INTRODUCTION

This application note describes the process of exporting the logged temperature data from a Thermochron™ logger using the iButton® Viewer. This data is then imported into a Microsoft™ Excel spreadsheet to generate printable graphs.

A working knowledge of the iButton Viewer and Microsoft Excel is required. The iButton Viewer is a free utility with the TMEX runtime environment available on this page: http://www.ibutton.com/software/tmex/index.html

General information on the Thermochron loggers can be found on this page: http://www.ibutton.com/ibuttons/thermochron.html

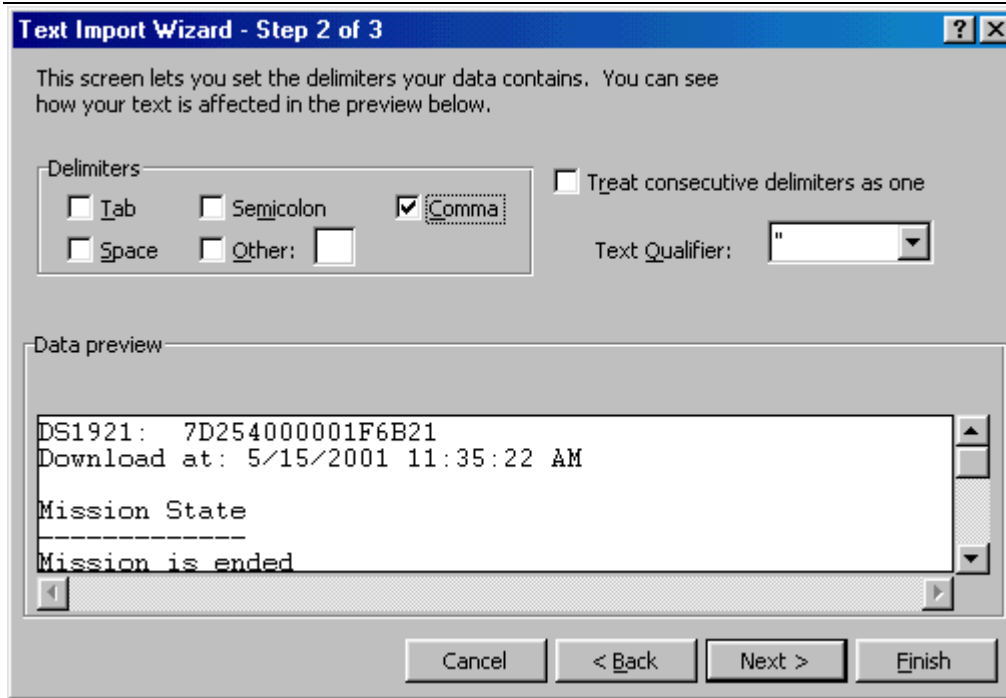# PROCEDURE

1) Start the iButton Viewer and place a Thermochron iButton in the receptor.

2) Select the Thermochron ROM ID number from the device list.

3) Open the Thermochron sub-viewer and select the "Mission Results" tab.

4) If a mission is active, then the data will automatically import. If the data does not import, then select the "Read Data" button to gather the data from the Thermochron.

5) Select either "Fahrenheit" or "Celsius" from under the "Options" drop-down menu.

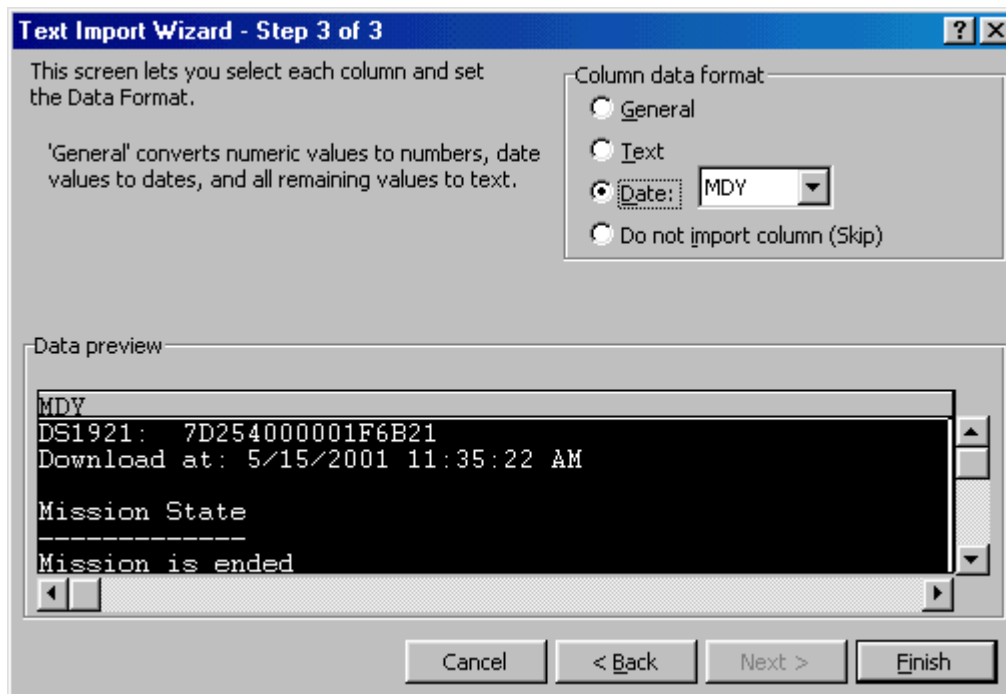6) Ensure that "Show F/C on Temperatures" in the "Options" drop-down menu is not checked.

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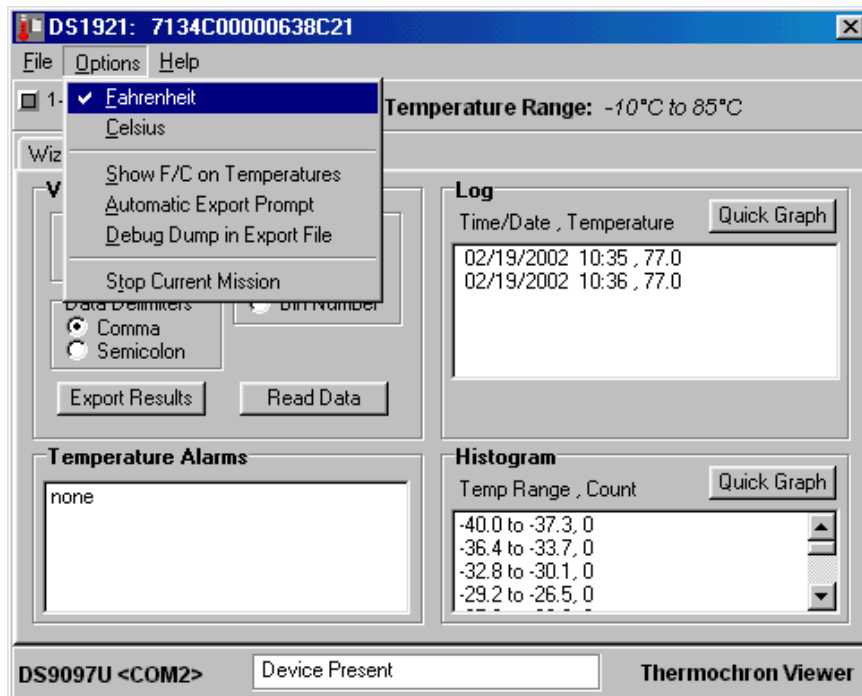
7) If using the European numbering style (77,0), the "Semicolon" button must be selected in the "Data Delimiters" field.

8) Select the "Export Results" button. Then select a directory to save the file in. Remember the directory and file name.

9) Start the Excel program.

10) Select "Open" from under the "File" drop-down menu. Change to the directory that you saved the file in. Change the "Files of type:" window to "All Files (*.*)".

11) Select your file and select the "Open" button. The Text Import Wizard will come up.
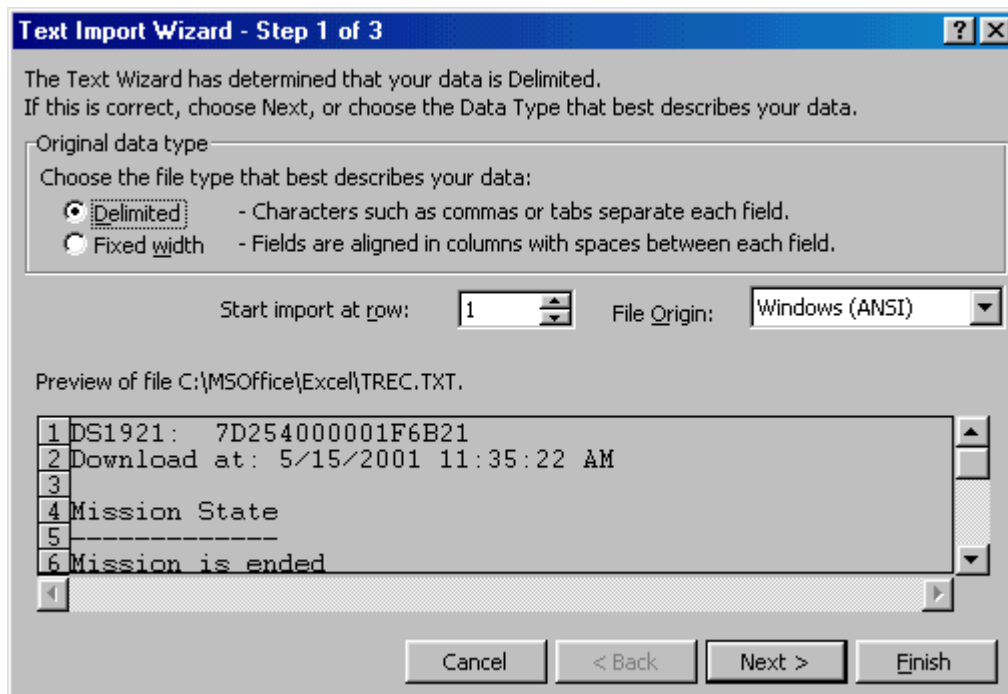
12) Be sure the "Delimited" button is selected before selecting the "Next" button.

13) In the "Delimiters" window, ensure only the "Comma" or "Semicolon" box is checked to match Step 7. Then select the "Next" button.

Text Import Wizard - Step 2 of 3

This screen lets you set the delimiters your data contains. You can see how your text is affected in the preview below.

Delimiters
☐ Tab ☐ Semicolon ☑ Comma ☐ Treat consecutive delimiters as one
☐ Space ☐ Other: [ ]

Text Qualifier: [" ▼]

Data preview

```
DS1921:   7D254000001F6B21
Download at: 5/15/2001 11:35:22 AM

Mission State
-------------
Mission is ended
```

Cancel | < Back | Next > | Finish

14) Select the "Date:" button and select the proper format of the date from the "Column data format" window. Then select the "Finish" button.

Text Import Wizard - Step 3 of 3

This screen lets you select each column and set the Data Format.

'General' converts numeric values to numbers, date values to dates, and all remaining values to text.

Column data format
○ General
○ Text
◉ Date: [MDY ▼]
○ Do not import column (Skip)

Data preview

```
MDY
DS1921:   7D254000001F6B21
Download at: 5/15/2001 11:35:22 AM

Mission State
-------------
Mission is ended
```

Cancel | < Back | Next > | Finish

15) Column widths will have to be changed and other general changes for personal preference will have to be made, but the raw data is now in the proper columns for graphing.

DATA FORMAT

The first two rows of the imported data contain the ROM ID number and the time the information was downloaded from the Thermochron logger.

The following data section lists the *Mission State* information. This contains the settings that were decided set when the mission was started and the current state. Note that this information could have been skipped by setting the "Start Import at row" option in step 11 of the procedure.

Any temperature alarms generated during the mission will be listed in the next section, followed by the *Temperature Histogram* section and finally the *Log Data* section. In this example the "Log Data" will be graphed.

GRAPHING

To create a graph, select the "Log Data" to be graphed. Select both the time and temperature columns.

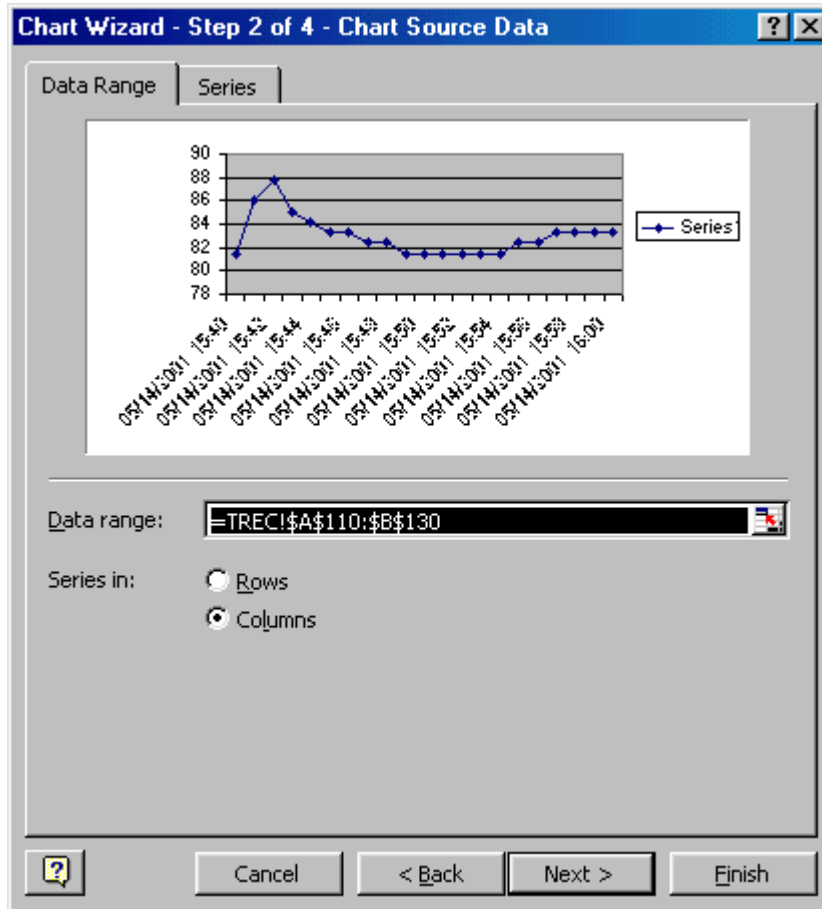Next select "Chart" from the menu under "Insert".
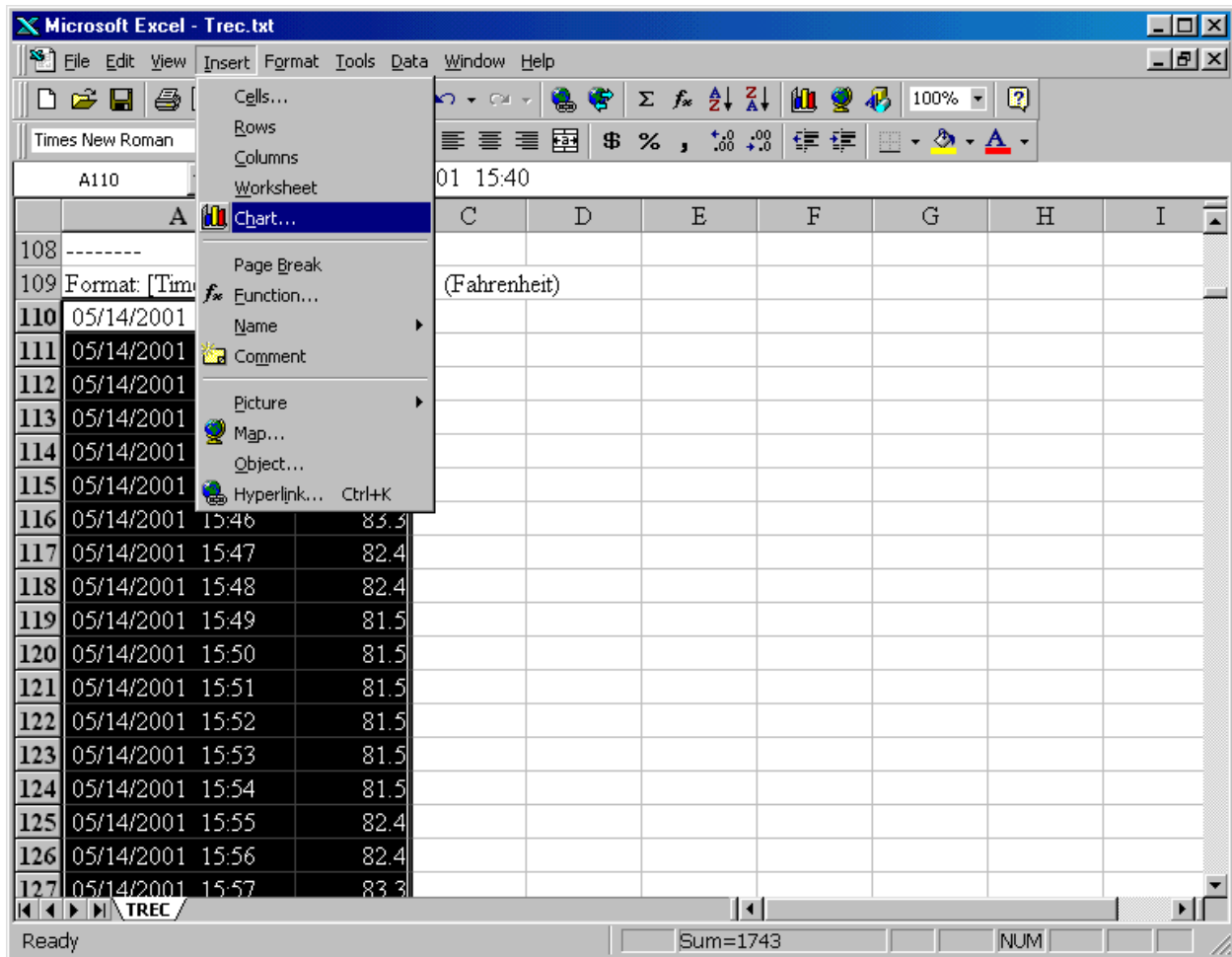
From the Chart Wizard, select the type of chart that is required. Typically the "Line" chart works well with "Log Data".
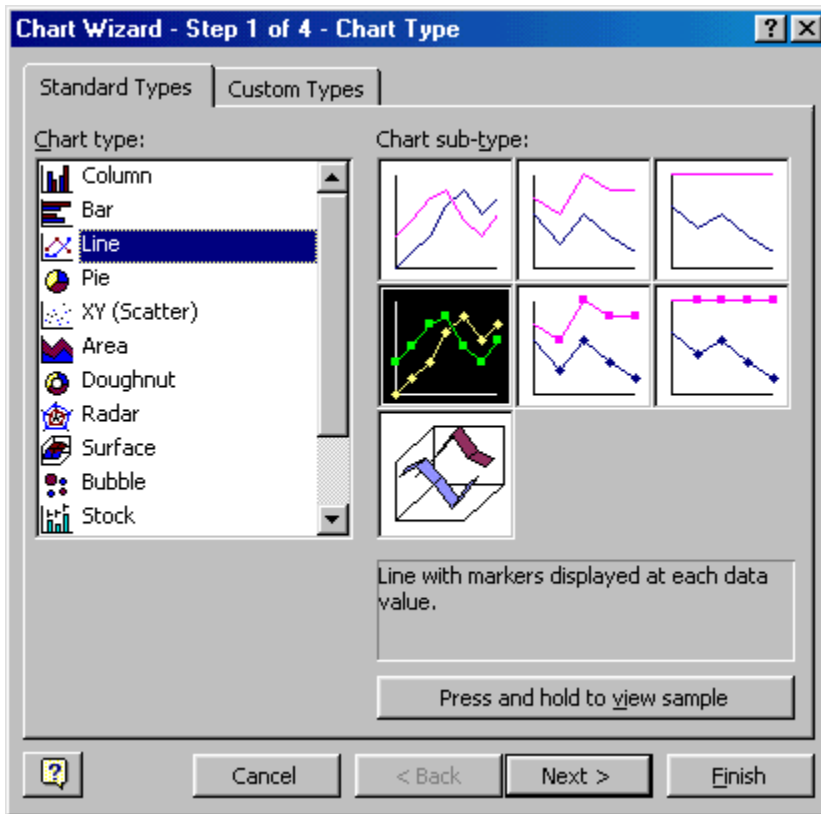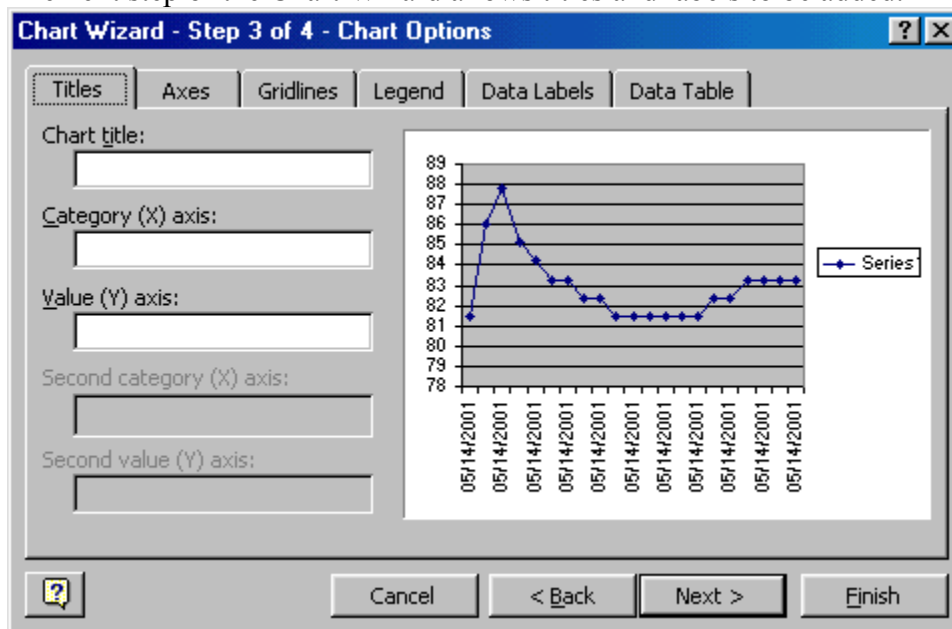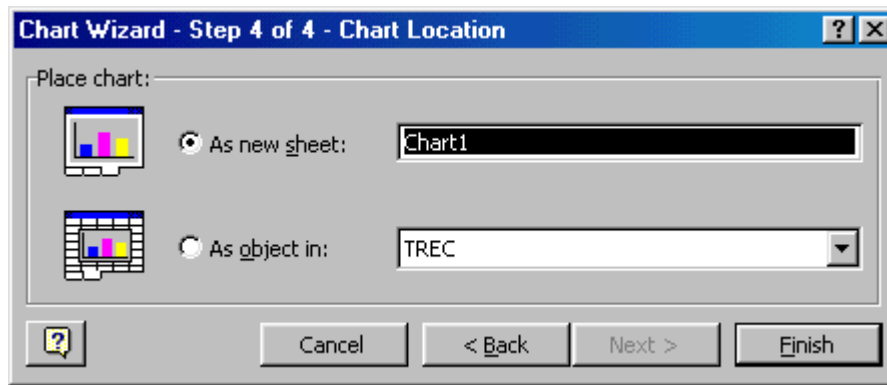
A sample of the graph will be shown. This allows the data range to be checked and set.

The next step of the Chart Wizard allows titles and labels to be added.

Finally, step 4 sets the placement of the graph in the spreadsheet.

Chart Wizard - Step 4 of 4 - Chart Location ? ✕

Place chart:

◉ As new sheet: Chart1

○ As object in: TREC

Cancel   < Back   Next >   Finish

If there are no other changes, click the "Finish" button to create the graph.