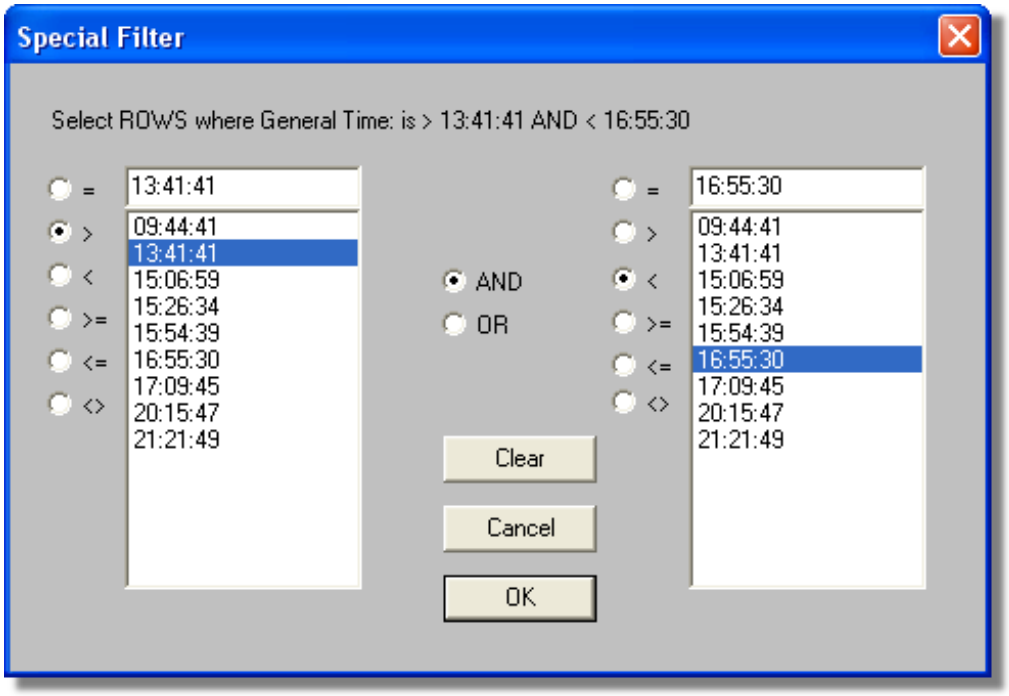
| | | | |
|---|---|---|---|
| **=** | **equal to** | **>=** | **greater than or equal to** |
| **>** | **greater than** | **<=** | **less than or equal to** |
| **<** | **less than** | **<>** | **Not equal to** |

2) Select a data filter by:

- Clicking the greater than relational operator option button beside the left data column.
- Click a parameter value from the list or type it in the text box.
- Click the ***AND*** logical operator option button.
- Click the less than relational operator option button beside the right data column.
- Click a parameter value from the list or type it in the text box.

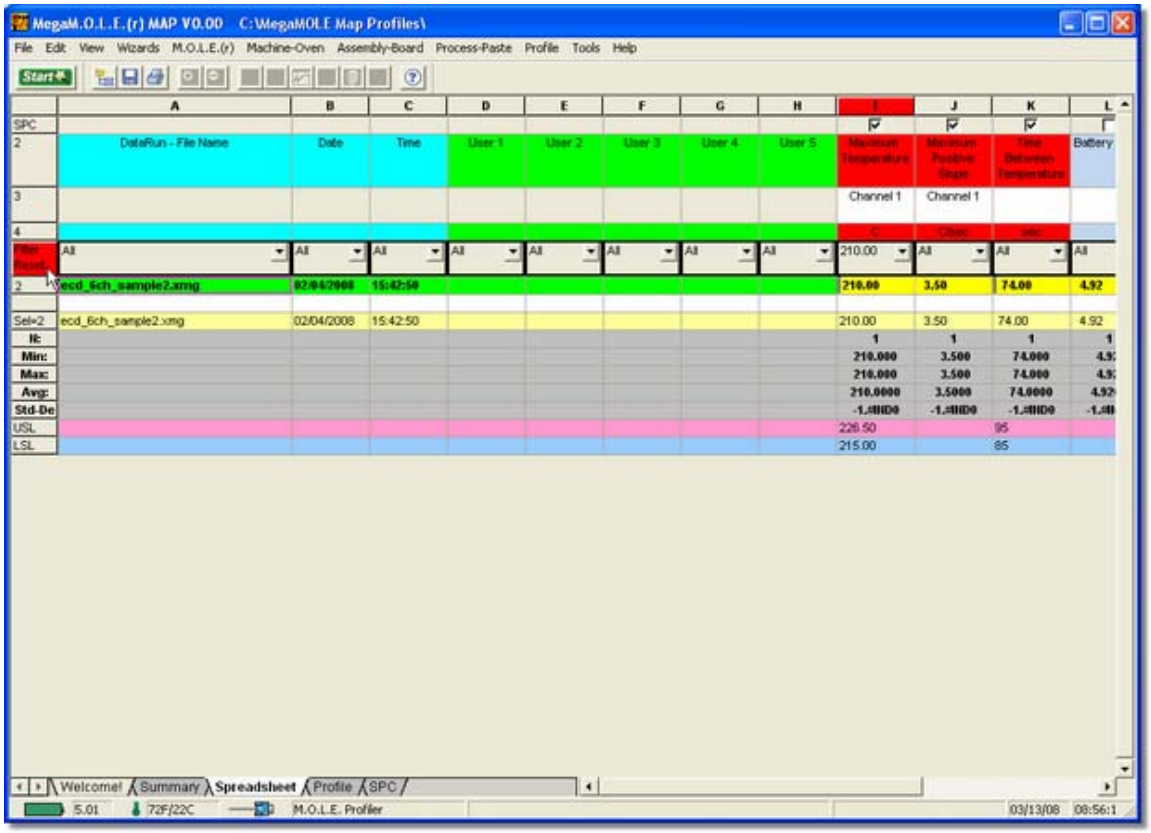
**The Clear command button can be selected at any time to clear the selections and the new values can be selected.**

3) Click the ***OK*** command button to accept the selected data filters or ***Cancel*** to return to the Spreadsheet Page Tab without executing the filter request.




In this example, the data filtered would be all times between, but not including ***13:41:41*** and ***16:55:30***.

**When the data is filtered, the column header and the Filter Reset button are highlighted in RED. To reset the data run rows to display the entire set of collected data, click the red Filter Reset button.**

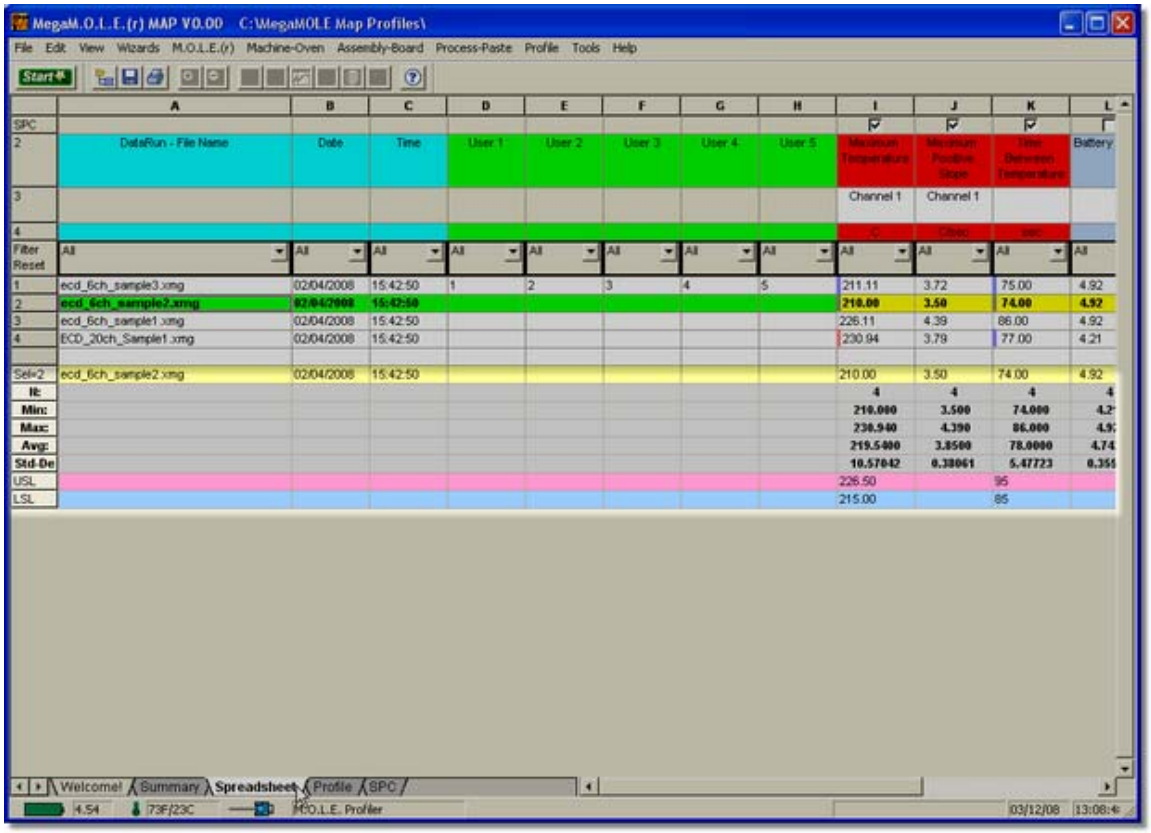

MegaM.O.L.E.(r) MAP V0.00 C:\MegaMOLE Map Profiles\
File Edit View Wizards M.O.L.E.(r) Machine-Oven Assembly-Board Process-Paste Profile Tools Help
Start
DateRun - File Name
Date
Time
User 1
User 2
User 3
User 4
User 5
Maximum Temperature
Maximum Positive Slope
Time Between Temperature
Battery
Channel 1
Channel 1
Filter Records
All
210.00
ecd_6ch_sample2.xmg
02/04/2008
15:42:50
74.00
4.92
Sel=2
Hi:
Min:
Max:
Avg:
Std-De
USL
226.50
95
LSL
215.00
85
Welcome!
Summary
Spreadsheet
Profile
SPC
5.01
72F/22C
M.O.L.E. Profiler
03/13/08
08:56:1

### 5.4.3.7. Statistics

There are shaded rows located on the bottom of the Spreadsheet worksheet, which are the combined calculations for all the data runs that are currently being viewed in the Spreadsheet worksheet display. The following information is the definitions for each Statistics row:

- N = Number of samples included in the calculations
- Min. = The lowest value in the parameter column.
- Max. = The highest value the parameter column.
- Avg = The average of all values in the parameter column.
- Std. Dev. = The standard deviation of the values in that column.
- USL = Upper Specification limit set for that parameter using the Calculation wizard.
- LSL = Lower Specification limit set for that parameter using the Calculation wizard.

The USL and LSL statistics will only be displayed if there is values set for that parameter


MegaM.O.L.E.(r) MAP V0.00 C:\MegaMOLE Map Profiles\
File Edit View Wizards M.O.L.E.(r) Machine-Oven Assembly-Board Process-Paste Profile Tools Help
Start
DataRun - File Name
Date
Time
User 1
User 2
User 3
User 4
User 5
Battery
Channel 1
Channel 1
Filter Reset
ecd_6ch_sample3.xmg 02/04/2008 15:42:50 1 2 3 4 5 211.11 3.72 75.00 4.92
ecd_6ch_sample2.xmg 02/04/2008 15:42:50 210.00 3.50 74.00 4.92
ecd_6ch_sample1.xmg 02/04/2008 15:42:50 226.11 4.39 86.00 4.92
ECD_20ch_Sample1.xmg 02/04/2008 15:42:50 230.94 3.79 77.00 4.21
Sel=2 ecd_6ch_sample2.xmg 02/04/2008 15:42:50 210.00 3.50 74.00 4.92
Ct: 4 4 4 4
Min: 210.000 3.500 74.000 4.2
Max: 230.940 4.390 86.000 4.9
Avg: 219.5400 3.8500 78.0000 4.74
Std-De 10.57042 0.38061 5.47723 0.355
USL 226.50 95
LSL 215.00 85
Welcome! Summary Spreadsheet Profile SPC
4.54
73F/23C
M.O.L.E. Profiler
03/12/08
13:08:4

## 5.4.4. Profile Page Tab

The Profile worksheet is where a selected data run is represented graphically. The software allows the user to analyze the data and to compute statistics based on the data.

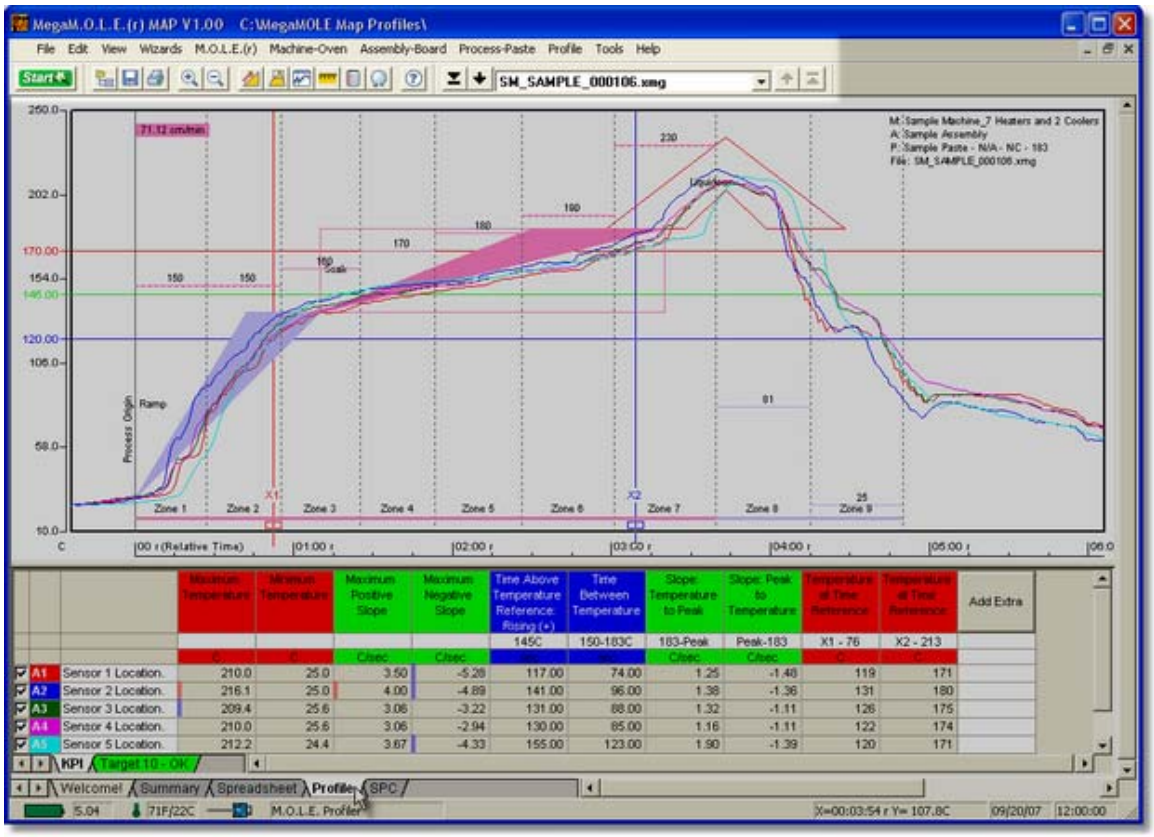
**Profile worksheet features:**

1. Menus and Toolbar
2. Data Graph
3. Data Table

The Profile Page Tab is divided into two panes, the Data Graph and Data Table. Using the pane split bar, these panes can be moved vertically so the user can display more of the Data Graph or Data Table. The Data Table also includes a vertical scroll bar so the user can view more Data Table without moving the pane split bar.

### 5.4.4.1. Menus & Toolbar

- **Menus:** File, Edit, Wizards, M.O.L.E.®, Machine-Oven, Assembly-Board, Process-Paste, Profile, Tools and Help.
- **Toolbar Buttons:** Start, Open Working Directory, Save, Print, Magnify, 100%, Slope, Peak Difference, Overlay, Measure, Notes, Prediction, Help, First (data run of the data set), Back (to previous data run), Forward (to the next data run), and Last (data run of the data set).



### 5.4.4.2. The Data Graph

The Data Graph is a display that shows the data collected from the data run overlaid on a graph. The user can analyze and highlight various process features with the tools listed below.

**Data Graph features:**

1. **Time & Temperature Scales**
2. **Data Plots**
3. **Process Origin**
4. **Conveyor Speed Indicator**
5. **Time Reference Lines**
6. **Temperature Reference Lines**
7. **Map Data**
8. **Machine Zones and Zone Sizes**
9. **Machine Zone Temperatures**


The Data Graph features are described in the sections that follow. Some of these features are also controlled using the appropriate menu options. Refer to ***Software>Menu and Tool Commands*** for more information.

### 5.4.4.2.1. Time (X) & Temperature (Y) Scales

The Data Graph displays both Time (X) and Temperature (Y) scales.

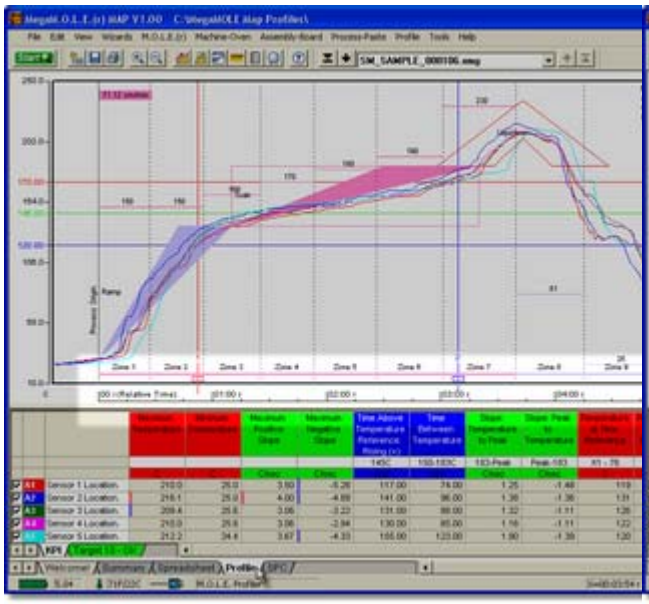
> According to the type of sensor that is associated with the displayed profile, the Temperature (Y) scale may display different a type of scale other than Temperature .

### Time (X) Scale:

The horizontal Time (X) scale displays values data points collected. The user can select four different types of Time (X) scales. The scales are:

- **Point:** The data points collected from the Process-Origin.
- **Time-Relative:** Time measured from the Process-Origin
- **Time-Absolute:** Time of day
- **Distance:** Distance from the Process Origin (Meters, Centimeters, Feet or Inches).

> **The Distance scale will not be accurate until an accurate conveyor speed is set.**



***Relative Time Scale***

***Distance Scale***

***Points Scale*** ***Absolute Time Scale***

## Temperature (Y) Scale:

The vertical Temperature (Y) scale displays the scale of the measured temperature. Lower values are at the bottom and higher values at the top.

The Temperature (Y) scale includes temperature labels on the left side of the graph. These temperatures divide the vertical scale up to four equal parts and are automatically scaled to fit the current Temperature (Y) scale limits. These units can be displayed in Celsius or Fahrenheit.

The amount of displayed Temperature (Y) grid lines can be changed on the ***Profile*** tab of the ***Preferences*** dialog box. Refer to topic ***Software>Menus>File>Preferences>Profile*** for more information.

**Autoscaling:**

The software includes a powerful Autoscaling option to automatically scale the Data Graph so the data will always be visible and easy to work with.

The software automatically selects a range of values for the Temperature (Y) scale to ensure that all the data fits on the screen. The user can change the range of temperature values displayed by using the ***Manual*** mode. Refer to topic ***Software>Menus>Profile>Temperature (Y) Scale*** for more information.

**When the Magnify tool is used the Temperature (Y) scale will automatically scale to the temperatures viewed in the magnified window.**

The software provides different methods to view Time (X) and Temperature (Y) values of any location on the Data Graph.

**To view Time (X) & Temperature (Y) values:**

- The Time (X)/Temp (Y) Readout in the Status bar continuously displays both Time (X) and Temperature (Y) values at the location of the mouse pointer. Details of this feature are described in topic ***Software>Menus>View>Status Bar***.
- The Time (X) value at the position of a Time (X) Ref line is displayed in the Data Table if a ***Temperature value at Time Reference*** calculation is loaded in the Data Table template.

### 5.4.4.2.2. Data Plots

The Data Plots in the Data Graph represent the data for each of the sensors connected to the M.O.L.E. Profiler. Each sensor is represented by a different color that corresponds to the color of its sensor location description in the Data Table.

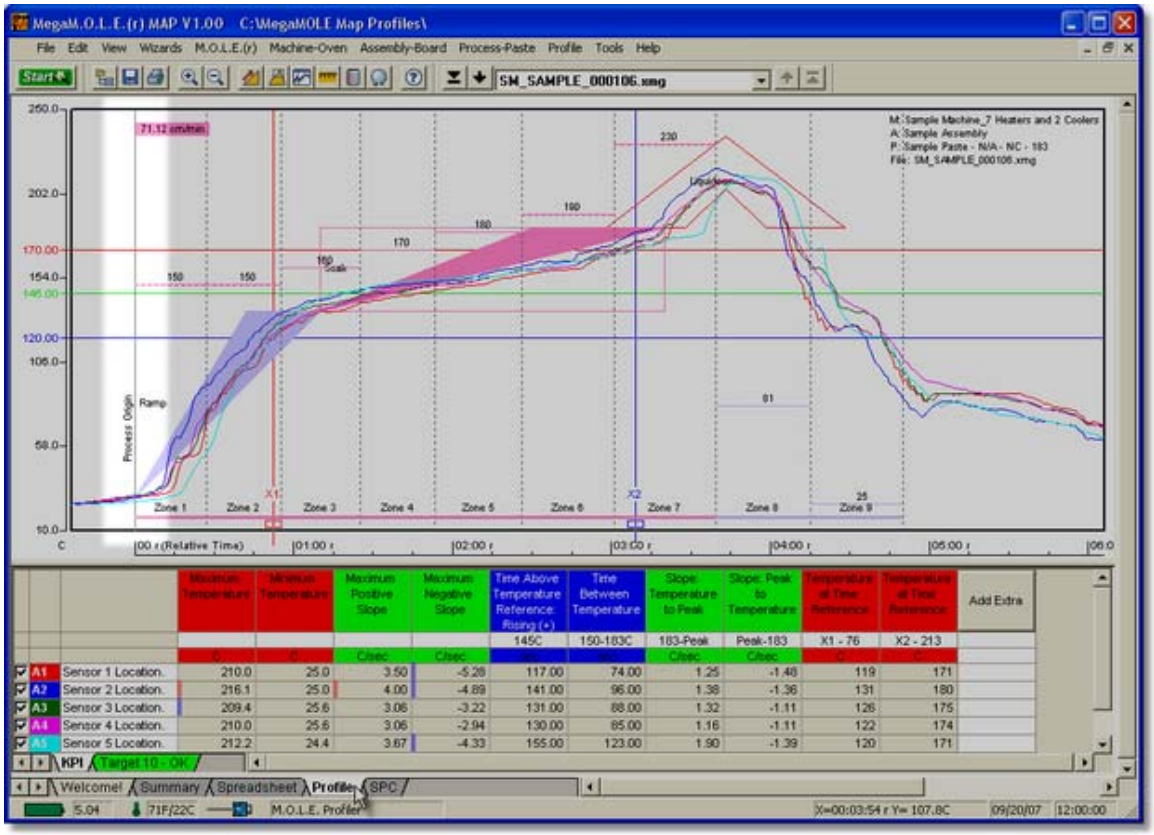

A Data Plot in the Data Graph can be suppressed or restored at any time by clicking the channel check box with the corresponding sensor description in the Data Table. This allows the user to view any combination of the Data Plots or individually.

**When two or more Data Plots overlap the same values, the Data Plots overwrite each other. For example, if the Data Plot that represents the sensor connected to channel 5 and channel 1 have the same value, the channel 5 Data Plot will only appear unless the user suppresses it.**

When printing a Data Graph in black and white, suppressing one or more Data Plots is useful for clearing a view of a Data Plot that is obscured by others near it. The Notes tool can also be used to help identify each Data Plot. Refer to topic ***Software>Menus>Tools>Notes*** for more information.

### 5.4.4.2.3. Process Origin

The Process Origin is a gray vertical line at the left edge of the Data Graph that indicates where the assembly process starts. When Points or Distance units are being used for the Time (X) values, the Time (X) values to the left of the Process Origin are displayed as negative and those to the right as positive in the ***Time (X)/Temp (Y) Readout***.




**<u>To move the Process Origin:</u>**

1) Position the mouse pointer over the Process Origin.
2) When the mouse pointer becomes a ⇦⇨, click and hold the left mouse button to drag it left or right releasing the mouse button when the Time (X) Reference line is at the desired location.

The X/Y Readout in the Status Bar indicates the true position of the Process Origin while it is being moving. After the mouse button is released, the X-Readout changes to zero at the Process Origin and displays negative numbers for X when the mouse pointer is moved to the left of the Process Origin.

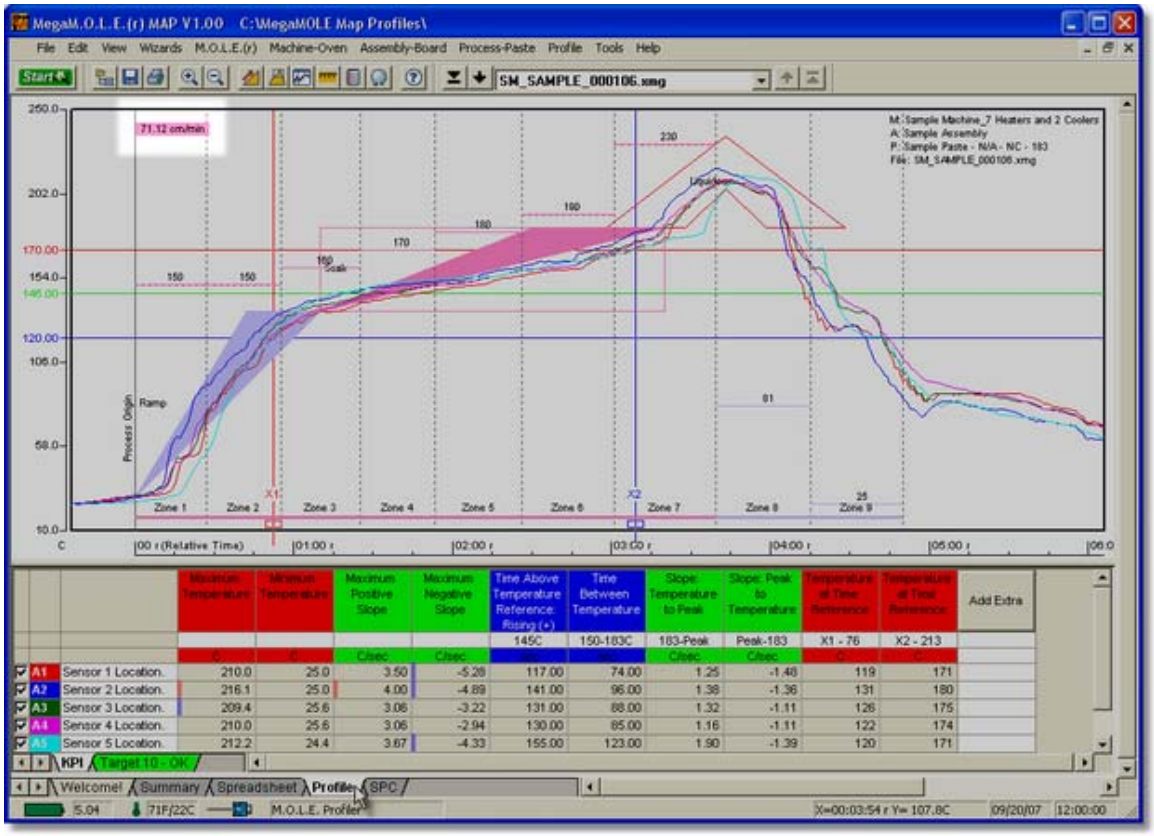
**Reference line values are automatically adjusted when the Process Origin is moved.**

To display the distance of a conveyor process along the X-axis, adjust the Process Origin to the data point that was recorded at the start of the conveyor process. Now set the conveyor speed in the ***Oven Configure*** dialog box located in the ***Profile*** menu.

### 5.4.4.2.4. Conveyor Speed Indicator

Located at the top of the Process Origin, there is a Conveyor Speed Indicator that displays the speed of the machine conveyor specified in the selected machine recipe. Refer to topic ***Software>Menus>Machine>Set Machine Information***.

Conveyor Speed can not be set or viewed after the Data Graph has been magnified.



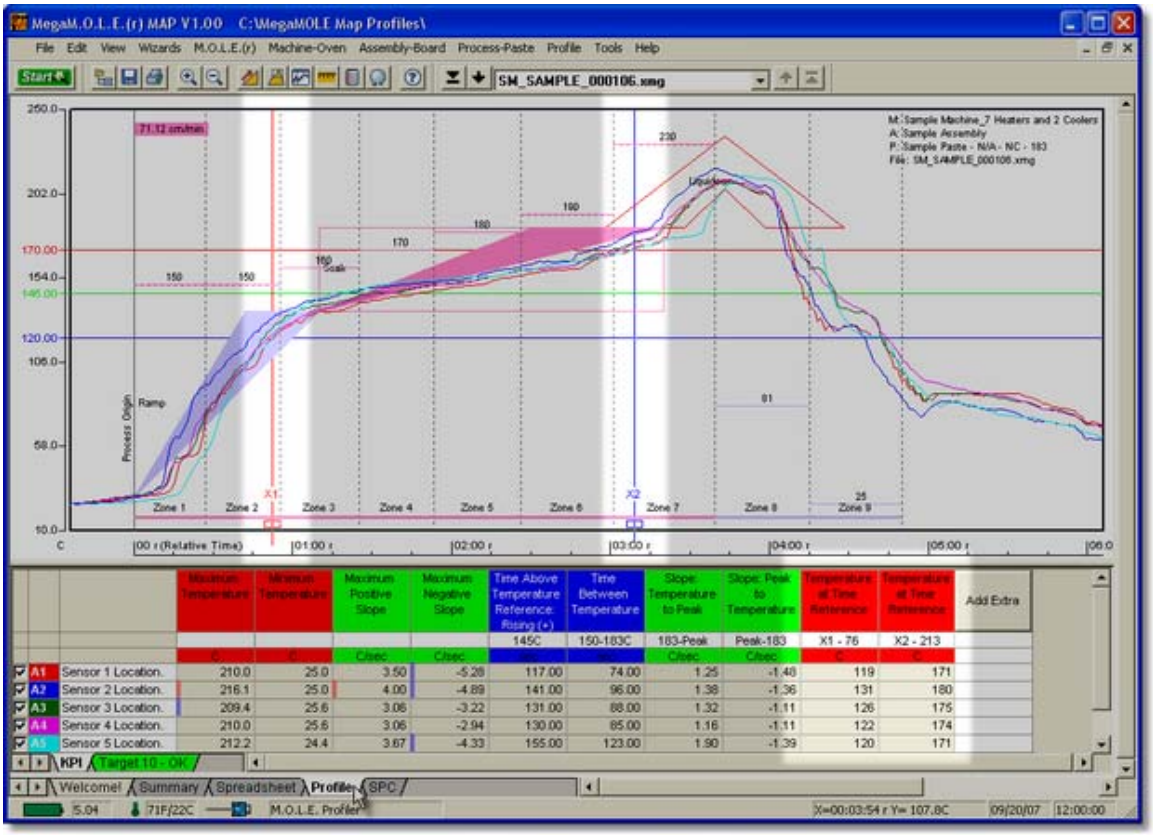

When the mouse pointer is placed over the conveyor speed indicator, it becomes a  . This informs the user that they can double-click the indicator to quickly change the conveyor speed in the machine recipe.


By changing the conveyor speed from the indicator, the user is modifying the selected machine recipe. This recipe can also be edited using the ***Software>Menus>Machine>Set Machine Information*** command on the ***Machine-Oven*** menu.

### 5.4.4.2.5. Time (X) Reference Lines

Time (X) Reference lines are colored vertical lines that indicate the Temperature (Y) values at the intersection of a Data Plot with each line. The values in the ***Temperature value at Time Reference*** Data Table column(s) indicate the Temperature (Y) values at the intersection of a Data Plot with an Time (X) Reference line. The Time (Y) Reference lines can be added to the Data Graph using the ***Software>Menus>Profile>Add Time (X) Reference Lines*** command in the ***Profile*** menu.

The Time (X) value at the position of a Time (X) Reference line will only be displayed in the Data Table if a ***Temperature value at Time Reference*** calculation is loaded in the Data Table template.



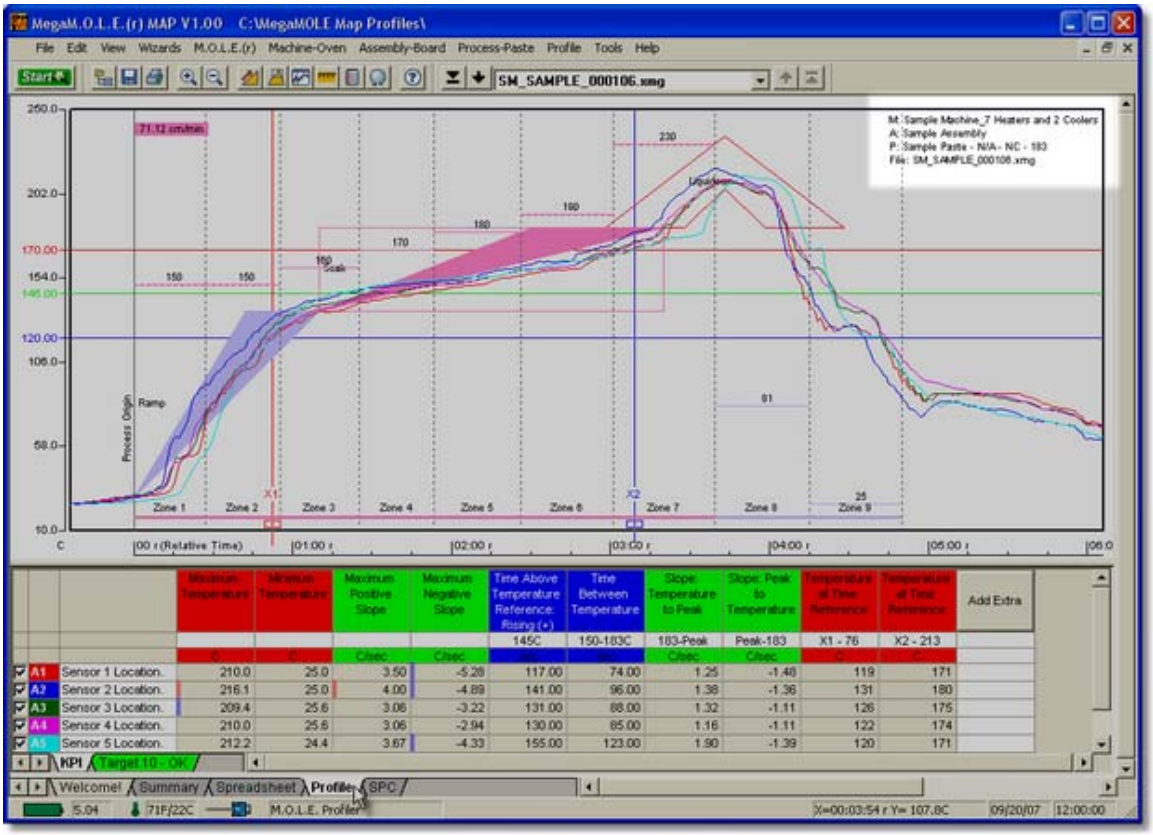
## 5.4.4.2.6. Temperature (Y) Reference Lines

Temperature (Y) Reference lines are colored horizontal lines that are positioned within the Temperature (Y) scale in the graph. Temperature (Y) Reference lines can be added to the Data Graph using the ***Software>Menus>Profile>Set Temperature (Y) Reference Lines*** command in the ***Profile*** menu.

### 5.4.4.2.7. MAP Data

MAP data is the Machine model, Assembly number and Process name data associated with the displayed data run. This data is located in the upper right corner of the Data Graph along with the data run filename. This data can be specified when creating or modifying the Machine, Assembly and Process information

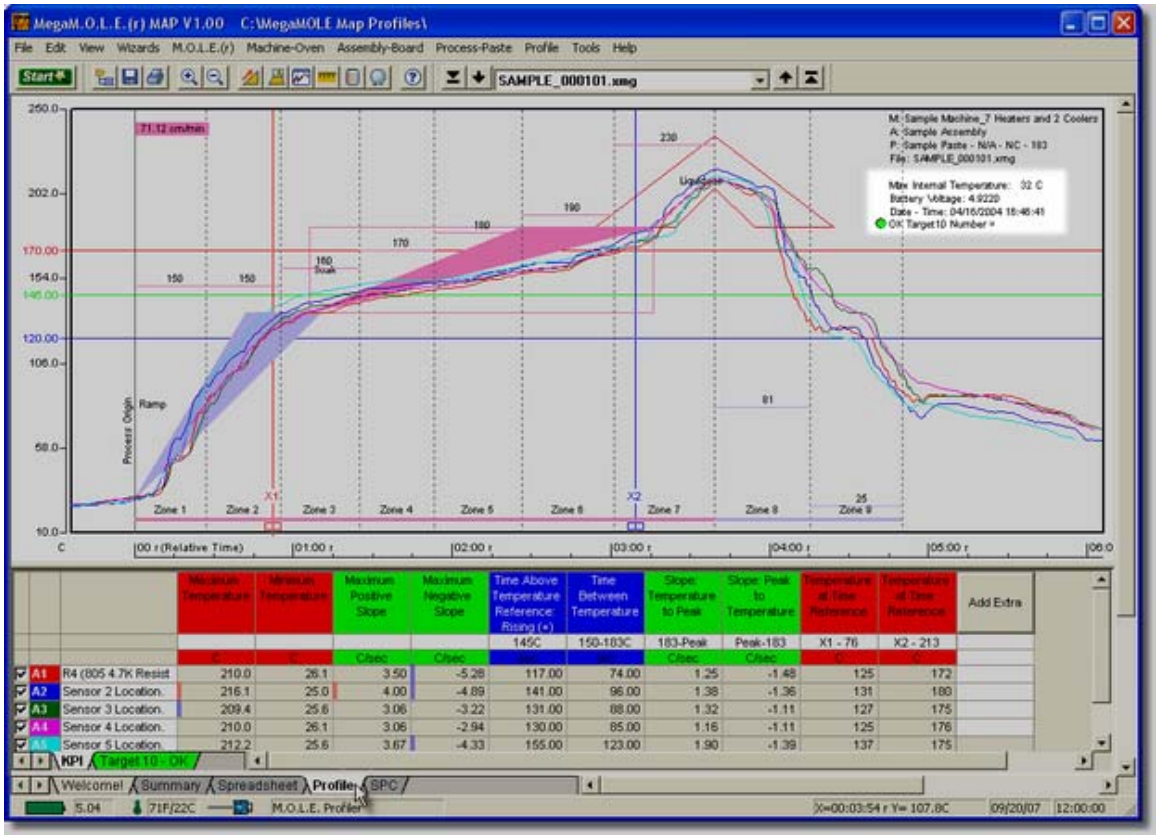
The user can turn the MAP data ON or OFF using the ***Show on Profile*** commands located on the ***Machine***, ***Assembly*** and ***Process*** menus.



### 5.4.4.2.8. M.O.L.E. Status

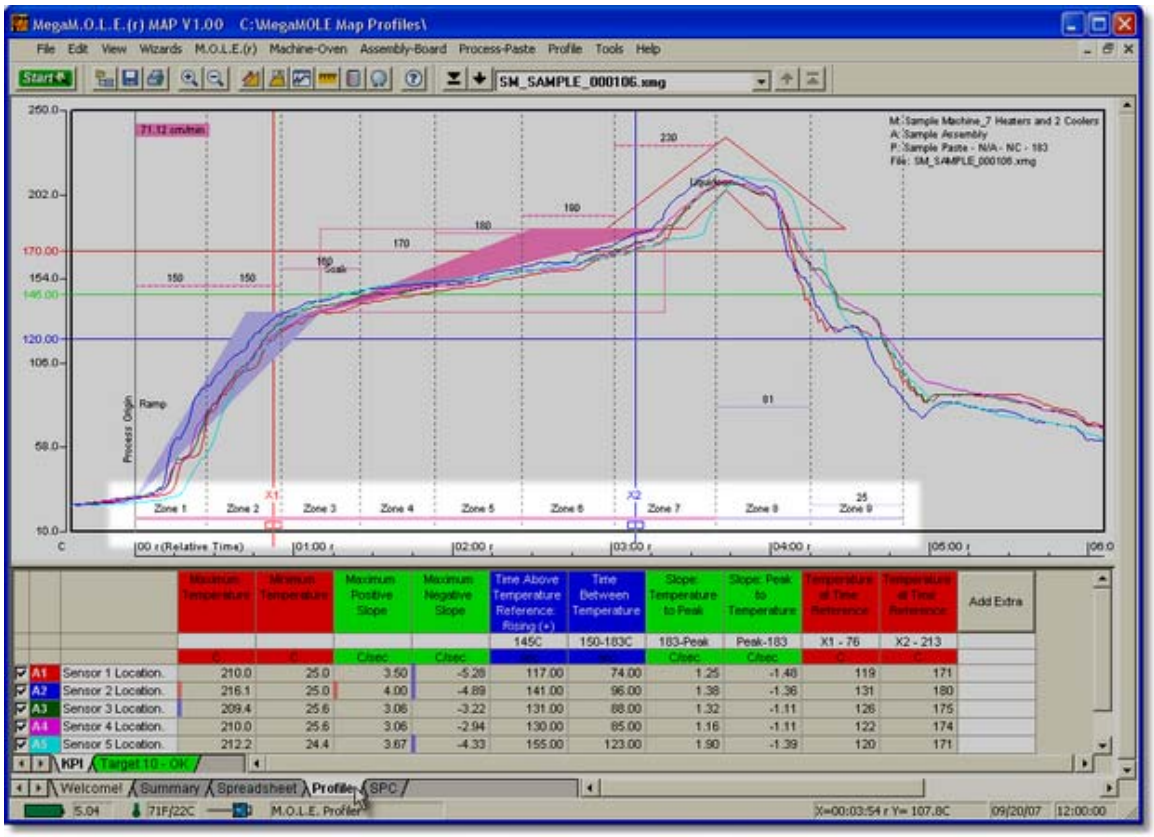
M.O.L.E. status information displays the Max internal temperature, Battery Voltage and the data run Date - Time at the time the data run was performed. This information is located in the upper right corner of the Data Graph below with the MAP Data.

The user can turn the M.O.L.E. status information ON or OFF using the ***Show on Profile*** commands located on the ***M.O.L.E.*** and ***Profile*** menus.



### 5.4.4.2.9. Machine Zones

The Time (X) scale can be divided into zones that represent the machine zones in a process defined in units of length or time. Zones can be specified editing or creating a new machine model. Refer to topic ***Software>Menus>Machine>Set Machine Information*** or ***Create new Machine*** for more information.




To display defined zones along the Time (X) scale, select the ***Show on Profile*** command on the ***Machine*** menu. When zones are displayed, they appear as Magenta and Blue colored lines along the bottom of the data graph and as dotted vertical lines that extend top to bottom. The Magenta zones indicate heating and Blue zones indicate cooling. The first zone begins at the Process Origin. When the Process Origin is moved, the zones move with it.

When importing SMG SPC (**.MDM**) files, the machine zones remain the same zone colors as specified in the original (**.MDM**) file. If the user edits the imported machine zones, or applies a defined machine to the data run the zone colors will be updated Magenta and Blue.

## 5.4.4.2.10. Machine Zone Temperatures

For each defined zone, two zone temperatures can be established using the ***Set Machine Recipe*** command on the ***Machine*** menu. These temperatures might be upper and lower boundaries for the acceptable range of values in that zone or they might represent the settings of upper and lower heating elements in a process.

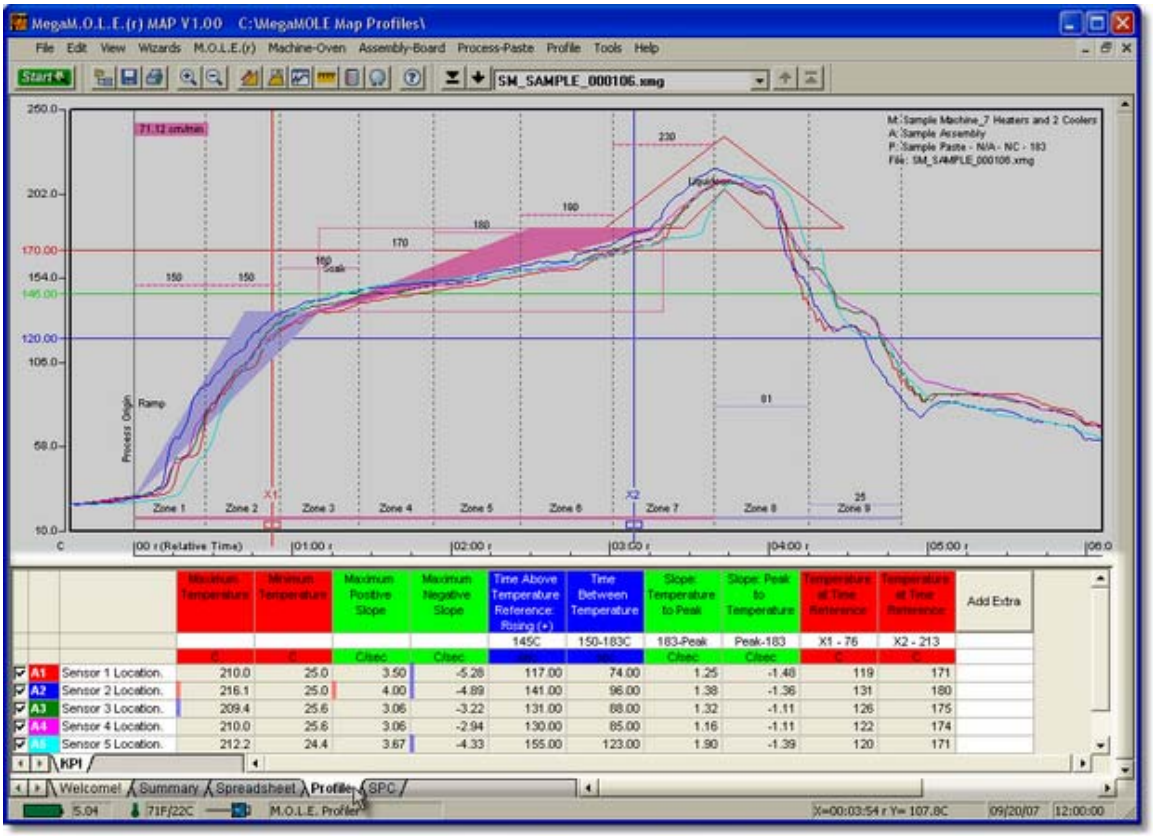

Zone Temperature Lines appear in the Data Graph as colored bars at the temperature set for each zone. (Zone Temperatures can be displayed only after zone sizes are defined). Upper Zone Temperature Lines appear in the Data graph as solid colored bars and the lower Zone Temperature Lines are dashed.

### 5.4.4.3. The Data Table

The Data Table includes various user configured parameter values. Each column after the Sensor Locations allows the user to define parameters using the Template commands. Each row in the Data Table represents the channel sensor data from the M.O.L.E. Profiler.

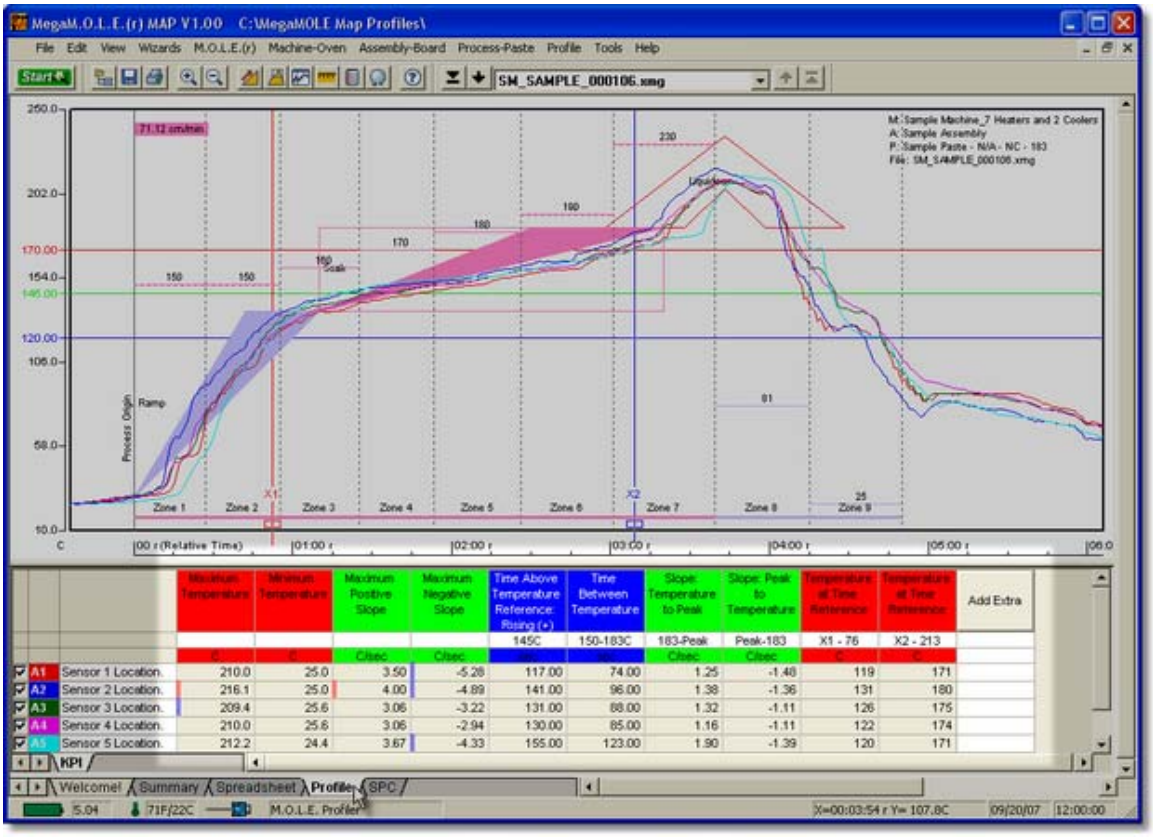
**Data Table features:**

1. Sensor Locations
2. Channel Check Boxes
3. Data Table Template
4. Value Pop-up
5. Specification Limit Indicators



### 5.4.4.3.1. Data Table Template

The Data Table is built using a template file (***.TPF**) overlaid on a cell grid. Columns to the right of the ***Channel check boxes*** and ***Sensor Locations*** allow the user to define parameters using the Template commands.



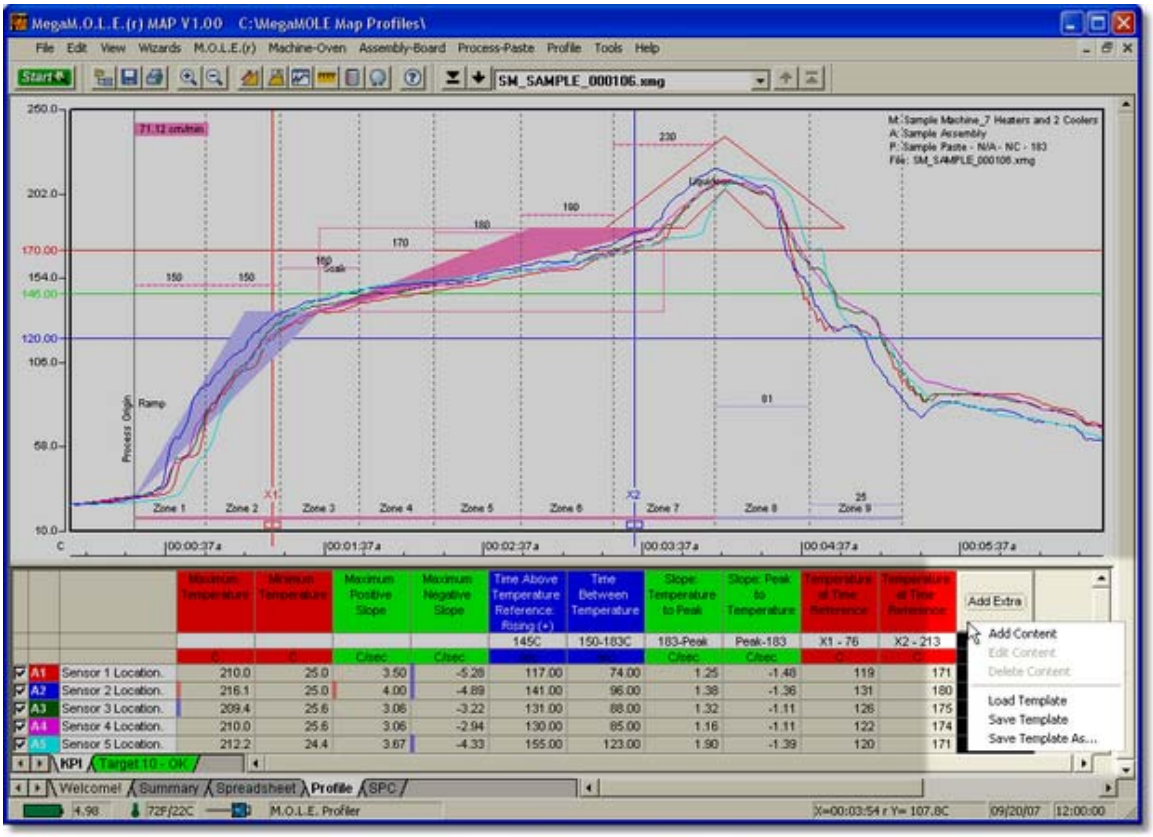

The Data Table template is automatically loaded every time the software is started. This template file is specified on the Profile Page Tab of the Preferences dialog box. Refer to topic ***Software>Menus>File>Preferences>Profile*** for more information.

**To display Template commands:**

1) Move the mouse pointer over a column header.

2) When the mouse pointer becomes a , right-click and a shortcut menu appears.

Template commands can also be accessed on the View menu. Refer to topic ***Software>Menus>View Menu*** for more information. To add or edit a calculation refer to topic ***Software>Page Tabs>Profile>Data Table>Template>Add & Edit Content*** for more information.



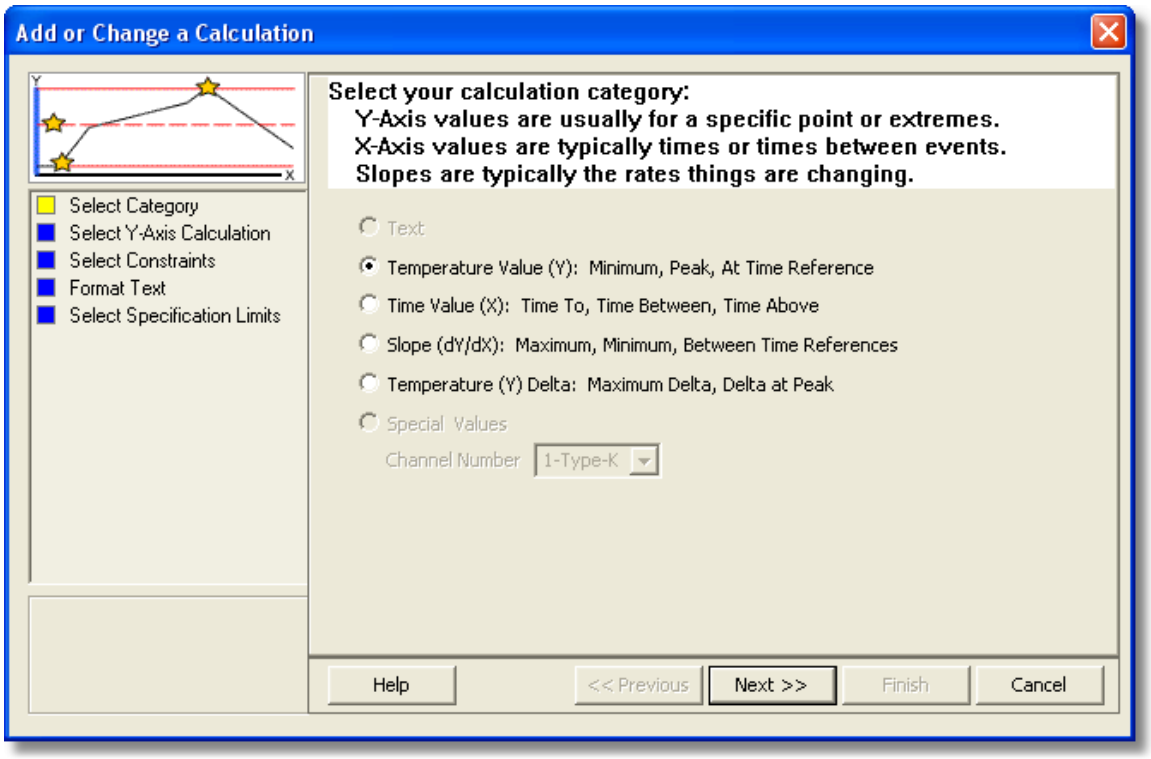
### 5.4.4.3.1.1. Add & Edit Content Wizard

To add or edit template content, the software includes a wizard to guide the user through the related content options. The Data Table template allows three different calculation categories to be displayed.

**Add & Edit Content wizards:**

1. Temperature Value (Y)
2. Time Value (X)
3. Slope (dX/dY)
4. Temperature (Y) Delta

This wizard contains all the related steps to add or edit content to the template. It is recommended to process all steps in order but the software allows you to navigate forward and backward setting options individually. When the minimum options have been selected, ***Finish*** command button will become active.



### 5.4.4.3.1.1.1. Temperature Value (Y)

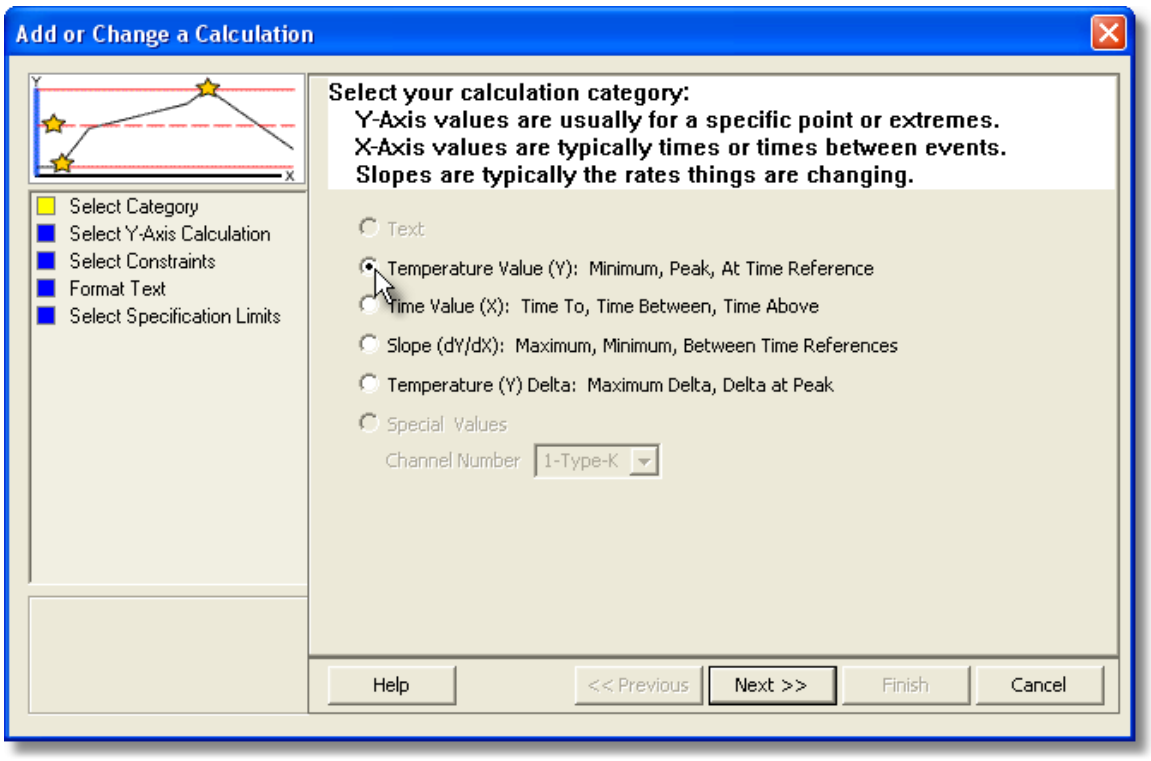
**To add or edit Y-Axis Values content:**

1) Right-click a template cell and a shortcut menu appears.
2) Select ***Add Content*** or ***Edit Content*** from the shortcut menu and the ***Add or Change a Calculation*** wizard appears.

When navigating through the wizard, the step list on the left uses a color key to inform the user of the current step, steps that have been completed and remaining steps.

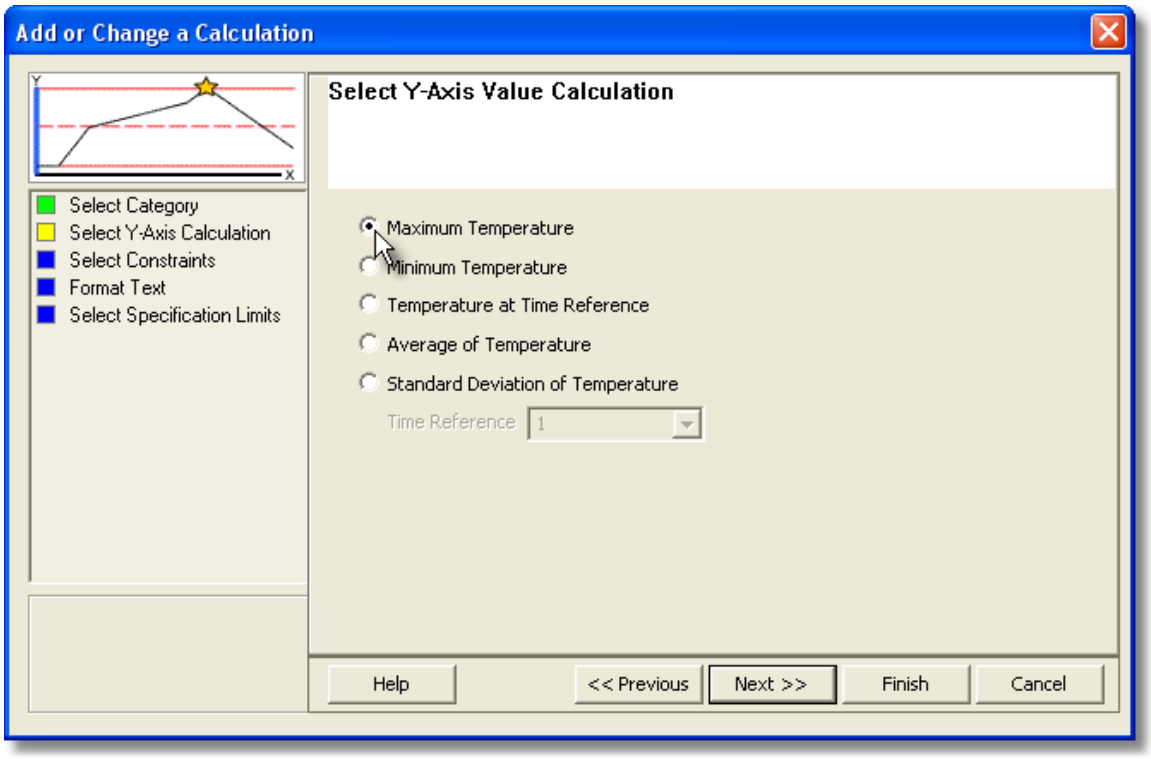
Current  Completed  Remaining

3) Click ***Temperature Values (Y)***.




4) Select the ***Next*** command button.
5) Select a Temperature (Y) Axis Value.

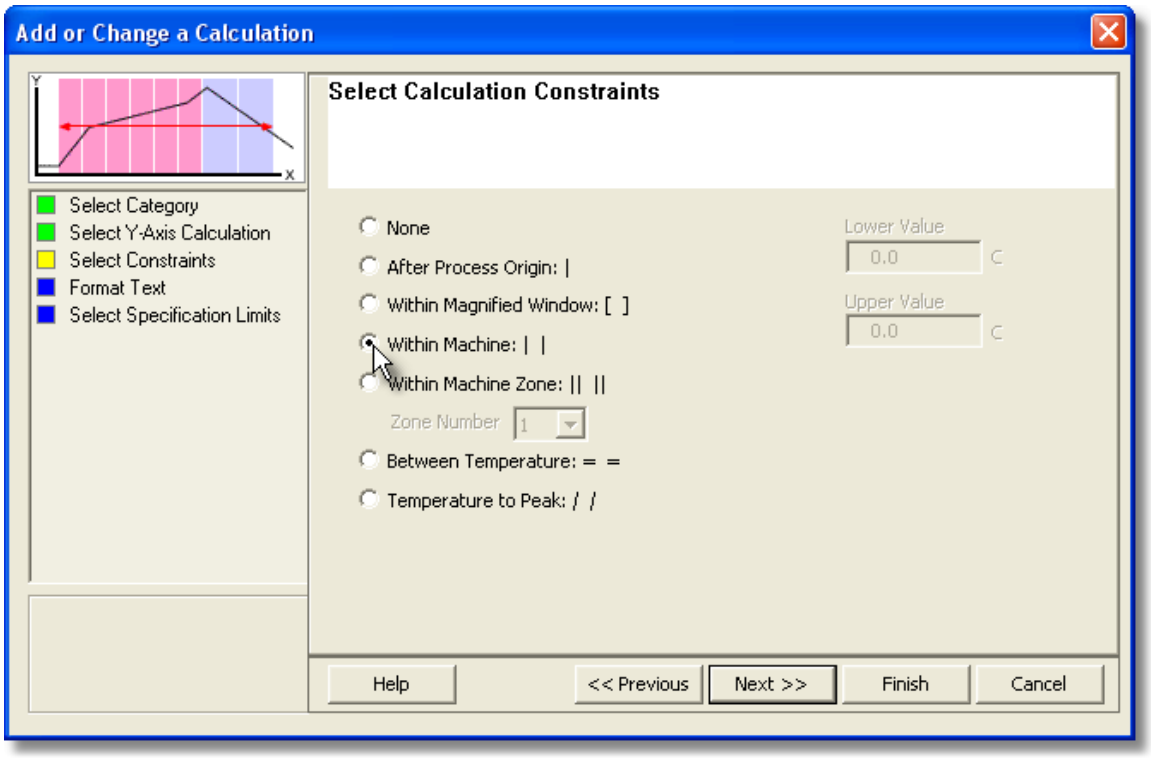
If ***Temperature at Time Reference*** calculation is selected, the software requires the user to select an established Time (X) Reference line. If one is not established the software automatically creates one on the Profile Page Tab Data Graph.




6) Select the ***Next*** command button.

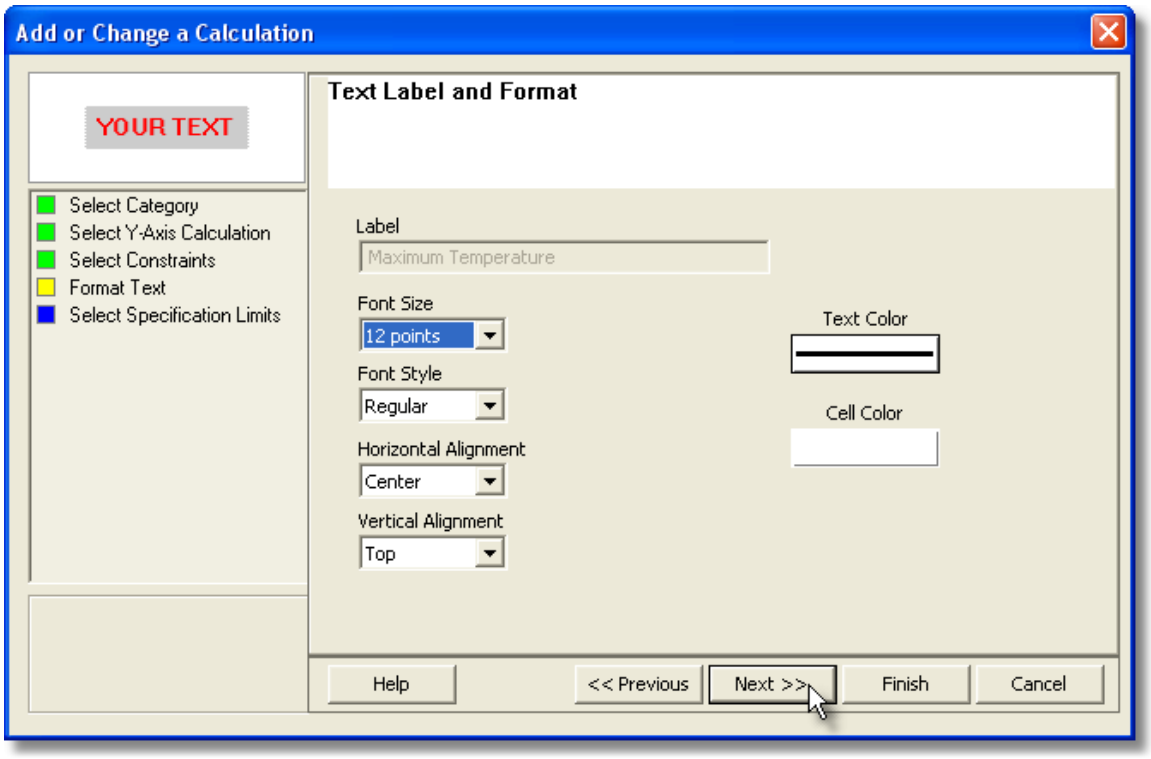
7) Select the calculation constraints. These options are the specified area on the Time (X) Axis where the values are to be extracted from. When a constraint is applied, the constraint symbol appears in the header of the calculation.

If the ***Within Magnified Window*** constraint is selected and the Magnify tool is used to zoom in on a portion of the Data Graph, the Data Table displays the statistics for those values within the magnified window.



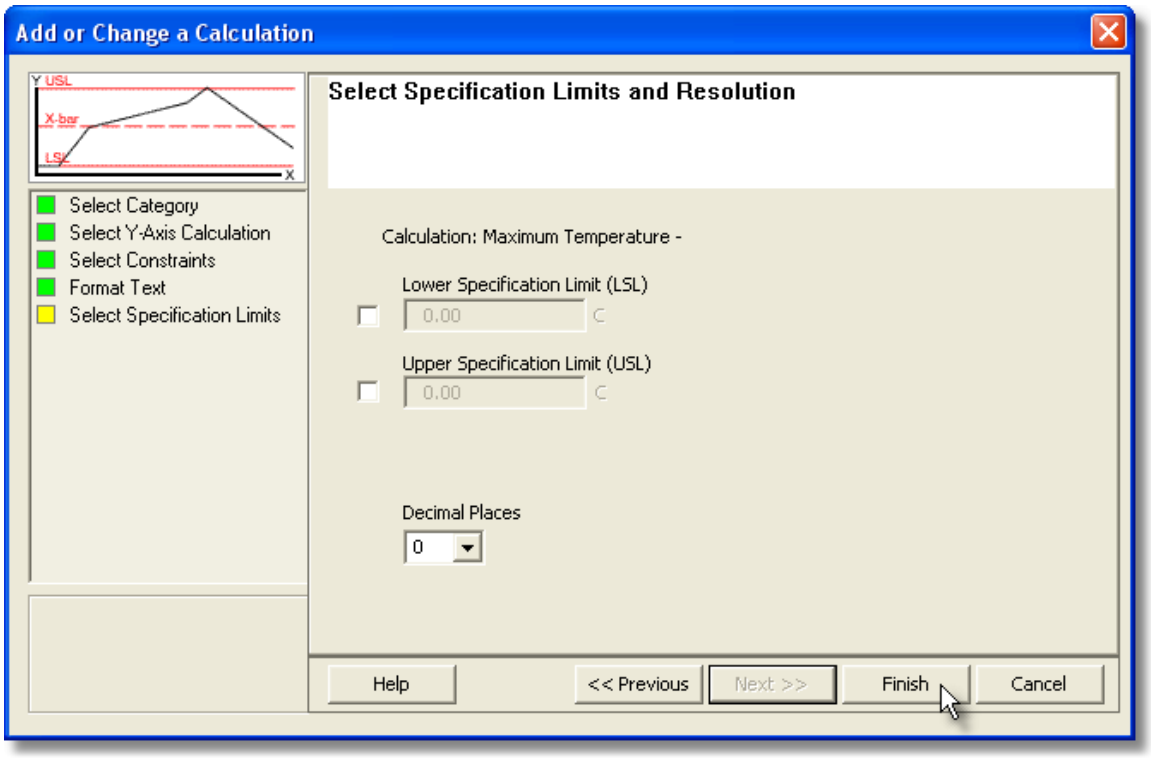

8) Select the ***Next*** command button.

9) Select desired text formatting options.




10) Select the ***Next*** command button.

11) Select Specification Limits and Units. If these values are violated colored bars will appear in the formatted template cell. Refer to topic ***Software>Page Tabs>Profile>Data Table>Template>Specification Limit Indicators*** for more information.




12) Select the ***Finish*** command button to complete the wizard and display the new calculation data in the selected template column.

### 5.4.4.3.1.1.2. Time Value (X)

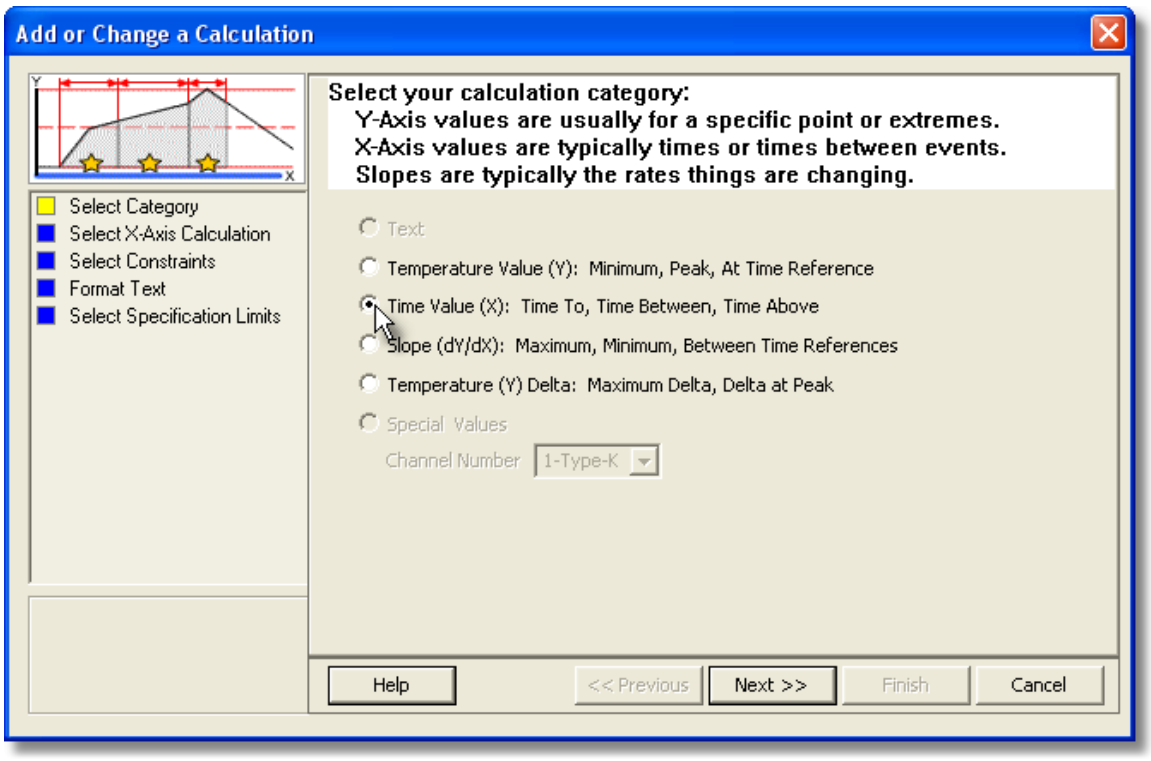
**To add or edit X-Axis Values content:**

1) Right-click a template cell and a shortcut menu appears.
2) Select ***Add Content*** or ***Edit Content*** from the shortcut menu and the ***Add or Change a Calculation*** wizard appears.

When navigating through the wizard, the step list on the left uses a color key to inform the user of the current step, steps that have been completed and remaining steps.

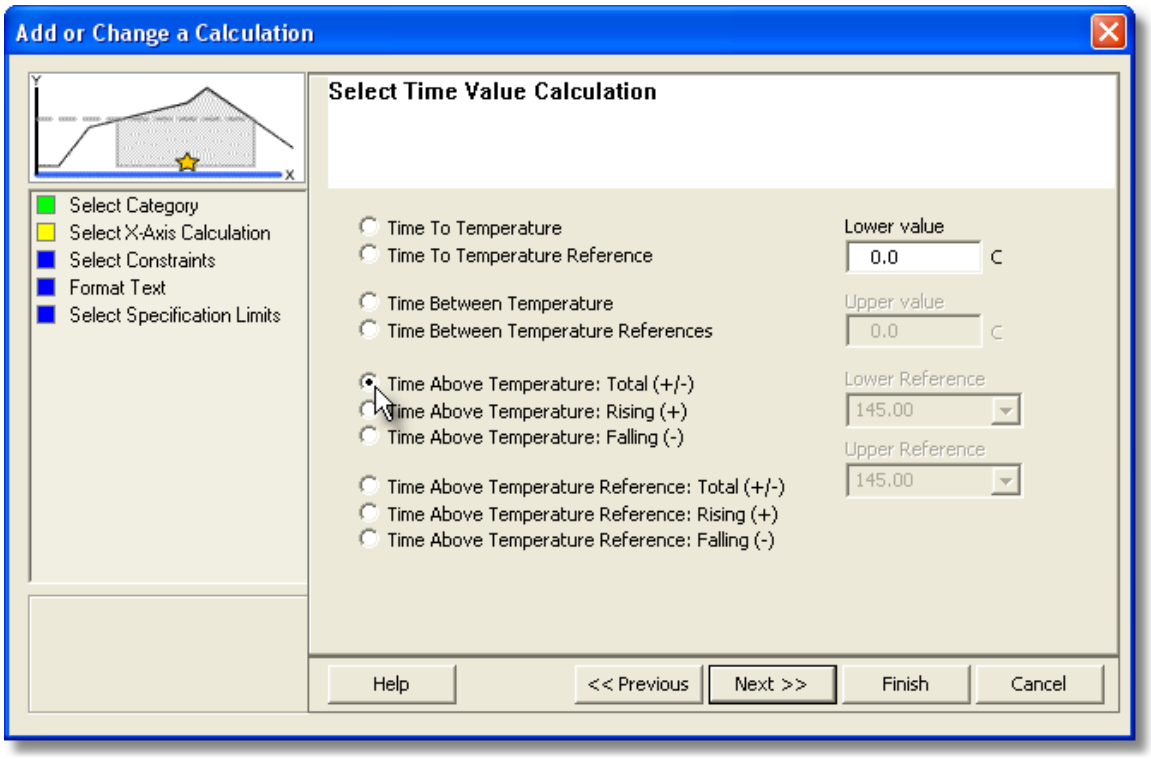
Current  Completed  Remaining

3) Click ***Time Value (X)***.




4) Select the ***Next*** command button.
5) Select a Time (X) Axis Value.

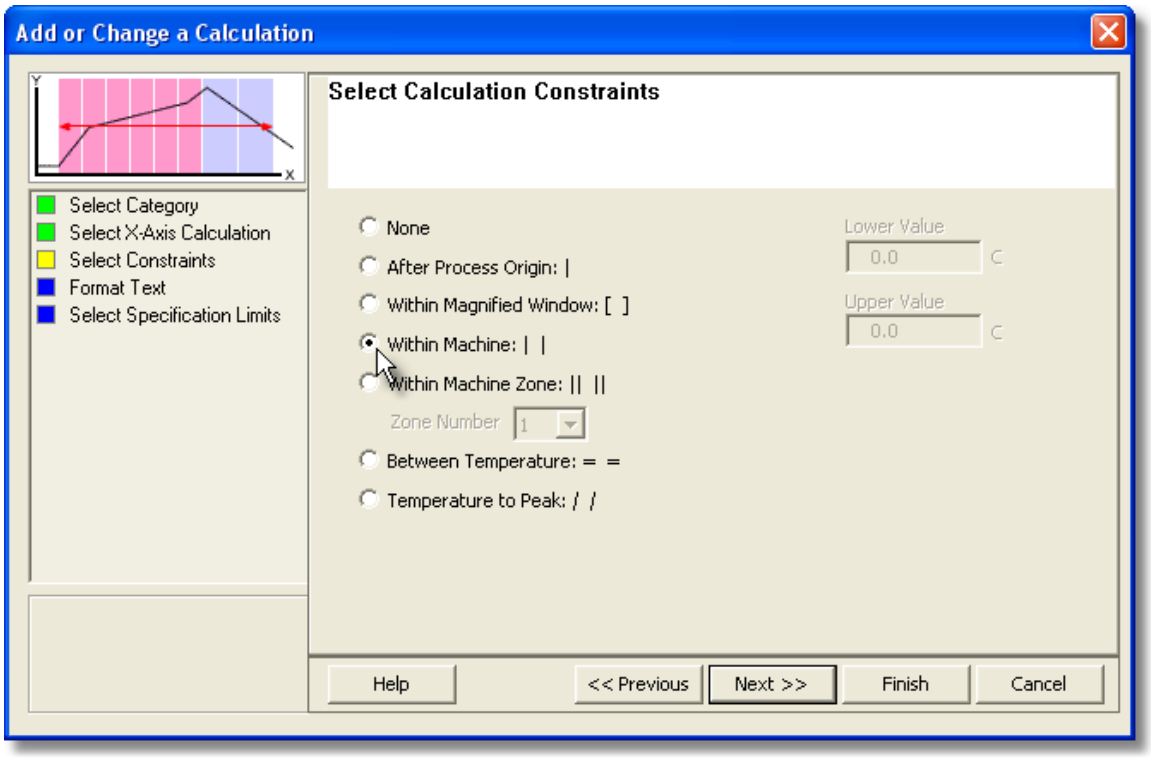
If any ***Temperature Reference (Y)*** calculation is selected, the software requires a Temperature (Y) Reference Line to be established. Refer to topic ***Software>Menus>Profile>Add Temperature (Y) Reference Lines***.




6) Select the ***Next*** command button.

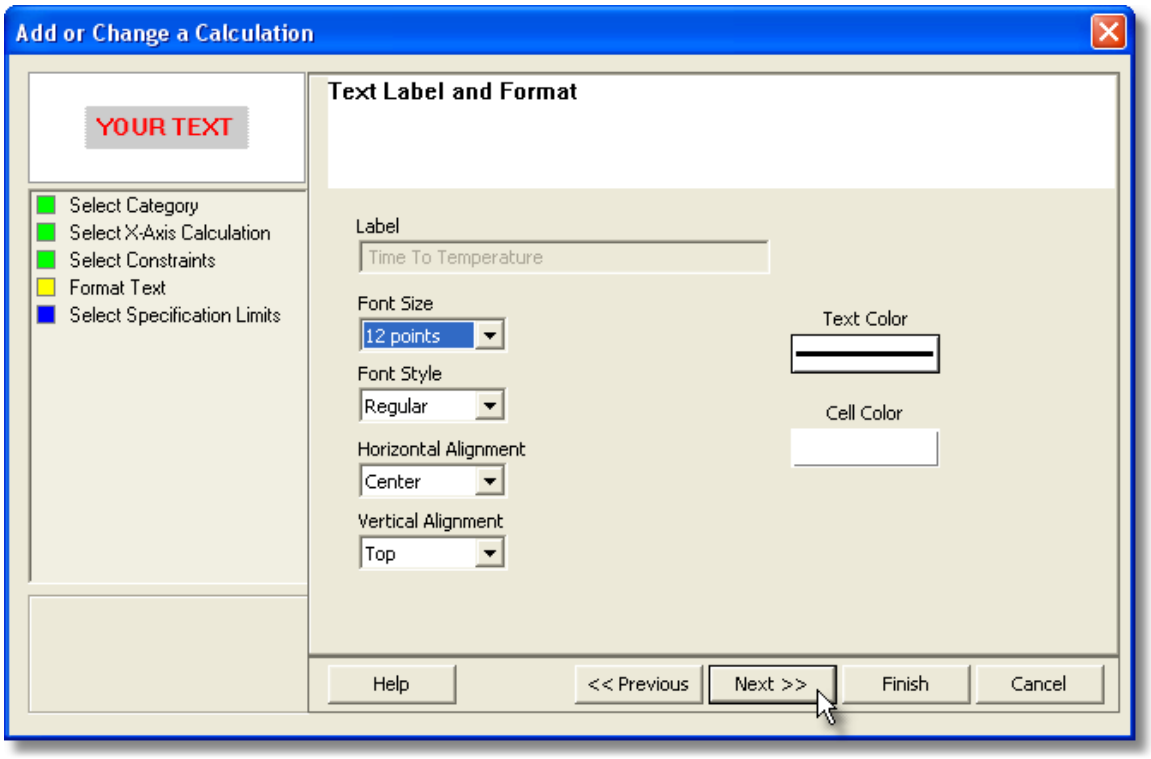
7) Select the calculation constraints. These options are the specified area on the Time (X) Axis where the values are to be extracted from. When a constraint is applied, the constraint symbol appears in the header of the calculation.

If the ***Within Magnified Window*** constraint is selected and the Magnify tool is used to zoom in on a portion of the Data Graph, the Data Table displays the statistics for those values within the magnified window.



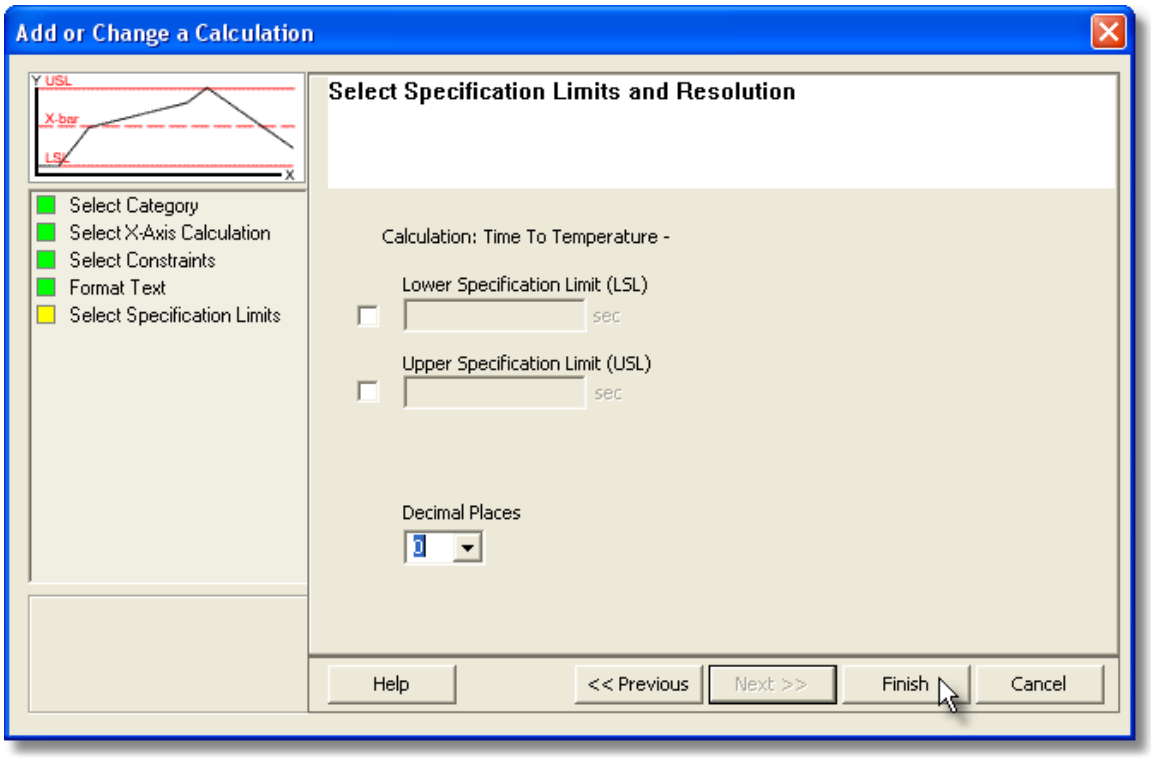

8) Select the ***Next*** command button.

9) Select desired text formatting options.




10) Select the ***Next*** command button.

11) Select Specification Limits and Units. If these values are violated colored bars will appear in the formatted template cell. Refer to topic ***Software>Page Tabs>Profile>Data Table>Template>Specification Limit Indicators*** for more information.




12) Select the ***Finish*** command button to complete the wizard and display the new calculation data in the selected template column.

### 5.4.4.3.1.1.3. Slope (dX/dY)

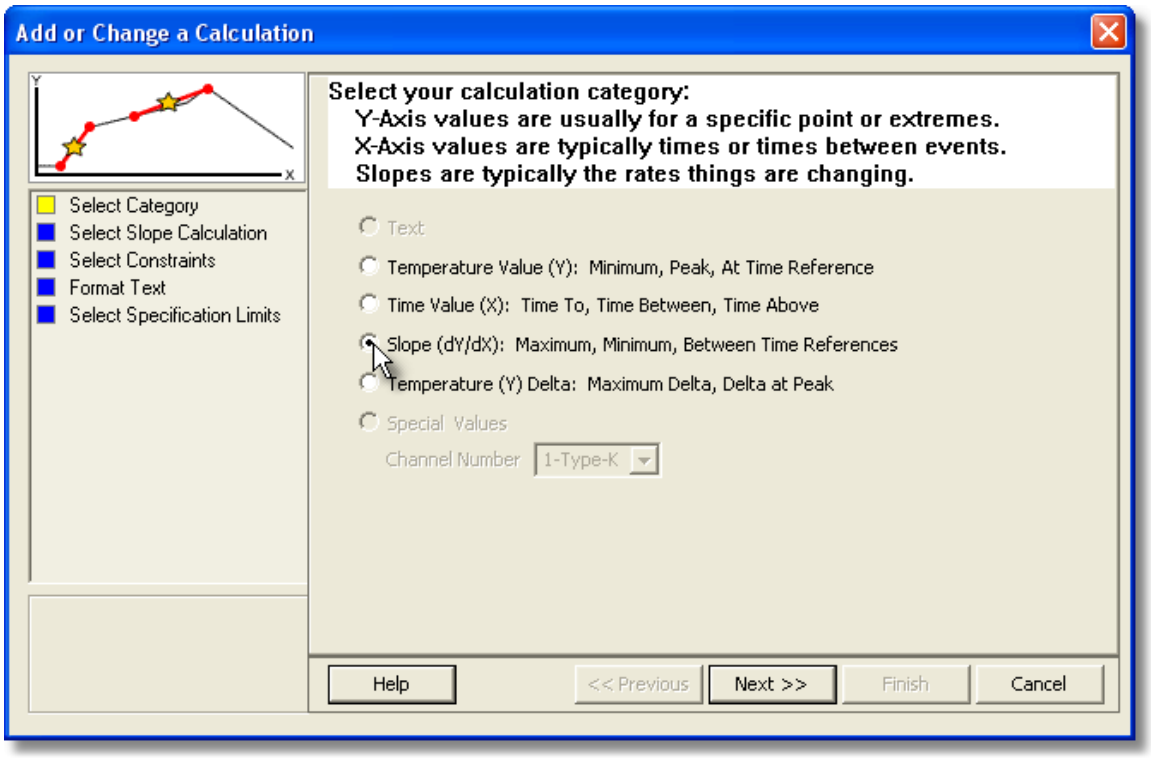
**To add or edit Slope Value content:**

1) Right-click a template cell and a shortcut menu appears.
2) Select ***Add Content*** or ***Edit Content*** from the shortcut menu and the ***Add or Change a Calculation*** wizard appears.

When navigating through the wizard, the step list on the left uses a color key to inform the user of the current step, steps that have been completed and remaining steps.

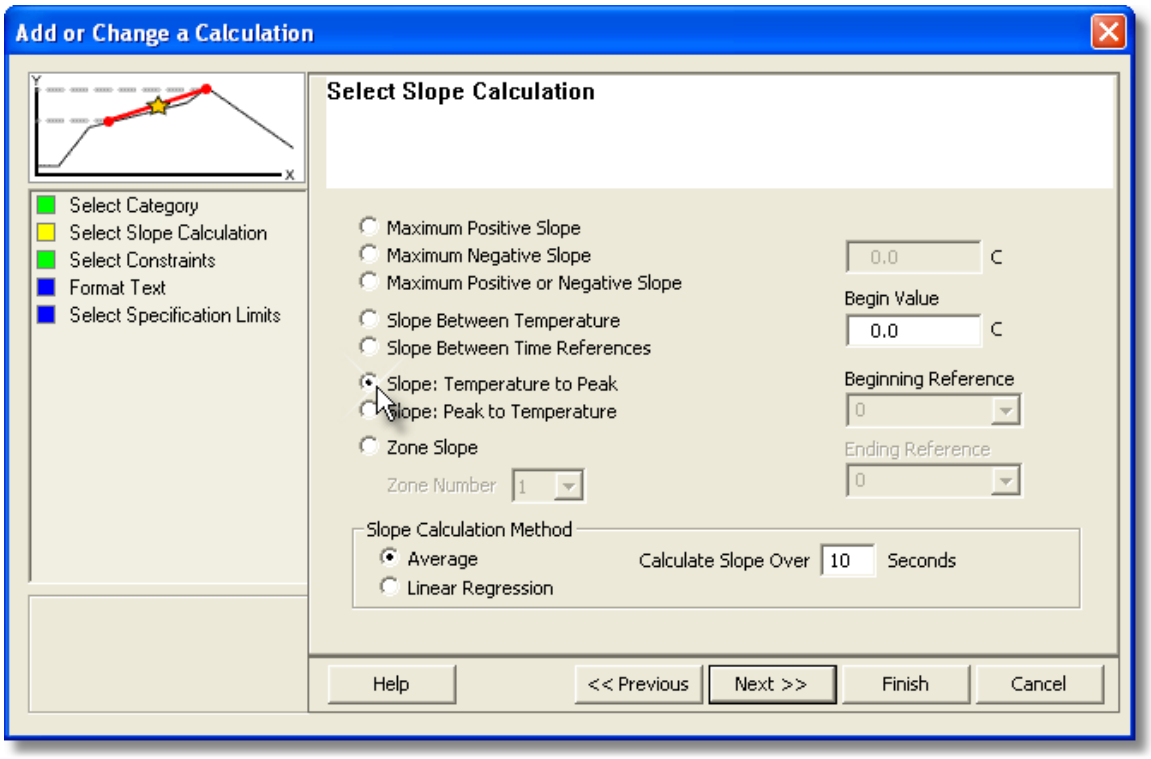
Current Completed Remaining

3) Click ***Slope (dX/dY)***.



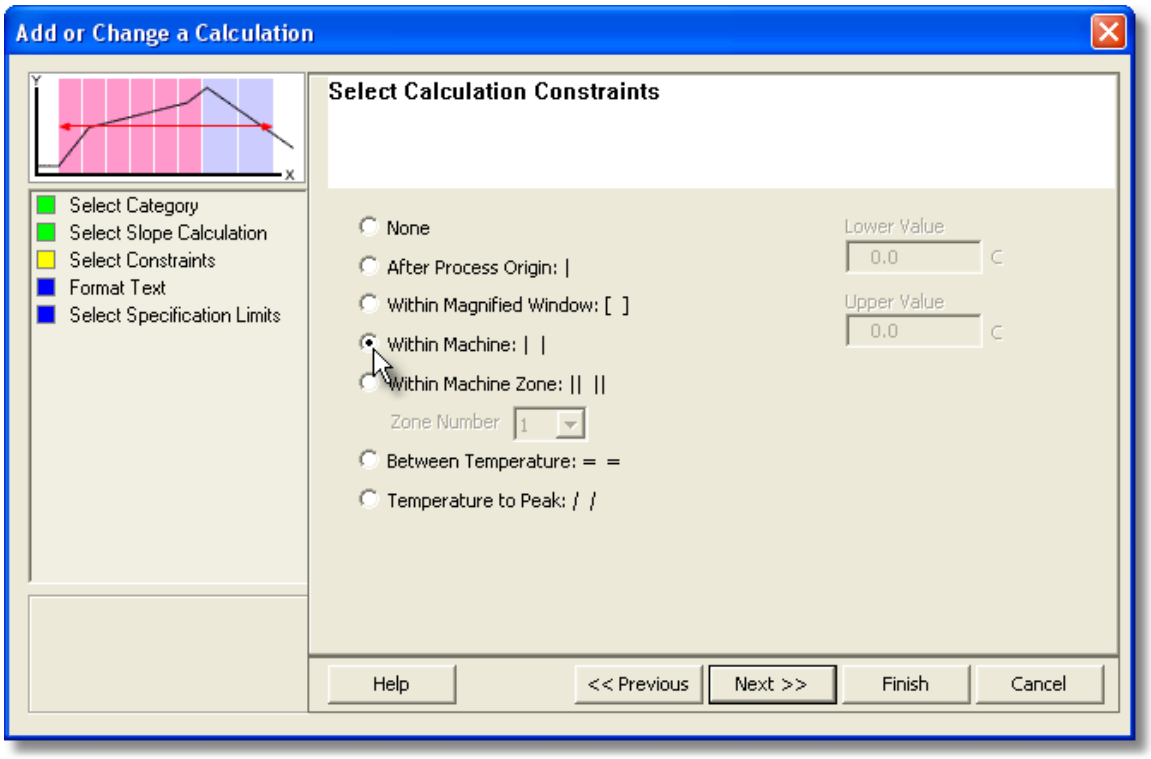

4) Select the ***Next*** command button.
5) Select a Slope Value.

If ***Slope Between Time References*** calculation is selected, the software requires the user to select an established Time (X) Reference line. If one is not established the software automatically creates one on the Profile Page Tab Data Graph.



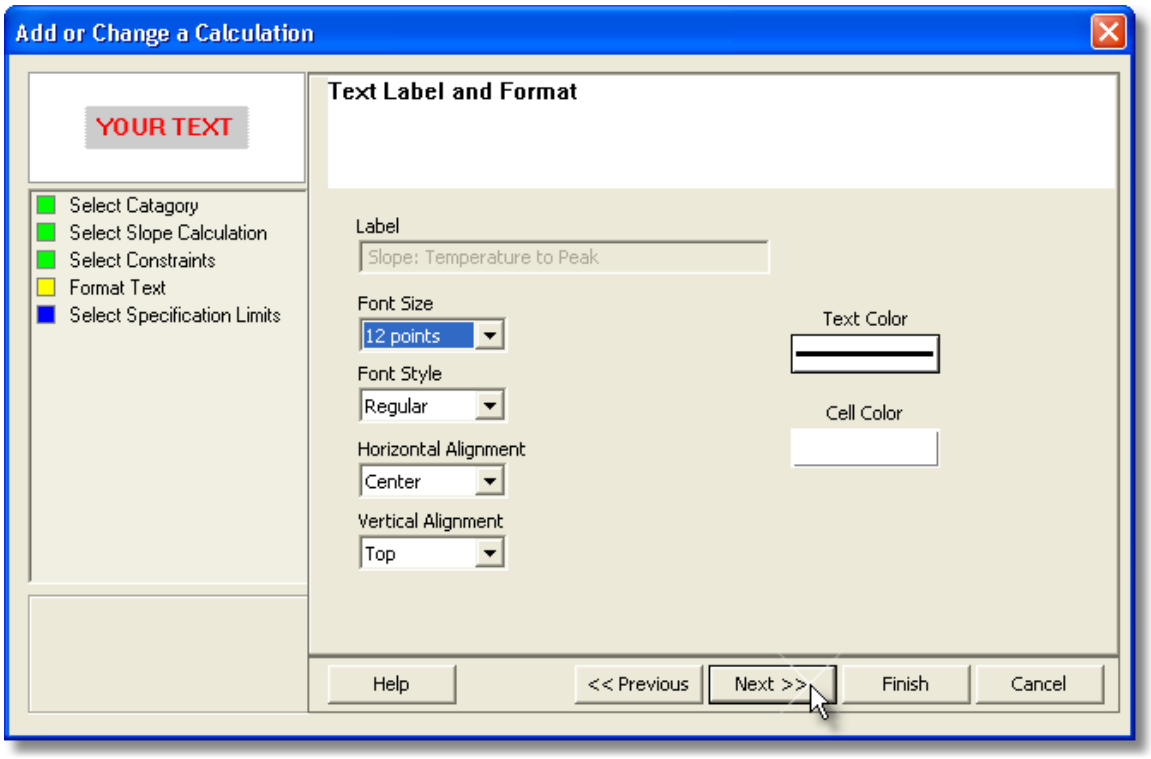

6) Select the ***Next*** command button.

7) Select the calculation constraints. These options are the specified area on the Time (X) Axis where the values are to be extracted from. When a constraint is applied, the constraint symbol appears in the header of the calculation.



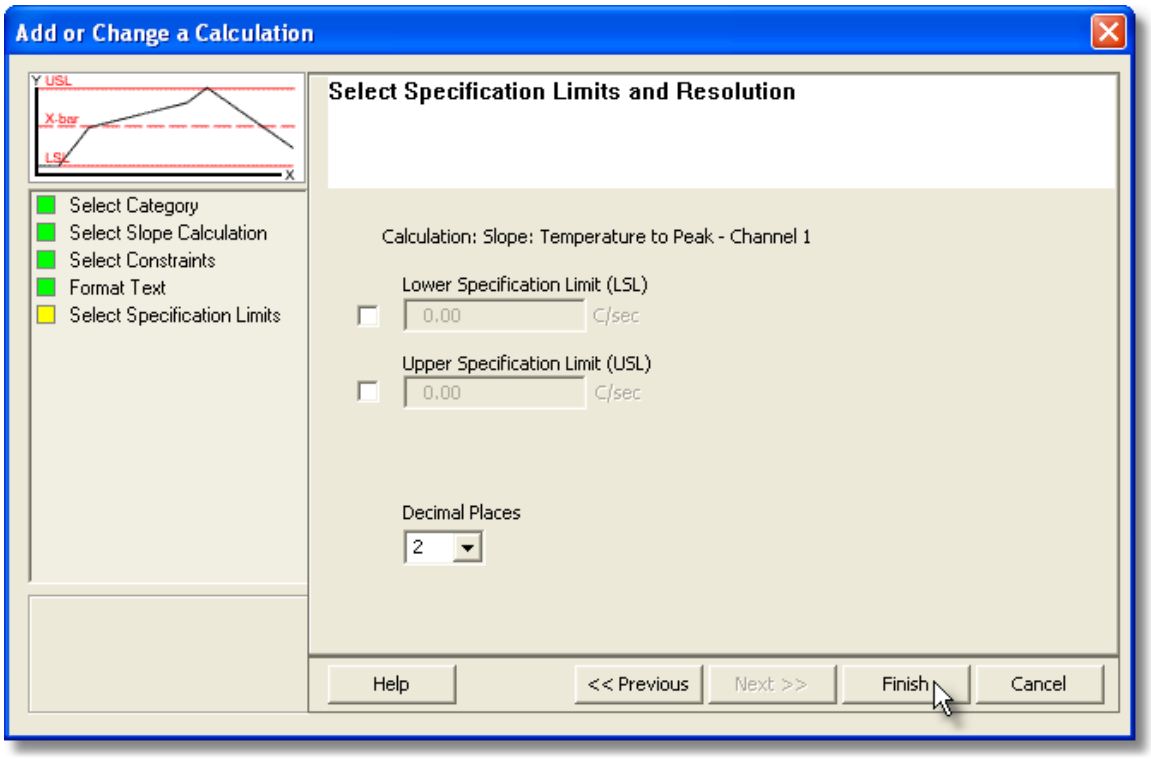

8) Select the ***Next*** command button.

9) Select desired text formatting options.




10) Select the ***Next*** command button.

11) Select Specification Limits and Units. If these values are violated colored bars will appear in the formatted template cell. Refer to topic ***Software>Page Tabs>Profile>Data Table>Template>Specification Limit Indicators*** for more information.




12) Select the ***Finish*** command button to complete the wizard and display the new calculation data in the selected template column.

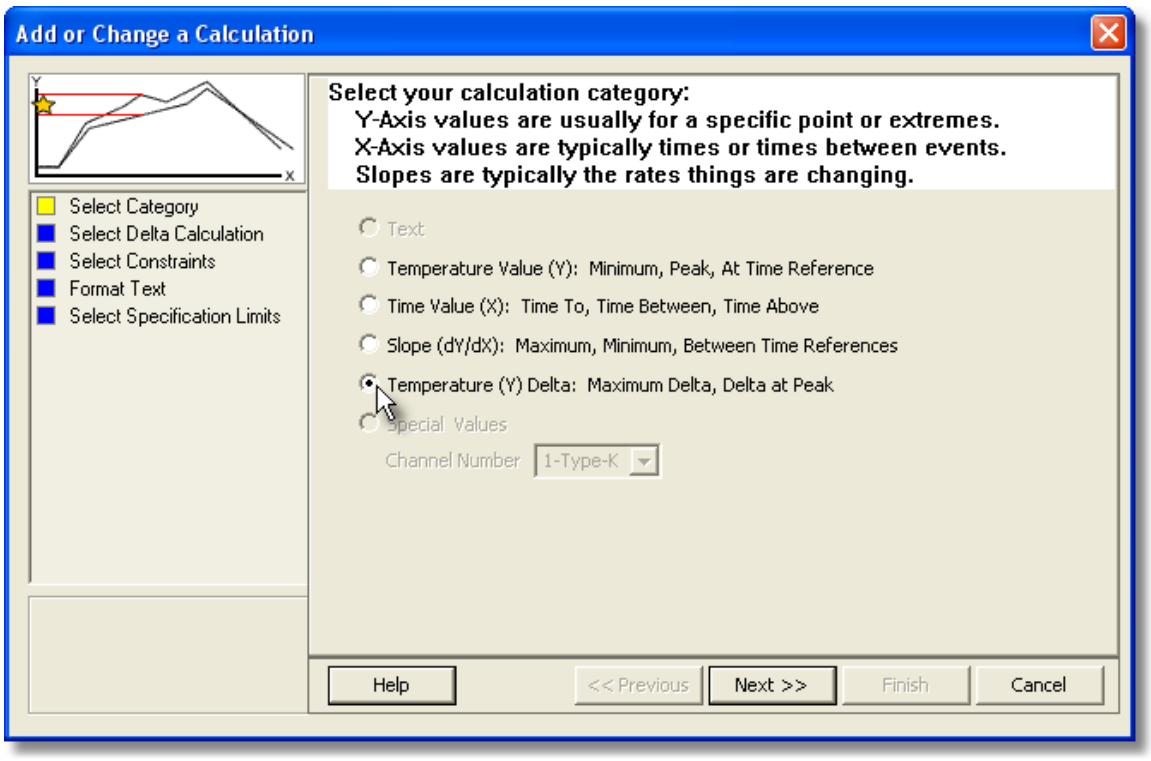
## 5.4.4.3.1.1.4. Temperature (Y) Delta

**To add or edit Temperature (Y) Delta content:**

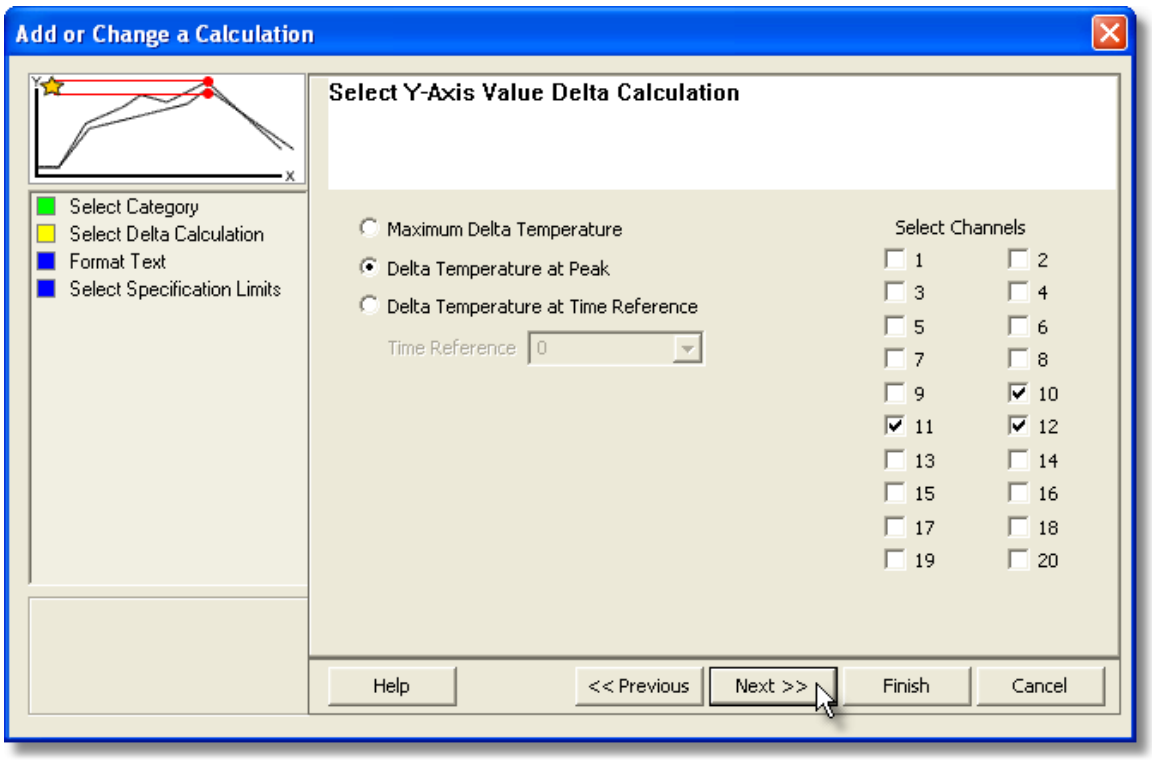
1) Right-click a template cell and a shortcut menu appears.
2) Select ***Add Content*** or ***Edit Content*** from the shortcut menu and the ***Add or Change a Calculation*** wizard appears.

> When navigating through the wizard, the step list on the left uses a color key to inform the user of the current step, steps that have been completed and remaining steps.
>
> Current  Completed  Remaining

3) Click ***Temperature (Y) Delta*** and which channel to derive the data from.

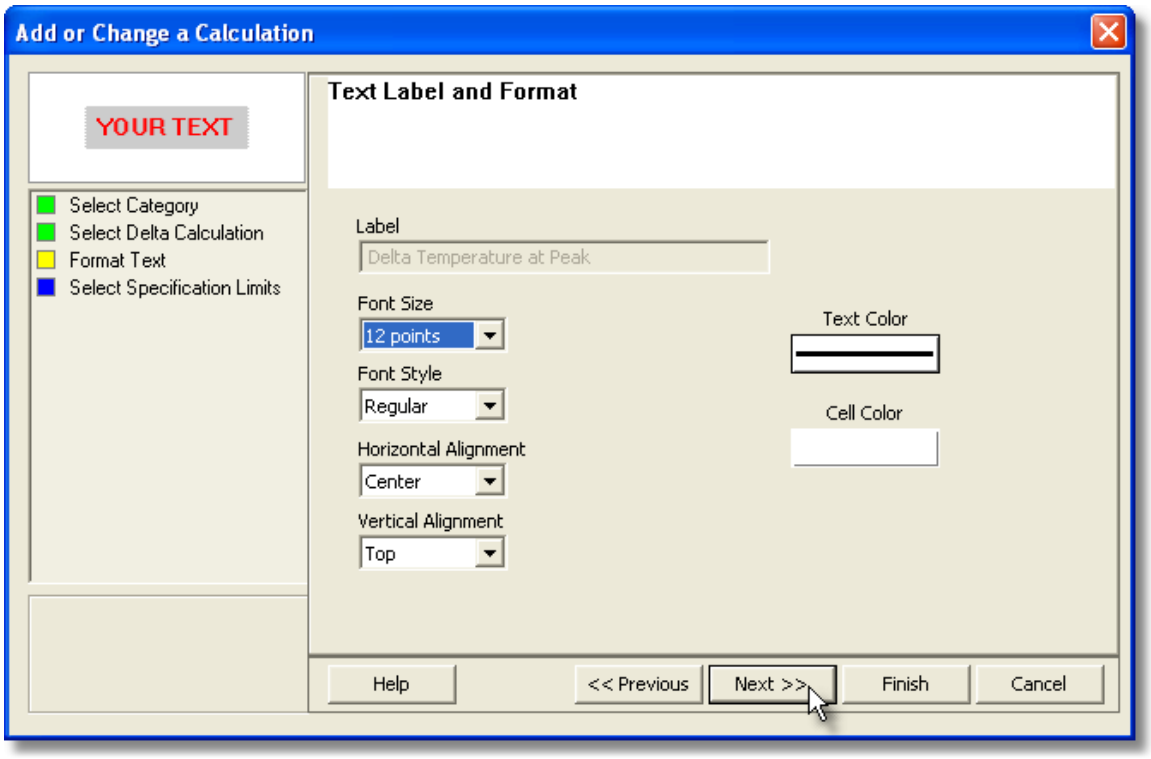



4) Select the ***Next*** command button.
5) Select a Y-Axis value delta calculation and which channels to you wish to be included in this calculation.



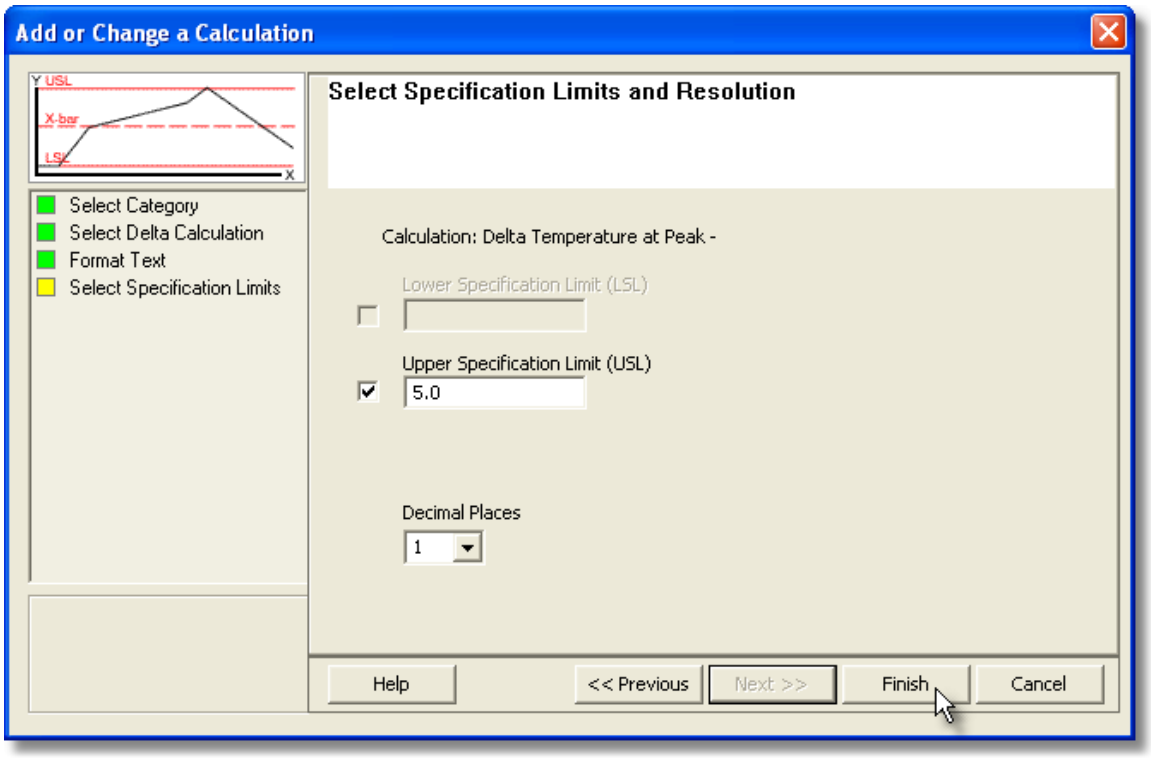

6) Select the ***Next*** command button.

7) Select desired text formatting options.




8) Select the ***Next*** command button.

9) Select Specification Limits and Units. If these values are violated colored bars will appear in the formatted template cell. Refer to topic ***Software>Page Tabs>Profile>Data Table>Template>Specification Limit Indicators*** for more information.




10) Select the ***Finish*** command button to complete the wizard and display the new calculation data in the selected template cell.

### 5.4.4.3.1.2. Specification Limit Indicators

Each Parameter displayed on the Data Tab can have both Lower and Upper specifications applied. If a specification limit is violated, the software displays a red or blue indicator on the left edge of the Data Table cell.

If a USL has been exceeded, that parameter indicator will appear in **red** (indicating it is above the specification limit). If a parameter is less than the user specified LSL, that parameter indicator will be appear in **blue** (indicating below the specification limit).

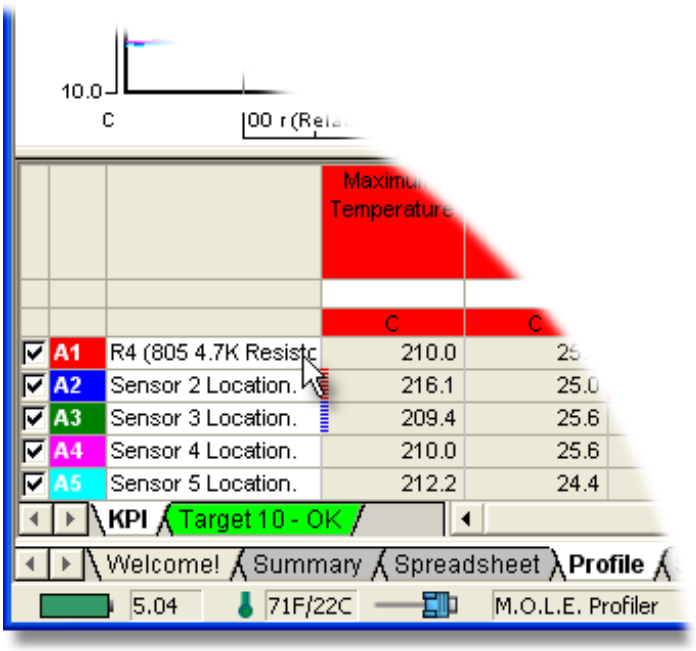

**Refer to topic *Software>Page Tabs>Profile>Data Table>Template>Add & Edit Content Wizard* for information on how to apply LSL and USL values.**

### 5.4.4.3.2. Sensor Locations

The user can use the Sensor Location cells in the Data Table to describe the location where each sensor is connected to the test product. The color and description indicates which Data Plot on the Data Graph it represents.

**To change a Sensor location description:**

1) Click a Sensor Location cell and type the desired name and press the [***enter***] key. The Sensor Location description can also be accessed by using the ***Set Assembly Information*** command in the ***Assembly*** menu.

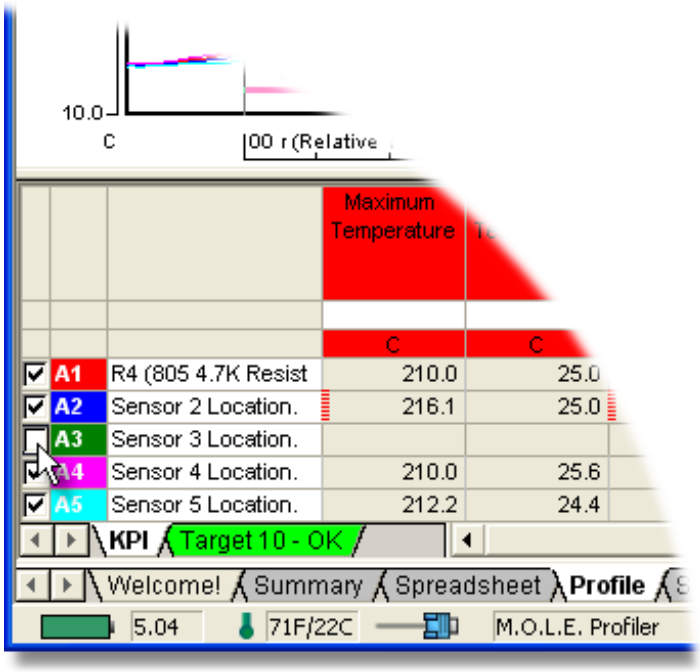


### 5.4.4.3.3. Channel Check Boxes

The Channel check boxes control whether the associated Data Plot is displayed on the Data Graph and whether the data for that channel are included in the data table calculations.

**To turn a Data Plot ON or OFF:**

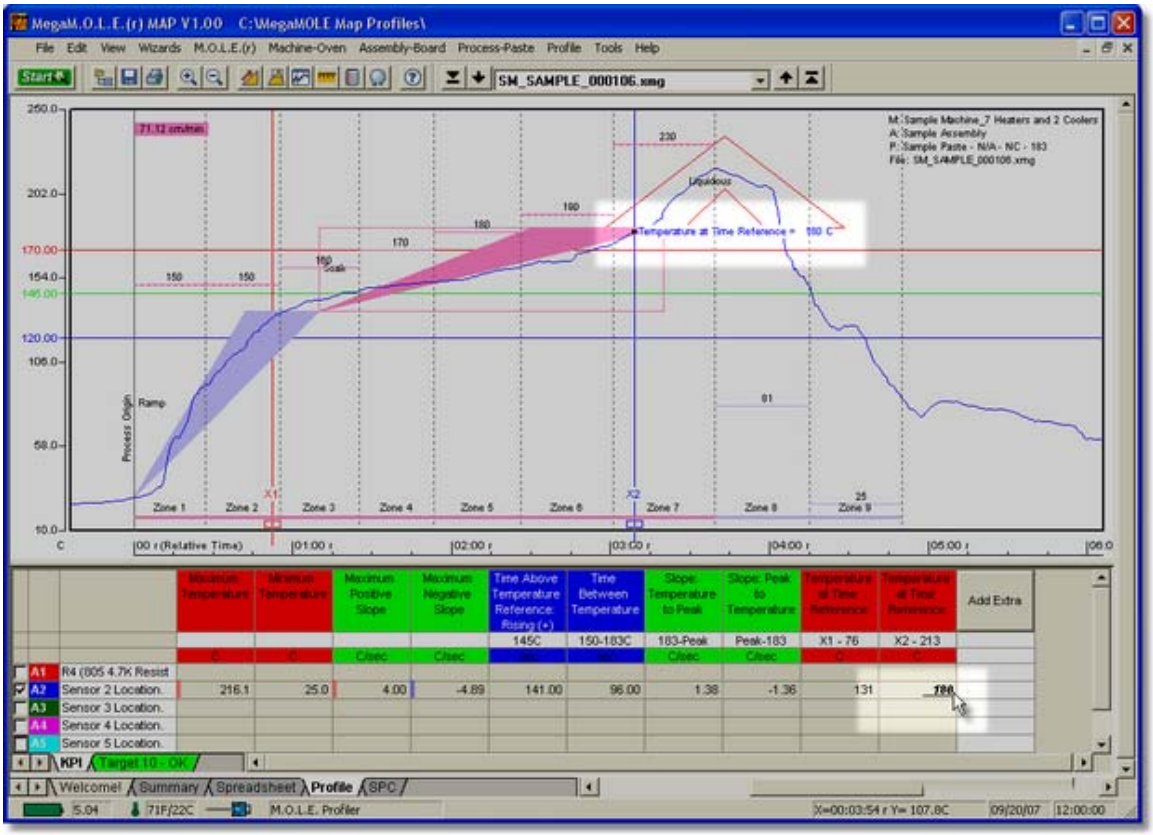
1) Click the channel check box beside a Sensor location description to turn it “ON” or “OFF”.



### 5.4.4.3.4. Value Pop-up

Each value in the Data Table can be displayed as a Value Pop-up. A Value Pop-up is graphically illustrated on the Data Graph showing how and where that value was extracted from the profile.

Only one Value Pop-up can be displayed on the Data Graph at a time.




**To display a Value Pop-up:**

1) Select the Profile Page Tab view.
2) Move the mouse pointer and hover over a desired value in the Data Table. That value will automatically be displayed on the Data Graph where that value was extracted.

The last displayed Value Pop-up will remain on the Data Graph until the user selects a different page tab view.

### 5.4.4.4. Target 10-OK

Target 10-OK is a simple yet powerful way to achieve the pursuit of the perfect profile. The user specifies requirements for the profile initial slope, soak, TAL (time above liquidous), peak parameter and the channels that these requirements are to be applied. Then the software automatically calculates a single go/no-go number.

**Target 10-OK feature allows the user to answer the following questions:**

1) How do I specify a good profile?

- Answer: Based on the selected process specification and specification limits, the user can set the four process parameters (Initial slope, Soak, TAL & Peak).

2) How do I know I have a good profile?

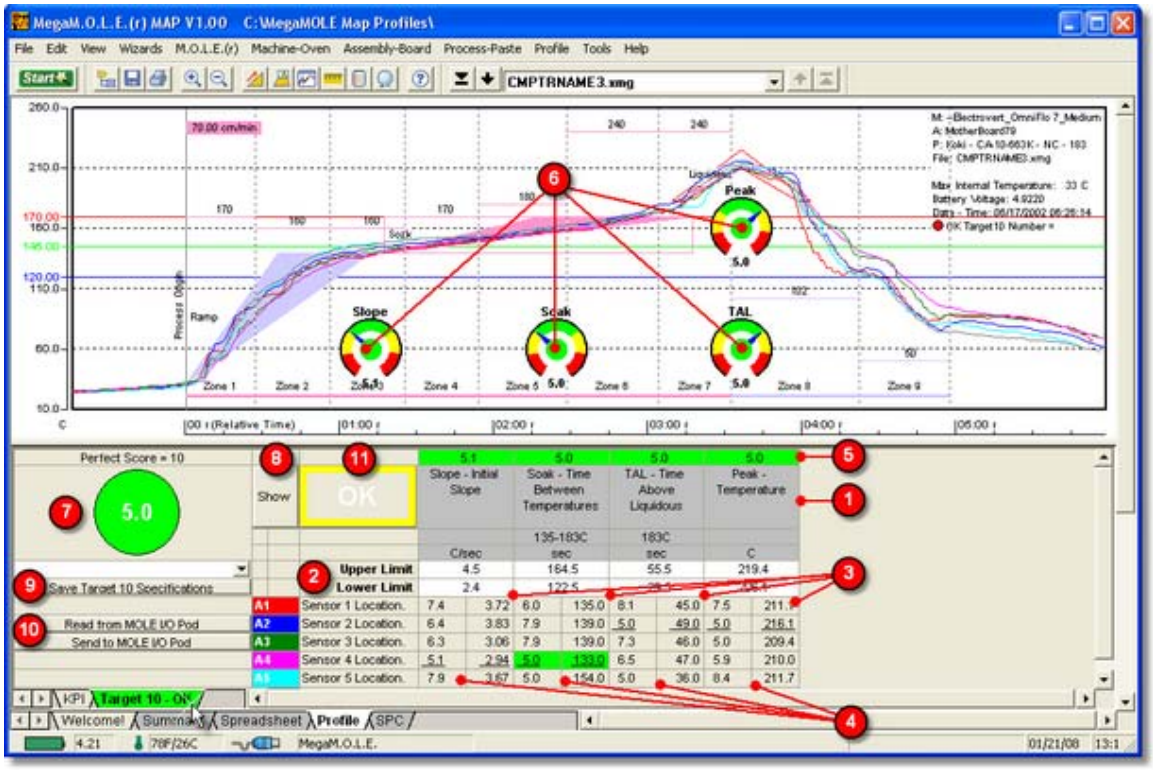
- Answer: Based on the specified settings, the active individual parameter indicators (Slope, Soak, TAL & Peak) display the normalized values. Once Target 10-OK numbers are calculated, they reduce the evaluation of the displayed data run profile to a single number. This number appears in a three state (Red-Green-Yellow) indicator with the worst condition number appearing in the Final Indicator symbol.

  A score of less than 0.0 is bad, 0.0-5.0 is good, 5.1-9.9 better and 10.0 being the perfect score.

3) How can I improve the profile?

- Answer: Using the ***Prediction*** Tool, the user can change zone temperature values or the conveyor speed and adjust the outcome toward a perfect 10.0.

## Target 10-OK features:



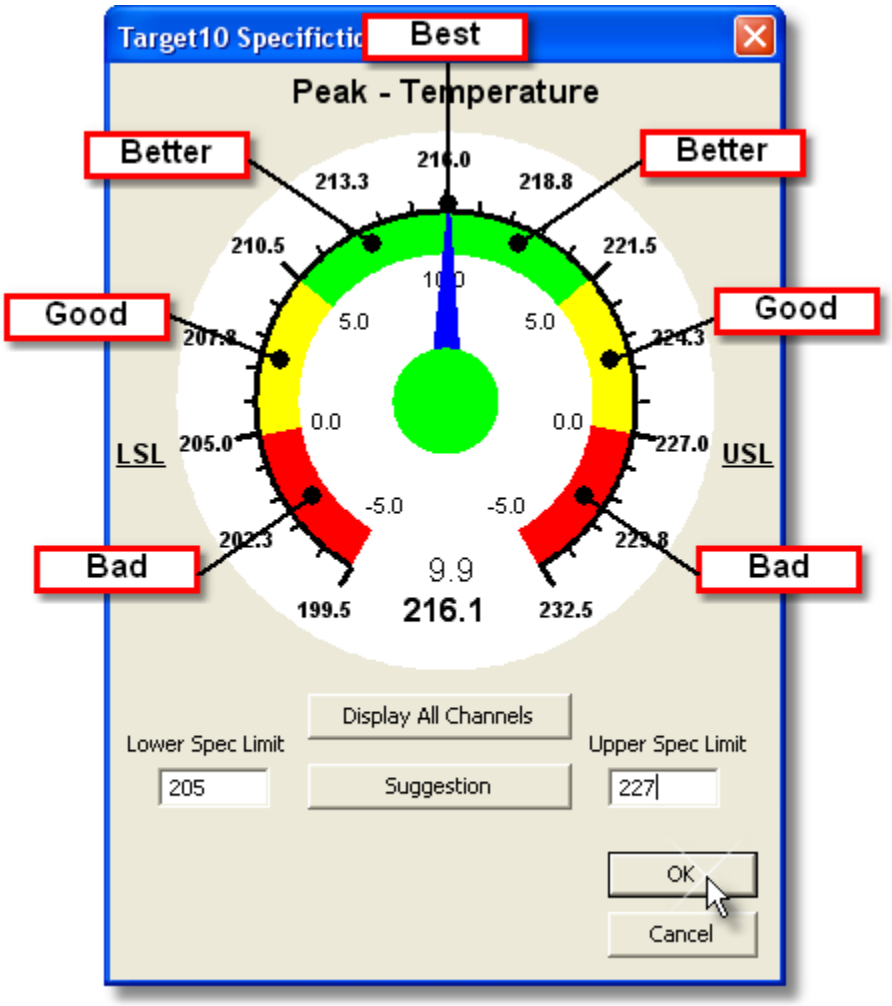

1. **Process Parameters:** Initial slope, Soak, TAL & Peak parameters derived from the associated paste for the currently selected data run.
2. **Limit Adjustment:** Upper and lower specification limits from the selected process for each parameter. The user can adjust these as needed to meet their requirements.
3. **Parameter Values:** Actual values derived from the current data run.
4. **Normalized Values:** Parameter values in the data run converted to a single number based on a 0-10 scale. The software takes the parameter value then determines where it is in respect to the upper and lower specification limits. If the actual parameter value is in the exact center of the specification limits the normalized value will be a perfect 10.0.

**Example:** The Peak Temperature has an upper limit of 240.0°C and a lower limit of 195.0°C. The software subtracts the upper limit (240.0°C) from the lower limit (195.0°C) equaling (45°C). Then the software creates a 0-10 scale by dividing the 45°C by 20 equaling a scale of 1 point for every 2.25°C.

If the actual parameter value for channel 1 is 210.0°C. The software then determine where that value lands on the 0-10 scale. In this case it is 15°C higher than the lower limit so the software divides the 15°C by the scale value of 2.25°C which equals at 6.7 on the scale.

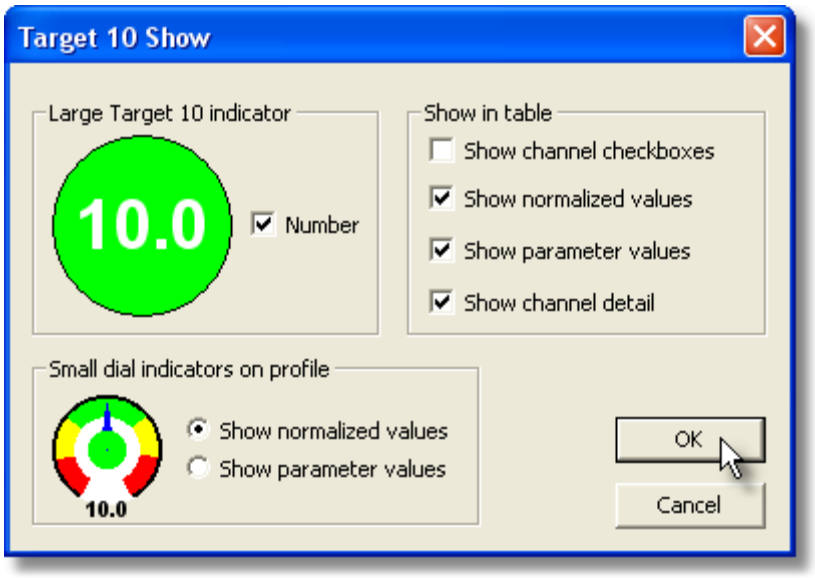
❺ **Worst Condition:** Once all of the Target 10-OK numbers are calculated into normalized values, the software reduces the evaluation of the displayed data run profile to a single worst condition number for each process parameter.

❻ **Individual Parameter Indicators:** These are individual visual indicators of the worst condition number for each process parameter. The user can click these indicators to launch the detail dialog box where they can visually analyze the worst condition number for each channel.




❼ **Final Indicator Symbol:** This is a three state (Red-Green-Yellow) indicator that displays the worst condition number out of the four process parameters.

❽ **Show button:** The user can select this button to display or hide various Target 10-OK features.




❾ **Save Target 10 Specs button:** This button saves the currently displayed settings to a Target 10 (.XMK) file. This file then can be used when setting a process in the ***Fresh Start*** workflow wizard or using the ***Set Process*** command.

❿ **Read/Send I/O Pod buttons:** These buttons read and send the Target 10-OK settings to and from the MEGAM.O.L.E.® I/O Pod. When reading, the software downloads the settings into the Target 10-OK tab for validation. When sending, the software uploads the settings to the I/O Pod so the user can invoke the "OK" process. This process is where the last recorded profile is compared to the OK settings resulting in a "Pass" or "Fail" result. This is done without connecting the MEGAM.O.L.E.® profiler to the computer by pressing the OK button on the Main module.

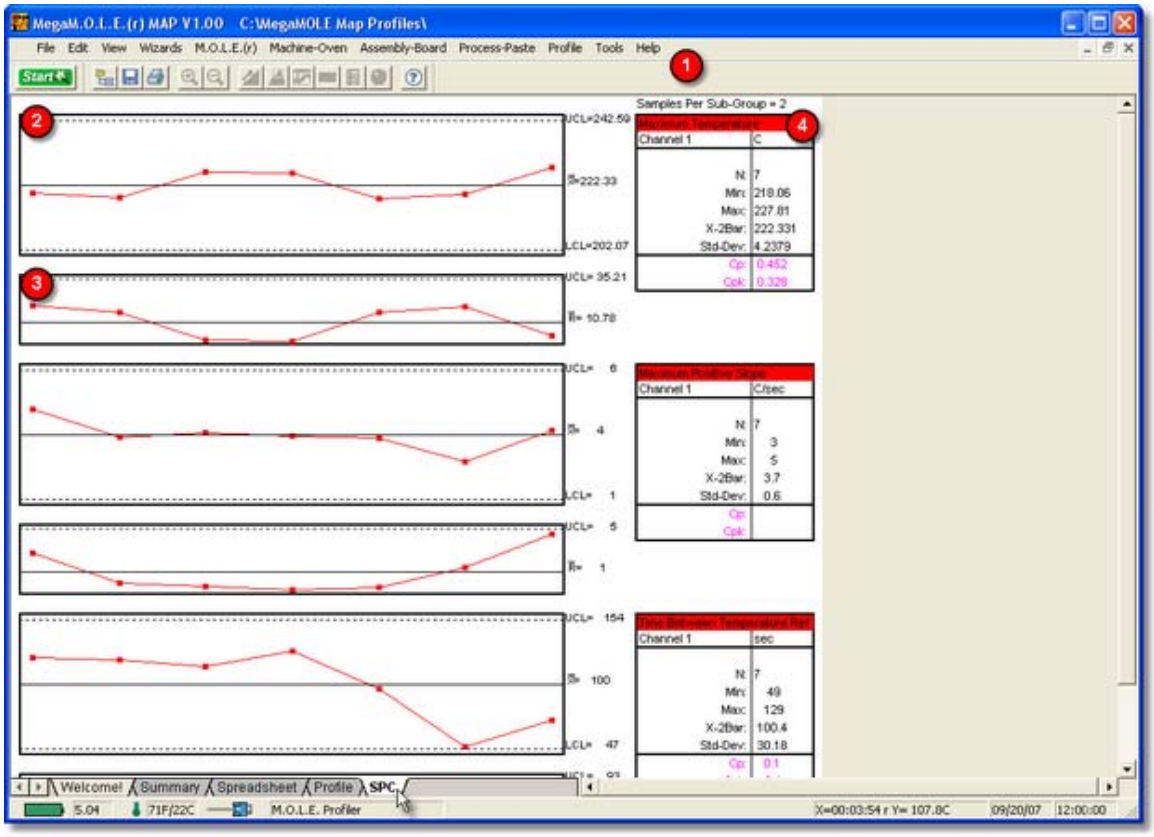
⓫ **OK command button:** This button resets the Target 10-OK parameters back to the original results that are permanently saved in the currently selected data run (.XMG) file.

## 5.4.5. SPC Page Tab

The SPC Page Tab displays the specified parameters flagged on the Spreadsheet Page Tab in SPC X-Bar and R charts. Refer to topic ***Software>Page Tabs>Spreadsheet>SPC Flags*** for more information.

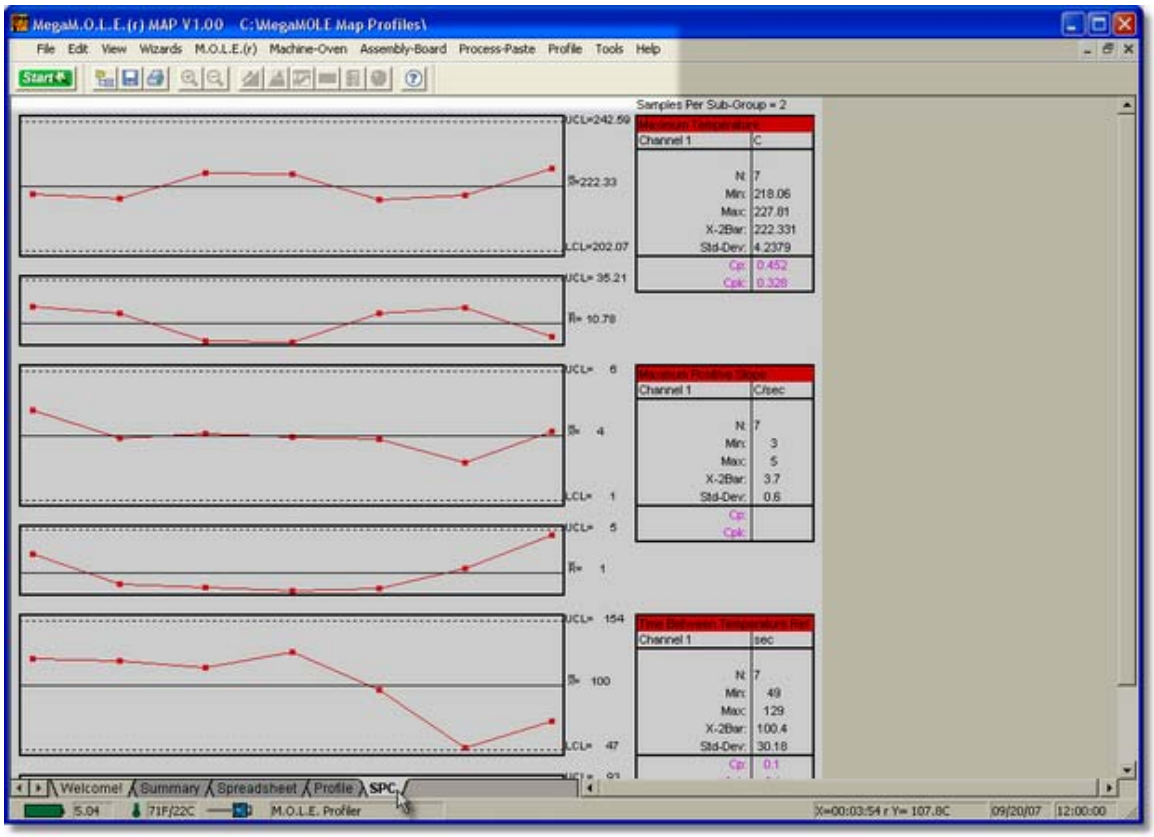
### SPC Page Tab features:

1. **Menus and Toolbar buttons**
2. **X-Bar Chart**
3. **R Chart**
4. **Statistics box**



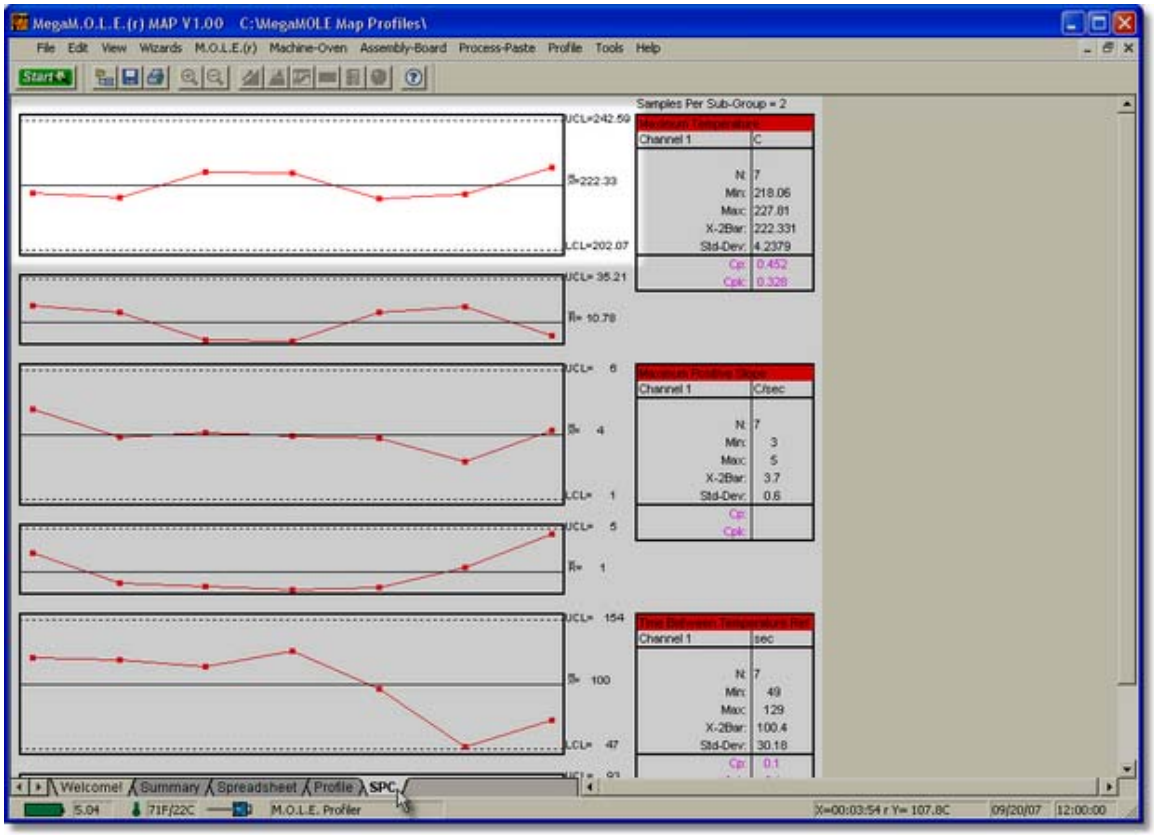
### 5.4.5.1. Menus & Toolbar

- **Menus:** File, Edit, Wizards, M.O.L.E.®, Machine-Oven, Assembly-Board, Process-Paste, Profile, Tools and Help.
- **Toolbar buttons:** Start, Open Working Directory, Save, Print, and Help.



### 5.4.5.2. X-Bar Chart

The X-Bar Chart is the graphical chart produced from samples of a flagged parameter on the Spreadsheet Page Tab. The chart uses a rolling average of 2 through 6 sample points. The user can specify the sample points on the ***SPC*** Page Tab of the ***Preferences*** dialog box. The X-bar is the average of the data samples and the UCL and LCL are calculated using a formula based on the Range data.

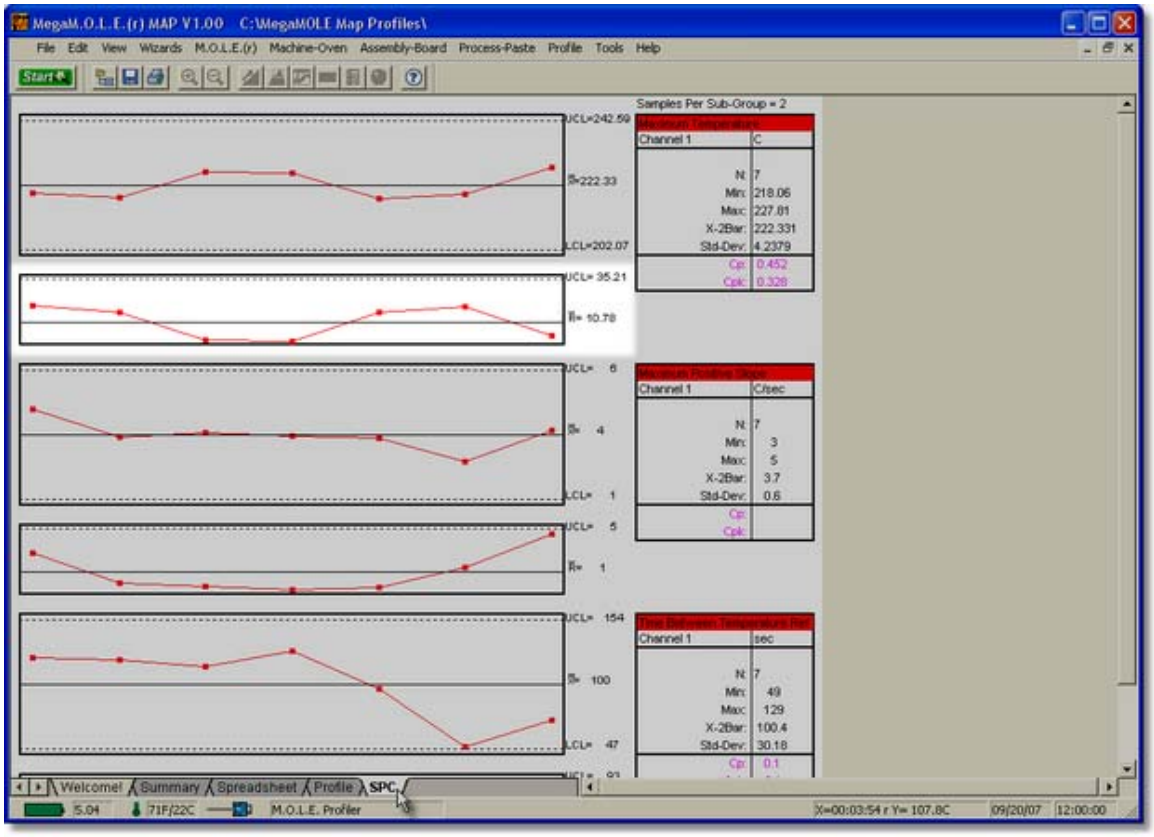



The calculation numbers vary depending on the data in the Spreadsheet Page Tab. Using the filter function or the hide command allows the user to select the specific data runs to include on the SPC chart.

### 5.4.5.3. R Chart

The R Chart is the graphical chart produced from samples of a flagged parameter on the Spreadsheet Page Tab. The R-Bar is the averages of the range samples.

If the Sub-Group size on the ***SPC*** Page Tab of the ***Preferences*** dialog box is set to 1, the R chart becomes a moving range (mR) chart. The moving range is the difference between a specified X value and the one preceding it.



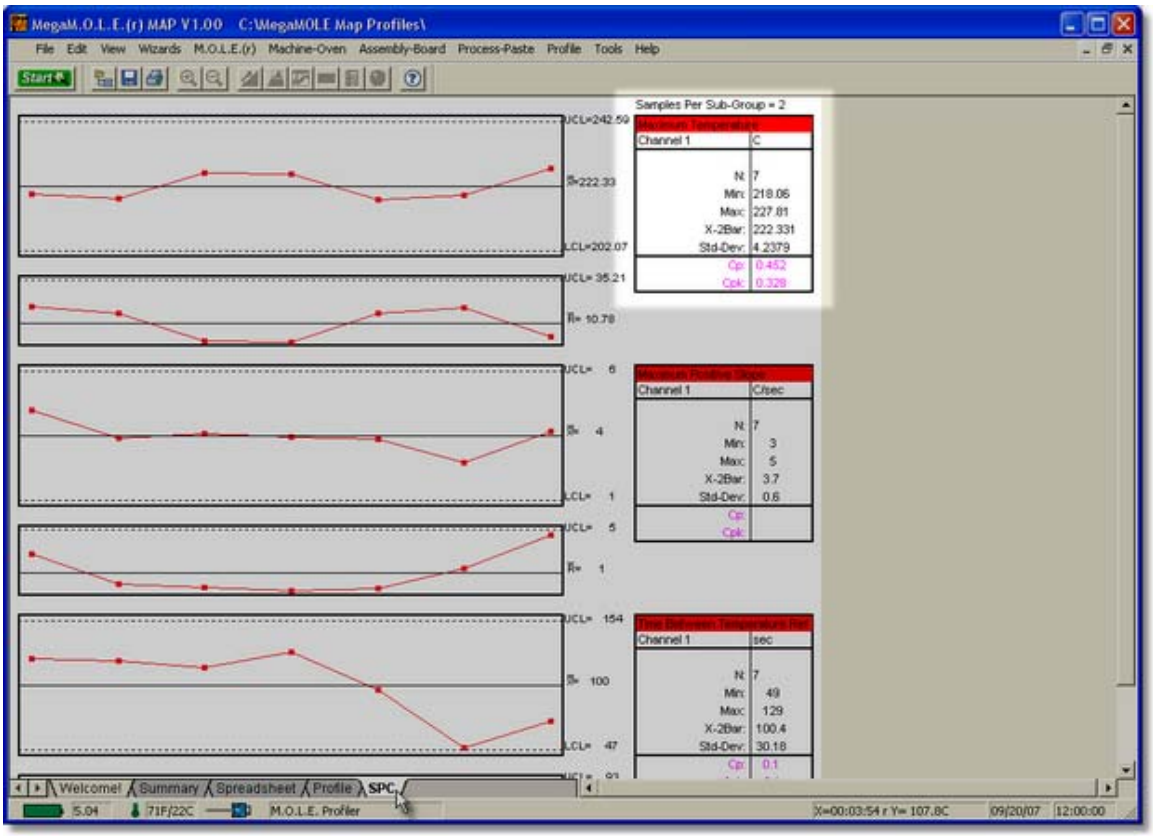

The calculation numbers vary depending on the data in the Spreadsheet Page Tab. Using the filter function or the hide command allows the user to select the specific data runs to include on the SPC chart.

### 5.4.5.4. Statistics Box

The Statistics Box reflects the current SPC data from the selected, sorted and filtered data set parameter.

**Statistics box data:**

- ***N*** = Number of subgroups.
- ***Min.*** = The lowest data point on the graph.
- ***Max.*** = The highest data point on the graph.
- ***X-2 bar*** = The current X-Bar Bar calculation.
- ***Std. Dev.***= The Standard Deviation of the selected parameter.
- ***Cp; Cpk*** = Process capability indeces (Refer to ***Appendix B*** for more information).



## 5.5 Menu and Tool Commands

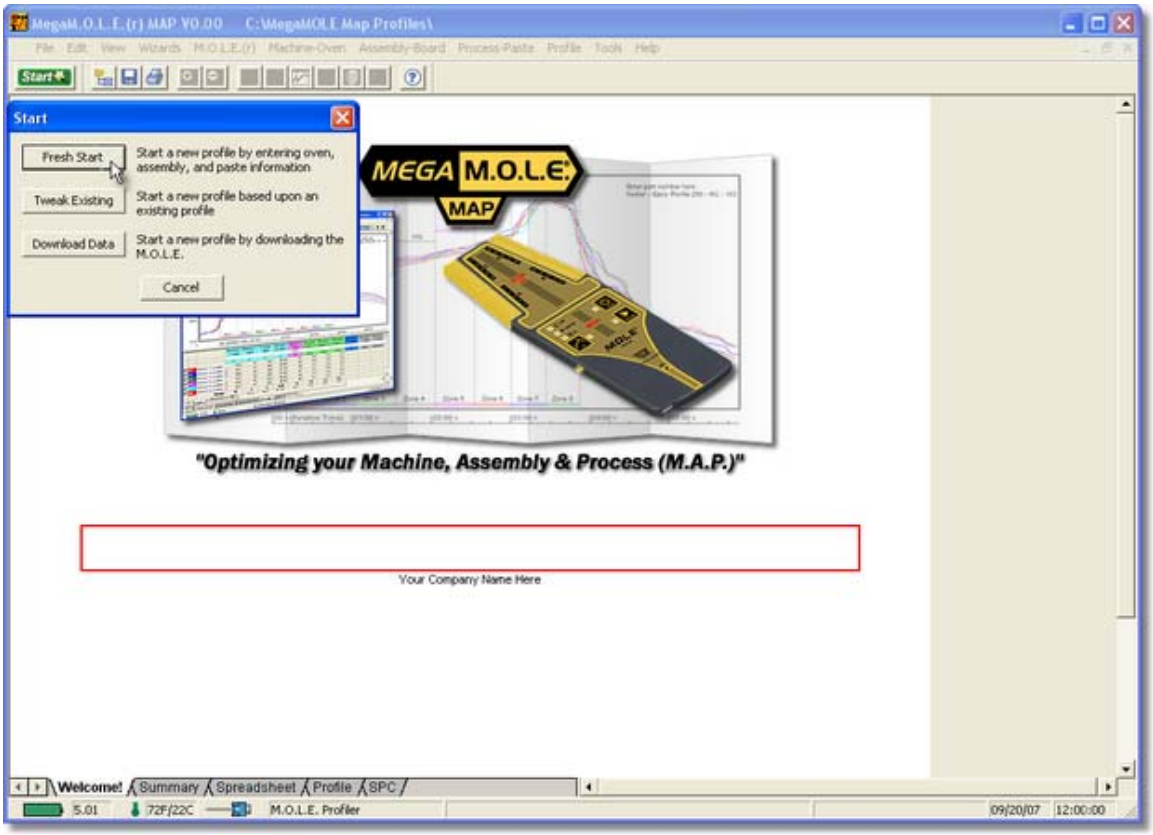
### 5.5.1. File Menu

This section explains how to use all of the Menu and Toolbar button commands. Each of the following sections will list all of the commands specific to each of the menus. Commands in the File menu are used to manipulate and configure data run files.

The dimmed menu commands are used in other page tabs.

### 5.5.1.1. New (Start)

The ***New (Start)*** command is a blank state starting point where users can choose from three different MEGAM.O.L.E.® MAP workflows. A MAP workflow is a wizard of steps based on which option is selected which help guide a user.




**Workflows:**

- **Fresh Start:** Start a new profile (data run) by **entering** Machine (oven), Assembly (board) and Process (Paste) information.
- **Tweak Existing:** Start a new profile (data run) based on an **existing** profile.
- **Download Data:** Start a new profile (data run) by **downloading** the M.O.L.E. Profiler.

The ***New (Start)*** command can be accessed on the ***Toolbar*** and ***Get Started*** dialog box.

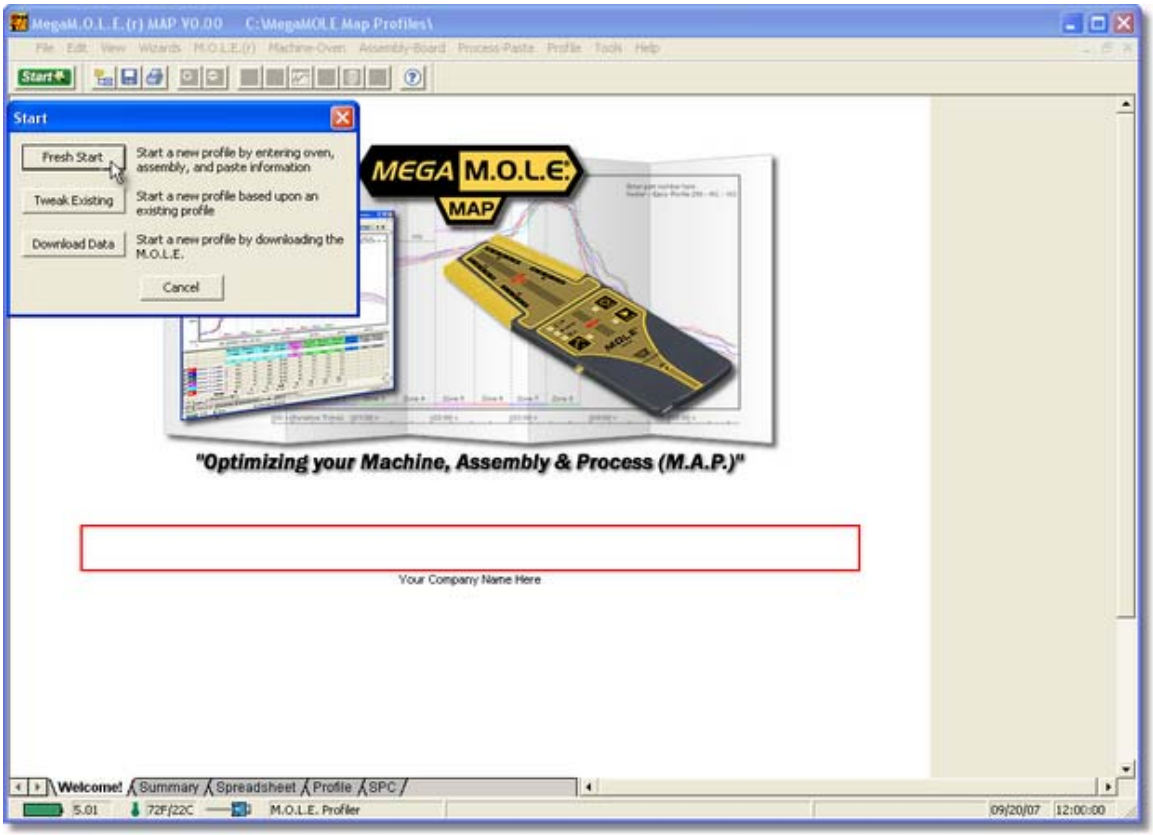
| | |
|---|---|
| Start | New (Start) button. |

### 5.5.1.1.1. Fresh Start

The ***Fresh Start*** workflow is a wizard that starts a new profile (data run) by entering Machine (oven), Assembly (board) and Process (Paste) information.

**The Fresh Start workflow:**

1) Connect the M.O.L.E. to the PC. Refer to ***Basics>Setup>Communications Setup*** for more information.
2) On the ***File*** menu, cllick ***New***. A message box appears with the three workflow wizard options.



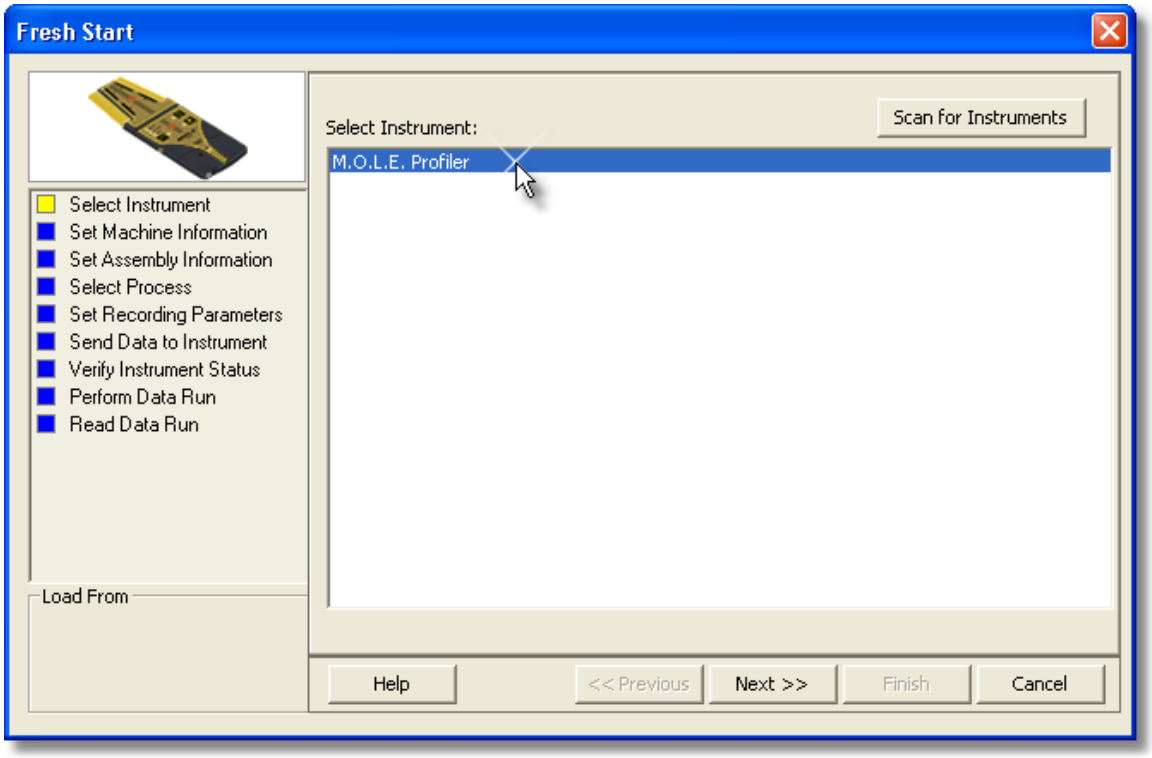

3) On the ***Start*** dialog box, click the ***Fresh Start*** command button and the workflow wizard appears.

When navigating through the wizard, the step list on the left uses a color key to inform the user of the current step, steps that have been completed and remaining steps.

Current  Completed  Remaining

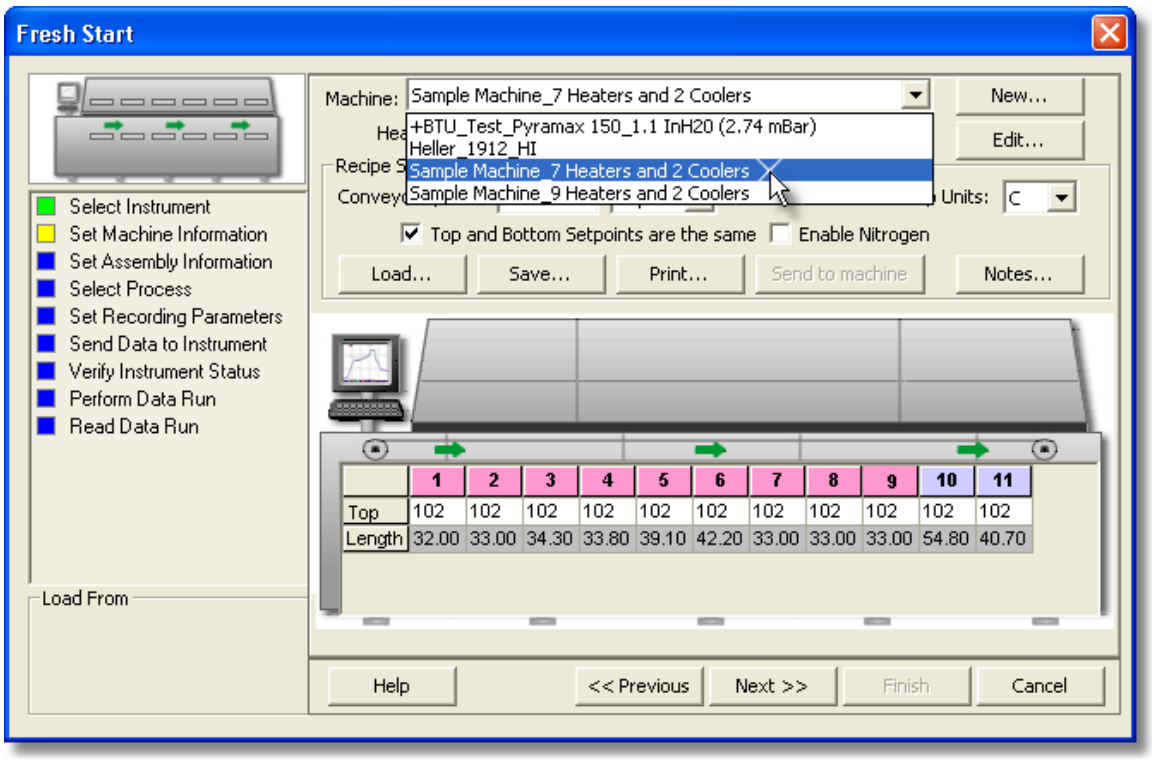
4) Select the desired instrument from the list box to make active. If there are none listed, click the ***Scan for Instruments*** command button to detect all available instruments.

MAP software allows multiple instruments to be connected to a computer at one time. Selecting the ***Scan for Instruments*** command button will detect all instruments and display them in the list. If no instrument is detected, the default Demonstration MEGAM.O.L.E.® profiler is displayed.



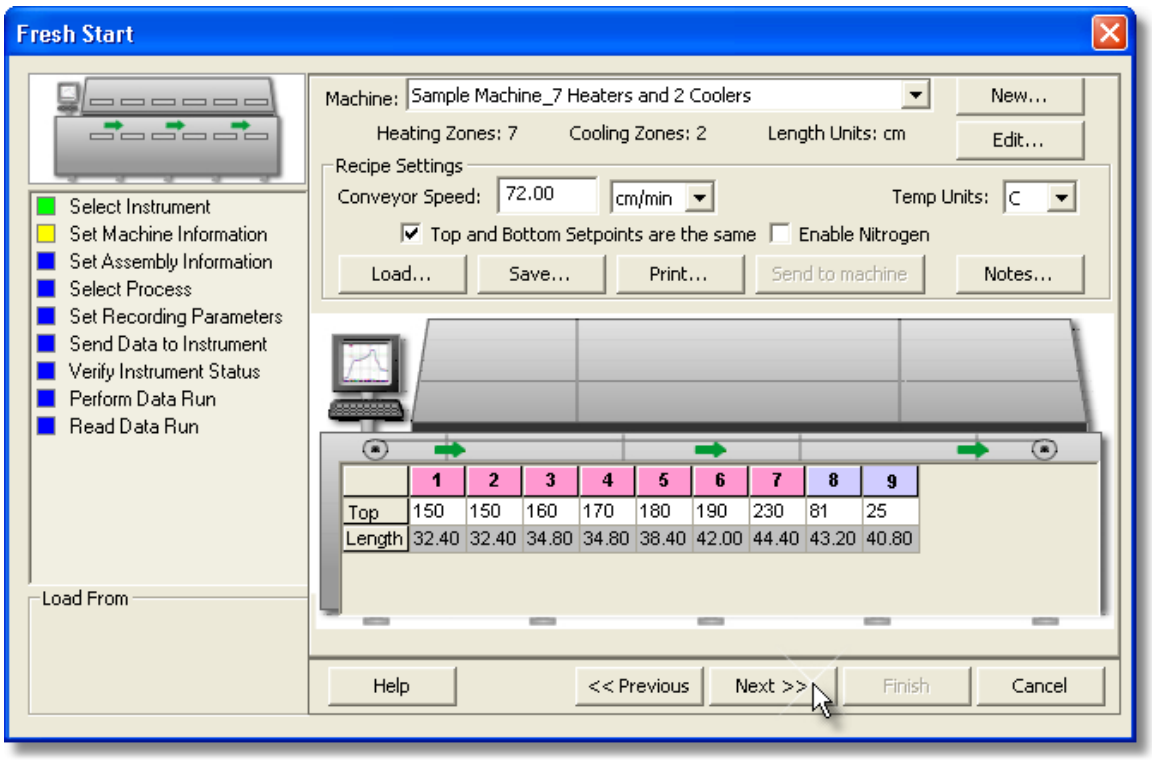

5) Click the ***Next*** command button.

6) Select a machine from the Machine drop down list. If it does not appear in the list click the ***New*** command button to create a new machine. Refer to topic ***Software>Menus>Machine>Create new Machine*** for more information.




7) Set the machine recipe settings such as Conveyor Speed, Zone Temperatures and Temperature units.

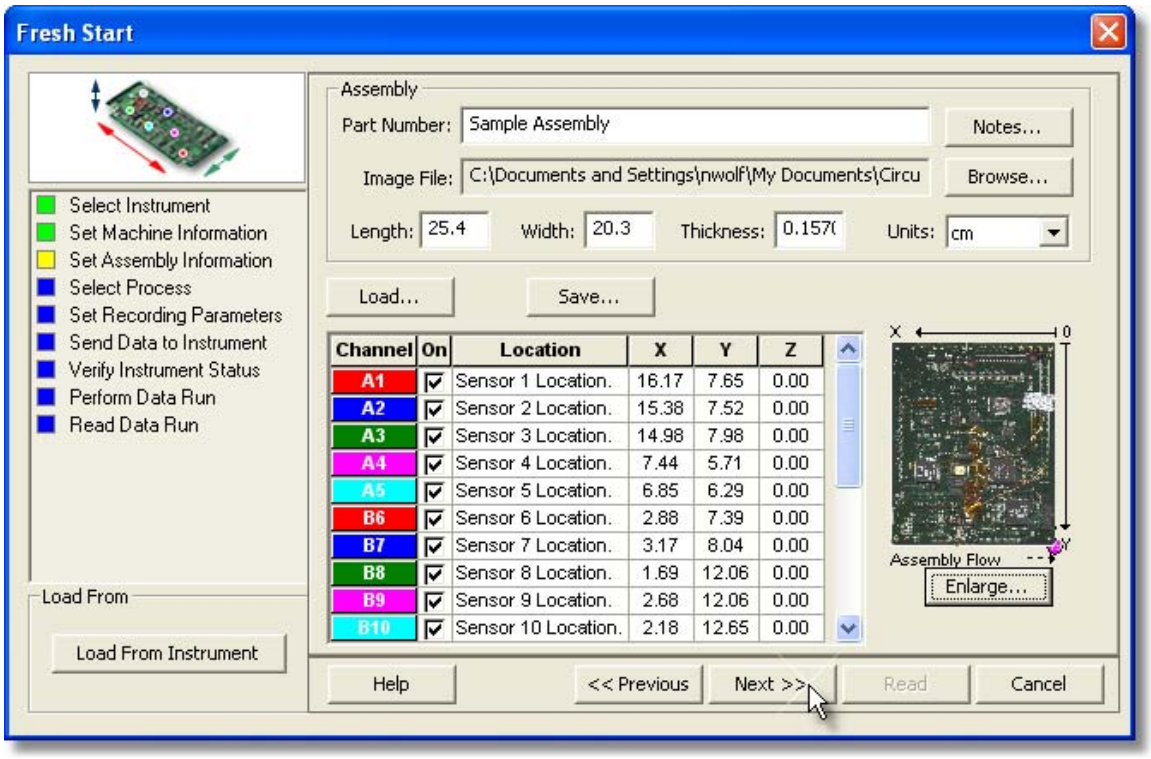
The software includes features to save and load machine recipe setting files. These files are helpful to quickly load machine information and to ensure they are always the same.



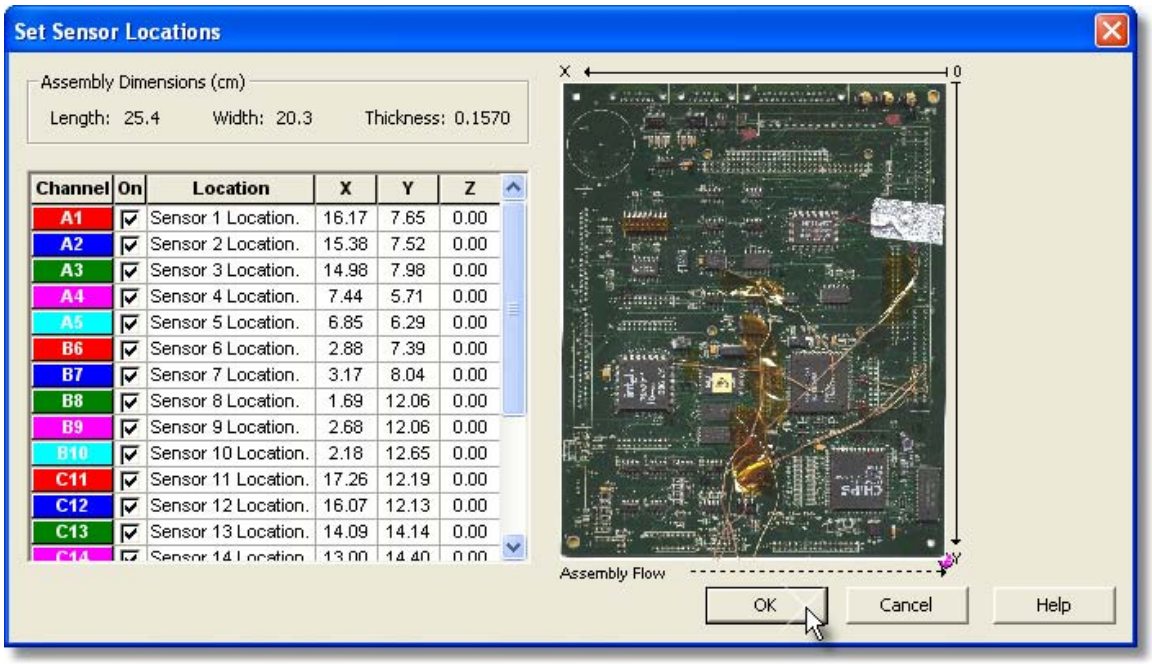

8) Click the ***Next*** command button.

If no value is specified for the conveyor speed or the default oven temperature values, the software will remind the user to set them.


9) Set the assembly information such as part number, board size, sensor locations and a product image.




If the user specifies a product image, clicking the ***Enlarge*** command button displays the Set Sensor Locations dialog box where the user can specify the locations of each sensor. To move sensor locations, drag the sensor markers to the approximate location where the sensors are attached.

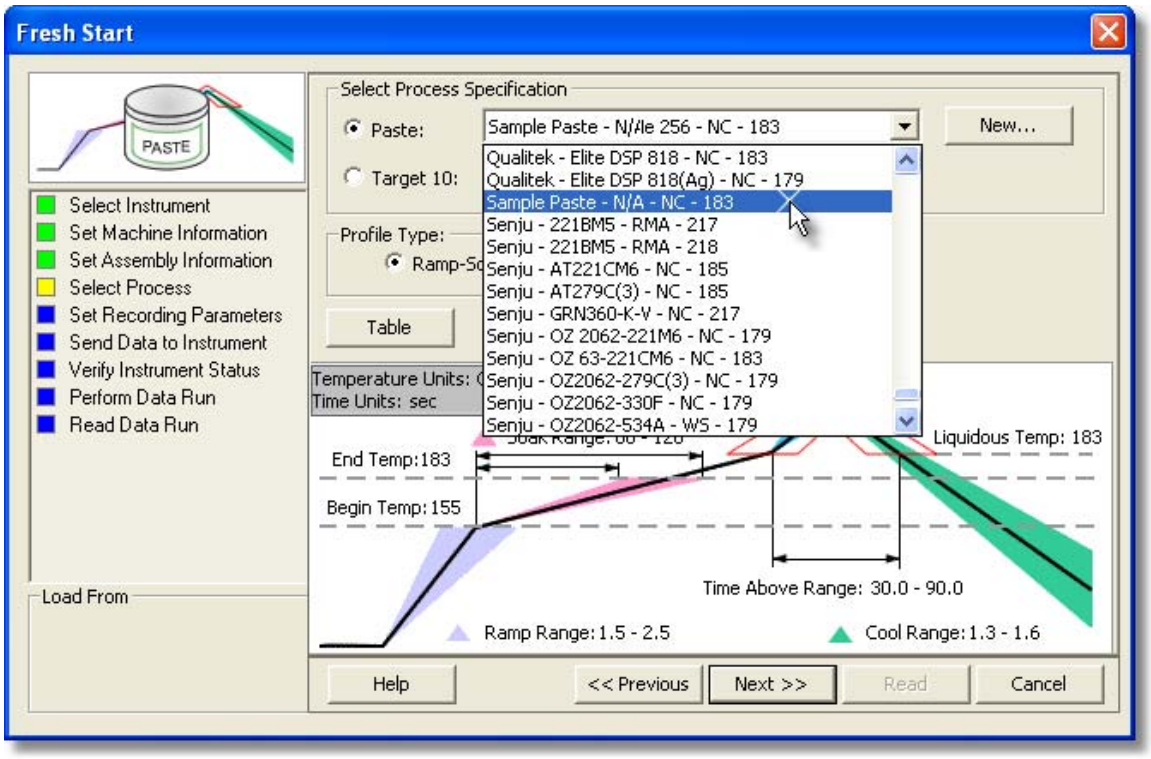



10) When finished, click the ***OK*** command button to accept or ***Cancel*** to return without making any changes.

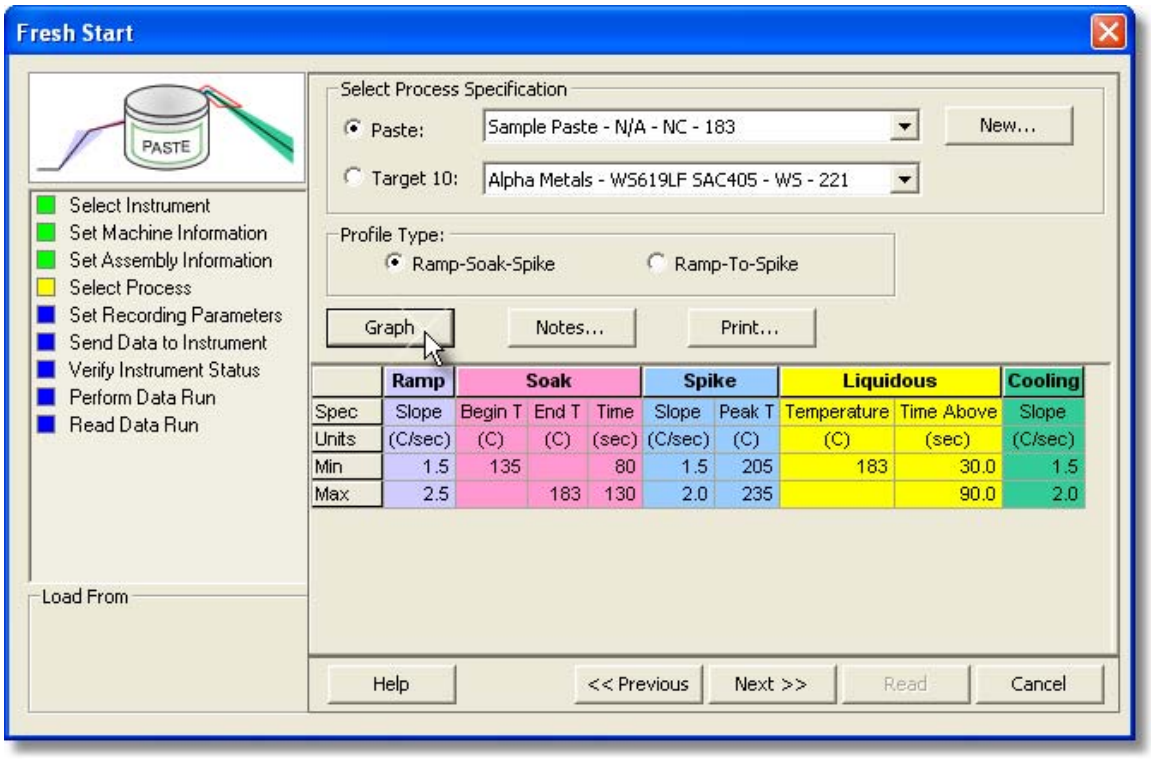
11) Click the ***Next*** command button.

12) Select your process specification. The user can select a ***Paste*** from the database or a pre-defined ***Target 10*** file. Then select a Profile Type (Ramp-Soak-Spike or Ramp-to-Spike). If your Paste does not appear in the database list click the ***New*** command button to create a new machine. Refer to topic ***Software>Menus>Process>Create new Paste*** for more information.

When a paste specification is selected, the software automatically creates a Target 10 specification file for future use.

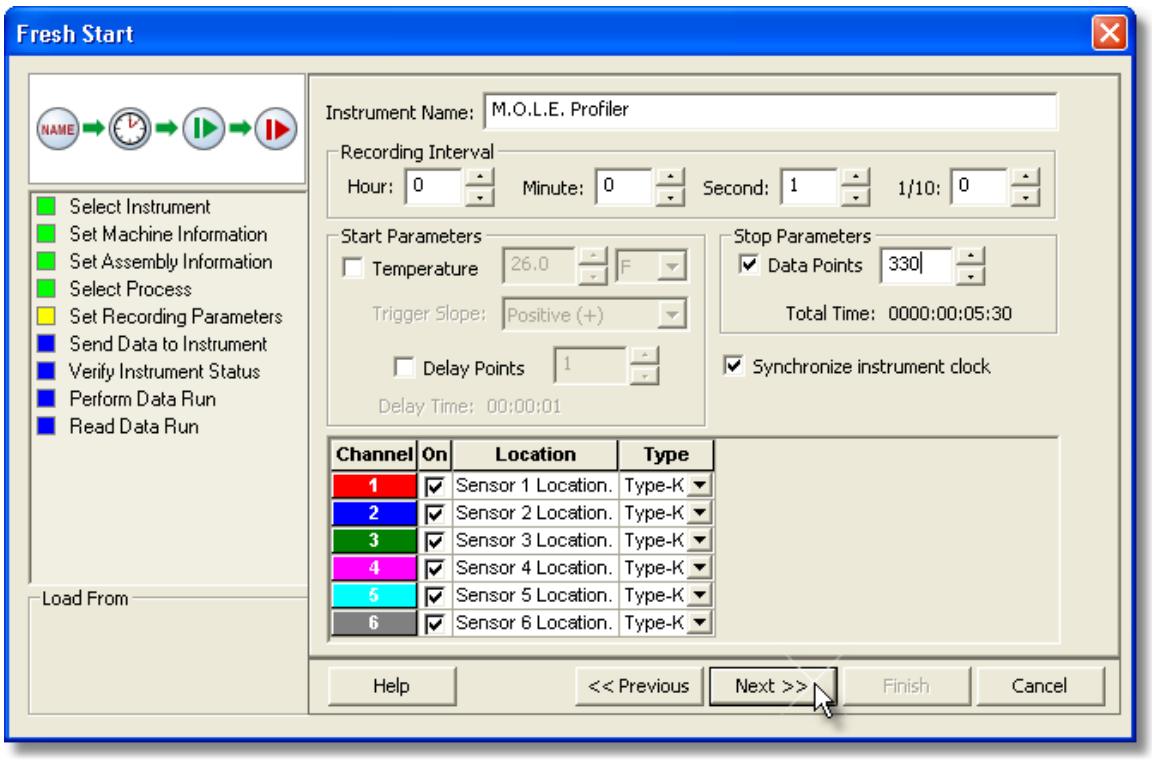



Once a paste is selected the specifications are displayed on the graph. The software also allows paste specification data to be viewed in a table view by clicking the ***Table*** command button.



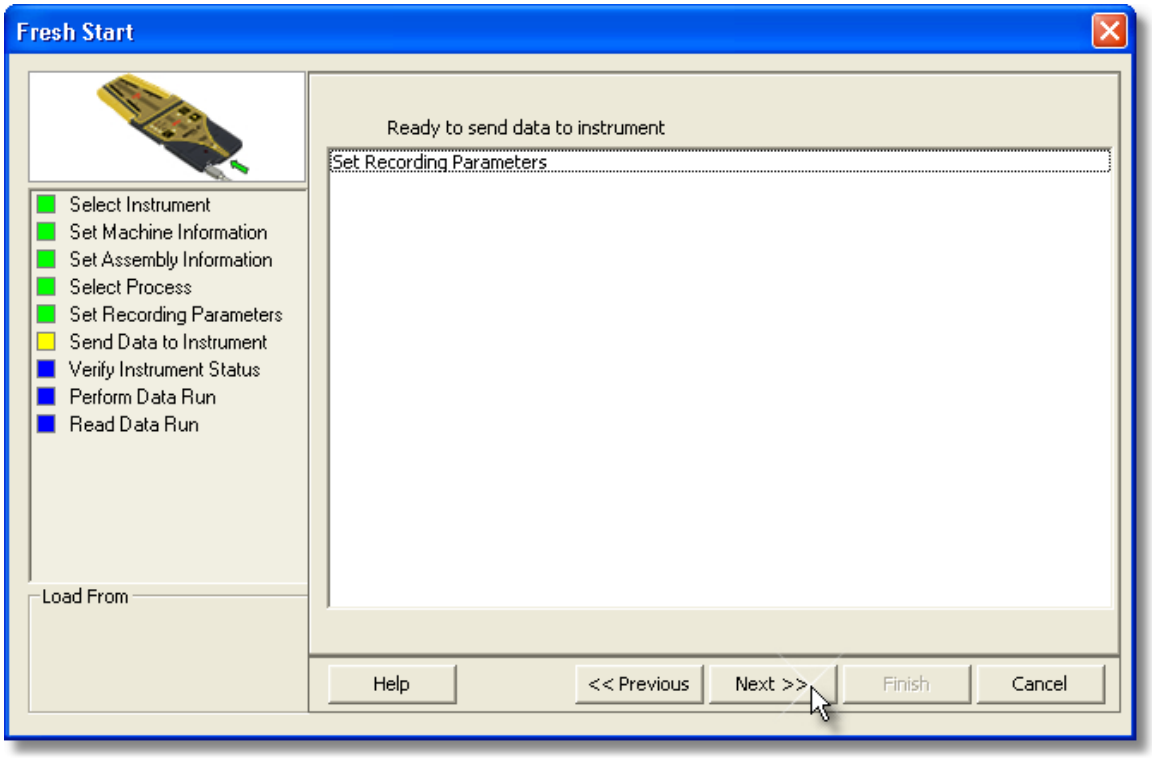

13) Click the ***Next*** command button

14) Set Recording Parameters such as the instrument name, recording interval, start parameters and stop parameters. This step is where the user can also turn a sensor channel **ON** or **OFF**, set the sensor location description and sensor type. Refer to section ***Software>Menus>MOLE>Set Recording Parameters*** for detailed information for each setting.



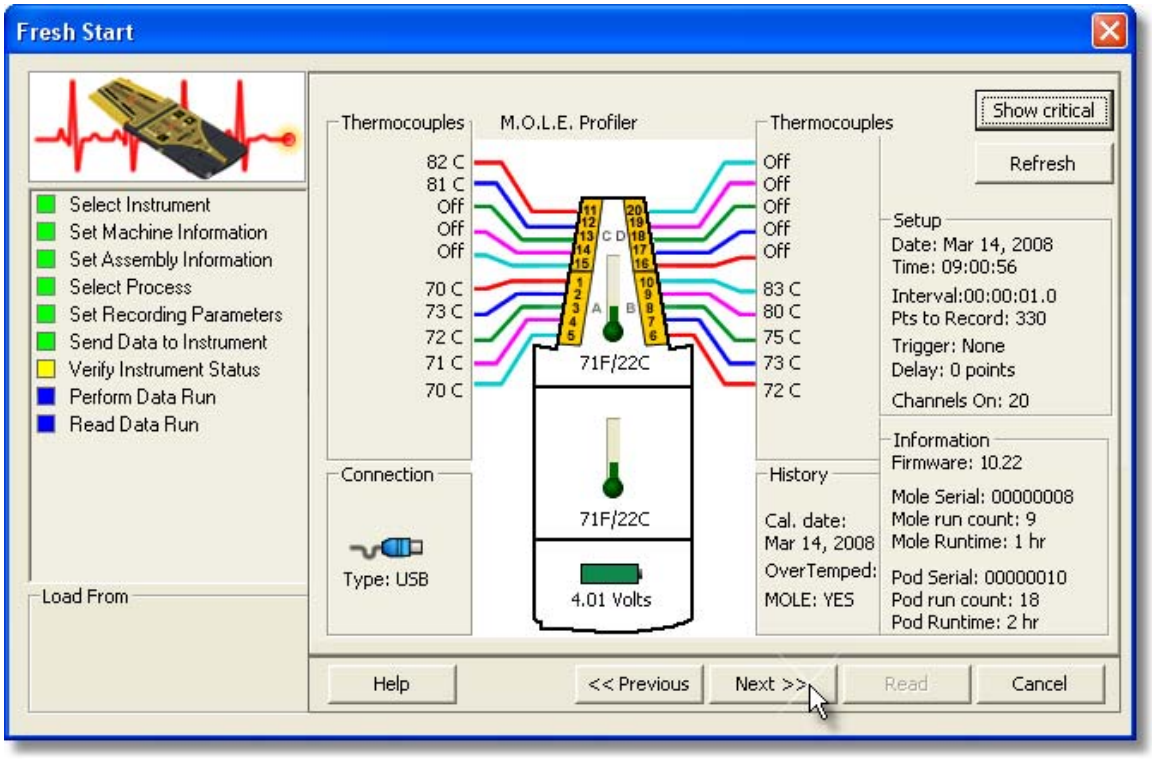

15) Click the ***Next*** command button.

16) Click the ***Next*** command button to send the recording parameters to the instrument.



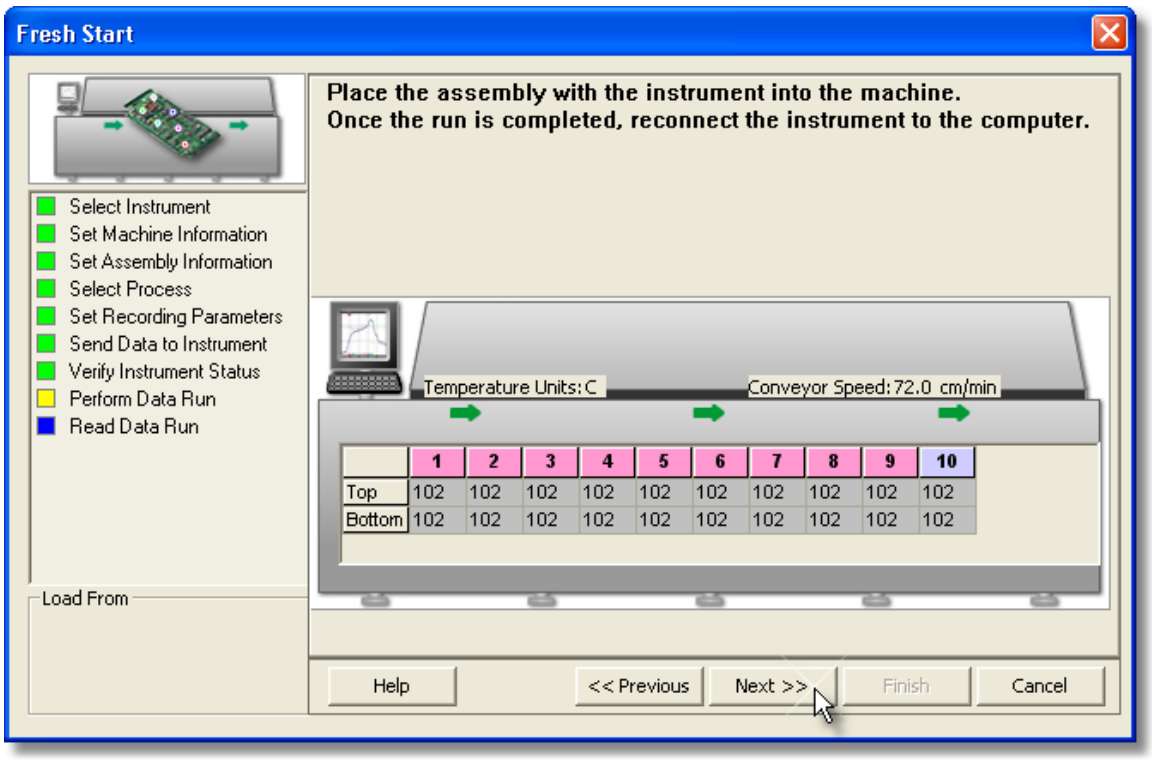

17) Verify the instrument status. This dialog box displays the health of the M.O.L.E. Profiler such as battery charge, internal temperature, thermocouple temperatures. If the user selects the ***Show Critical*** command button the dialog box will only display items that will prevent the user from completing a successful data run.

If the I/O module is not connected to the MEGAM.O.L.E.® Profiler, the software will display a warning message that the instrument is not communicating.




18) Pass the thermally protected M.O.L.E. Profiler and test product through the process. Refer to topic ***Basics>Operation>Step 2 - Data Collection*** for more information.

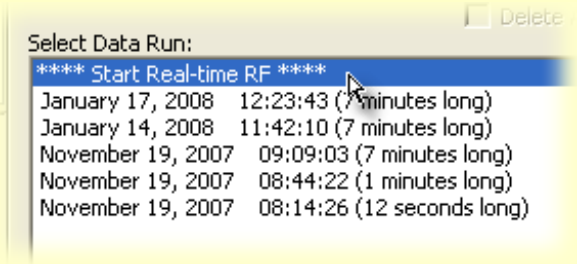
If the M.O.L.E. Profiler already contains a data run, click the ***Next*** command button to continue to the next step.

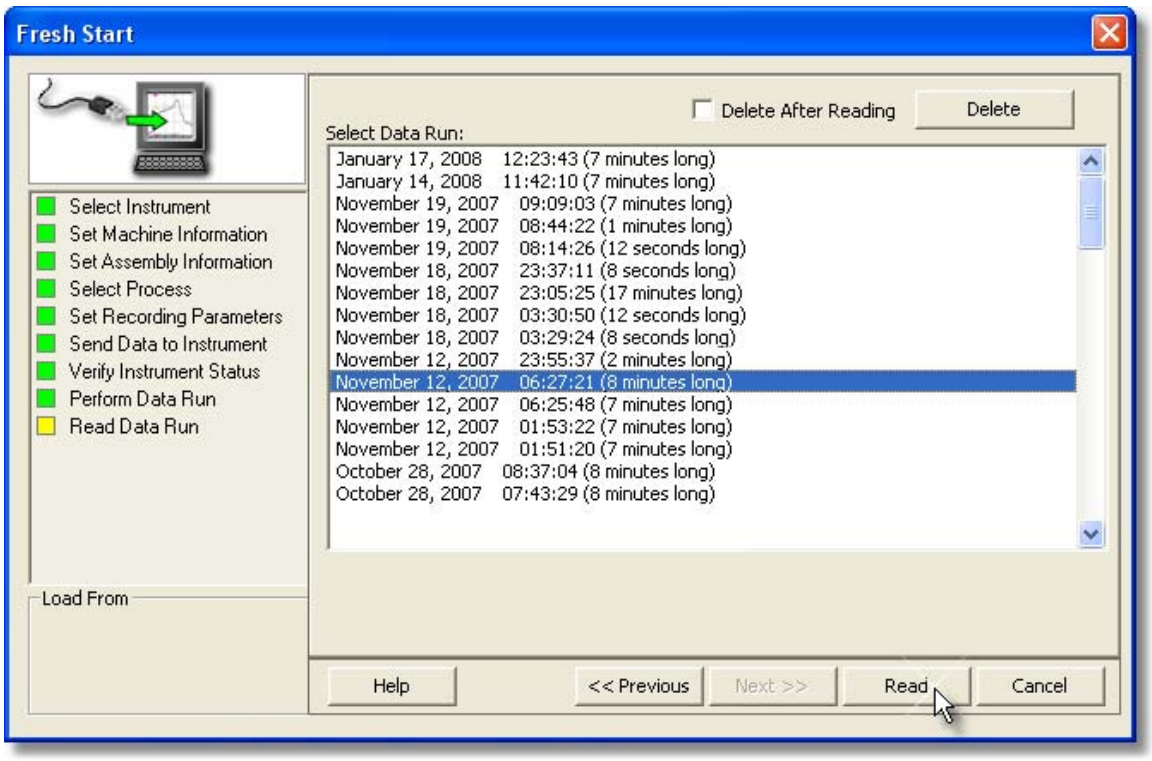



19) Click the ***Next*** command button.

20) Select the desired data run and then click the ***Read*** command button to read the data run from the M.O.L.E. Profiler.

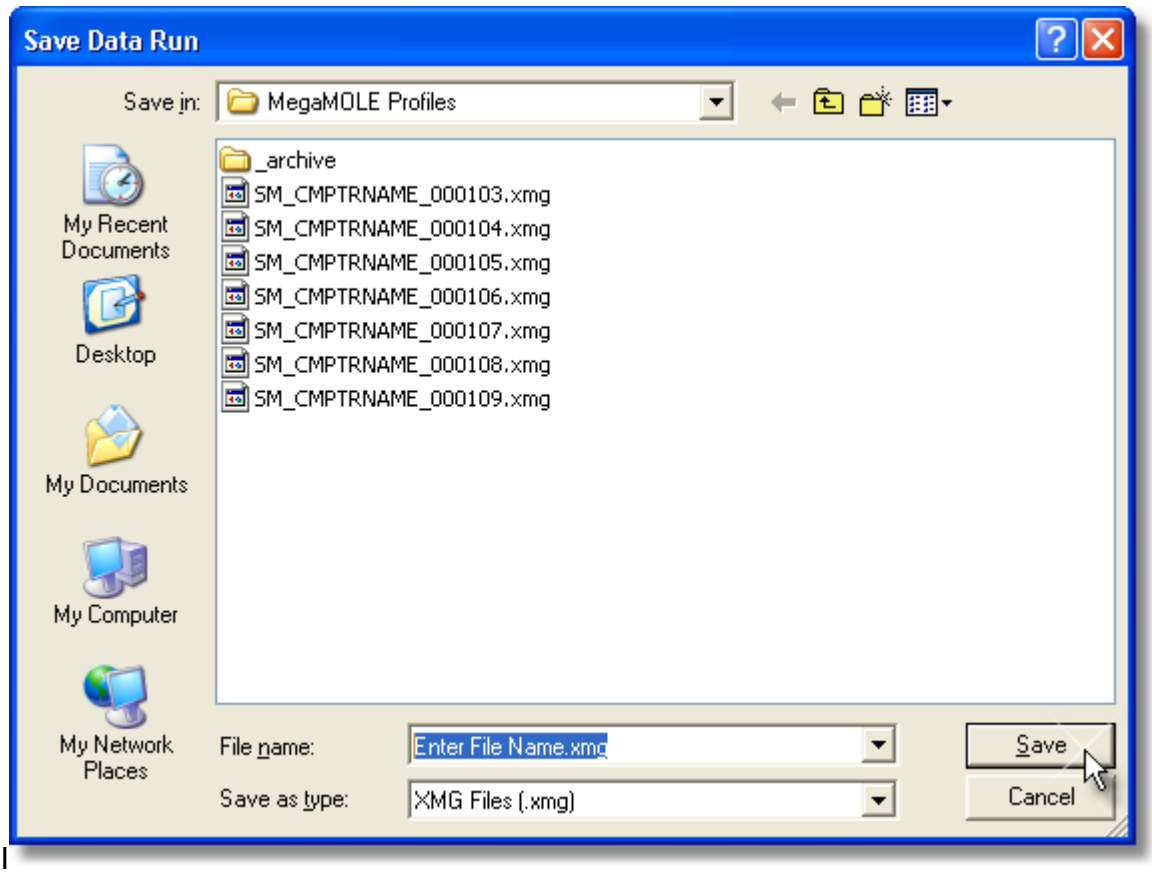
If the user has selected to use the Wireless RF option, select ***Start real-time RF*** on the top of the data run list.





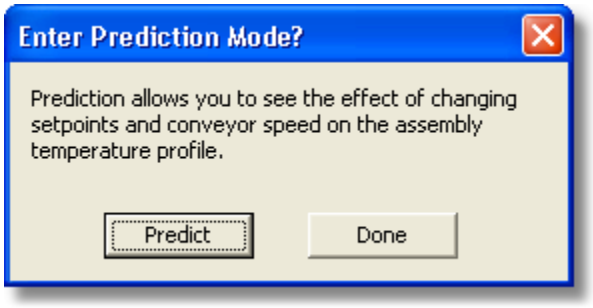

On this step of the wizard, the user has the ability to remove a selected data run from the M.O.L.E. profiler by either selecting the ***Delete After Reading*** check box or selecting the ***Delete*** command button and removing it before downloading.

21) When the data run has been downloaded, the software will prompt the user to specify a new file name.




22) When finished, click the ***Save*** command button.

23) The software then prompts the user if they want to enter Prediction mode. Entering prediction mode enables the user to change a zone temperature value or the conveyor speed and predict the outcome of that change. Refer to topic ***Software>Menus>Tools>Prediction*** for more information.



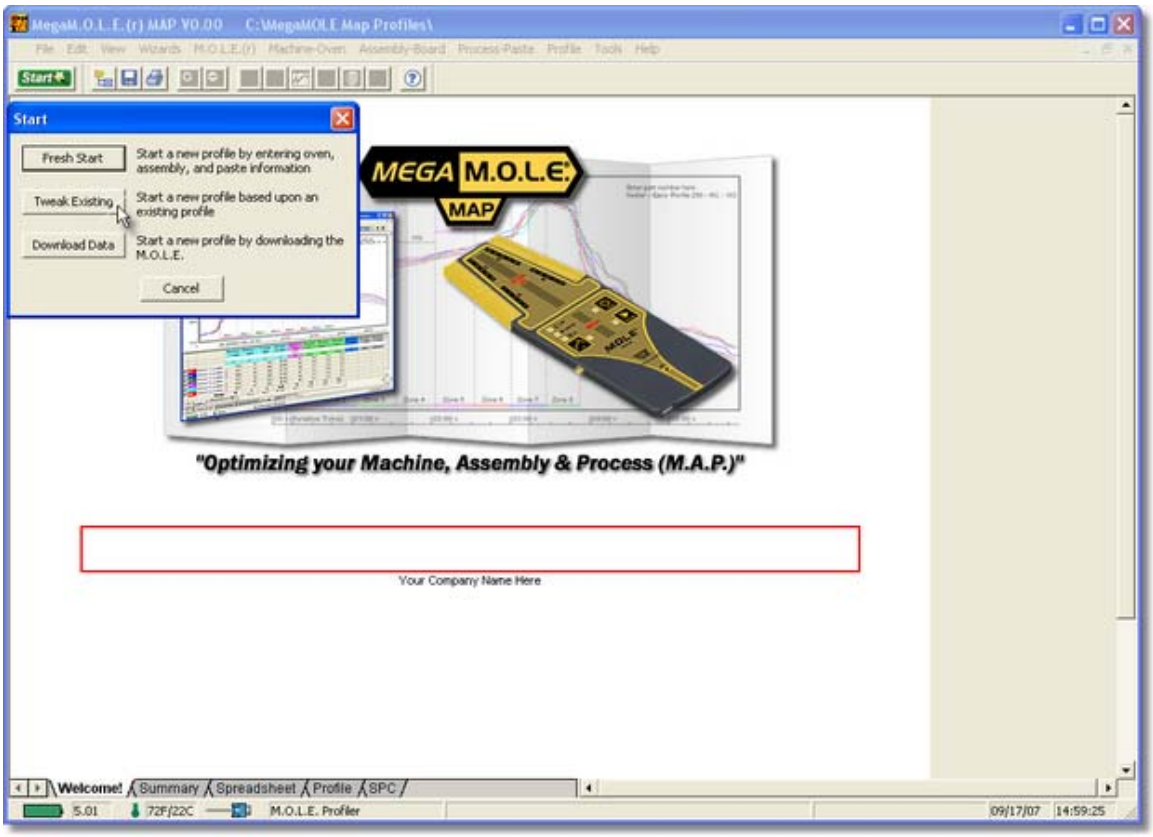

24) Click the ***Predict*** command button to enter Prediction mode or ***Done*** to complete the workflow wizard .

### 5.5.1.1.2. Tweak Existing

The ***Tweak Existing*** workflow is a wizard that starts a new profile (data run) using the established Machine (oven), Assembly (board) and Process (Paste) information from an existing profile.

**The Tweak Existing workflow:**

1) Connect the M.O.L.E. to the PC. Refer to ***Basics>Setup>Communications Setup*** for more information.
2) On the ***File*** menu, click ***New***. A message box appears with the three workflow wizard options.

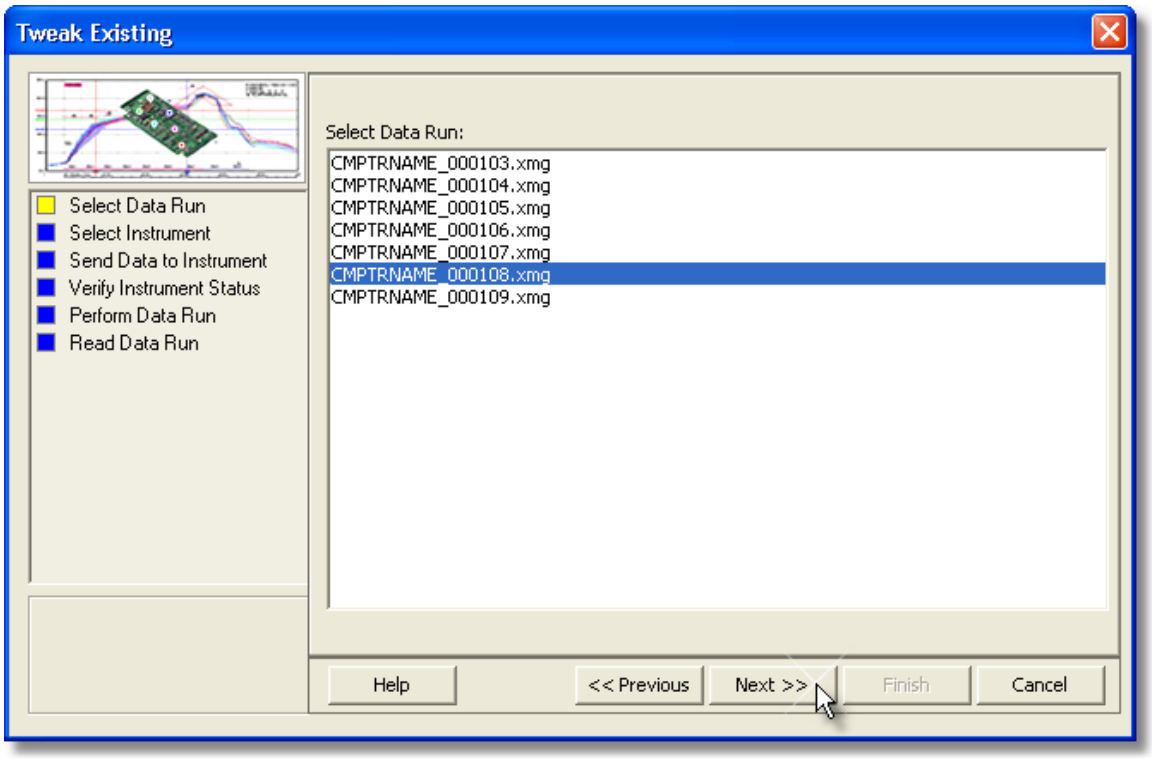



3) On the ***Start*** dialog box, click the ***Tweak Existing*** command button and the workflow wizard appears.

When navigating through the wizard, the step list on the left uses a color key to inform the user of the current step, steps that have been completed and remaining steps.

Current  Completed  Remaining

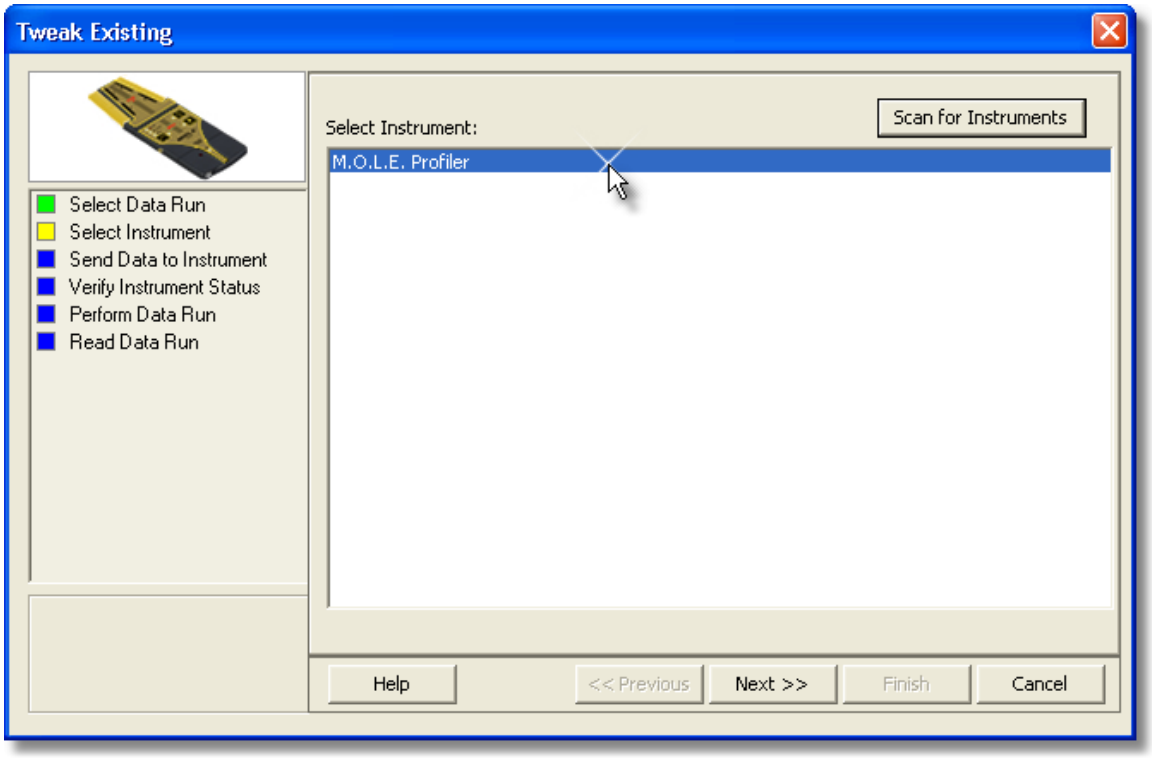
4) Select an existing data run. The software automatically highlights the currently selected data run on the Spreadsheet page tab, but the user can select any data run displayed on the list.




5) Click the ***Next*** command button.

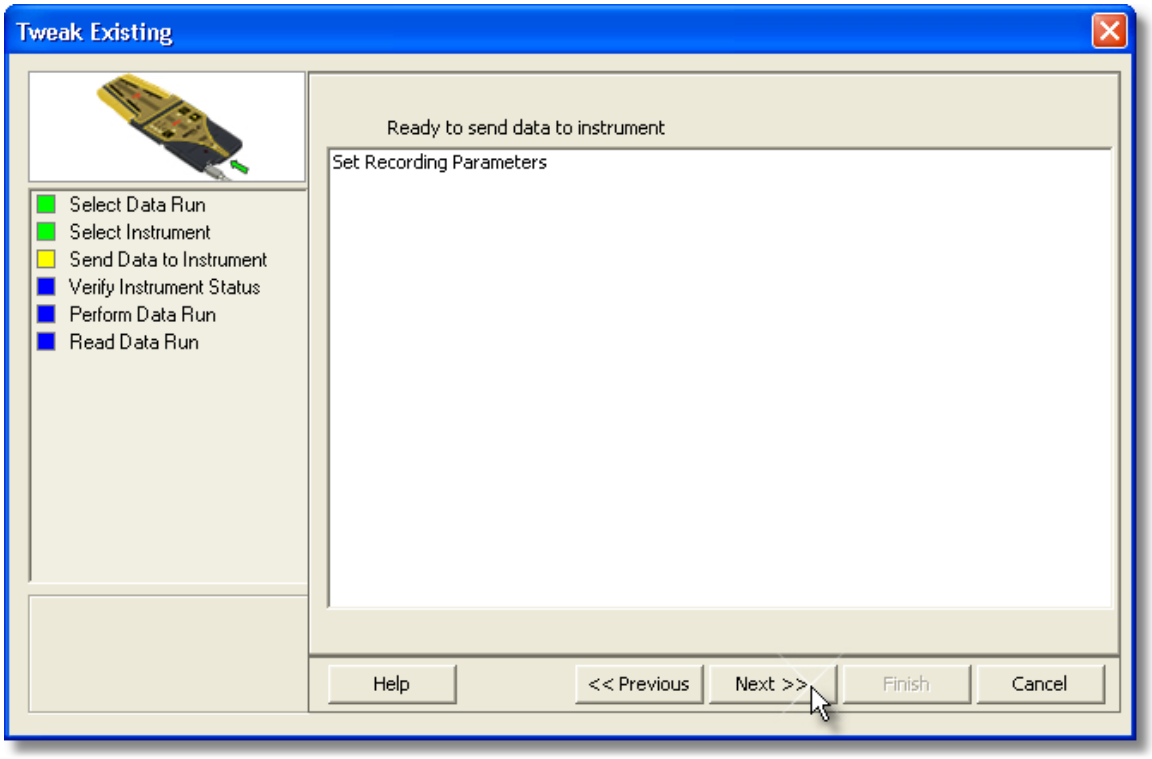
6) Select the desired instrument from the list box to make active. If there are none listed, click the ***Scan for Instruments*** command button to detect all available instruments.

MAP software allows multiple instruments to be connected to a computer at one time. Selecting the ***Scan for Instruments*** command button will detect all instruments and display them in the list. If no instrument is detected, the default Demonstration MEGAM.O.L.E.® profiler is displayed.



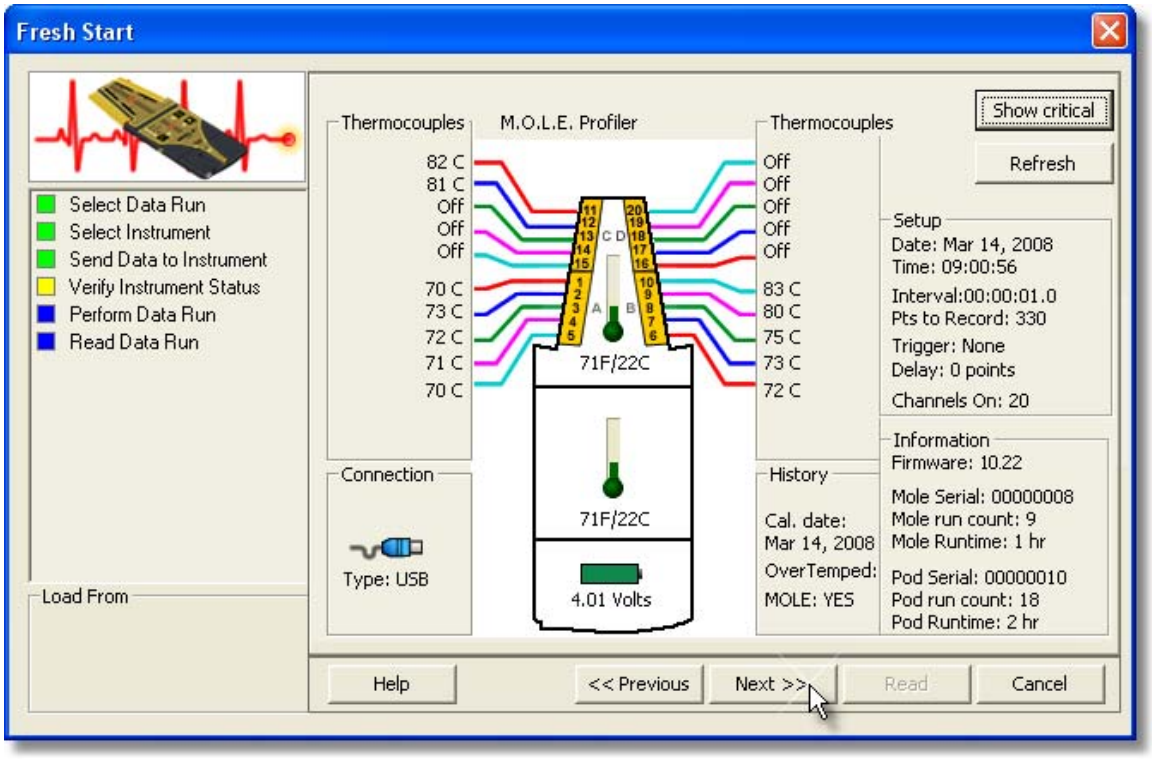

7) Click the ***Next*** command button.

8) Click the ***Next*** command button to send the data listed in the dialog box to the instrument.



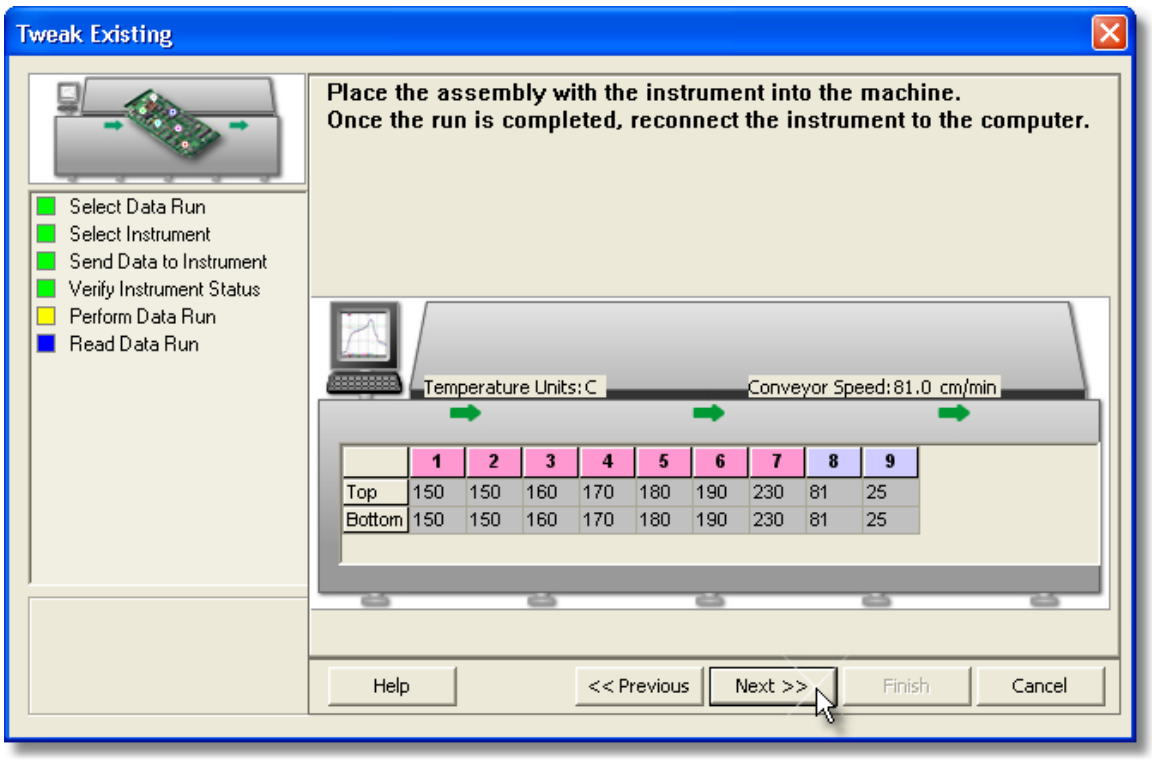

9) Verify the instrument status. This dialog box displays the health of the M.O.L.E. Profiler such as battery charge, internal temperature, thermocouple temperatures. If the user selects the ***Show Critical*** command button the dialog box will only display items that will prevent the user from completing a successful data run.

If the I/O module is not connected to the MEGAM.O.L.E.® Profiler, the software will display a warning message that the instrument is not communicating.




10)Pass the thermally protected M.O.L.E. Profiler and test product through the process. Refer to topic ***Basics>Operation>Step 2 - Data Collection*** for more information.

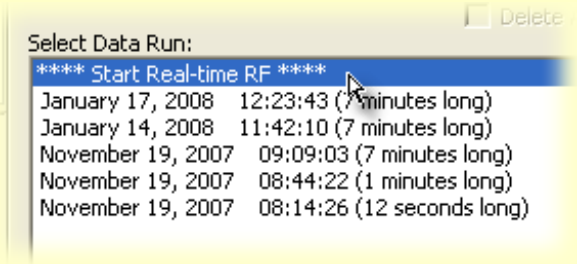
If the M.O.L.E. Profiler already contains a data run, click the ***Next*** command button to continue to the next step.

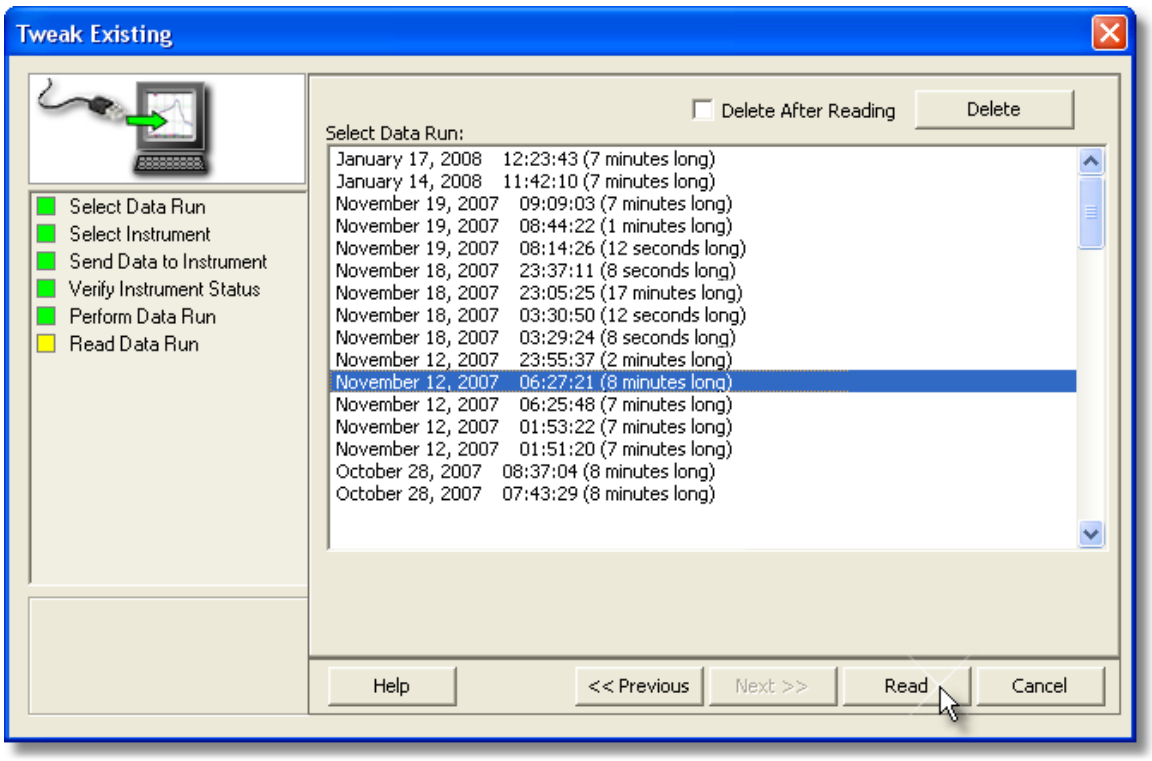



11) Click the ***Next*** command button.

12) Select the desired data run and then click the ***Read*** command button to read the data run from the M.O.L.E. Profiler.

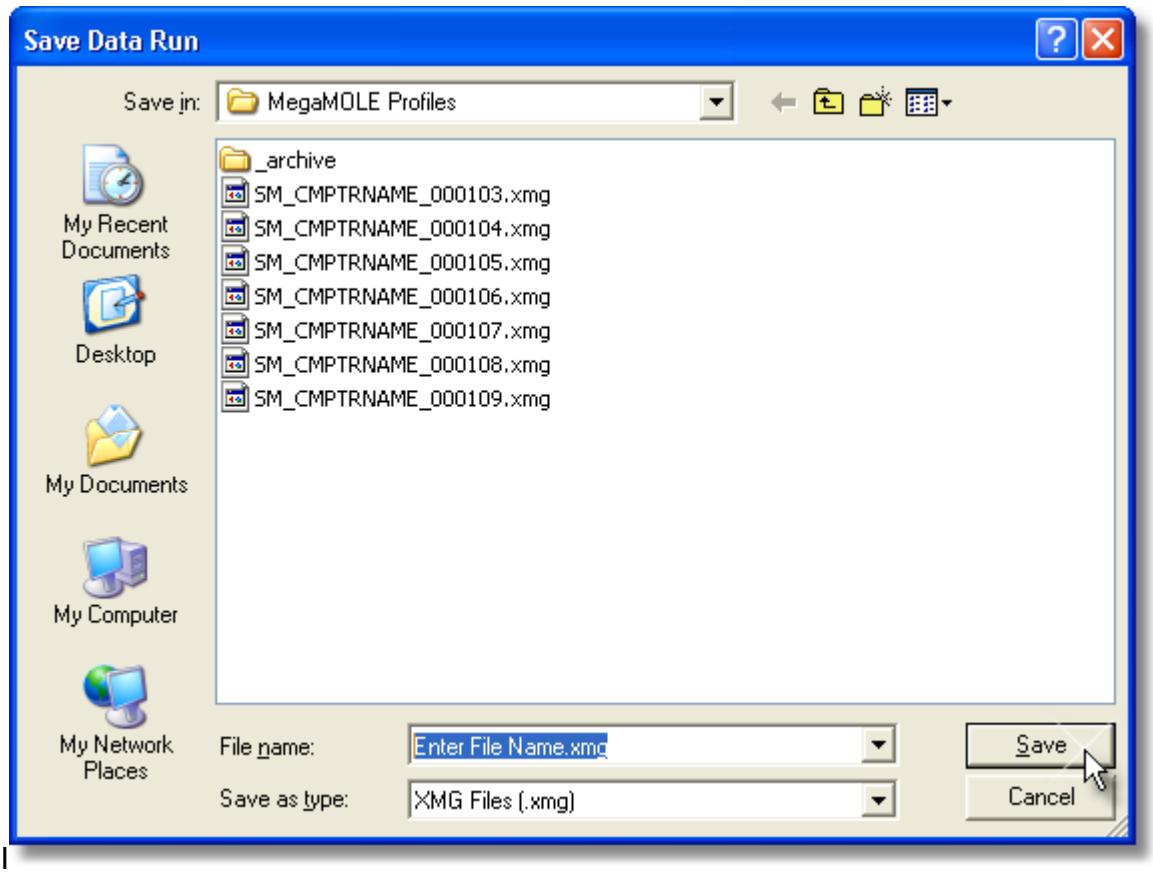
If the user has selected to use the Wireless RF option, select ***Start real-time RF*** on the top of the data run list.






On this step of the wizard, the user has the ability to remove a selected data run from the M.O.L.E. profiler by either selecting the ***Delete After Reading*** check box or selecting the ***Delete*** command button and removing it before downloading.

20) When the data run has been downloaded, the software will prompt the user to specify a new file name.



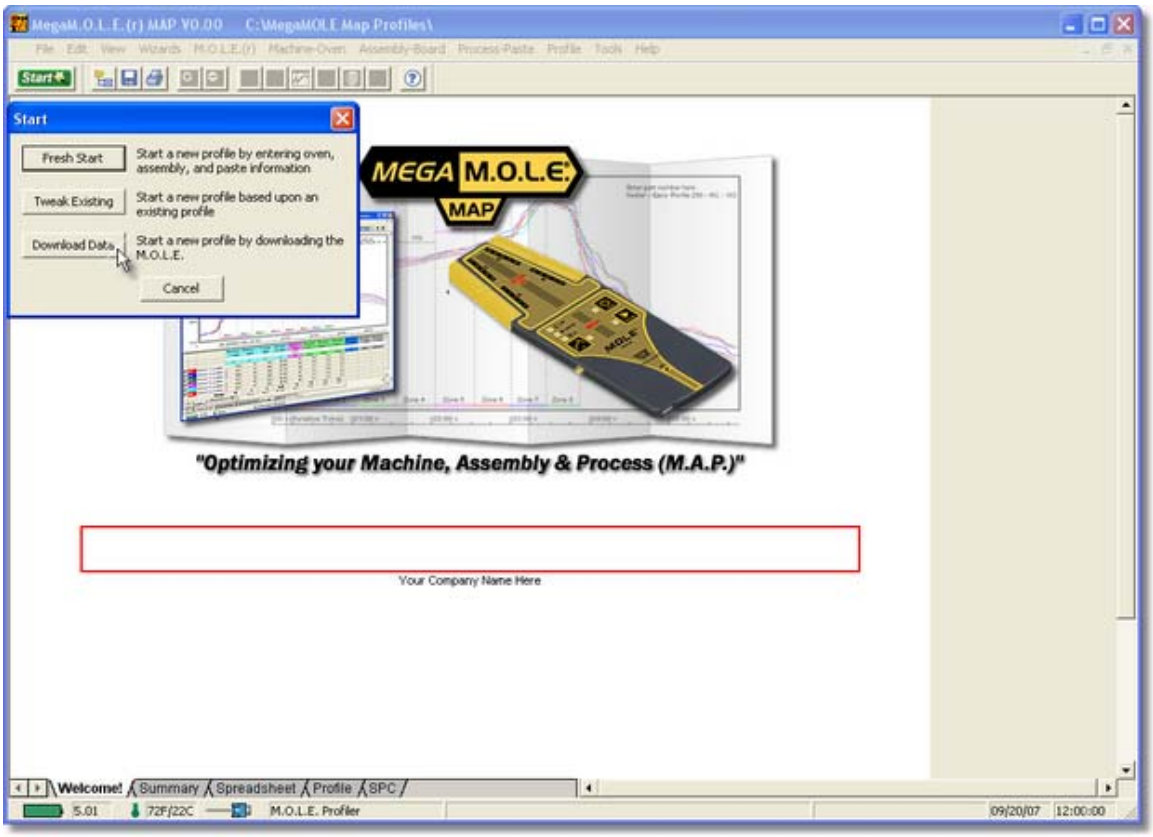

21)When finished, click the ***Save*** command button to complete the workflow wizard.

### 5.5.1.1.3. Download Data

The ***Download Data*** workflow is a wizard that starts a new profile (data run) by **downloading** the M.O.L.E. Profiler. Once the data run is downloaded, the user can then choose to apply Machine (Oven), Assembly (Board) and Process (Paste) information.

**The Download Data workflow:**

1) Connect the M.O.L.E. to the PC. Refer to ***Basics>Setup>Communications Setup*** for more information.
2) On the ***File*** menu, click ***New***. A message box appears with the three workflow wizard options.



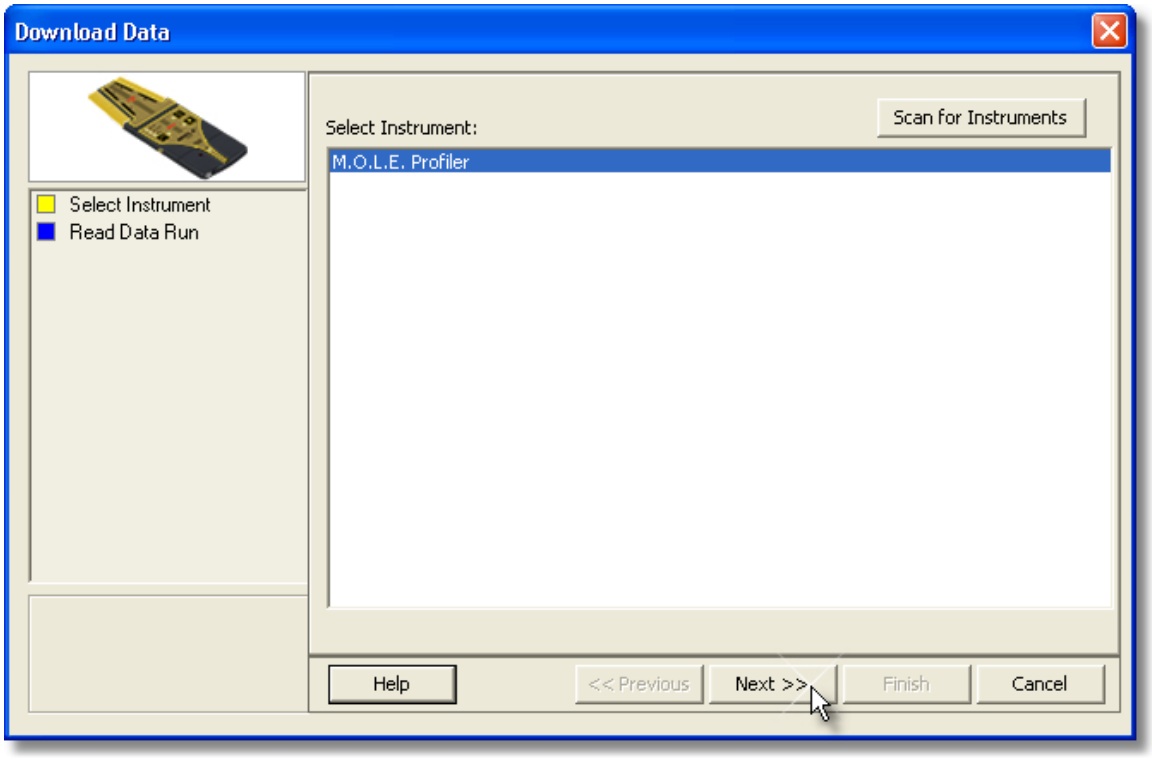

3) On the ***Start*** dialog box, click the ***Download Data*** command button and the workflow wizard appears.

When navigating through the wizard, the step list on the left uses a color key to inform the user of the current step, steps that have been completed and remaining steps.

Current  Completed  Remaining

4) Select the desired instrument from the list box to make active. If there are none listed, click the ***Scan for Instruments*** command button to detect all available instruments.

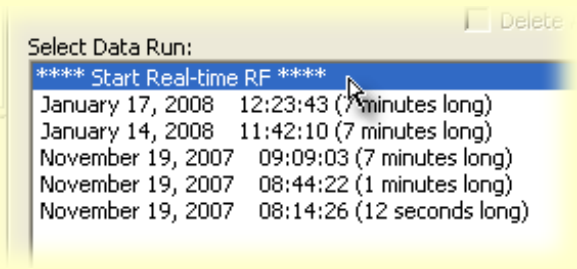
MAP software allows multiple instruments to be connected to a computer at one time. Selecting the ***Scan for Instruments*** command button will detect all instruments and display them in the list. If no instrument is detected, the default Demonstration MEGAM.O.L.E.® profiler is displayed.

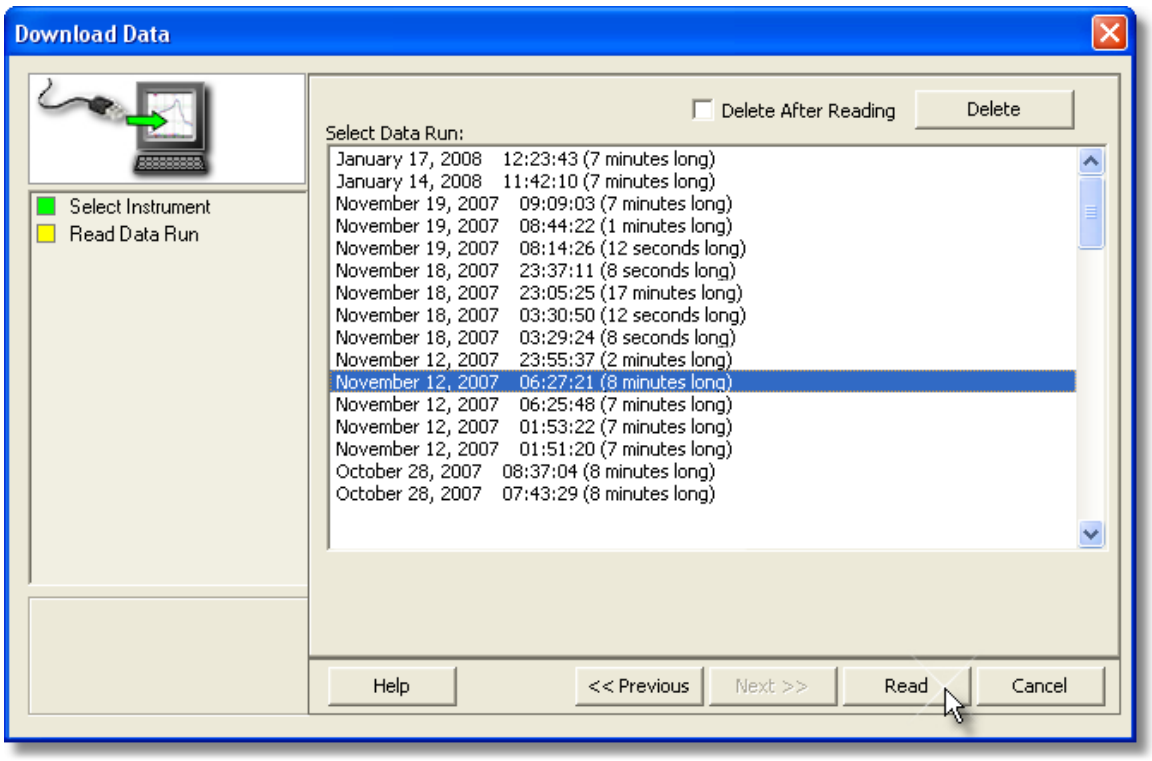



5) Click the ***Next*** command button.

6) Select the desired data run and then click the ***Read*** command button to read the data run from the M.O.L.E. Profiler.

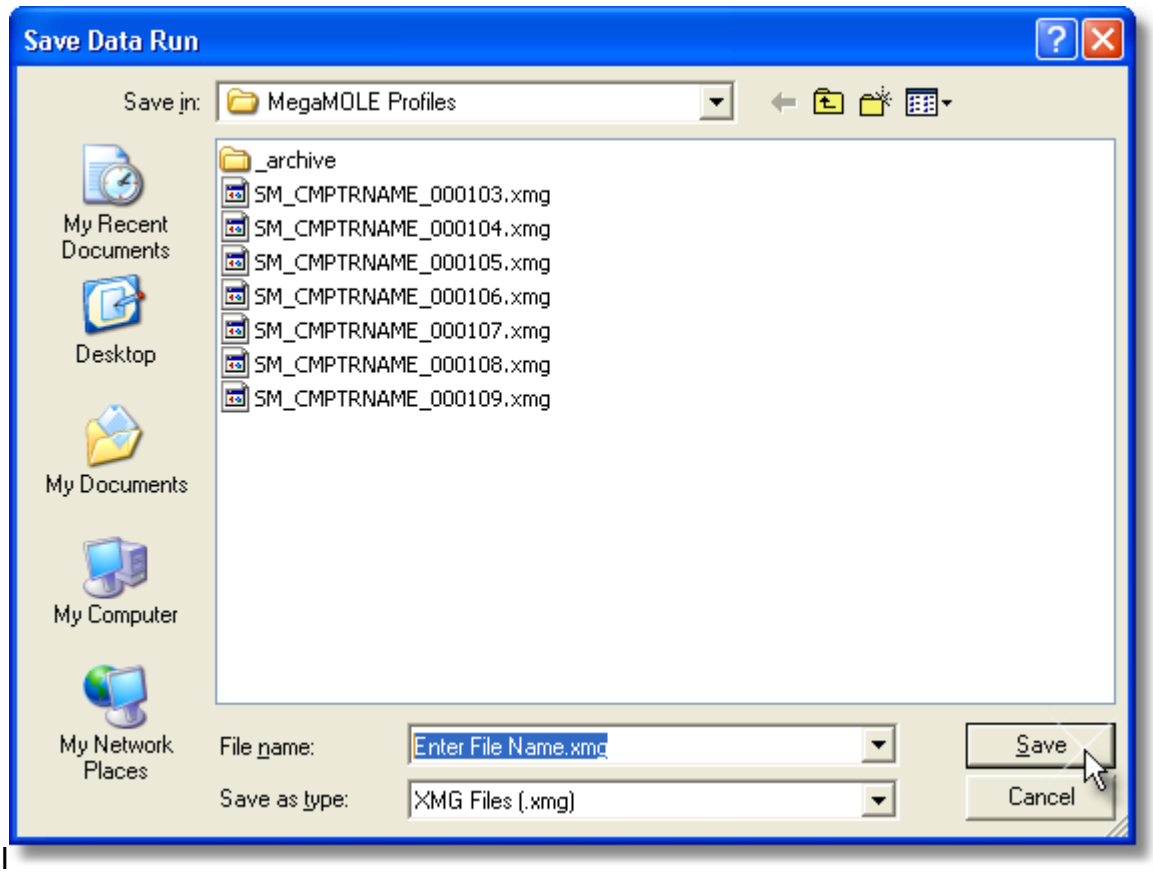
If the user has selected to use the Wireless RF option, select ***Start real-time RF*** on the top of the data run list.






On this step of the wizard, the user has the ability to remove a selected data run from the M.O.L.E. profiler by either selecting the ***Delete After Reading*** check box or selecting the ***Delete*** command button and removing it before downloading.

7) When the data run has been downloaded, the software will prompt the user to specify a new file name.



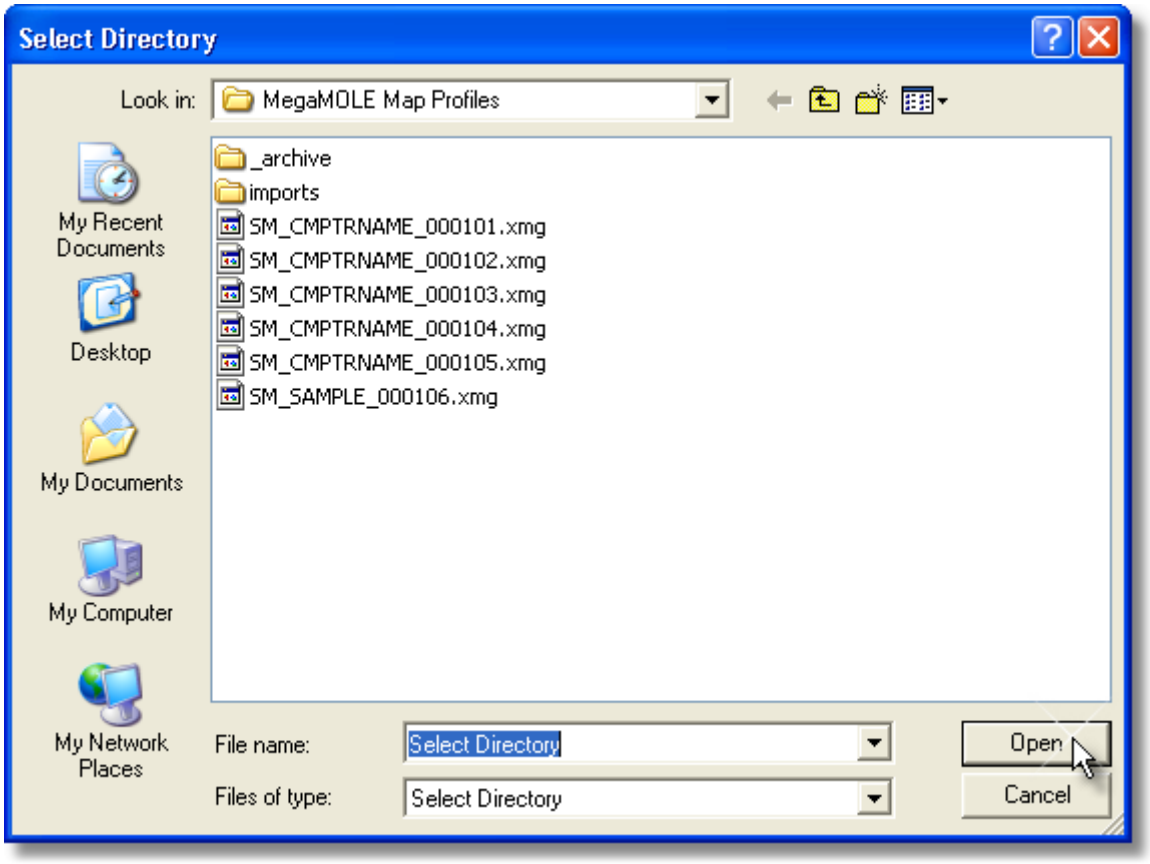

8) When finished, click the ***Save*** command button to complete the workflow wizard.

### 5.5.1.2. Open Working Directory

The MAP software is a data run manager. The software does not store data run files (.XMG) it allows the user to save them in a directory of their choice. This can be useful to store data runs in different directories based on customer, shift or machine type.

**To open a working directory:**

1) On the ***File*** menu, click ***Open Working Directory***.




2) Navigate to the location where the data run files (.XMG) are located.
3) Click the ***Open*** command button to select the directory or ***Cancel*** to quit the command.

This command can be accessed on the Toolbar.

| | |
|---|---|
|  | Open Working Directory button |

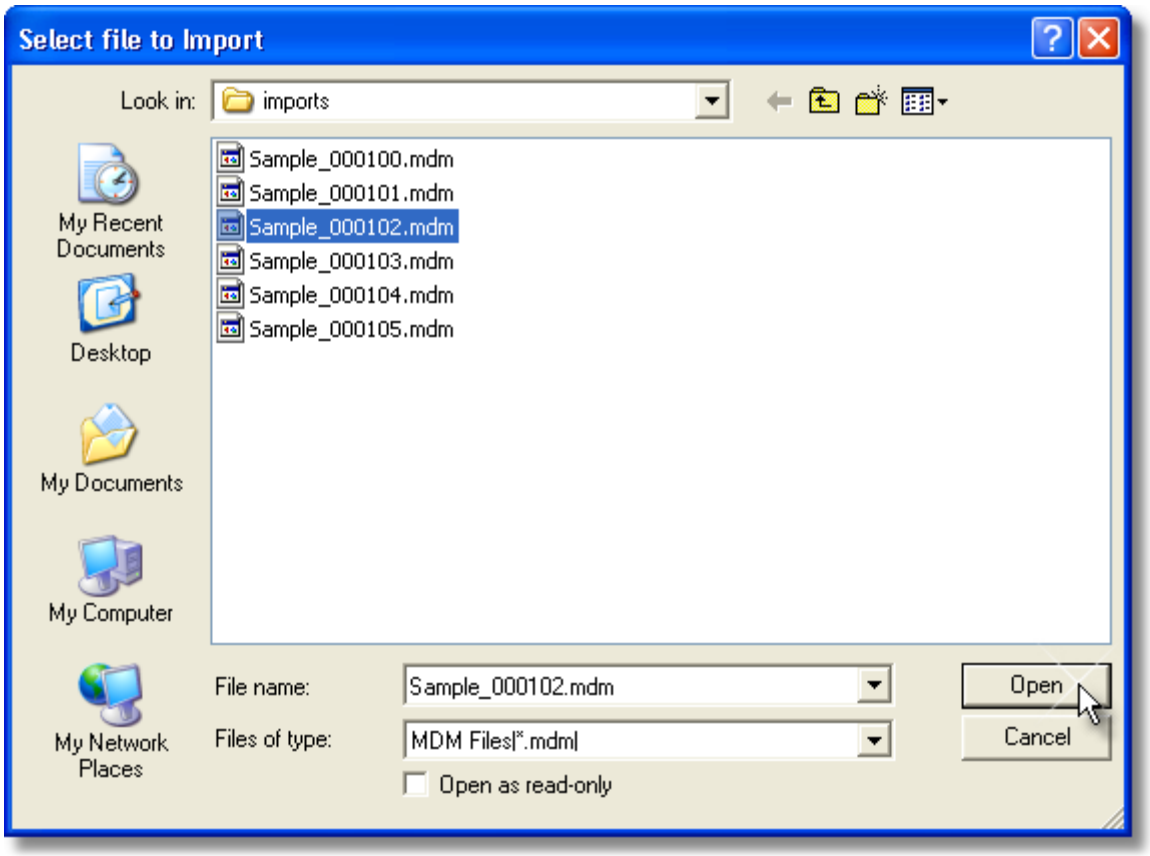
### 5.5.1.3. Import

The Import command imports existing SMG and SMFW (.MDM) files into the current working directory. This process automatically converts the profile, configured oven data, process documentation then saves it in the new (.XMG) file format.

The import command also imports Text (.TXT) files. The values in these files must be either comma or tab separated values. This process automatically converts the data then saves it in the new (.XMG) file format.

**To import .MDM fies:**

1) On the ***File*** menu, point to ***Import*** and then select ***.MDM***.

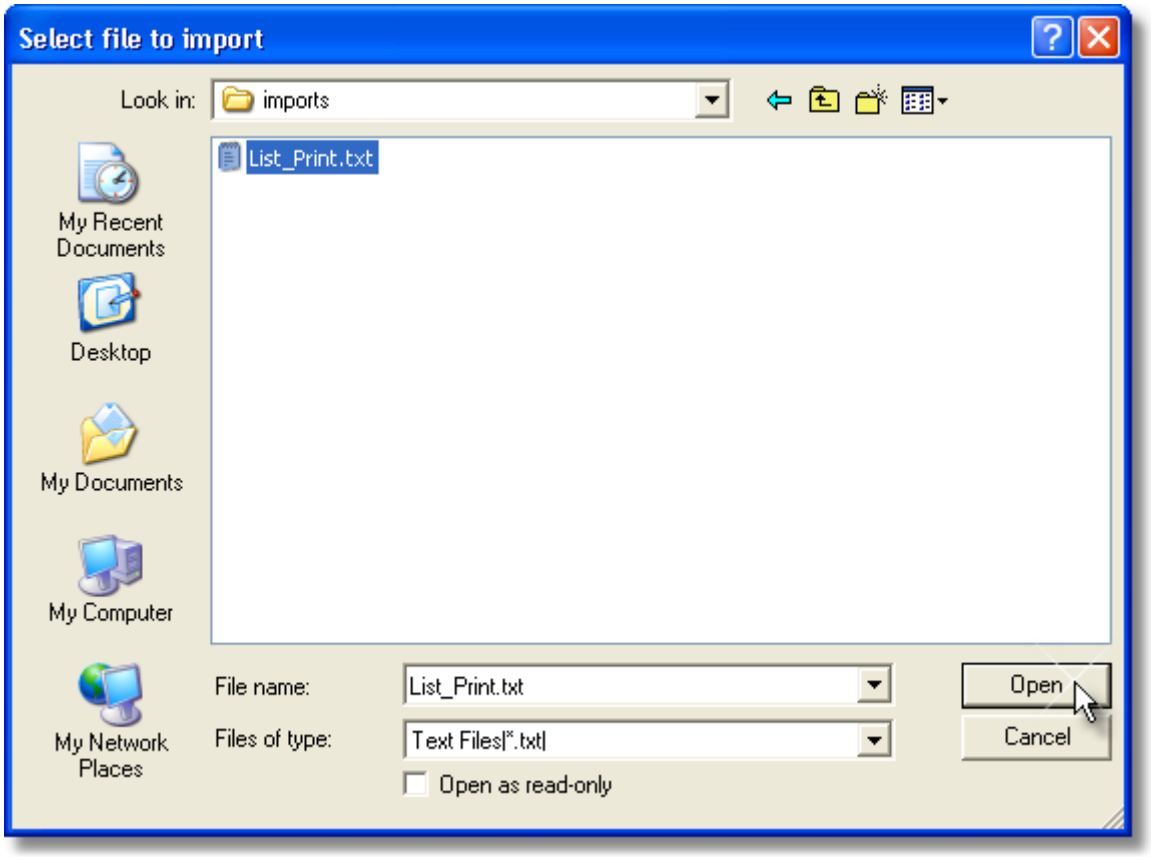



2) Navigate to the file folder where the file(s) to import are located.
3) Select the file to import.
4) Click the ***Open*** command button to import or ***Cancel*** to quit the command.

The .MDM will automatically be converted to the (.XMG) file be listed on the Spreadsheet Page Tab data run list.

**To import .TXT files:**

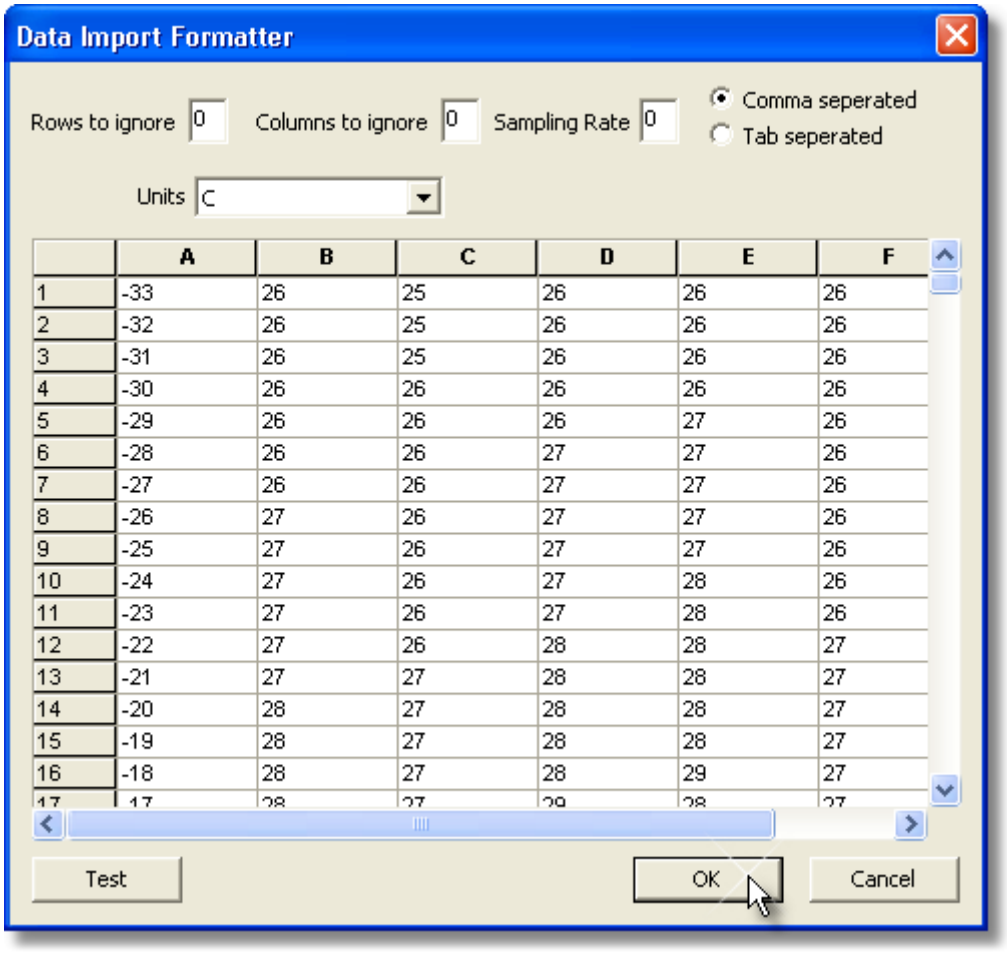
1) On the ***File*** menu, point to ***Import*** and then select ***.TXT***.




2) Navigate to the file folder where the file(s) to import are located.

3) Select the file to import.

4) Click the ***Open*** command button to import and the Data Import Formatter dialog box appears.




| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | -33 | 26 | 25 | 26 | 26 | 26 |
| 2 | -32 | 26 | 25 | 26 | 26 | 26 |
| 3 | -31 | 26 | 25 | 26 | 26 | 26 |
| 4 | -30 | 26 | 26 | 26 | 26 | 26 |
| 5 | -29 | 26 | 26 | 26 | 27 | 26 |
| 6 | -28 | 26 | 26 | 27 | 27 | 26 |
| 7 | -27 | 26 | 26 | 27 | 27 | 26 |
| 8 | -26 | 27 | 26 | 27 | 27 | 26 |
| 9 | -25 | 27 | 26 | 27 | 27 | 26 |
| 10 | -24 | 27 | 26 | 27 | 28 | 26 |
| 11 | -23 | 27 | 26 | 27 | 28 | 26 |
| 12 | -22 | 27 | 26 | 28 | 28 | 27 |
| 13 | -21 | 27 | 27 | 28 | 28 | 27 |
| 14 | -20 | 28 | 27 | 28 | 28 | 27 |
| 15 | -19 | 28 | 27 | 28 | 28 | 27 |
| 16 | -18 | 28 | 27 | 28 | 29 | 27 |

5) Select from the formatter options.

If the user is not sure if the Text file values are comma or tab separated, the Test command button can be used to test the format to display the data in columns and rows.

6) Click the ***OK*** command button to import or ***Cancel*** to stop.

### 5.5.1.4. Export

The Export command exports a data run into Microsoft Excel. This process automatically launches Excel and inserts the selected data run information. The user can then save it as an Excel file format.

**To export data run information:**

1) On the ***File*** menu, point to ***Export*** and then select ***Excel***.

The data run information is automatically converted to the Microsoft Excel file format.

### 5.5.1.5. Save Data Run

The Save Data Run command saves the any changes made to the selected data run.

If the user selects a different page tab or exits the software, any changes made to the selected data run will automatically be saved.

**To save the current data run:**

1) On the ***File*** menu, click ***Save Data Run*** and the currently selected data run will be saved.

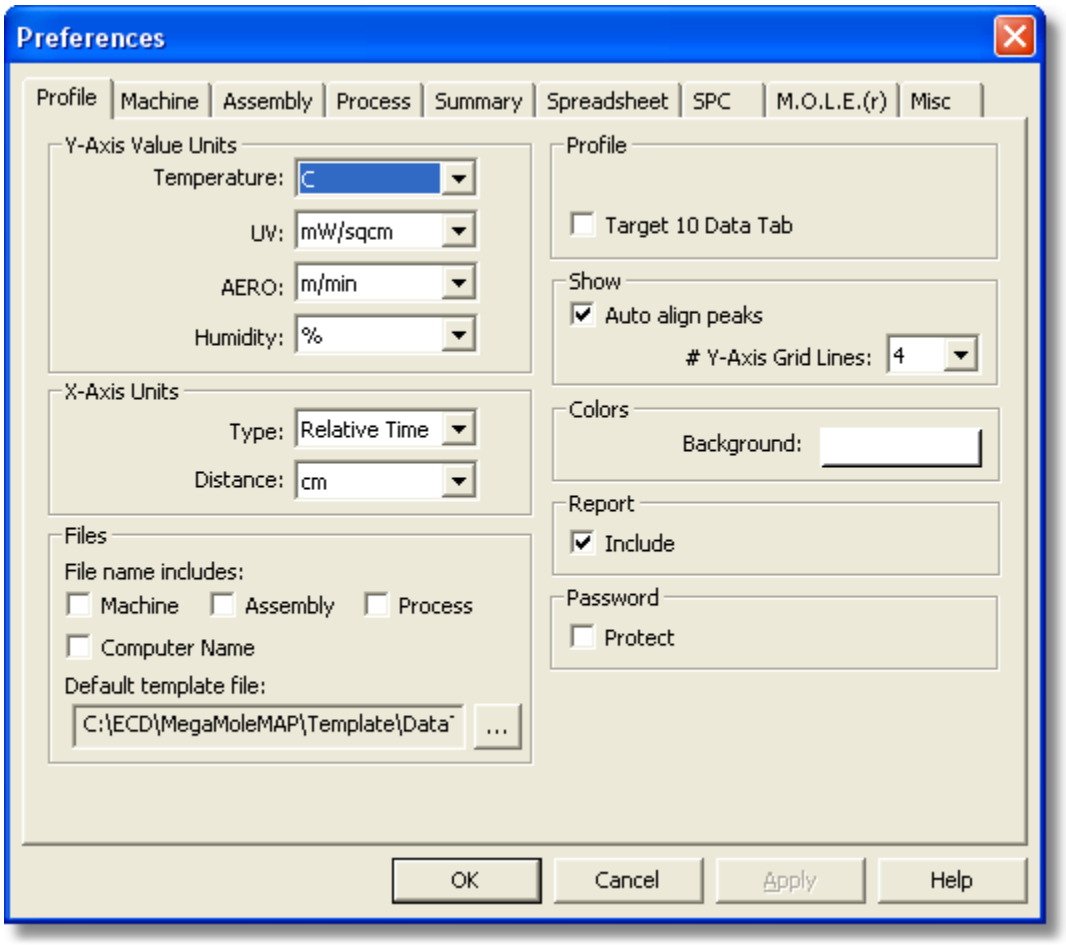
This command can be accessed on the Toolbar.

 Save Data Run button

## 5.5.1.6. Preferences

The Preferences command allows access to property sheet that includes custom setup tasks and global settings for the software.

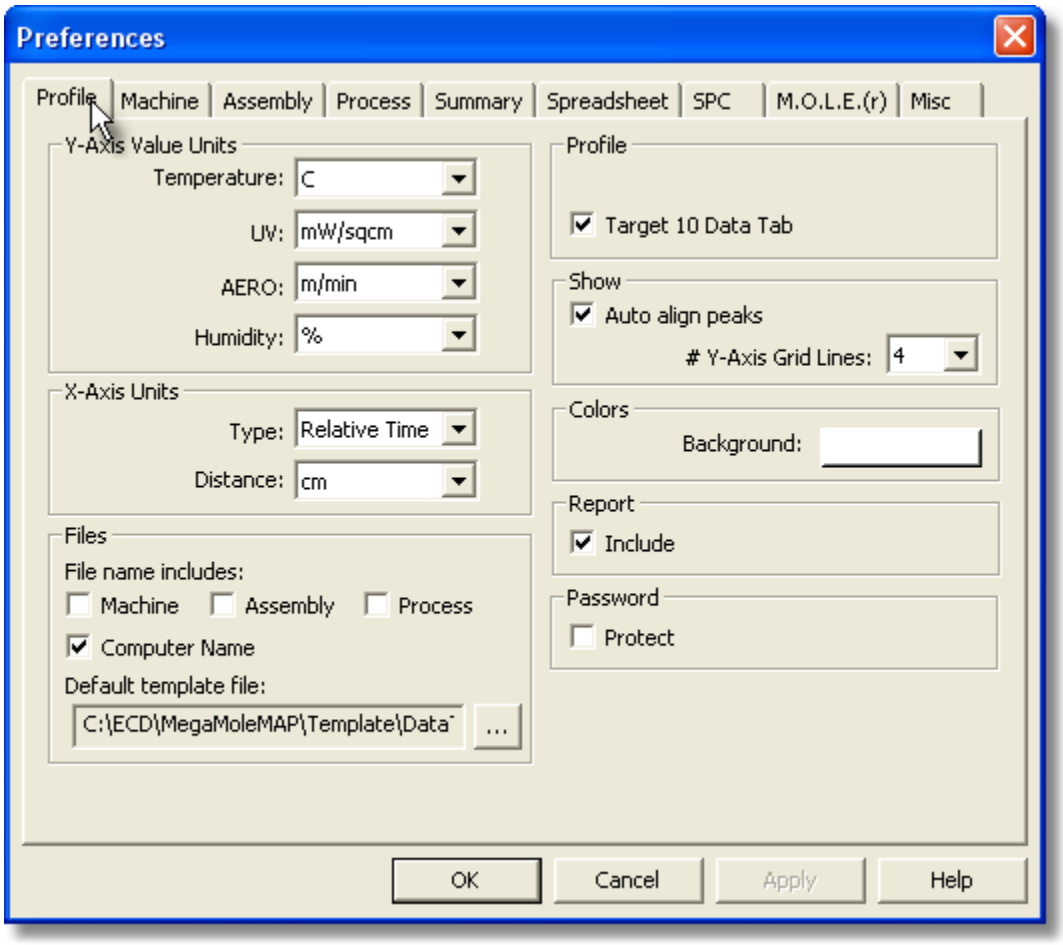
The ***Preferences*** property sheet includes various tabs associated with the each individual Page Tab and the MAP menus.



## 5.5.1.6.1. Profile

**To access profile preferences:**

1) On the ***File*** menu, click ***Preferences***, and then click the ***Profile*** tab.




## Y-Axis Units

Temperature units can be globally set for the Y-Axis. The software also allows the user to set units for optional sensors such as, UV, AERO, and Humidity.

This command does not set the units reported by the M.O.L.E. profiler. It applies only to the software.

## X-Axis Units

Time units and measurement type can be globally set for the X-Axis.

The user can select from the following scales:

- **Point:** the data points collected from the Process-Origin.
- **Time-Relative:** Time measured from the Process-Origin
- **Time-Absolute:** Time of day
- **Distance:** Distance from the Process Origin (Meters, Centimeters, Feet or Inches).

## Files

The user can decide how to set the default file name when saving a data run profile (.XMG) and the default Data Table template they wish to use.

When saving a data run file, the software includes options to add the set Machine, Assembly, Process and Computer Name.

Once the default filename is set, the (.XMG) file will be incremented automatically to avoid that file from being overwritten.

If a user creates a new Data Table template, it can save using the template commands. If the new template is to be used as the default, the new one can be specified in this text box. The new template will now be loaded every time the program is started.

## Profile

The user can display the Target 10 optional feature in the Data Table. Refer to topic ***Software>Page Tabs>Profile>Target 10*** for more information.

## Show

The user can select the Auto align Peaks and select the amount of Y-Axis gridlines to display on the Data Graph

When Auto align Peaks is selected, the software automatically aligns the Time (X) axis maximum peak values for each Data Plot so the results can be easily compared during analysis.

## Colors

The software allows the user to change the background color of the Data Graph with colors from the Windows default pallet.

## Report

Select the corresponding check box to include the Profile Page Tab when printing in Report format.

## Password

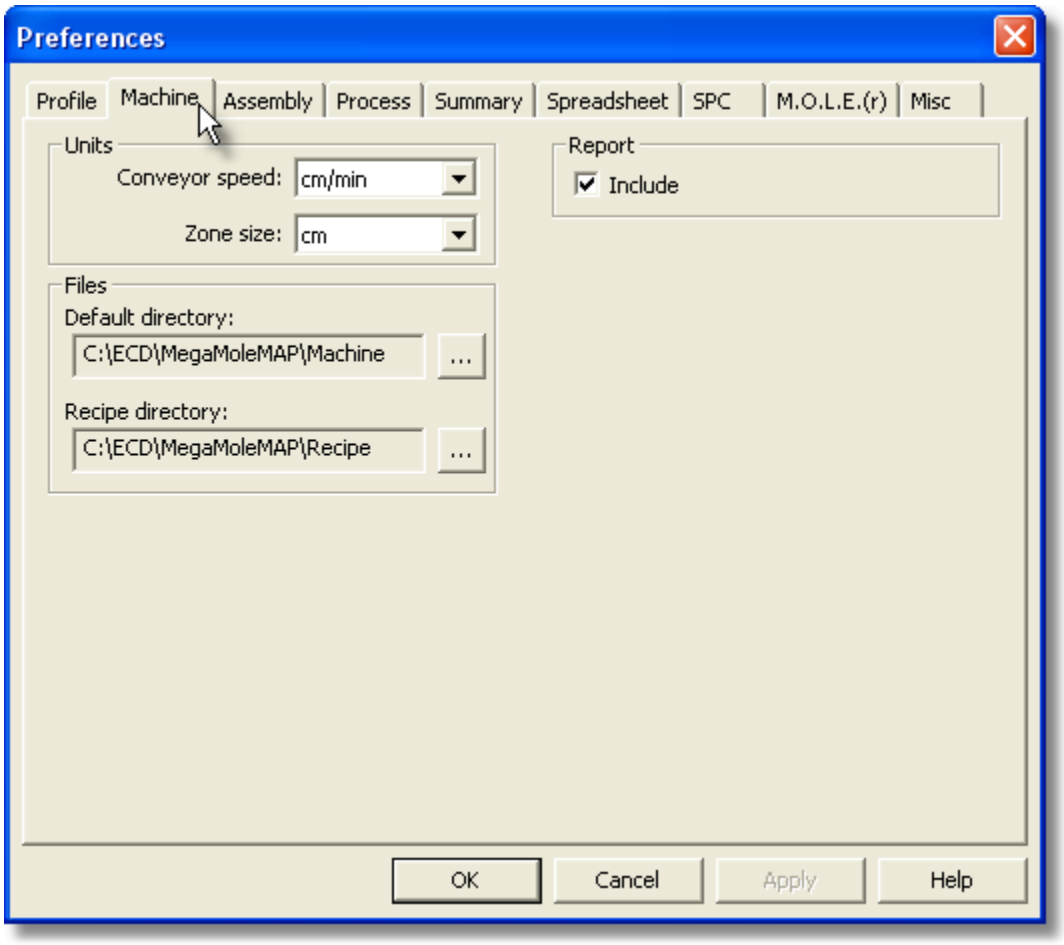
Select the corresponding check box to password protect the Profile Page Tab and preferences. If password protection has been selected, a dialog box appears prompting the user to enter the current password. The software will then need to be restarted to apply password protection settings.

If the default password has not been changed, the current password is **Admin**. Refer to topic ***Software>Menus>File>Preferences>Misc>Passwords*** for more information.

### 5.5.1.6.2. Machine

**To access machine preferences:**

1) On the ***File*** menu, click ***Preferences***, and then click the ***Machine*** tab.




## Units

The user can set the machine conveyor speed and zone size units. These units will be used as the default when setting machine information.

## Files

As the user creates Machine (**.OVS**) & Recipe (**.XMR**) files, they are saved to the specified default working directories.

Changing the directory locations may be useful when the user would like to share them on a network drive.

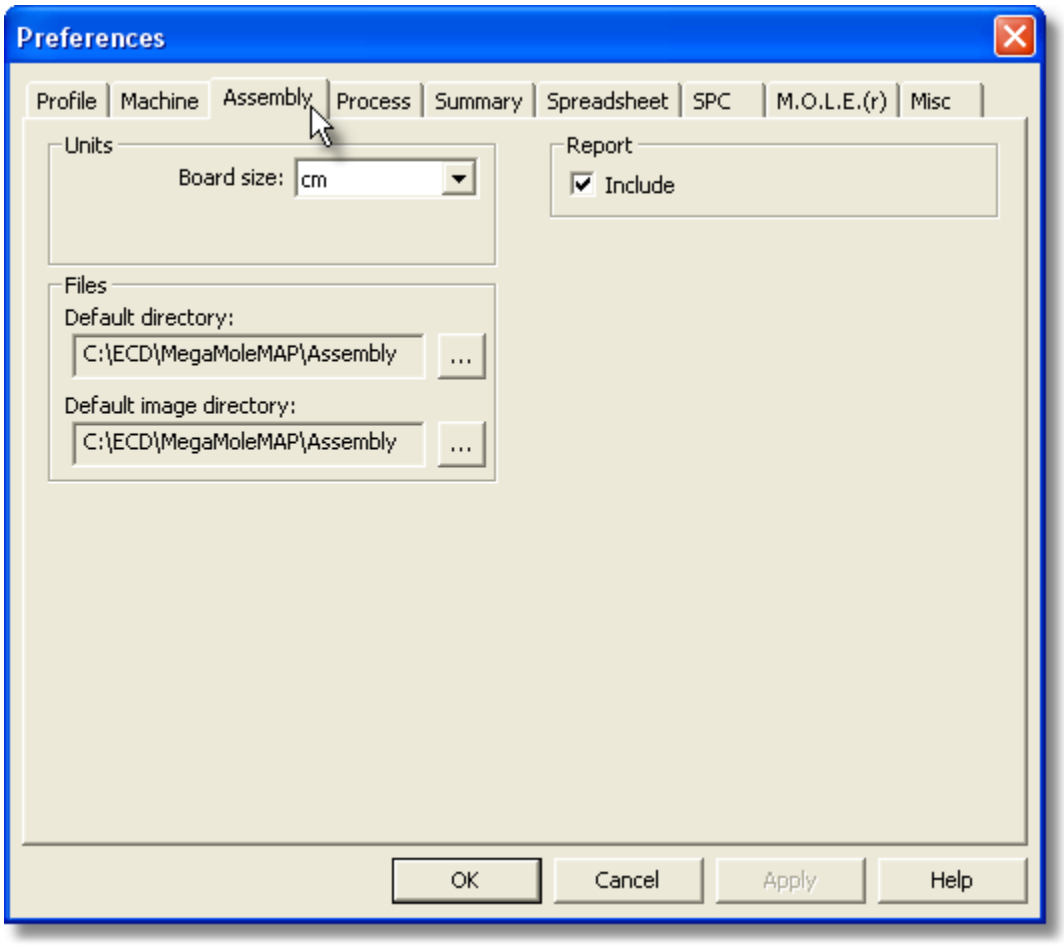
## Report

Select the corresponding check box to include the Machine and Recipe settings when printing in Report format.

### 5.5.1.6.3. Assembly

**To access assembly preferences:**

1) On the ***File*** menu, click ***Preferences***, and then click the ***Assembly*** tab.




## Units

The user can set the board size and component location units. These units will be used as the default when setting assembly information.

## Files

As the user collects assembly board image files, they can be saved to the specified default working directory. When setting assembly information the user can select a product image. The software automatically starts in the directory specified as the default.

Changing the directory location may be useful when the user would like to share the images on a network drive.

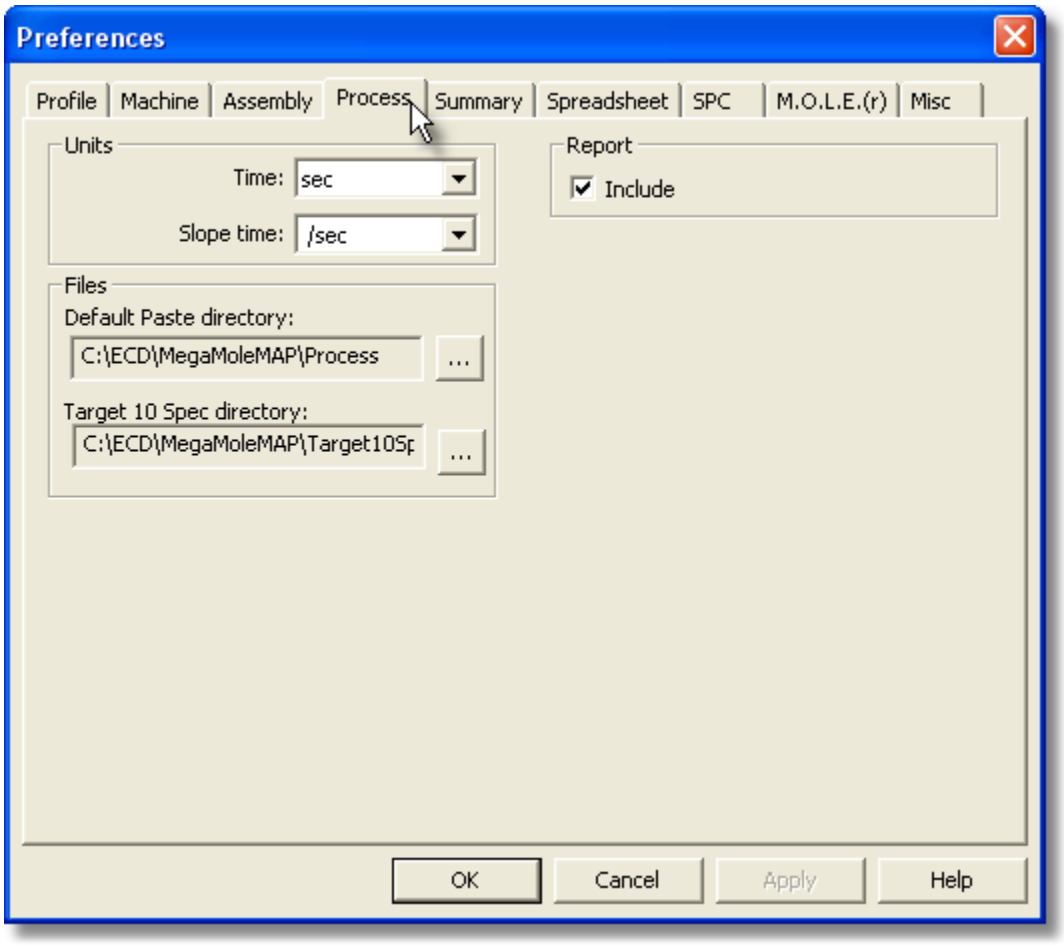
## Report

Select the corresponding check box to include the Assembly settings when printing in Report format.

## 5.5.1.6.4. Process

**To access process preferences:**

1) On the ***File*** menu, click ***Preferences***, and then click the ***Process*** tab.




## Units

The user can set the Time and Slope time process parameters extracted from a data run.

## Files

The user can change the location where they store the paste database and Target 10 Specs files to a specified default working directory of their choice. Included with the software is a Paste database file (**paste1.psp**). As the user creates process recipes the software creates an extension paste file (**user1.psp**) which is combined with the default paste1.psp file.

Changing the directory location may be useful when the user would like to share the paste database on a network drive.

If the paste1.psp file is moved to a different location, the user1.psp file must also be copied to the new location.

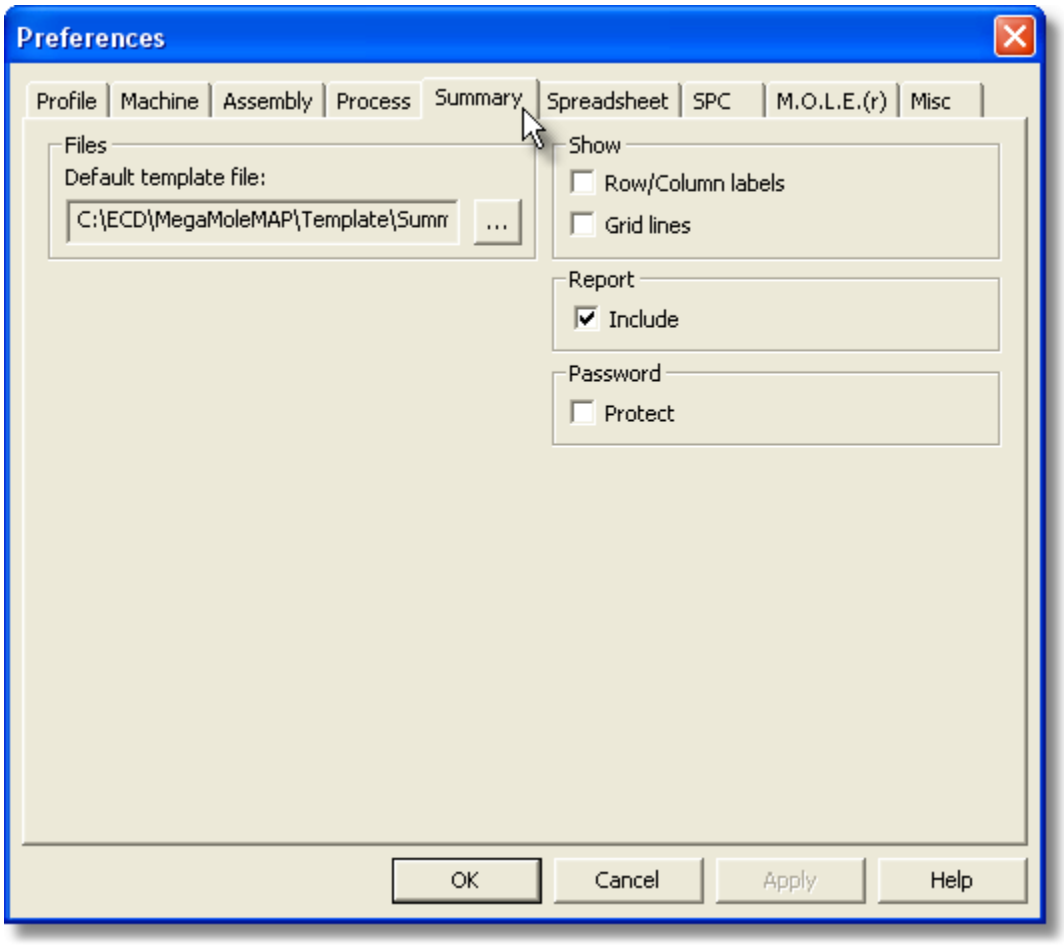
## Report

Select the corresponding check box to include the Process settings when printing in Report format.

## 5.5.1.6.5. Summary

**To access summary preferences:**

1) On the ***File*** menu, click ***Preferences***, and then click the ***Summary*** tab.




### Files

The user can decide which default Summary template they wish to use. If a user creates a new Summary template, it can save using the template commands. If the new template is to be used as the default, the new one can be specified in this text box. The specified template will now be loaded every time the program is started.

### Show

The Summary Page Tab is built with cells that are organized into columns and rows. The software allows the user to show and hide the cell Row/Column labels and Grid lines. Selecting the corresponding check boxes to show or hide the labels and cells.

## Report

Select the corresponding check box to include the Summary Page Tab when printing in Report format.

## Password

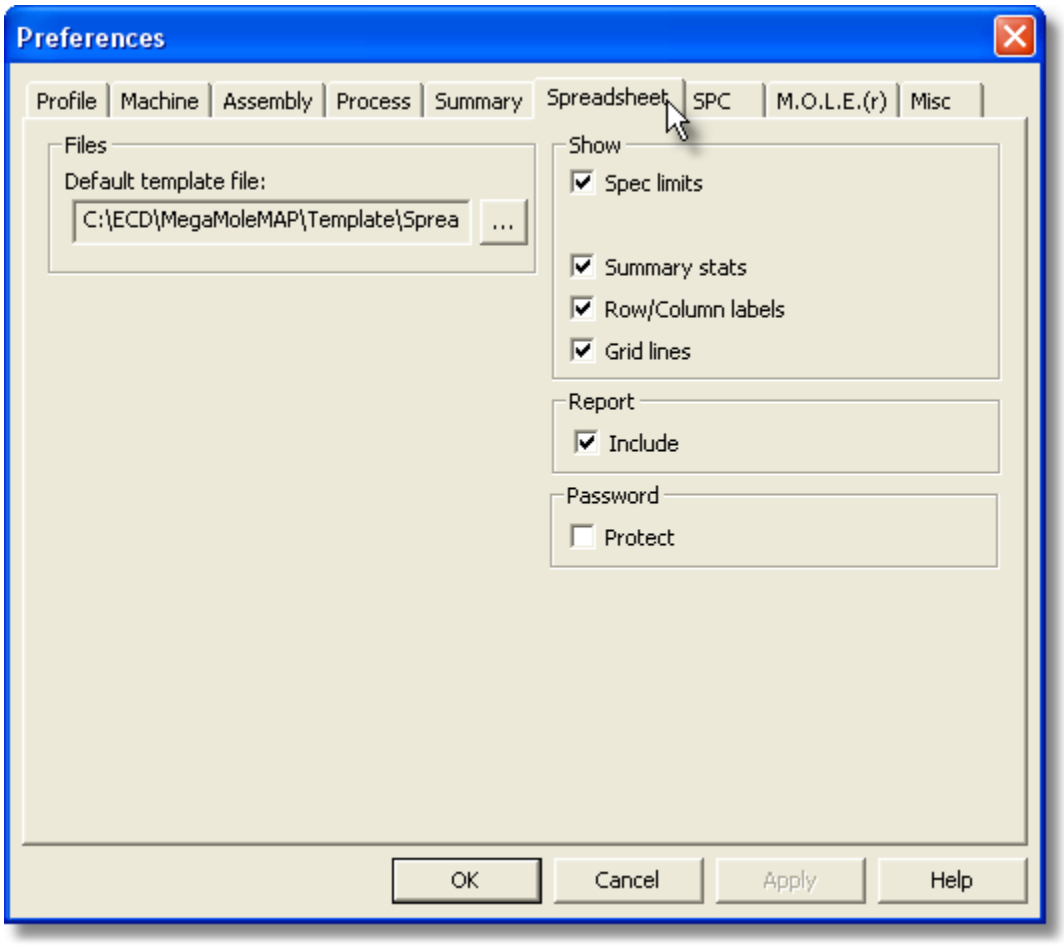
Select the corresponding check box to password protect the Summary Page Tab and preferences. If password protection has been selected, a dialog box appears prompting the user to enter the current password. The software will then need to be restarted to apply password protection settings.

If the default password has not been changed, the current password is **Admin**. Refer to topic ***Software>Menus>File>Preferences>Misc>Passwords*** for more information.

## 5.5.1.6.6. Spreadsheet

**To access spreadsheet preferences:**

1) On the ***File*** menu, click ***Preferences***, and then click the ***Spreadsheet*** tab.




### Files

The user can decide which default Spreadsheet template they wish to use. If a user creates a new Spreadsheet template, it can save using the template commands. If the new template is to be used as the default, the new one can be specified in this text box. The specified template will now be loaded every time the program is started.

### Show

The Spreadsheet Page Tab is built with cells that are organized into columns and rows. The software allows the user to show and hide the cell Row/Column labels and Grid lines. Selecting the corresponding check boxes to show or hide the labels and cells.

## Report

Select the corresponding check box to include the Spreadsheet Page Tab when printing in Report format.

## Password

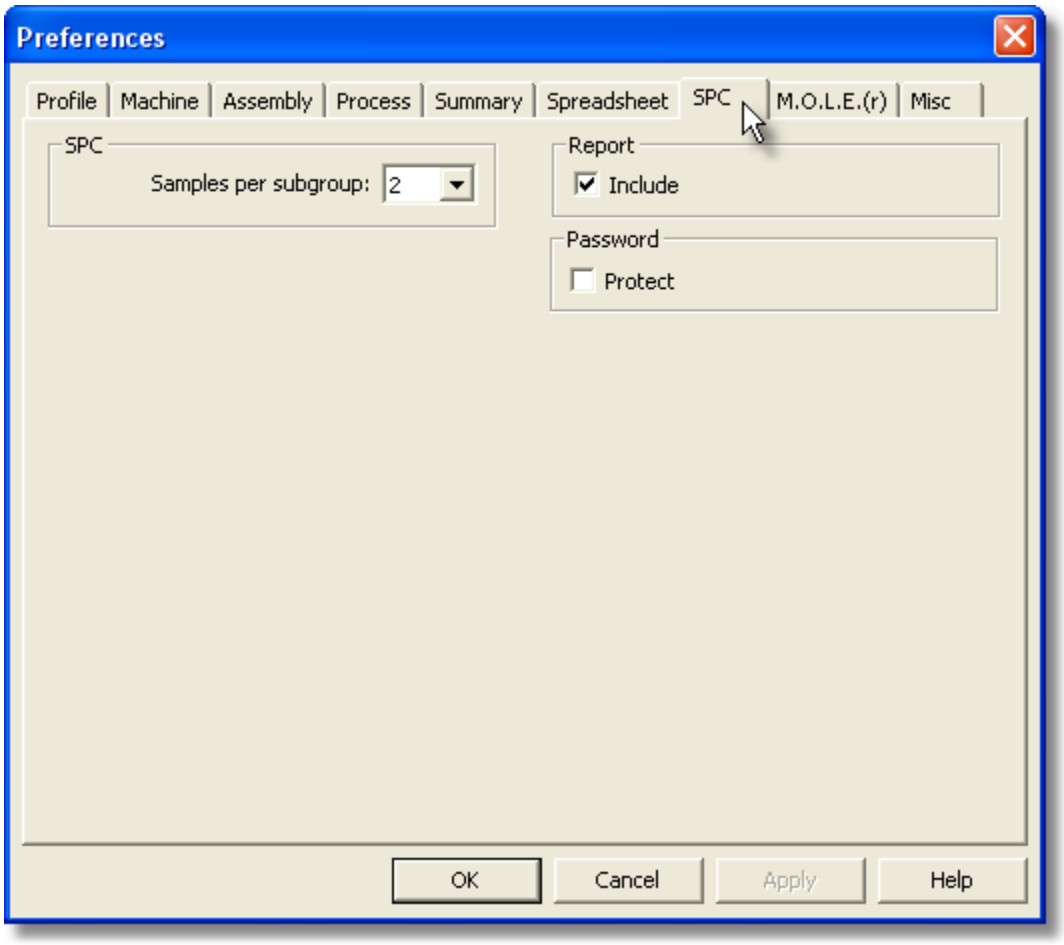
Select the corresponding check box to password protect the Spreadsheet Page Tab and preferences. If password protection has been selected, a dialog box appears prompting the user to enter the current password. The software will then need to be restarted to apply password protection settings.

If the default password has not been changed, the current password is **Admin**. Refer to topic ***Software>Menus>File>Preferences>Misc>Passwords*** for more information.

## 5.5.1.6.7. SPC

**To access profile preferences:**

1) On the ***File*** menu, click ***Preferences***, and then click the ***SPC*** tab.




### SPC

The software utilizes the standard Moving Average/Moving Range Charting technique with a subgroup size of 2-6. The user can specify the samples per subgroup using the drop-down list. Refer to ***Appendix B*** for more information.

### Report

Select the corresponding check box to include the SPC Page Tab when printing in Report format.

## Password

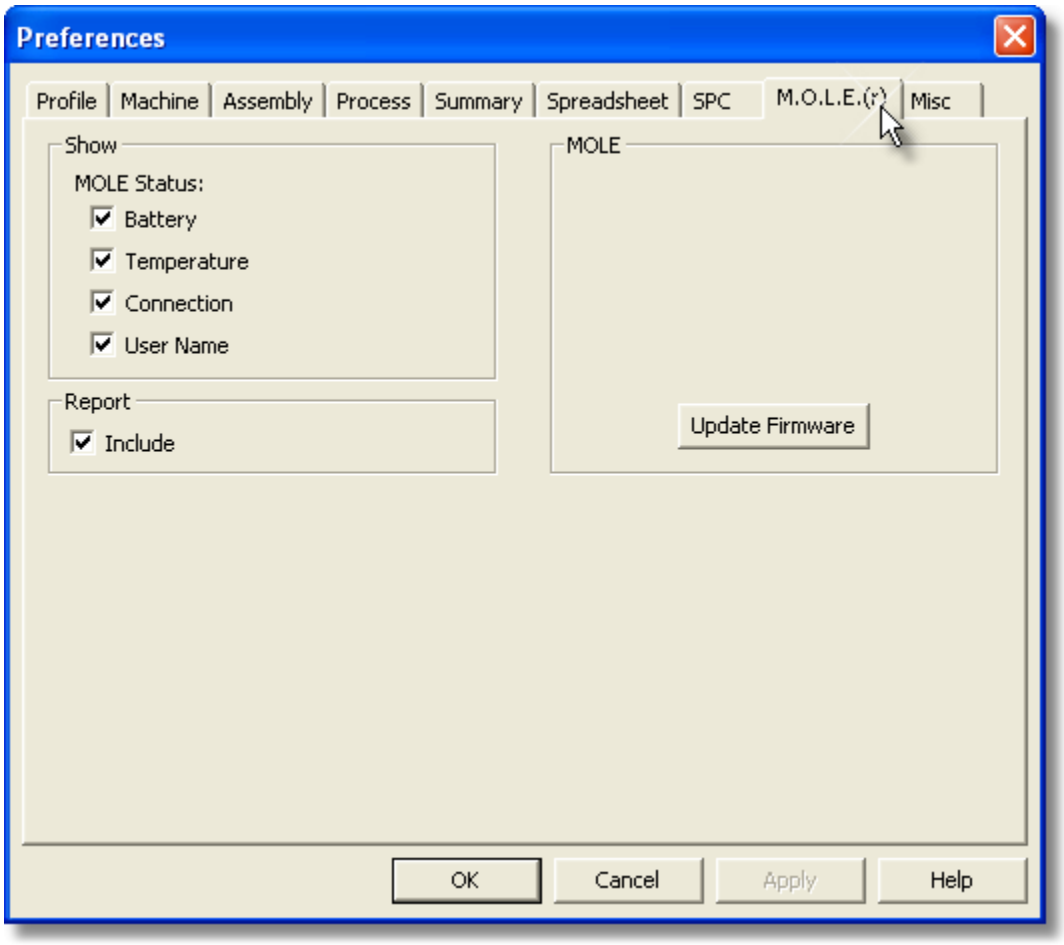
Select the corresponding check box to password protect the SPC Page Tab and preferences. If password protection has been selected, a dialog box appears prompting the user to enter the current password. The software will then need to be restarted to apply password protection settings.

If the default password has not been changed, the current password is **Admin**. Refer to topic ***Software>Menus>File>Preferences>Misc>Passwords*** for more information.

## 5.5.1.6.8. M.O.L.E.(r)

**To access M.O.L.E. preferences:**

1) On the ***File*** menu, click ***Preferences***, and then click the ***M.O.L.E.(r)*** tab.




### Show

The Status bar located on the bottom of the software display can show the status of the M.O.L.E. Profiler Power Pack battery, Internal operating temperature, connected COM port. Select the corresponding check box to display these status indicators.

### Report

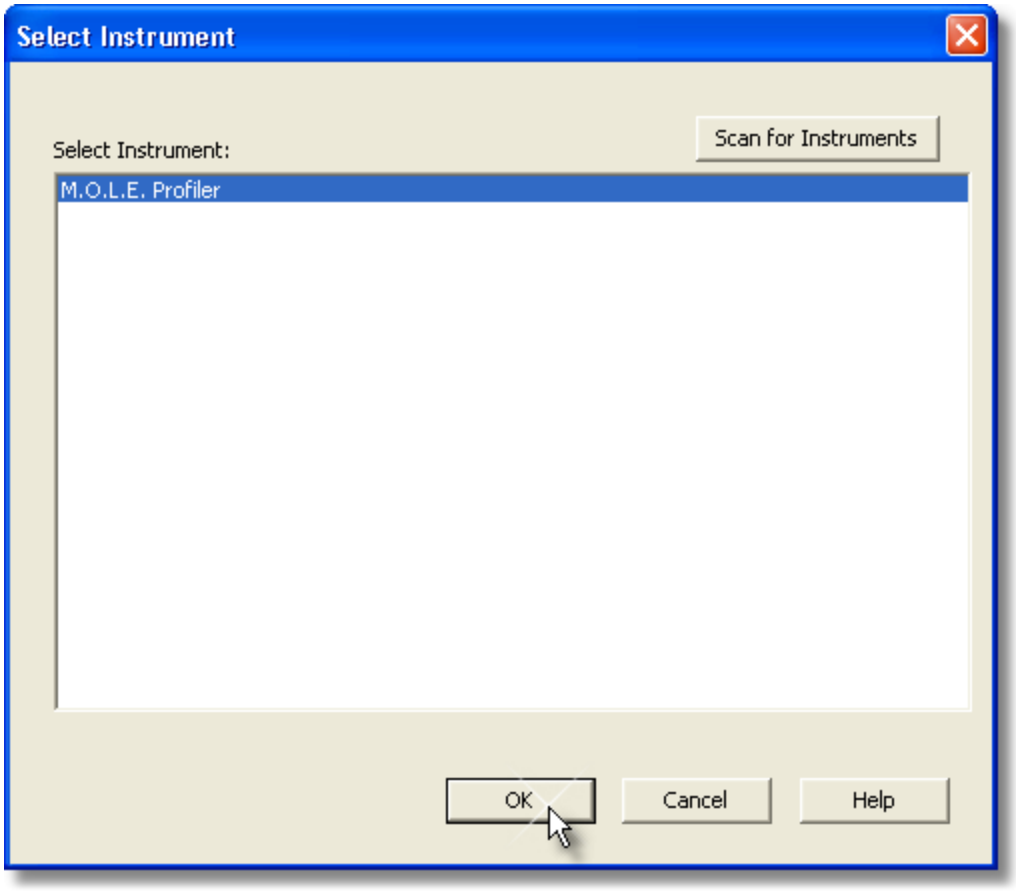
Select the corresponding check box to include the M.O.L.E. information when printing in Report format.

## Update Firmware

If a new version of the MEGAM.O.L.E.® Profiler firmware is released by ECD, the user can use the ***Update Firmware*** wizard to upgrade to the newest version.

### To update MEGAM.O.L.E.® Profiler firmware:

1) On the ***File*** menu, click ***Preferences***, and then click the ***M.O.L.E.(r)*** tab.
2) In the ***MOLE*** section, click the ***Update Firmware*** command button and the software automatically scans for a selected instrument. If there is no instrument selected, the ***Select Instrument*** dialog box appears.



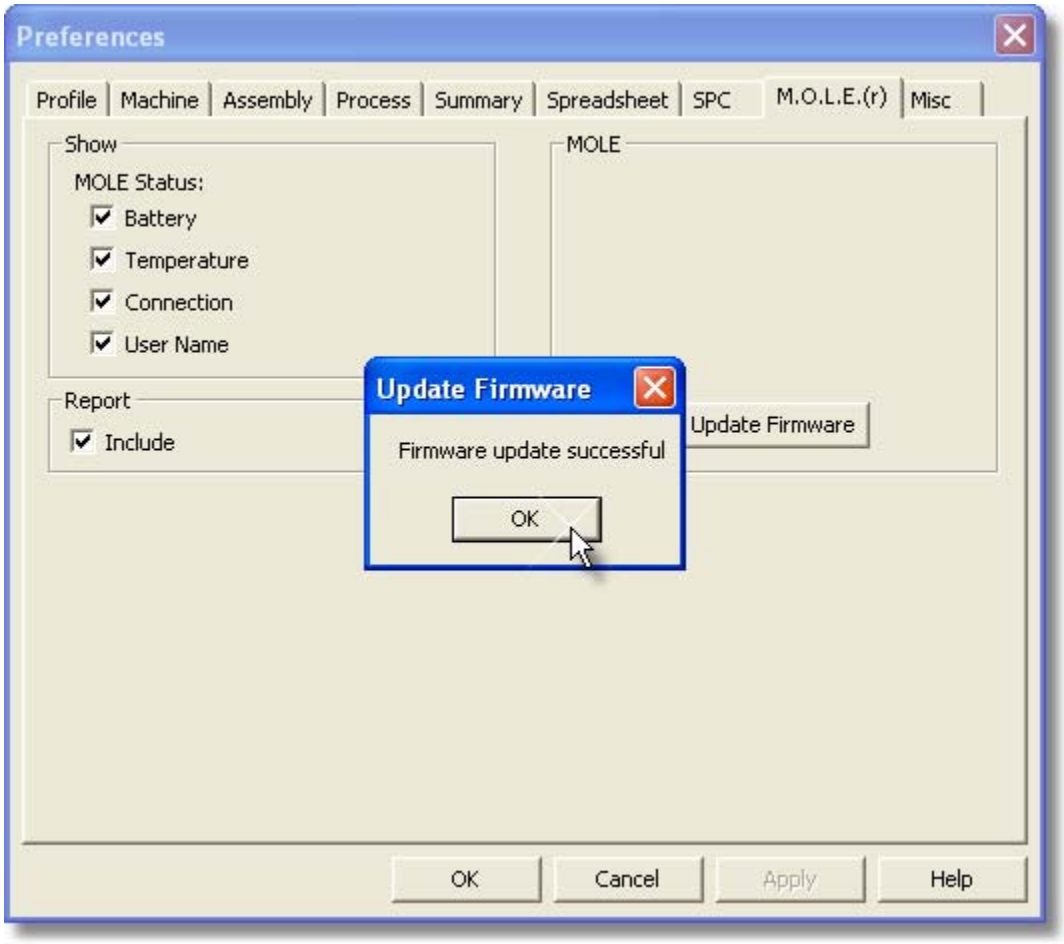

3) Select the ***OK*** command button.

Updating the MEGAM.O.L.E.® Profiler firmware erases any stored data runs. Make sure they have been downloaded prior to completing this process.

4) Navigate to the file folder where the firmware file ***.BIN** is located.

5) Select the firmware file.

6) Click the ***Open*** command button to start updating the firmware.




7) When the update firmware process is complete, select the ***OK*** command button.