Hydro Data Management Software User Guide

Compatible with all HTG and ETG Series Models

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Hydro Data Management Software

This software package allows professional, custom reports to be created using raw data from any Vaetrix HTG, HTGX, HTG-DCR or ETG Series gauge. In addition, (*.pdf)* files such as certification documents, cover sheets, sign off sheets, etc. can be attached in order to create a unique all-in-one report. Visit https://www.vaetrix.com/hydro-data-management-software and click the "Download Software" button to get started.

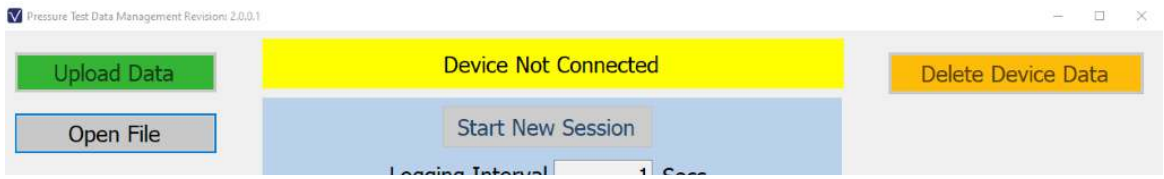
Connecting the HTG Gauge to the Computer

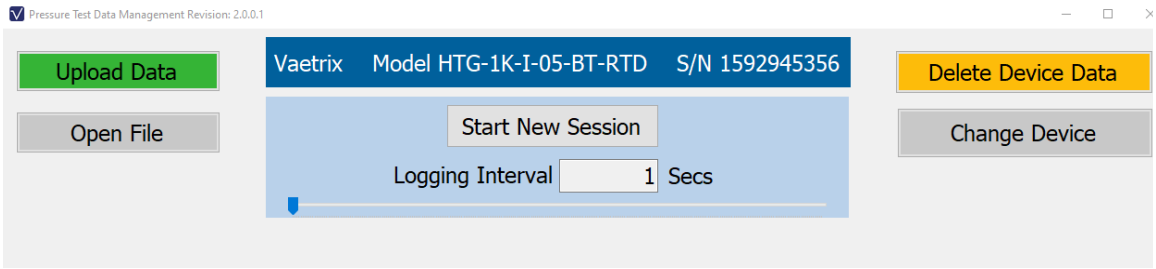
1. Open the Hydro Data Management Software on the desktop. In yellow, it will read "Device Not Connected"

2. Plug the USB cable, provided with the gauge, into the USB port. The port for the HTG gauge is located inside the back of the gauge behind the battery door. The port for HTGX and HTG-DCR models is located on the back of the case. A screwdriver will be needed to open the battery door on the HTG handheld gauge.

3. Once the USB Cable/Driver has been recognized by the computer, press the red power button on the HTG to cycle power. This will connect the gauge to the PC.
   NOTE: If after 2-3 minutes the gauge is not recognized, cycle the power on the gauge.

4. Once connected, the serial number of the gauge will appear in light blue at the top of the screen where it previously stated, "Device Not Connected."
   NOTE: If the serial number does not appear at the top of the screen, the gauge has not been successfully connected. In the event this happens, turn the gauge off and back on to cycle the power again. If the serial number does not appear within a couple of minutes, please contact a Vaetrix support specialist at 1-888-797-3740 or sales@vaetrix.com for assistance.





Extracting Files from the HTG Gauge into Hydro Data Management Software

Once the gauge is successfully connected and the serial number is visible at the top of the program, files are ready to be downloaded onto the computer following the steps below.

1. Click "Upload Data"
    a. All Sessions currently stored on the gauge will populate in order by date.
    b. At this stage, there is an option to rename any Session(s) by backing out the information in the window and replacing it with a preferred name.
    c. Once the Session(s) have been named, proceed to Step 2.

2. Choose the preferred option *Save Selected* or *Save All.* Before saving ANY files, please note the file path at the bottom of the screen (Ex: C/Users/Jessica/Documents). This is where the *(*.dat)* files will be stored on the PC.

    a. *Change Directory* -- allows the location of the files being saved to be changed
        - This must be done prior to saving any files if you do not want them to be saved in the predetermined location listed on the screen.

        - **We strongly recommend saving all *(*.dat)* files to your PC to prevent any loss of test data.**

    b. *Save Selected* -- allows only the selected files to be saved during the extraction
        - To select a specific file for extraction, click the check box to the left of the Session. Multiple files may be downloaded at once by clicking each check box.
        - Once the boxes have been checked to download, verify the path name once again at the bottom of the screen. If correct, click *Save Selected*
        - A window will appear on the screen indicating the number of files successfully saved to the PC. The files are stored as raw data in the *(.dat)* format and **cannot be opened outside of the Hydro Data Management Program**
        - Once saved – See *Opening Files* located on page 4

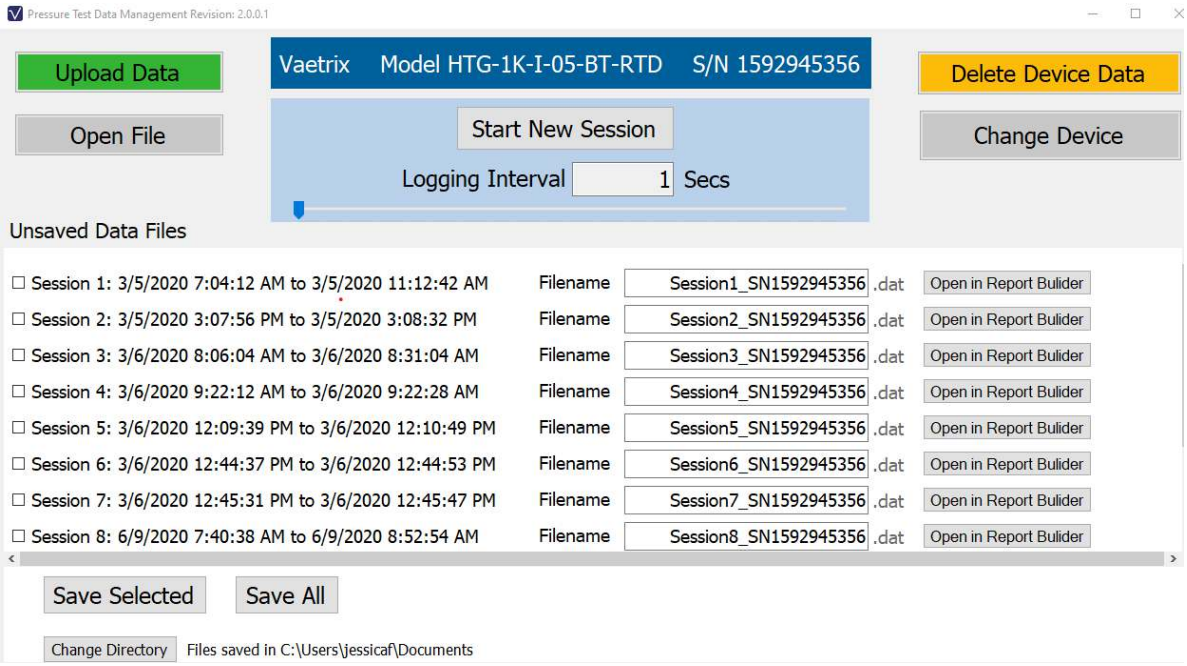
    c. *Save All* -- allows all files currently stored on the gauge to be saved at one time.
        - Verify the path name once again at the bottom of the screen. If it is correct, press *Save All*
        - A window will appear on the screen indicating the number of files successfully saved to the PC. The files are stored as raw data in the *(.dat)* format and **cannot be opened outside of the Hydro Data Management Program**.
        - Once saved – See *Opening Files* located on page 4.

It is recommended to save ALL *(*.dat)* files to the PC to prevent any lost test data during the report building stage.

The Data Extraction Screen is on the following page.

Data Extraction Screen

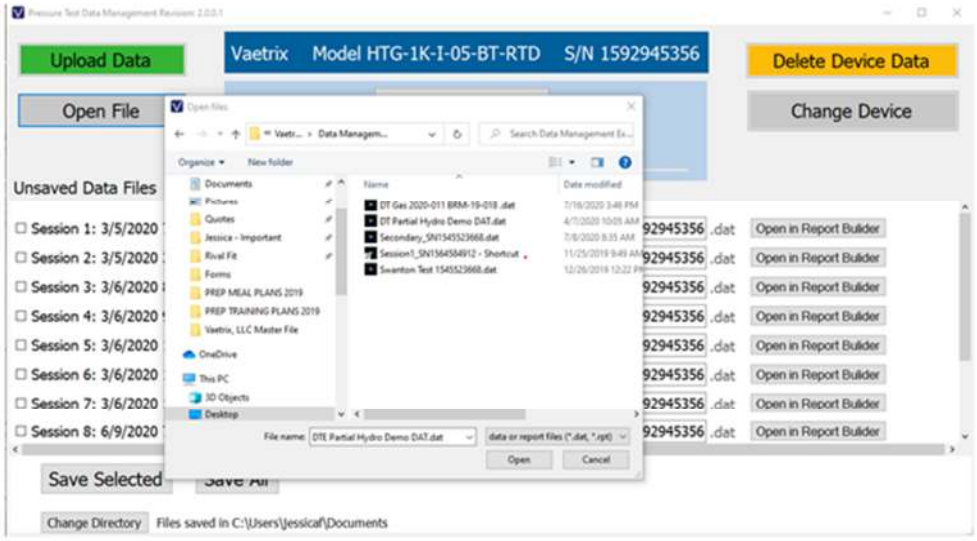
Used to upload all sessions, or to select specific files to save to the PC.



Report Builder

Report Builder uses the raw data file *(.dat)* to create a custom report file *(*.rpt)* complete with a unique report code for tracking and security. The standard report includes a cover sheet, sign off sheet, custom graph options and the ability to insert your own *(*.pdf)* documents for your test requirements.

Screen used to open data files saved to the PC to begin building a report file



<u>Opening Files in Report Builder</u>

1. Select *Open File* on the main menu screen

2. Use the path that was chosen to save the *(.dat)* file and select the desired Session file

3. The file will open in Report Builder allowing the data to be customized. ***Please see the <u>Creating Custom Reports in Report Builder</u> on page 6 of the User Guide for tools and features that can be used in creating a custom report.***

4. To Exit Report Builder and return to the extraction screen, click the "X" in the upper right corner of the Report Builder window. This will take you back to the home screen where there are options to *upload another file*, *open another file*, *change devices* or *delete device data.*

In the event raw data *(.dat)* is not required to be stored on the PC prior to creating your test report, you may BYPASS that option by selecting "Open in Report Builder" to the right of the Session File. This will take you directly into Report Builder where a custom Hydrostatic Test Report can be created.

CAUTION: Once bypassed, raw data WILL NOT be able to be viewed or accessed on the PC.

This means, **i**n the event the report file *(.rpt)* is lost, the Session *(.dat)* must be downloaded from the gauge again in order to start over.
It is recommended to save ALL (*.dat) files to the PC to prevent any lost test data during the report building stage.

Changing Devices or Deleting Previously Stored Data

Follow the instructions below for *Change Device* to add data from another gauge to the PC or *Delete Device Data* to delete data from the gauge's internal memory.

Change Device

This feature allows the current gauge to be disconnected from the PC and another gauge to be connected if there are files which need to be extracted.

1. Click "Change Device" or Unplug the current gauge to disconnect
2. When plugging the new gauge in, if the serial number does not appear in blue, cycle power.

Delete Device Data

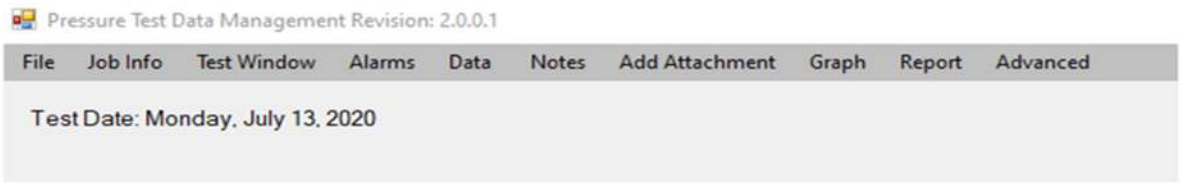
This feature allows all previously stored files in the gauge's internal memory to be erased. **Once the device data is deleted it CANNOT be recovered**.
Please save any existing Sessions to the PC before deleting to avoid any lost data. Any previous Sessions that were directly stored to the PC will not be deleted.

RECOMMENDATION: Verify the downloaded *(.dat)* Session(s) has no issues and that the (*.dat)* file was safely saved to the PC before deleting device date. It is strongly recommended to delete the data in the device to prevent clogging device memory and to prevent confusion during uploads.

Creating Custom Reports in Report Builder

This section describes the functions found in Report Builder designed to create professional test reports using a combination of files and attachments. *Italics* indicate menu options.

Report Builder Tabs Preview



Report Builder Tabs

Below, are the tabs seen in the builder as well as an explanation of the purpose and capabilities.

- **File --** *Open saved report (.rpt) or data (*.dat) file, Save report file, or Export report to PDF*
  - ***Open Saved Report or Data File*** - Used to open a raw data file *(*.dat)* from the PC in order to begin building and editing a custom report. It can also be used to view a previously saved report file *(*.rpt)* or to open and continue editing a report that has not been finalized. Any *(*.rpt)* file or *(*.dat*) file can be edited using Report Builder at any time. Once a report is exported to *(*.pdf)* it cannot be edited using the Hydro Data Management Software.

  - ***Save Report File*** – Feature used to save a complete report file or to save a report file that is being edited but cannot be completed at the time. The program will prompt you to resave a report if any changes have been made to the document while open allowing a completed report to be saved or to save or to save as you go in the event the report must be completed at a later date. If a report is not going to be completed until a later date, the report file **must be labeled with the same name each time it is saved in order to overwrite the previous version**.

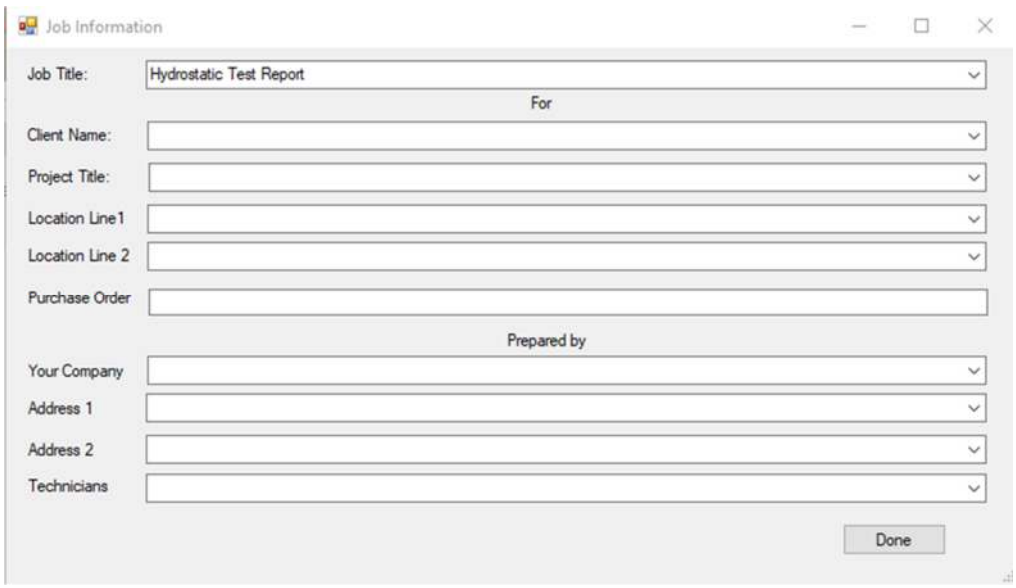
  - ***Export to PDF*** – Used to export a completed report file for your records. Once Exported to PDF, the file must be saved to the desktop or folder. This file can be sent for third party viewing using email. If the report is being sent for third party viewing, it must be sent in PDF format unless the end user has access to the Hydro Data Management Software. Report file(s) sent as a *(*.rpt)*, will not be recognized without access to the software.

- **Job Info --** Enter the Job or Project Information for the Cover Sheet

  This feature allows you to input information such as customer name, project name, location, etc. It serves as the basis for labeling the report. The information entered here

will push to the standard cover sheet and will print with the final report. Data can be freely entered into all drop down bars. Anything entered is then saved for future use in the drop-down tool. This feature was created to save time in the event there are recurring customers or projects.

Job information screen - All information from this tab will push to the Standard Cover Sheet on the final report.



- If there is no information to input into a specific section, skip that section. It will be left blank on the report. (ex: Project Name)

- Address lines are to be used as desired. We recommend the street address on Line 1 and City, State, Zip on Line 2. **In the event the address lines are not needed, the lines maybe used to input information such as weather conditions, coordinates, etc.**

- Once all information has been entered to your satisfaction, click “Done” and move to the next tab.

- **Test Window** -- *Set* the test window based on time or *Hide* the test window on the graph

This feature allows you to identify a Test Window on the graph using vertical black dotted lines. It is designed for customers who are required to demonstrate that test pressure was achieved and held without variation during a predetermined period of time. (Ex: an 8-hour test which requires that you also show the pressure up, test pressure held for a full 8 hours, and the bleed off). The Test Window lines allow you to highlight the 8-hour test period while also indicating the pressure up/bleed up of the entire Session. There are two options within this tab – *Set* and *Hide*.

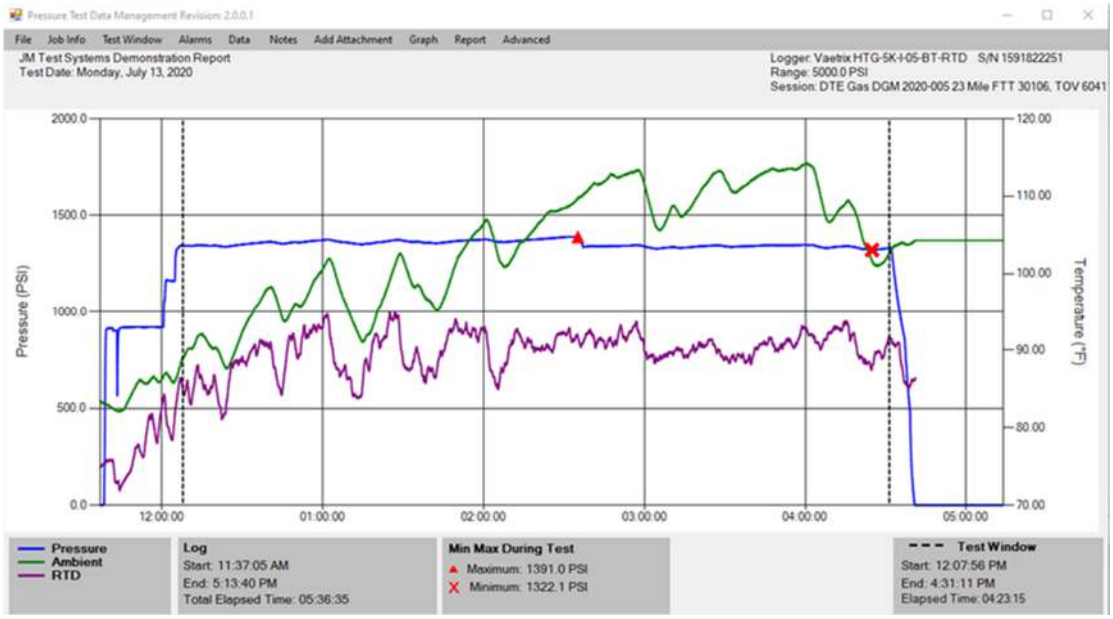
- ***Set*** – Used to manually set the start and end time for the Test Window. This is done by using the arrows, highlighting the Hrs/Min/Sec and manually typing the

numbers, or by dragging the vertical black dotted lines onto the graph to the location you'd like the Test Window to cover.

- Once the Test Window has been set, a key will appear in the bottom right corner of the program. The key will indicate Start/End/Total Elapsed Time of the *Test Window* (Ex: Starts 10:00am/Ends 12:00pm/Total ET: 2 Hours) -- this is not to be confused with the "Log Window" in the bottom left which displays the Start/End/Total Elapsed time of the **entire Log Session.**

- The MIN/MAX key at the bottom of the page will change to "*Min/Max During Test*" meaning it is only showing the Min/Max of the pressure during the period **within the Test Window**. In order to see the overall Min/Max of the entire logging Session– *Hide* the test window.

Test Window Set

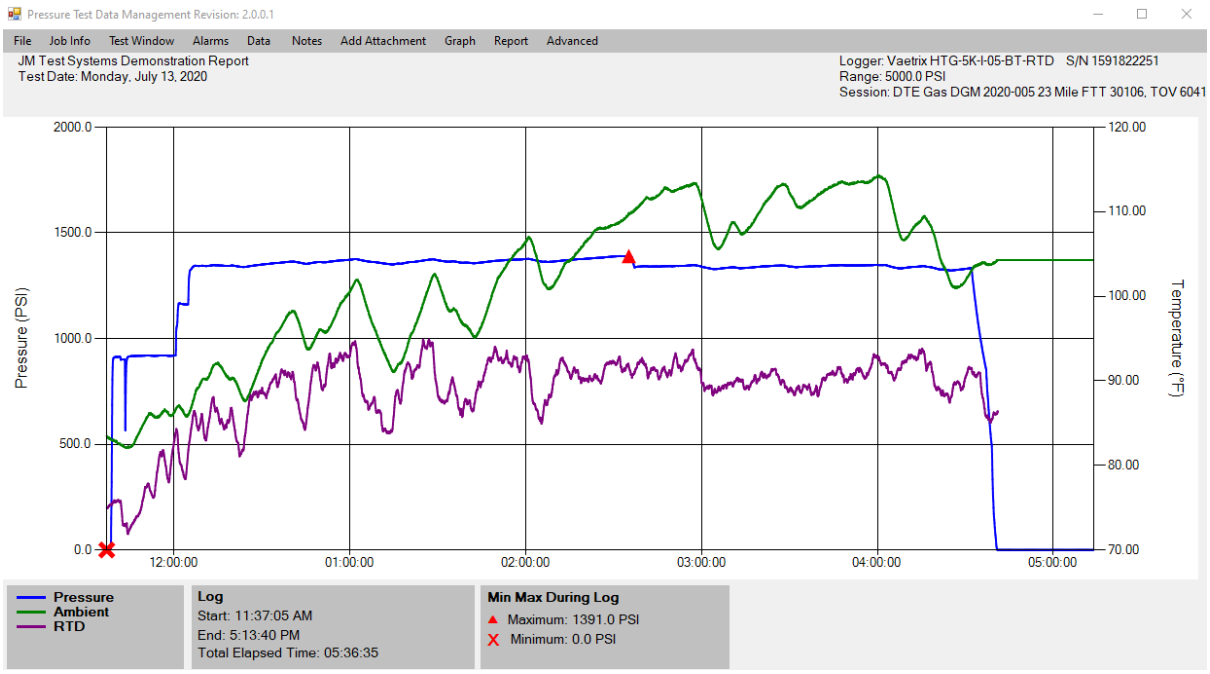


- ***Hide*** – By clicking this button, the vertical black dotted lines will be removed from the graph as well as the Test Window "MIN/MAX" at the bottom of the page. The program will now indicate the Min/Max pressure value over the **entire log Session** (including the pressure up and the bleed off).

  - To add the Test Window back on the graph, simply select *Show* in the Test Window tab. It will replace the window to its previous location. (*Note the change to the Min/Max window at the bottom mentioned above*).

NOTE: The Test Window key in the bottom right corner or the program will appear and disappear based on whether you Show or Hide the Test Window.

Test Window Hidden



- **Alarms** - *Set* the alarms based on pressure or *Hide* on graph

  This feature allows alarms to be set and displayed directly onto the graph to indicate that the test pressure did not rise above or fall below a specified pressure range. **(NOTE: Alarms manually set within the gauge itself will not automatically transfer to the Report Builder. Alarms will need to be manually set in the program if the preference is for them to print on the graph).** This feature is used to visually indicate that a test stayed within its allowable test parameters. (Ex: Operating Test Pressure is 450PSI) Parameters allow no more than a +/- 10PSI swing. The High Alarm would be set to 460PSI and Low Alarm to 440PSI. When *Set,* the horizontal red lines on the

graph provide visual proof that the blue pressure line did not rise or fall outside of those defined test parameters.
There are two options in this tab -- *Set* and *Hide*.

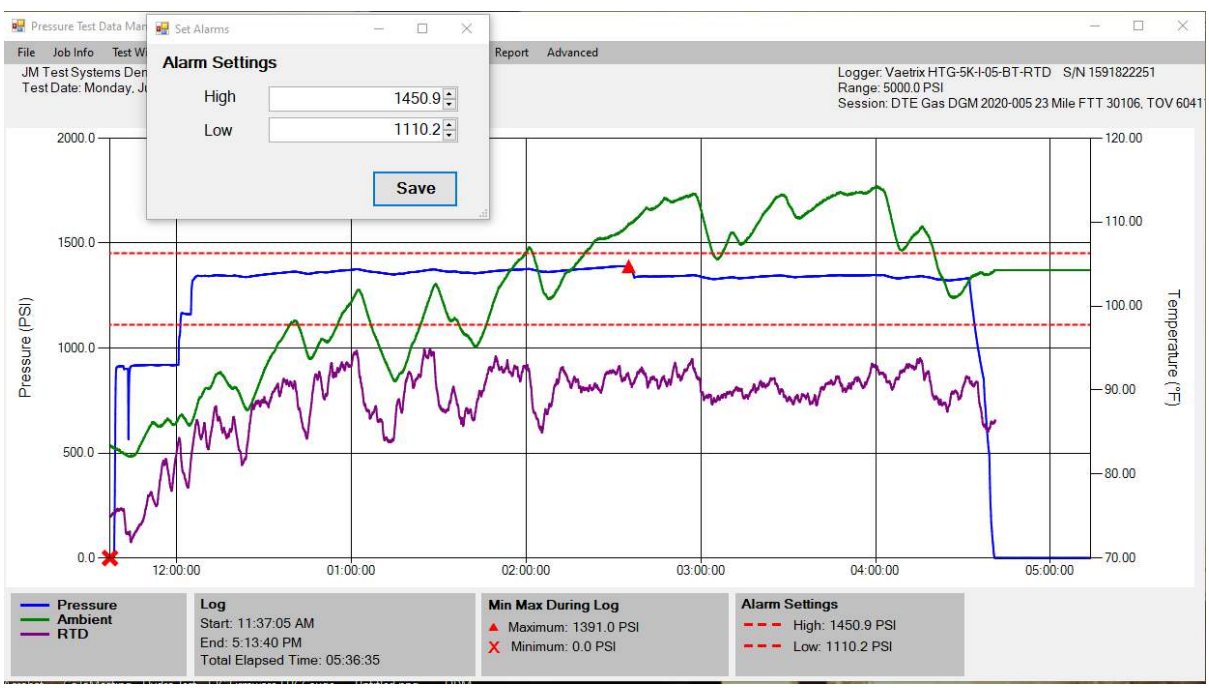
- ***Set*** – Used to manually set the High Alarm and/or Low Alarm for the graph. This is done by using the arrows to the right of the Alarm Settings window, manually typing the alarm value into the blank, or by dragging the horizontal red dotted lines onto the graph at the position where the alarm is to be set. Both a High Alarm and/or a Low Alarm can be set.

  - Once the High and Low Alarms have been set, a key will appear in the bottom of the program which will indicate the exact pressure of the alarm settings chosen. If the alarms are set by dragging the horizontal red lines, the numbers in the Alarms key at the bottom will change until moving the lines is complete.

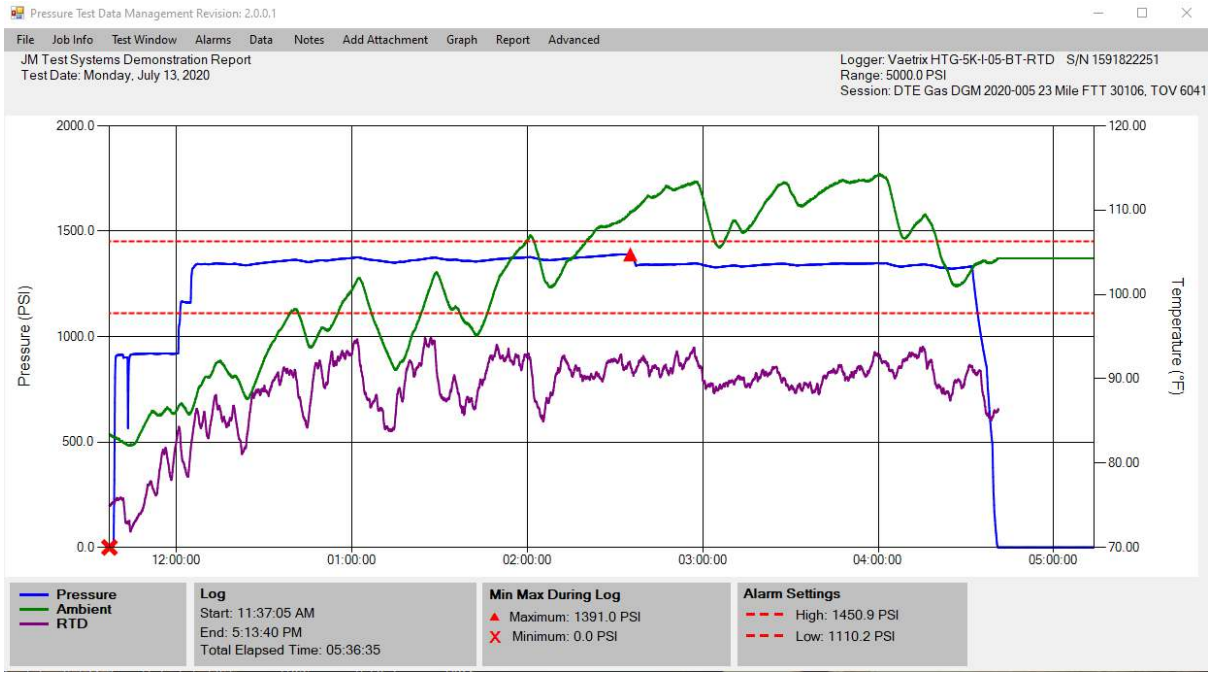
- ***Hide*** -- Clicking this button will remove the horizontal red dotted lines from the graph entirely and the Alarm Settings Key at the bottom of the program will disappear.

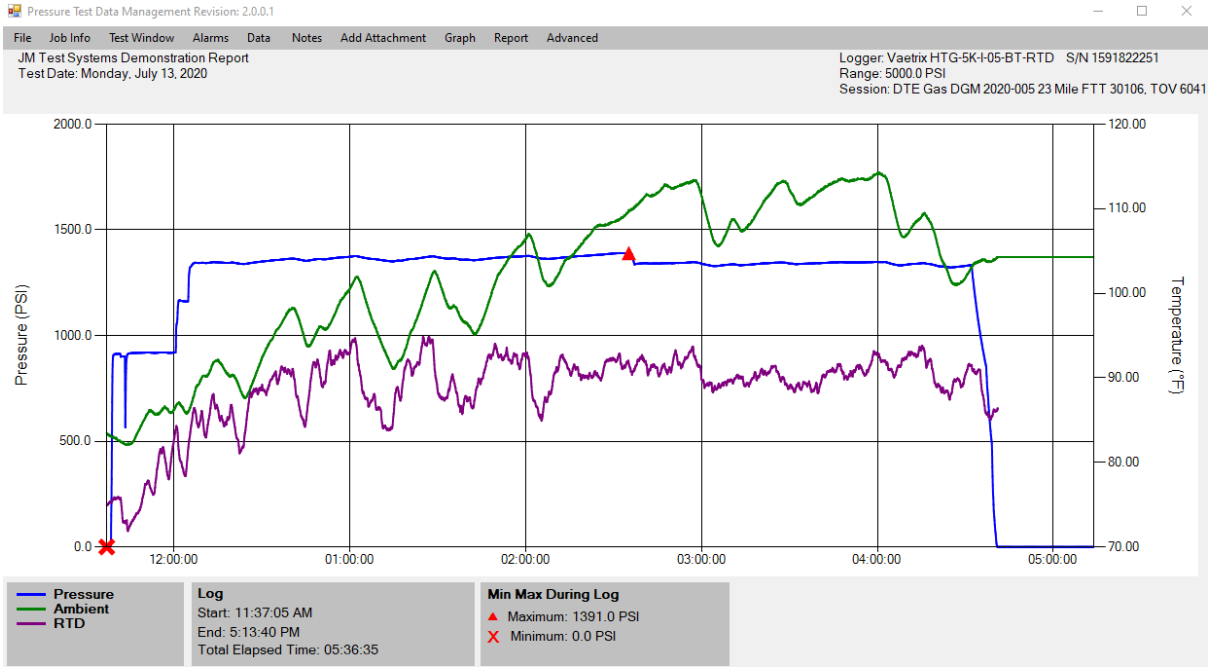
  - To add the Alarms back onto the graph, simply select *Show* in the Alarms tab. The program will replace the red lines to their previous location.
  - The Alarm key at the bottom of the program will appear and disappear based on whether *Show* or *Hide* is selected.

Setting Alarm Window Manually



Alarm Window shown on graph





Alarm Window Hidden

- **Data –** *Show Points* on the graph or *Preview Points Data* (raw data)

  This feature allows actual "points" to be placed on the graph to indicate when a pressure sample was taken. This is beneficial in circumstances where minimal points were taken during test. Tests that have a high volume of samples taken closely together can become distorted making individual points difficult to identify. There are two options in this tab, *Show Points* and *Preview Data Points*.

  - ***Show Points*** – used to place a dot on the graphed line at each sample point taken during the log. **We suggest you only use this option if your samples are being taken once every 15 minutes or more**. If you do not wish to see the data points, simply click *Hide Points* in the Data tab.

    - **Hover over any point on the graph at any time and it will display a window indicating the pressure and time of that exact data point. All samples taken are listed in the data table which will print at the end of the report.**

  - ***Preview Points Data*** -- clicking this option will display a window which lists all data points taken during the Session. The data points are listed in table format with the time and date at which they were taken. This information will auto populate into the report upon saving/exporting to PDF. Data cannot be altered or manipulated in any way as it comes directly from the raw data file extracted from the gauge itself.

- **Notes --** *Add a Note* with option of time stamp on graph, *Preview Notes Page* or *Return Hidden Points* to Graph

  This feature is unique to our software and allows notes to be placed directly onto the graph in the event an explanation is needed for a condition that occurred during the test. (Ex: There is a sudden change in pressure because someone bumped the test line.) A note could be created to explain the issue, and a timestamp could be added prior to dragging it onto the graph where the event occurred. All notes print on the Notes Page of the report once exported which can then be used in correlation with the graph to interpret test results. There are three options in this tab -- *Add Note, Preview Notes Page* or *Return Hidden Notes to Graph*

  - ***Add Note*** -- clicking this option will populate a notes window. Type note(s) into the window and click add *Include Time Stamp* if desired. Once completed, click "Save"

    - The note will populate on the graph to the left where you can drag/drop the note onto the graph in the location the event took place.
    - The time stamp of the note will print on the notes page in the final report allowing the inspector to correlate the explanation to the event on the graph.
    - ***To Edit an Existing Note*** – Double click the note box to be edited, make the desired changes and *Save.*
    - ***To Delete an Existing Note*** – Click the box containing the note to be deleted. Press "Delete" on the computer's keyboard. **(If there are multiple**

notes, the program will renumber the notes to account for the one that has been deleted).

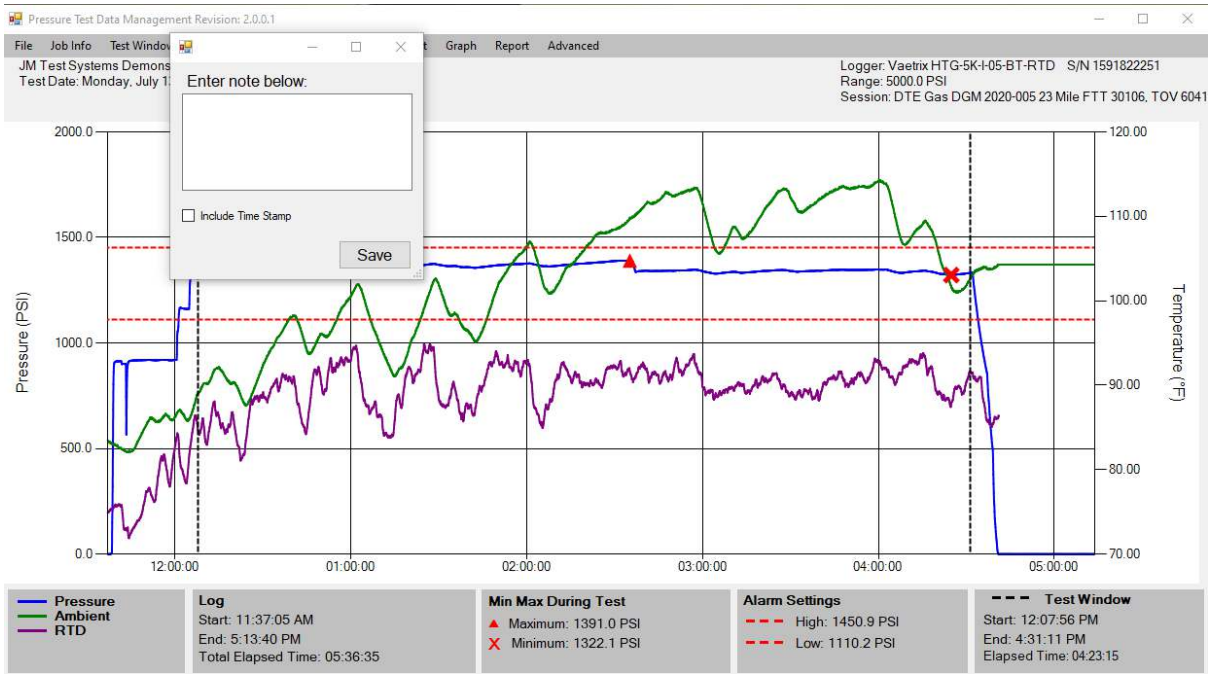
- ***View an Existing Note on Graph*** – For quick reference, hover the mouse over any note on the graph, at any time, to display the description entered.

- ***Preview Notes Page*** – Function that allows the review of all notes added to the graph prior to printing. This information will auto populate into the report upon saving/exporting to PDF.

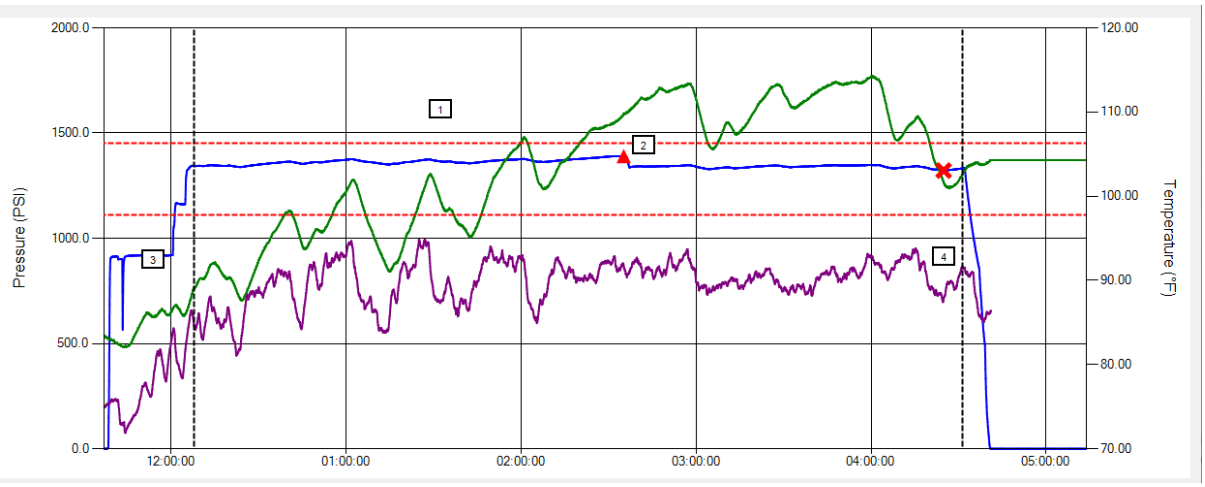
- ***Return Hidden Notes to Graph*** – This is a feature created to recover notes that may have been lost while using one of the features in the Advanced tab.

The Notes tab is beneficial for identifying the pressure up, test window and bleed off sections of the Session.

Adding a Note to the graph



Numbered Notes shown on graph to identify pertinent test events or conditions



- **Add Attachment** -- *Upload* a *.pdf attachment(s) to report (i.e., certifications sheet, or custom document)

  This feature allows a PDF document to be uploaded and included as part of the final report. Common documents include, but are not limited to, customer cover sheets, equipment certification documents, custom sign-off sheets, etc. Select *Upload* under this tab to choose the document(s).

  The selected PDF document must be stored on the PC prior to being uploaded. If the file is moved or deleted, from the computer, prior to saving and exporting the report to a PDF, the attachment will not be included. **Only *.pdf files are supported by this feature**.

  The order of documents may be rearranged in the final report using the Report tab of the program.

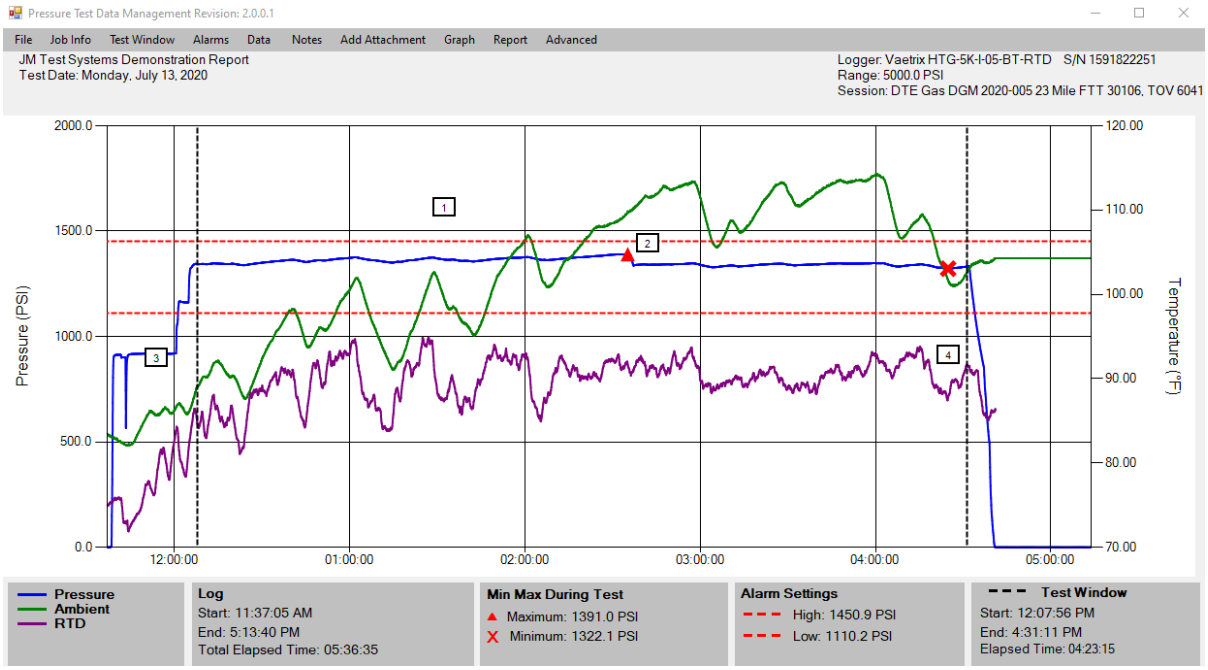
Uploading an attachment for the final report

- **Graph** -- *Preview* the graph or select *Options* to change page size for printing

  - ***Preview Graph*** -- this will display a PDF view of the existing graph with the changes made in Report Builder up to this point. The graph can be printed from this preview if desired, however it will also print in the final version of the report.
    - **Unless changes are made in the Advanced tab (not recommended without technical support), this will be the version of the graph that will print in the final report.**

  - ***Options*** – this feature provides the option to change the paper size for printing the graph.

Completed graph depicting all features such as Test Window, Alarm Window, Notes and Min/Max.



- **Report** -- *Preview* the report or select *Format* to reorganize the order of the pages (drag/drop)

This tab allows you to preview the existing report information as well as to reformat the order in which the documents will appear in the final report.

- ***Preview*** -- clicking this will populate a window that contains the full version of the report up to this point. The Preview will include custom footer at the bottom of the page identifying the Test Date, Print Date, Page Number and Unique Report Code for the final report.
  - The unique report code automatically generates and prints at the bottom of each report as a tracking feature to help ensure the correct graph and data table are submitted for each record. In other words, a graph from a previous report or test cannot be inserted as the report codes will not match.

NOTE: The HTG software uses Adobe Reader for previewing reports. Depending on PC Security settings, it may be necessary to disable the Protected Mode at start up to preview reports. In Acrobat, go to "Edit" and then "Preferences." You will need to uncheck the box.

- ***Format*** -- this feature allows the order of the report to be customized as well as including or excluding any document or sections of the report that you may or may not want printed. (Ex: Full Data Table, Cover Sheet, etc.)

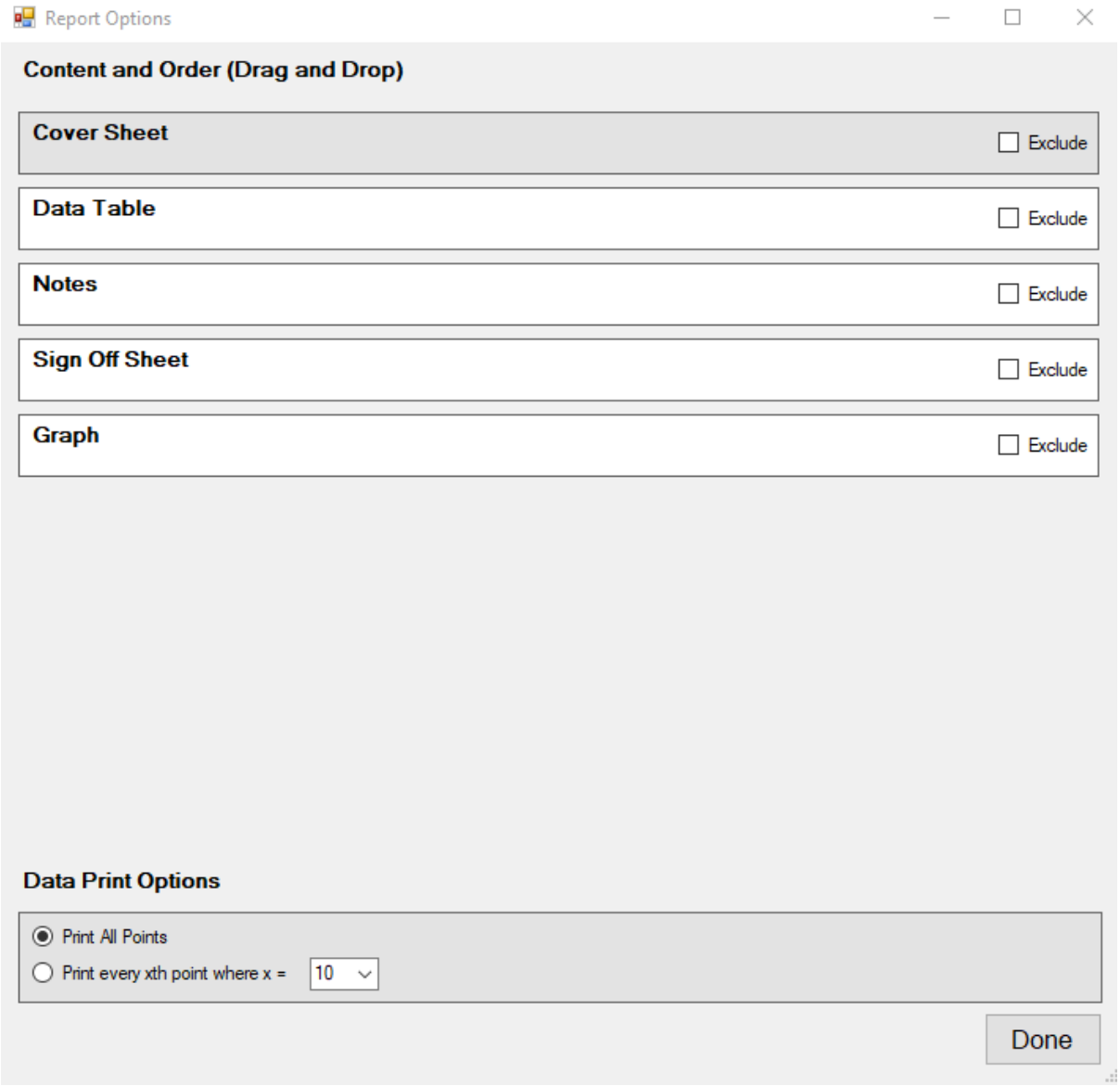
  - Any attachments uploaded under the *Add Attachment* tab will be displayed here.

  - To *Format*, simply drag and drop the files into the order they need to be printed.
  NOTE –drag the file to be moved and line it up <u>on top</u> of the file whose position it will take. The remaining items will shift down. The Cover Sheet position <u>cannot be changed</u>, however you can *Exclude* the Standard Cover Sheet, if a custom sheet has been uploaded. Drag the custom sheet to any position desired in the report.

  - ***Data Print Options*** -- Sometimes the data on the logger will be sampled at a higher rate than is necessary to report. This may be desirable in order to get a high definition graph, but if the test was uneventful it may be helpful to ***use Data Print Options to "down sample" the data that prints in the report data table.***

  For example, an 8-hour test, setting the logger to sample every 30 seconds would yield 960 samples. If data was only required to be shown every minute, then the *"Print every xth point where x ="* could be set to "2". The data table would then print samples taken every 60 seconds yielding 480 samples. This is beneficial in the event the data tables will be printed in reports. It provides a shorter stack of paper while still meeting the reporting requirements.

Report format screen with drag and drop options, printing options and points reduction.



- **Advanced** -- *Change Engineering Units, Crop Data Using Test Window, Import Data Files (*.dat)*

  This section is only to be used after consulting the instructions below. Improper use of the features in this tab can result in loss of report data that cannot be recovered. Please contact technical support at 225-925-2029 x 3016 or sales@vaetrix.com before use. There are three options under this tab.

  - ***Change Engineering Units*** - this tool allows changes to be made to the pressure and/or temperature units displayed on the graph (EX: Change the data's pressure units from PSI to BAR or change temperature units

from Fahrenheit to Celsius). Simply select the desired units from the drop down and click *Graph Data.*

- This would be done if the data was logged in the wrong pressure or temperature unit in the field.

NOTE – The report <u>MUST be saved prior to making changes to any units</u>. If the report <u>IS NOT SAVED TO THE PC</u> prior to changing the units, all changes made up to this point will be lost. *If this button is clicked in error, simply exit out of the screen, and the changes made up to this point will still exist.*

- ***Crop Data Using Test Window*** -- This tool allows you to *Crop* the data recorded in the Session uploaded. Once cropped, the report data cannot be recovered in the program. Users will have to start overusing the *(*.dat)* file from the initial extraction that was saved to the desktop. If the *(*.dat)* file was not saved to the PC, the user will have to re-extract the Session from the gauge**. If the session has been cleared from the gauge, the data is lost and cannot be recovered in any way.**

  - This tool would be used in the event that the "Log" of a session was not "Stopped", and the gauge was mistakenly left recording for an extended period of time beyond the test. (Ex: Turning the gauge off after a test without selecting "Stop Logging" will result in the gauge continuing to log until memory is full or batteries are drained). This creates a skewed graph with unnecessary data points.

  - **To *Crop* - DRAG** the vertical black dotted line at the END of the Test Window to the desired time stamp where the data should end. Clicking *Set* in the *Test Window* tab and typing the END time manually will also dictate the precise time stamp where the software will crop the data. Once cropped, all data BEYOND that time stamp is lost. From here, you can *Save* and continue editing your report. **Cropping Data should be done prior to editing any report to avoid losing all report changes.**

  NOTE: We recommend saving all (.dat) files to a secure folder on your desktop during the initial extraction of files to prevent the loss of any raw test data during the report building phase.

- ***Import Data Files*** *(*.dat)* -- This option can be used to import data from a secondary unit(s). Users have the ability to choose the variables to import such as pressure, temperature etc. Imported Data must fall within the same time frame of the data in the report they are being merged into. Common Applications include, but are not limited to, bringing in a ground temperature from a second data logger or bringing in multiple temperatures for testing long runs of pipeline. ***The software can report up to (5) temperature readings from multiple devices.***

Definitions

Session: A series of recorded data points that are stored on a logging device. Any time the device starts logging, a new Session is created. The Session is ended when logging is stopped.

Data file (*.dat): The .dat file is a Session saved to a computer. It is a read-only file that can be viewed and/or added to a report file.

Report file (*.rpt): A report file always contains a primary Session. Other data can be added by the user to create a report.

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