Yokogawa TUS Report Software Quick Start

Model Code M1286VB; Thermal Survey Reporting Software

Yokogawa Corporation of America; Newnan, GA
Control Instruments Business Division

Revised 10/18/15

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Thermal Survey Reporting Software; M1286VB

- Overview:
  - This software produces AMS2750E compliant Temperature Uniformity Survey (TUS) reports using data files from Yokogawa DXAdvanced and SMARTDAC+ GX/GP data acquisition stations
- This document will guide you through installation and the steps needed to produce a report. You can select the **Help** tool within the software for additional information
- Supported file types:
  - DX series
    - .DAD; Display Data File
    - .DAE; Event Data File
    - .DSD; Display Data File when Advanced Security is used
    - .DSE; Event Data File when Advanced Security is used
  - GX/GP series
    - .GDS; Display Data File
    - .GDE; Event Data File
    - .GSD; Display Data File when Advanced Security is used
    - .GSE; Event Data File when Advanced Security is used
- Note: It is recommended to use Event data files for TUS reporting because they record the instantaneous channel values at a specified interval (1S, 2S, 5S, etc.)

Installation

- PC System requirements:
  - Windows XP
  - Windows 2003 Server
  - Windows Vista
  - Windows 7 (32-bit)
  - Windows 7 (64-bit)
  - Windows 2008 Server (32-bit)
  - Windows 2008 Server (64-bit)
  - Windows 8
  - Windows 2012 Server
- Run the .exe file on the CDROM. Allow the installer to use the default settings to complete the installation

License activation (1)

- Following installation, a permanent license must be keyed to the PC that it is installed on
- This is done by emailing an activation file to the software development group
- A license file is then returned to you that you must copy into the license folder
- Please complete the following steps...

License activation (2)

- Start the TSR software
- Go to the Settings menu and select the Company Details tab
- Click License

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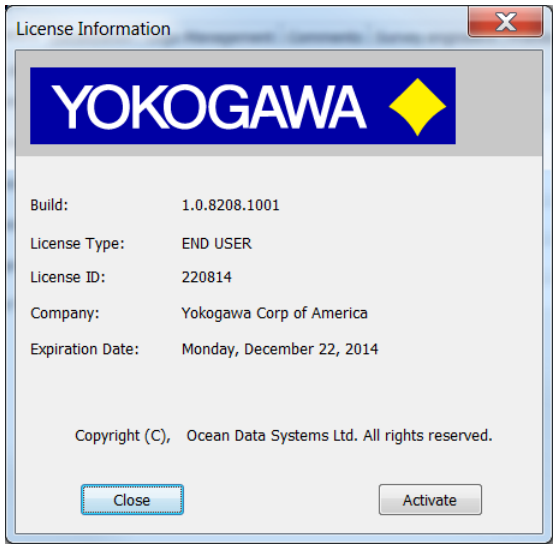
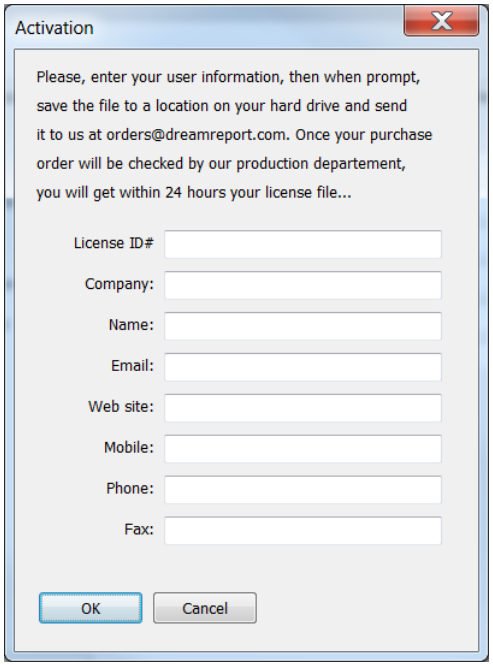
License activation (3)

- The License Information menu will open. Click Activate
- Complete the information in the Activation screen and click ok
- You will be prompted to save the Activation.dat file. Save it in this folder:
  - C:\Users\Public\Documents\Yokogawa\TUS-Y





License activation (4)

- Email the Activation.dat file to:
  - activate@oceandatasys.com
- Within 24hrs, a file “License.dat” will be sent to you
- Copy this file into folder:
  - C:\Users\Public\Documents\Yokogawa\TUS-Y
- Start the TSR software. Go to the Settings menu and select the Company Details tab
- Click License and confirm that End User is specified and a license ID is present
- <DONE>

Configuration basics

- The TSR software allows the user to build highly customized TUS reports. You have to input and assign the following range of settings before you can run a report:
  - Information about the company and people performing the TUS
  - Information about the thermal equipment that was surveyed
  - Information about the data source, the recording equipment used, the channels, set point, stability criteria and other data settings for the TUS
- The above information can be saved to a Profile
  - Any number of Profiles can be saved and recalled for future use

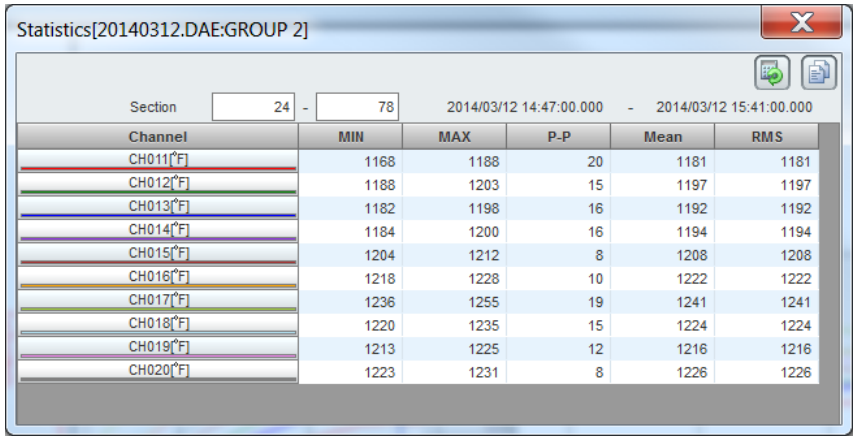
AMS2750E Furnace Class and Temp Uniformity Range

Furnace Class	Temperature Uniformity Range (°F) [1]	Temperature Uniformity Range (°C) [1]
1	+/- 5	+/- 3
2	+/- 10	+/- 6
3	+/- 15	+/- 8
4	+/- 20	+/- 10
5	+/- 25	+/- 14
6	+/- 50	+/- 28

(1) Uniformity range requirement is established by the specification for the material being processed

Move the test files to the PC

- Copy the test data file(s) to your PC.
- Create a folder that you will specify as the data source in TUS
  - Example: C:\GX TUS source
- Copy one file at a time into this folder. TUS can work with multiple files in this folder, but work with one file at a time until you become familiar with the software
- Tip:
  - Use the Universal Viewer software to preview the test data. Confirm the start/stop date and time
    - View the Trend display and use the Statistics tool to examine the data over the stability period
    - You can learn quickly if the TUS report will produce pass/fail results if the P-P (peak to peak) data for each channel exceeds the allowed limits for the furnace category your are testing



Channel	MIN	MAX	P-P	Mean	RMS
CH011[°F]	1168	1188	20	1181	1181
CH012[°F]	1188	1203	15	1197	1197
CH013[°F]	1182	1198	16	1192	1192
CH014[°F]	1184	1200	16	1194	1194
CH015[°F]	1204	1212	8	1208	1208
CH016[°F]	1218	1228	10	1222	1222
CH017[°F]	1236	1255	19	1241	1241
CH018[°F]	1220	1235	15	1224	1224
CH019[°F]	1213	1225	12	1216	1216
CH020[°F]	1223	1231	8	1226	1226

TC Correction Factors

- The correction factors provided by the TC wire supplier must be input in the TSR software and visible in the generated report
  - A check box is provided to enable or disable the use of these factors in the report calculations

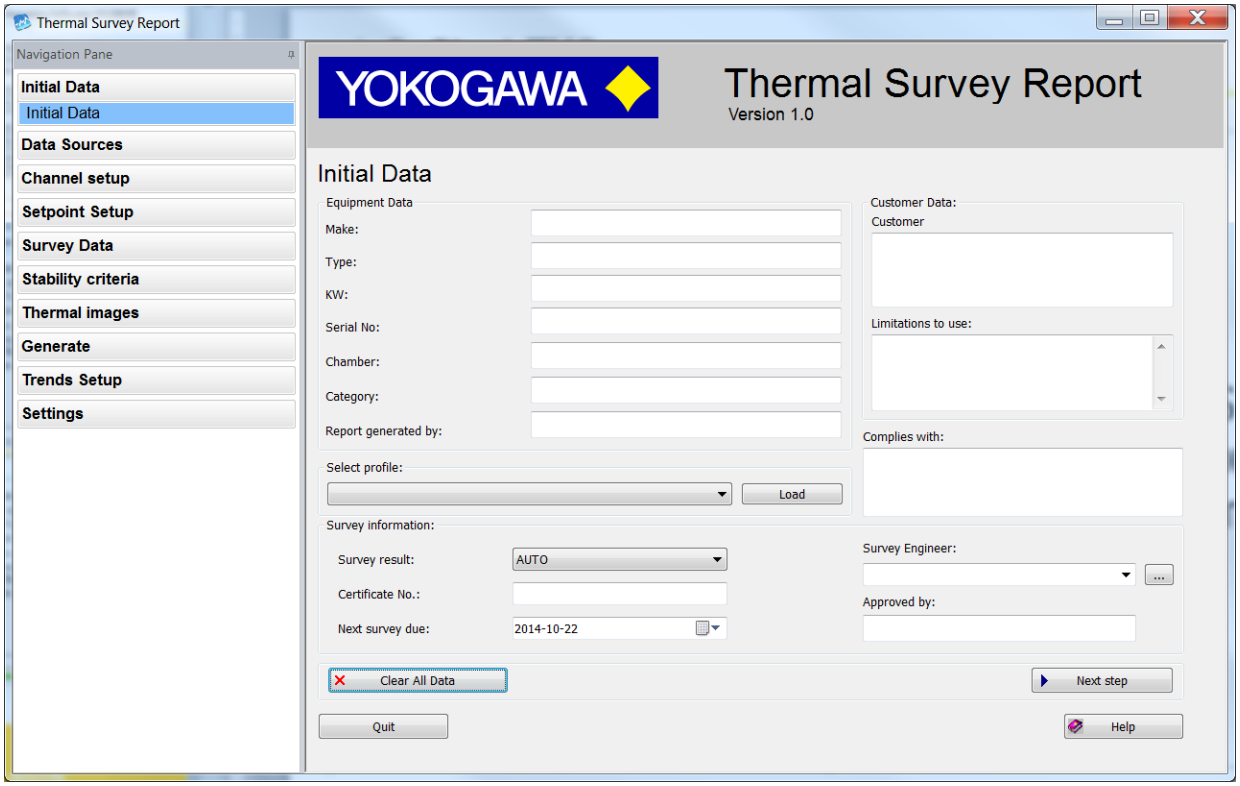
Calibration Correction; files without Advanced Security

- When Calibration Correction is used on DX (/CC1 option) and GX models (standard feature) the data stored in the data file is already corrected. When this feature is used, the correction factors for each TC channel must be clearly indicated in the TUS report; a requirement of AMS2750E.
- The TSR software can process a TUS report with recorder correction factors in the following ways:
  - When Using DX .DAD and .DAE files or GX .GDS and .GDE files that were recorded using calibration correction
    - User must manually enter the recorder correction factors
    - Do not check “Consider Recorder correction factors in calculations”. The settings will be displayed in the report but will not be applied to the calculations
  - When Using DX .DAD and .DAE file or GX .GDS and .GDE files that were recorded without calibration correction
    - If you know the correction factors and wish to apply them to the raw data, the user can manually enter them
    - Check “Consider Recorder correction factors in calculations” and the correction settings will be applied to the TUS calculations and displayed in the report

Calibration Correction; files with Advanced Security

- The TSR software can directly read the calibration correction settings from data files produced by DX and GX models equipped with the Advanced Security option; these settings are stored in the data files as a result of the DX/GX audit trail functions
- When Calibration Correction is used on DX (/CC1 option) and GX models (standard feature) the data stored in the data file is already corrected
- The TSR software can process a TUS report with recorder correction factors in the following ways:
  - When Using DX .DSD and .DSE files or GX .GSD and .GSE files that were recorded using calibration correction
    - Click “Read from file”. TSR will automatically read the correction factors and display them in the table and TUS report
    - The TSR software will not apply the correction factors in the TUS calculations because the software knows the data has already been corrected. They will only be displayed in the report
  - When Using DX .DAD and .DAE file or GX .GDS and .GDE files that were recorded without calibration correction
    - If you know the correction factors and wish to apply them to the raw data, the user can manually enter them
    - Check “Consider Recorder correction factors in calculations” and the correction factors will be applied to the TUS calculations and displayed in the report

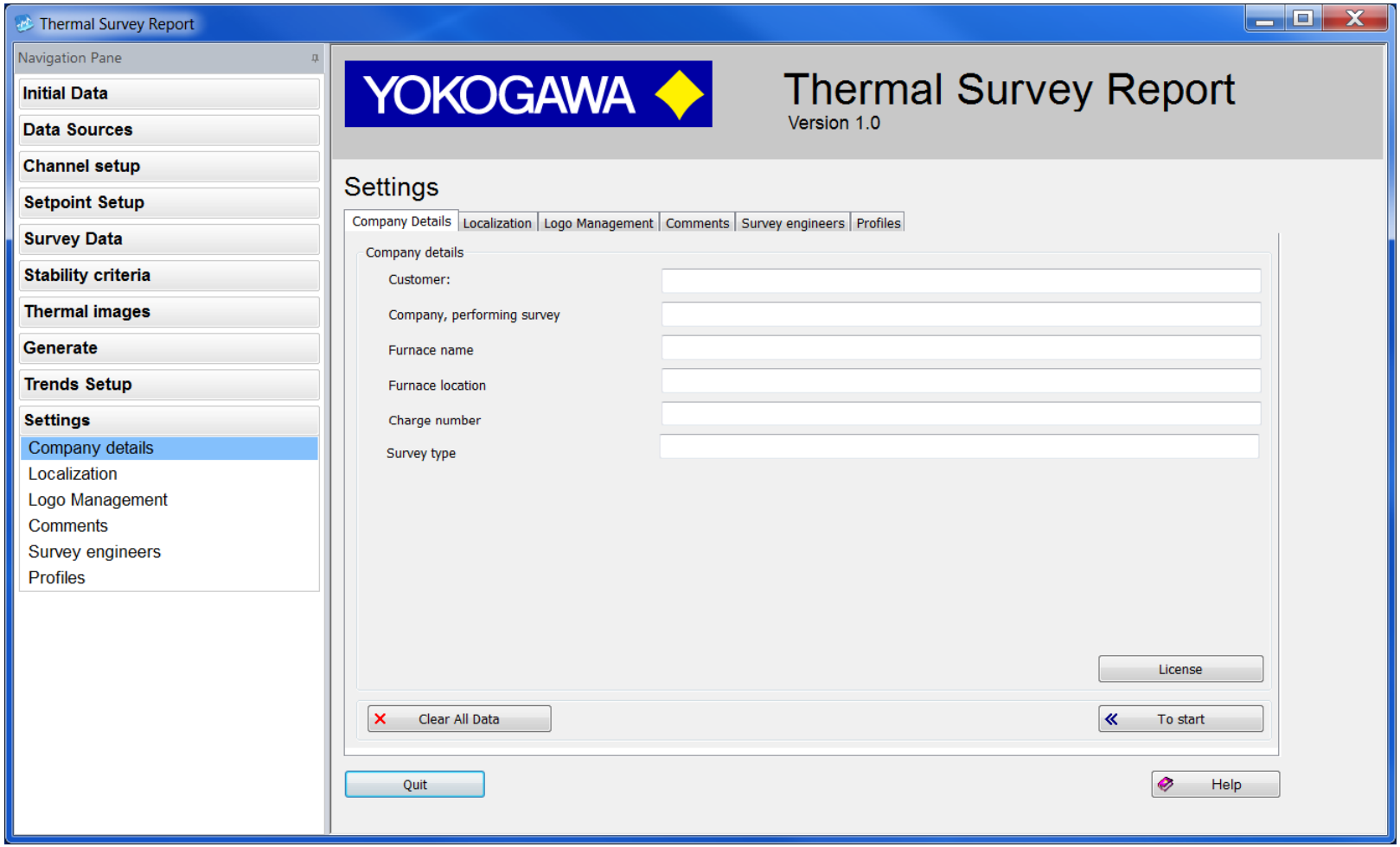
Start the TSR software



The above screen appears and you are ready to configure the software to run a report

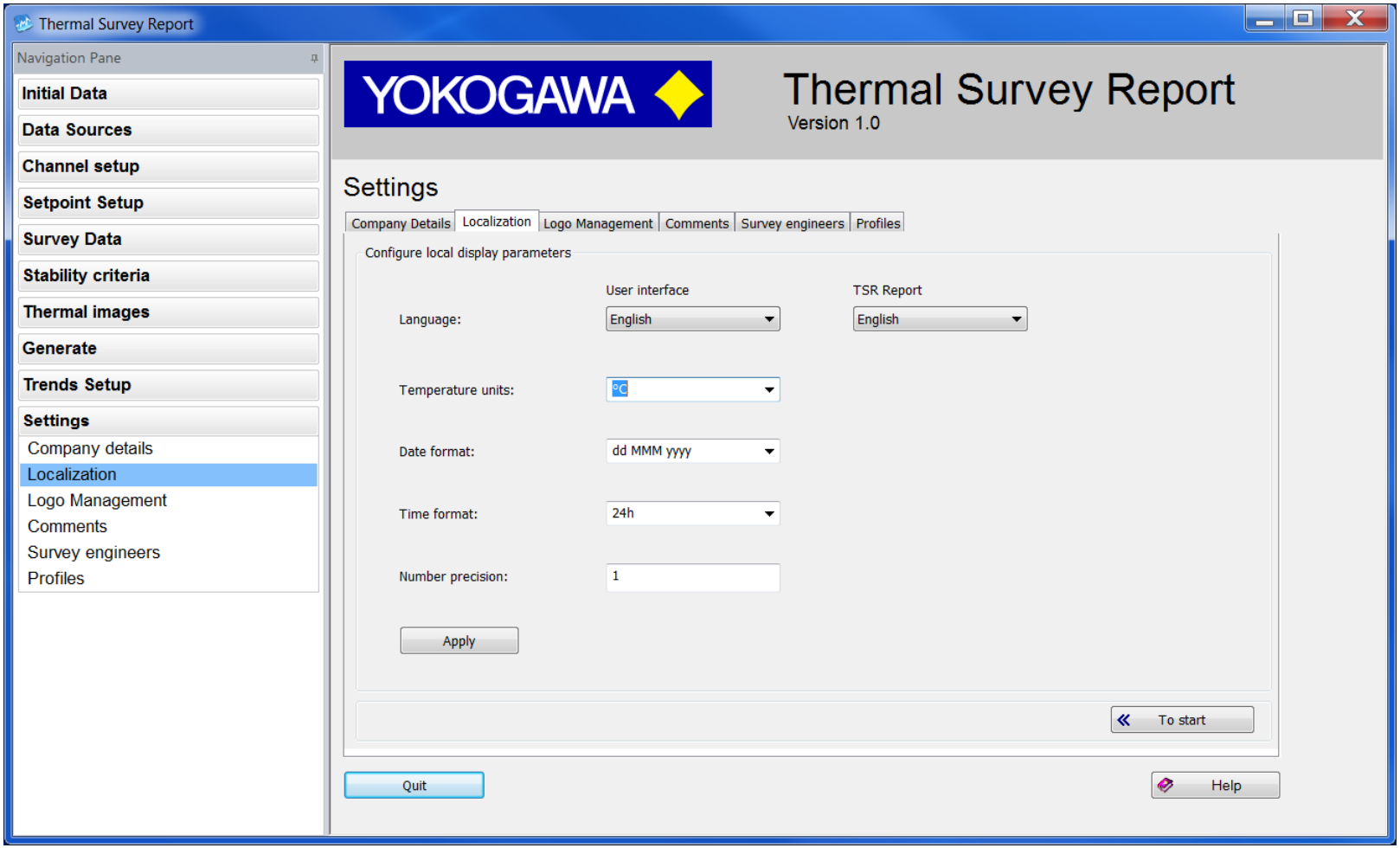
Settings; Company Details

Input all required Customer and Company information in the fields on this screen

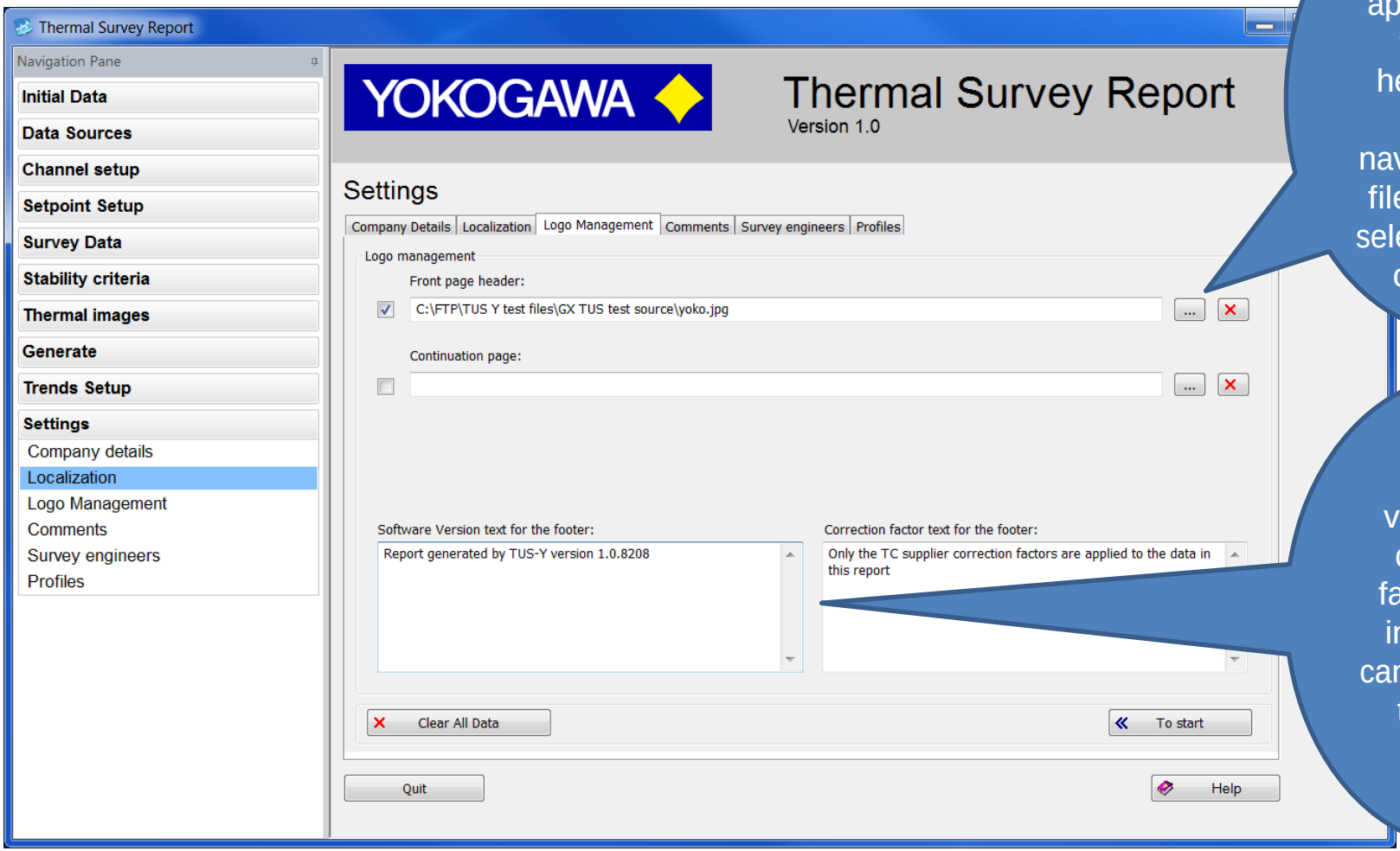


Settings; Localization

Select and apply the desired report attribute settings on this screen



Settings; Logo Management

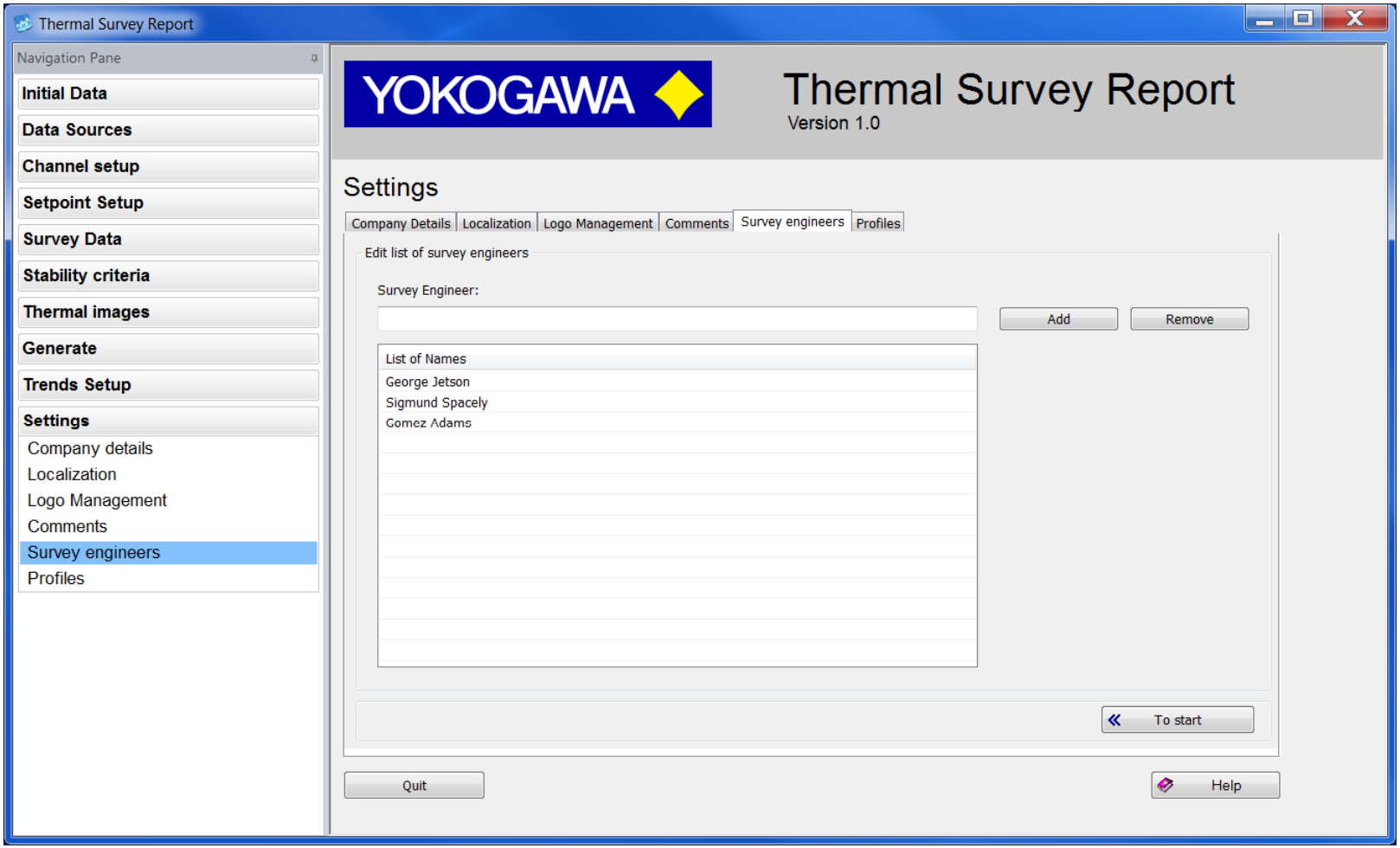


A company logo can be applied to the first page header. Click here to navigate to the file folder and select the .bmp or .jpg file

Software version and correction factor usage information can be input in these two fields

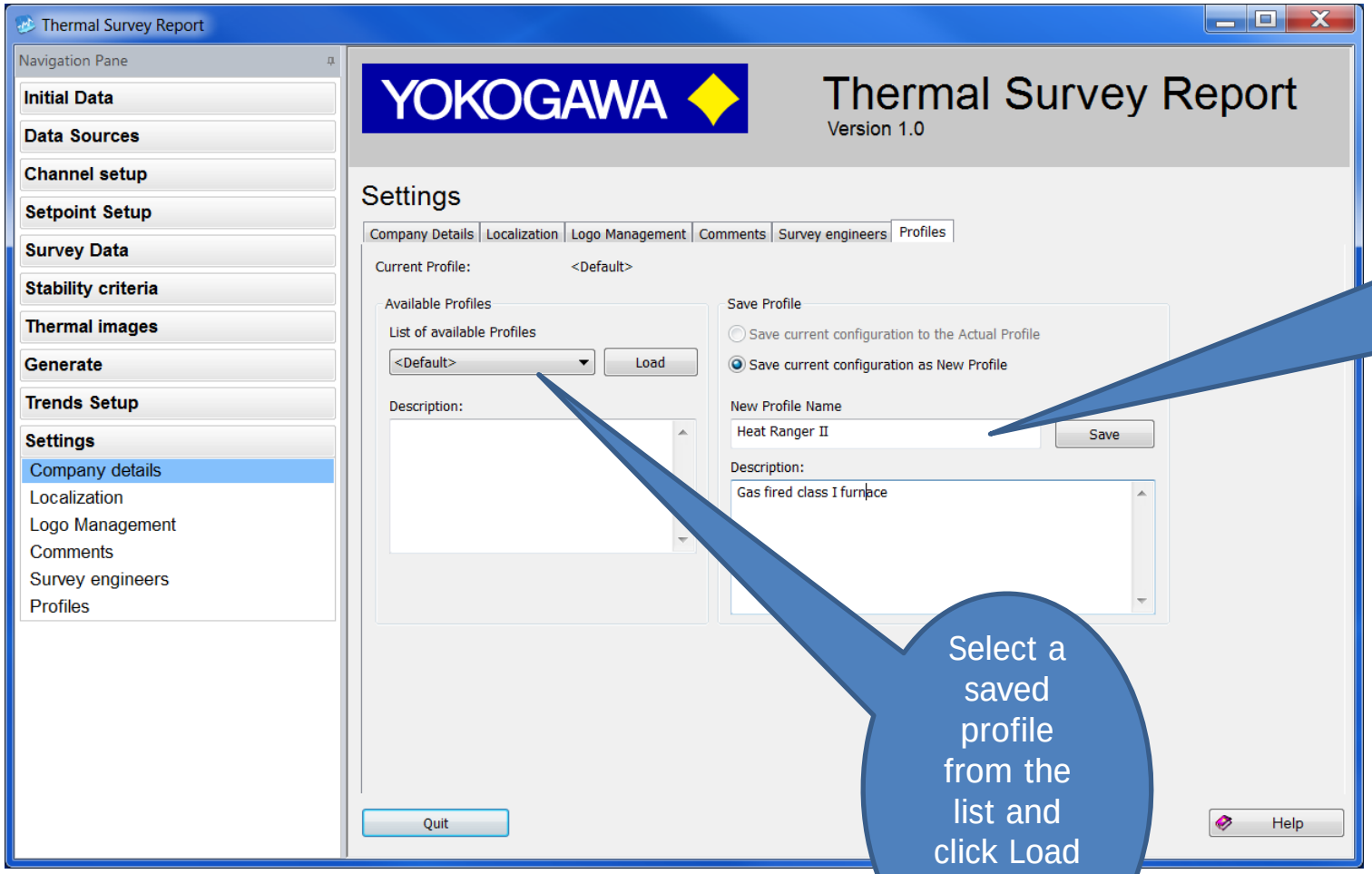
Settings; Survey Engineers

Enter the name(s) of the survey engineer and click Add to create a list



Settings; Profiles- Saving and Loading

All settings can be saved to a Profile. Any number of profiles can be created, saved and re-loaded for future use. **You can return to this screen and click Save to archive your latest settings at any time as you configure the TSR software**

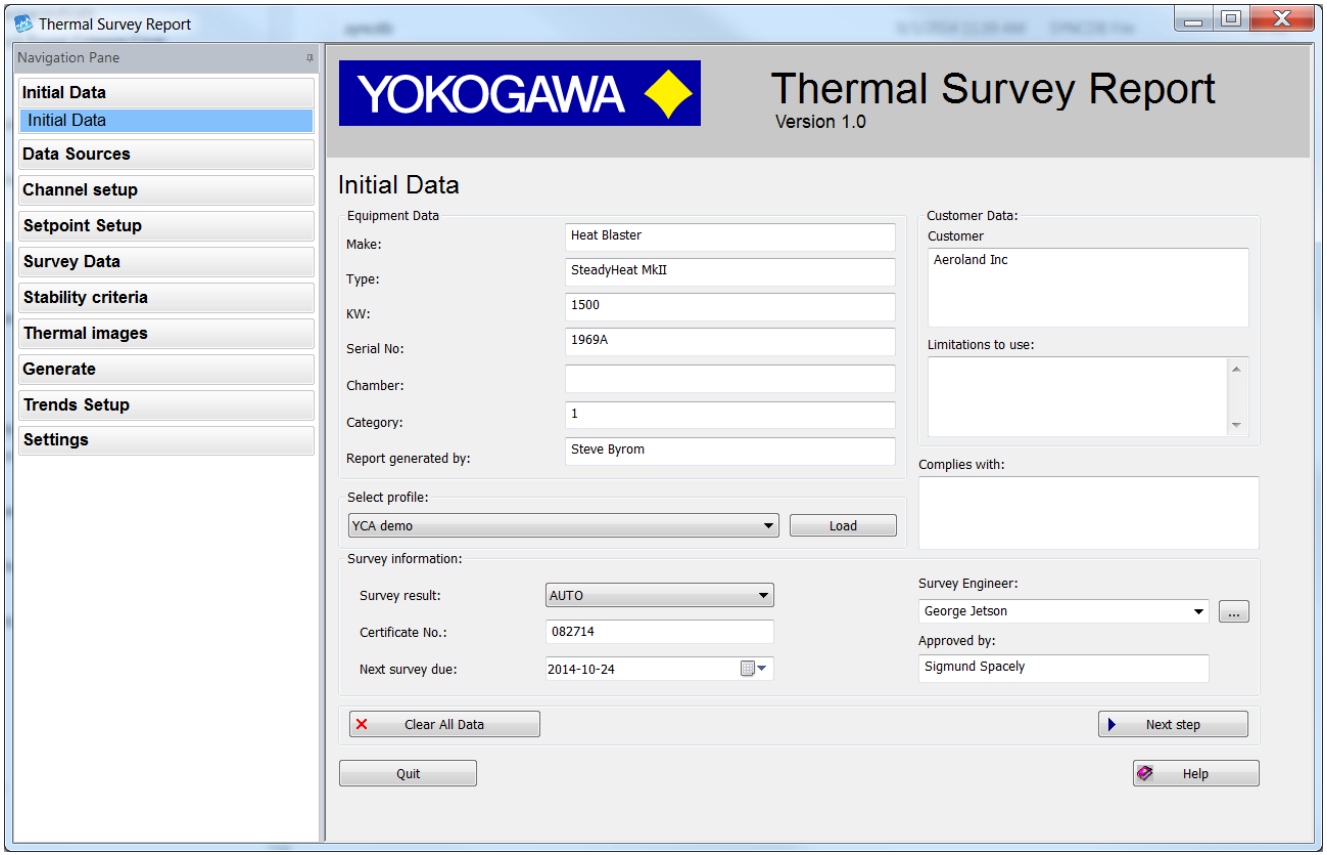


Enter a profile name and description and click Save

Select a saved profile from the list and click Load to retrieve a profile

Initial Data

- Input a range of information about the equipment surveyed, the customer, and test personnel
  - Equipment data settings
  - Customer data
  - Name of person generating the report
  - Survey engineer
  - Approval name
- A previously saved profile can also be loaded from this screen



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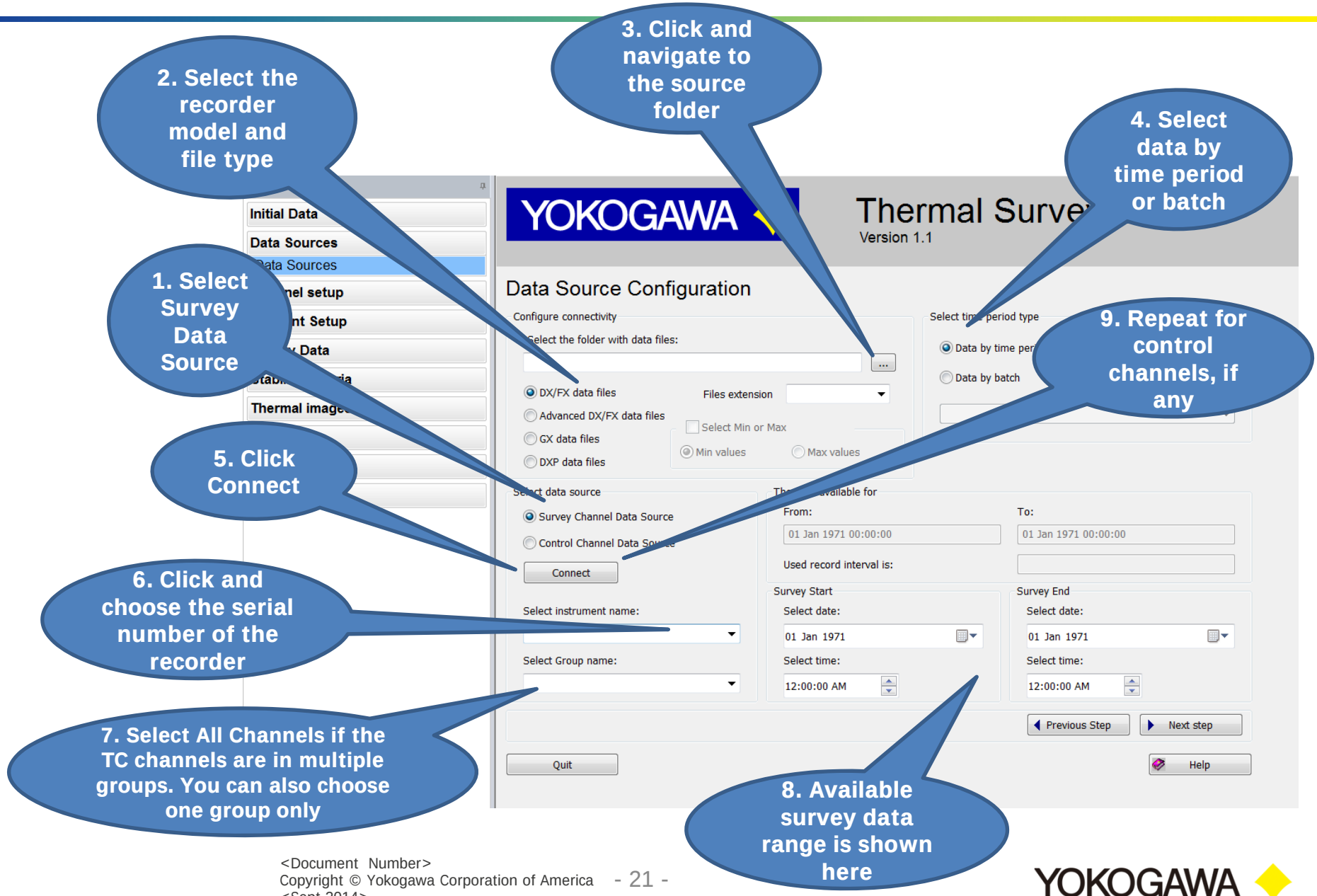
Data Sources



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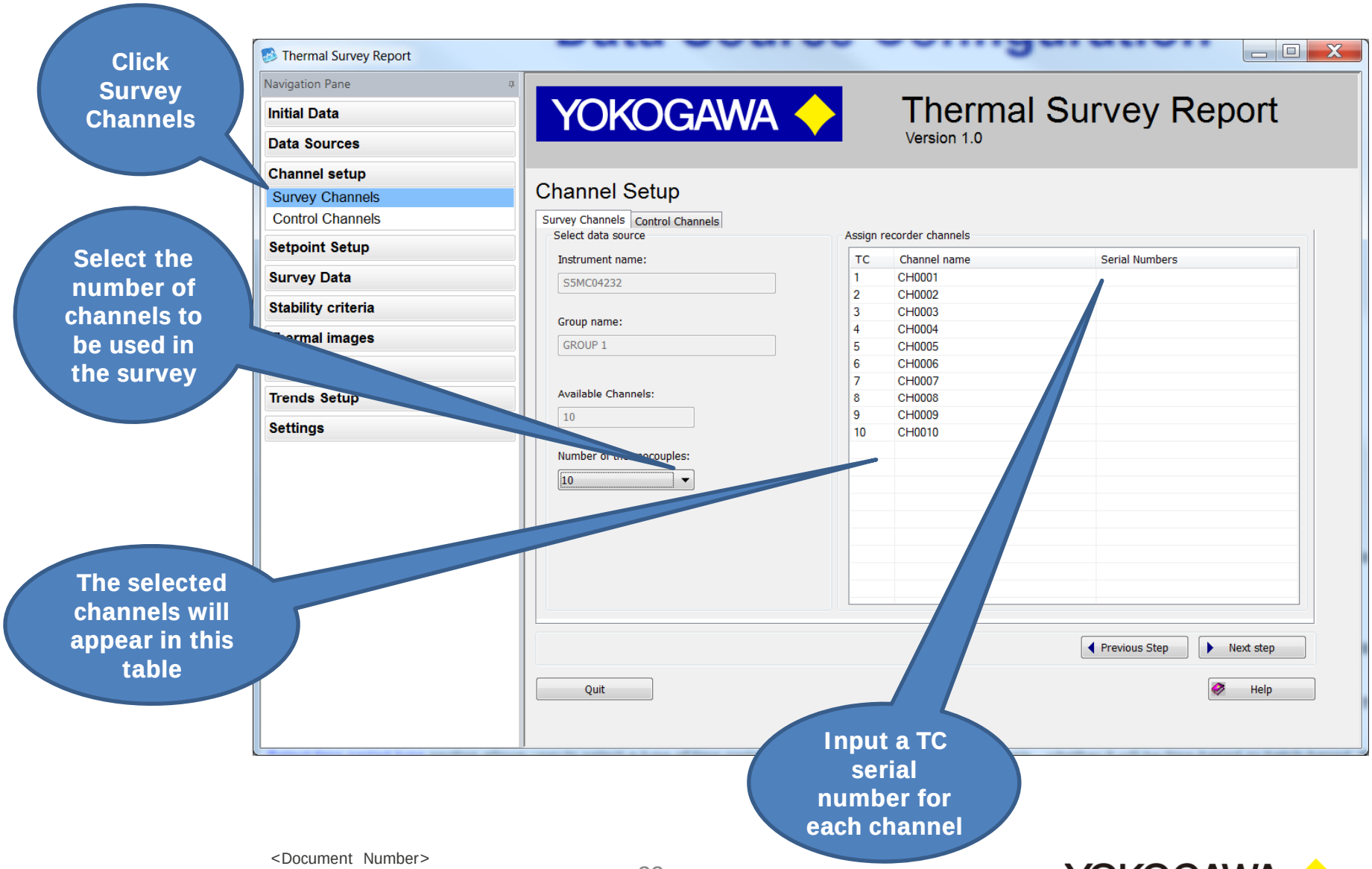
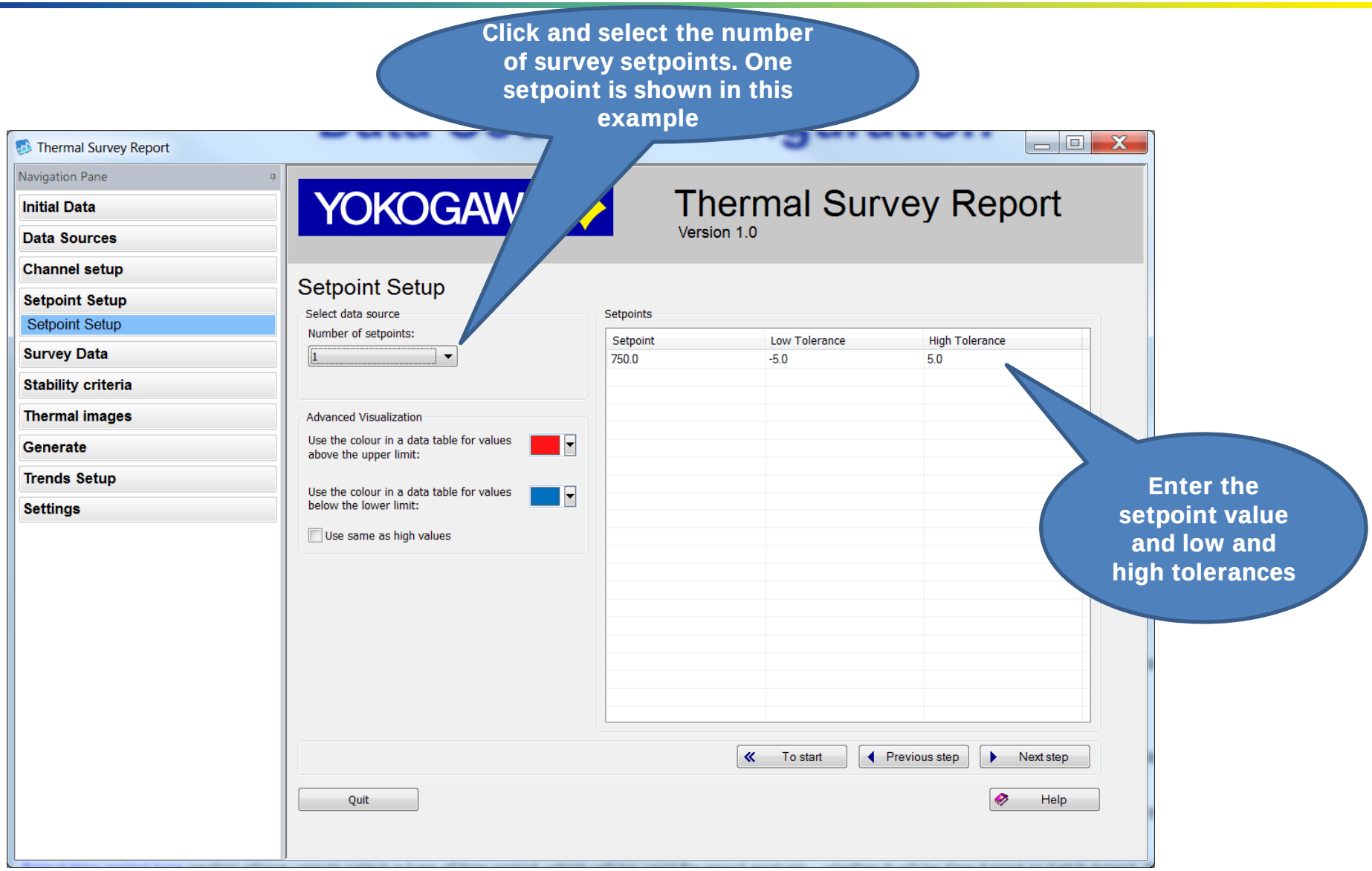
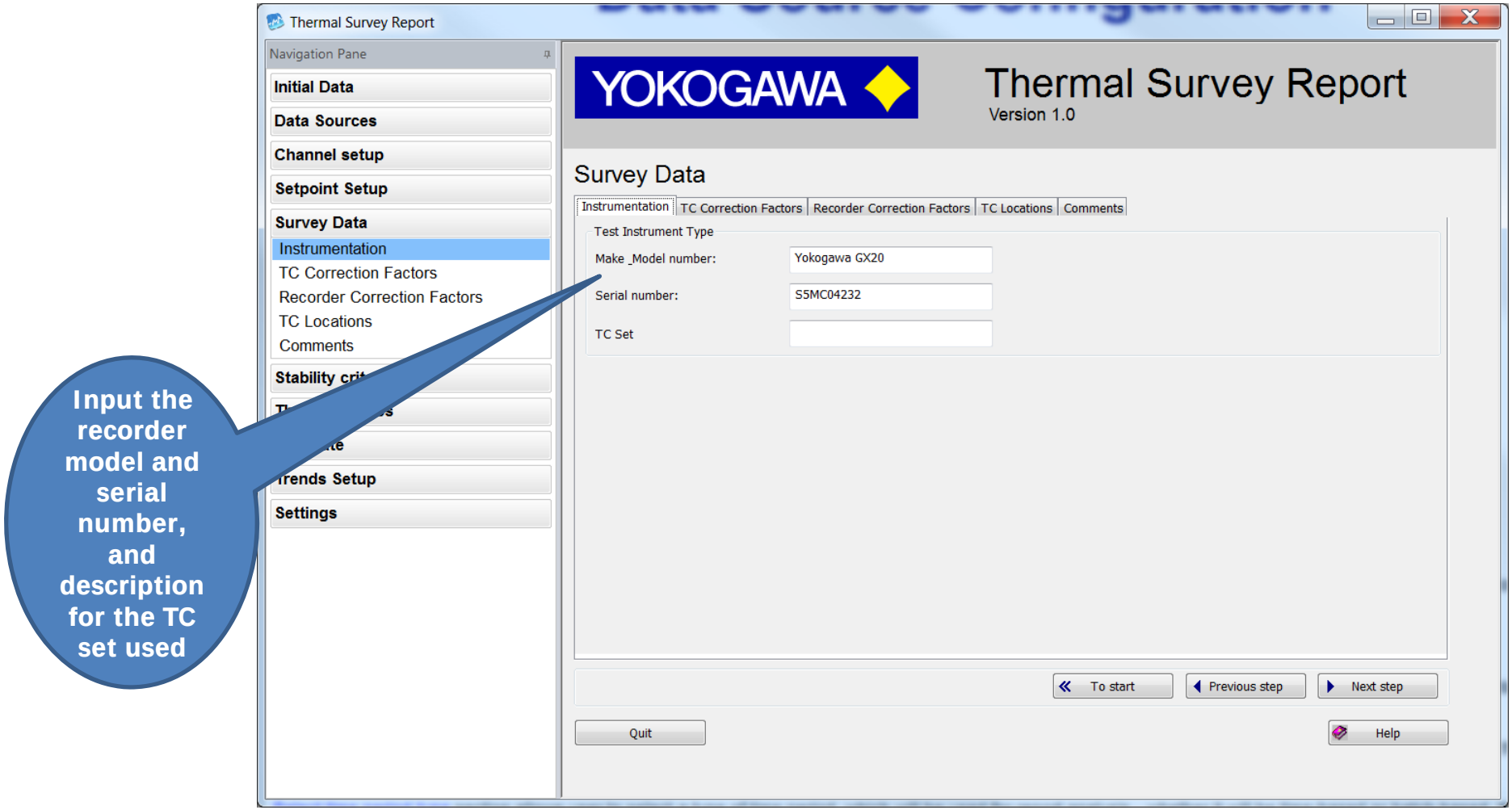
Channel Setup



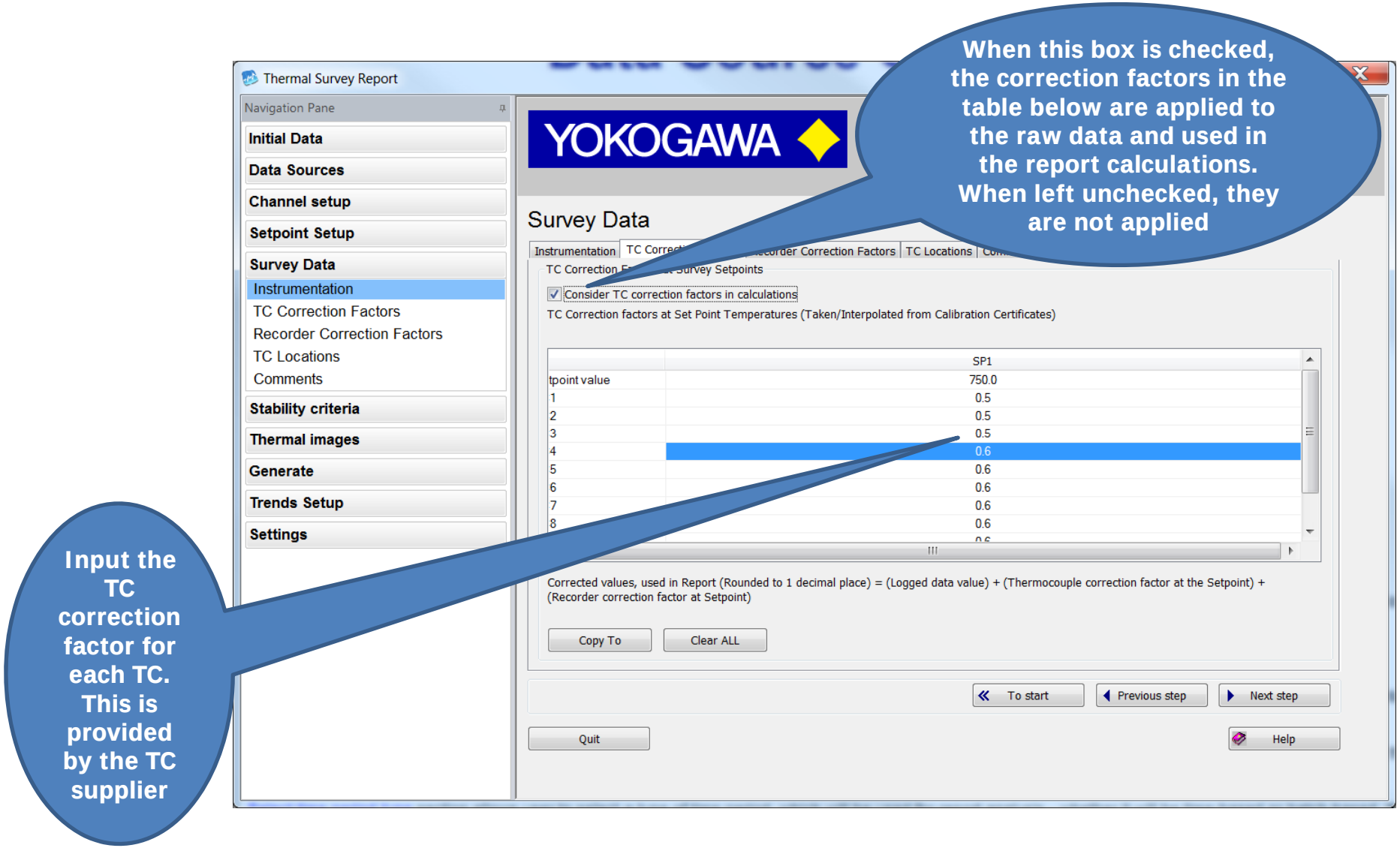
Setpoint Setup



Survey Data; Instrumentation

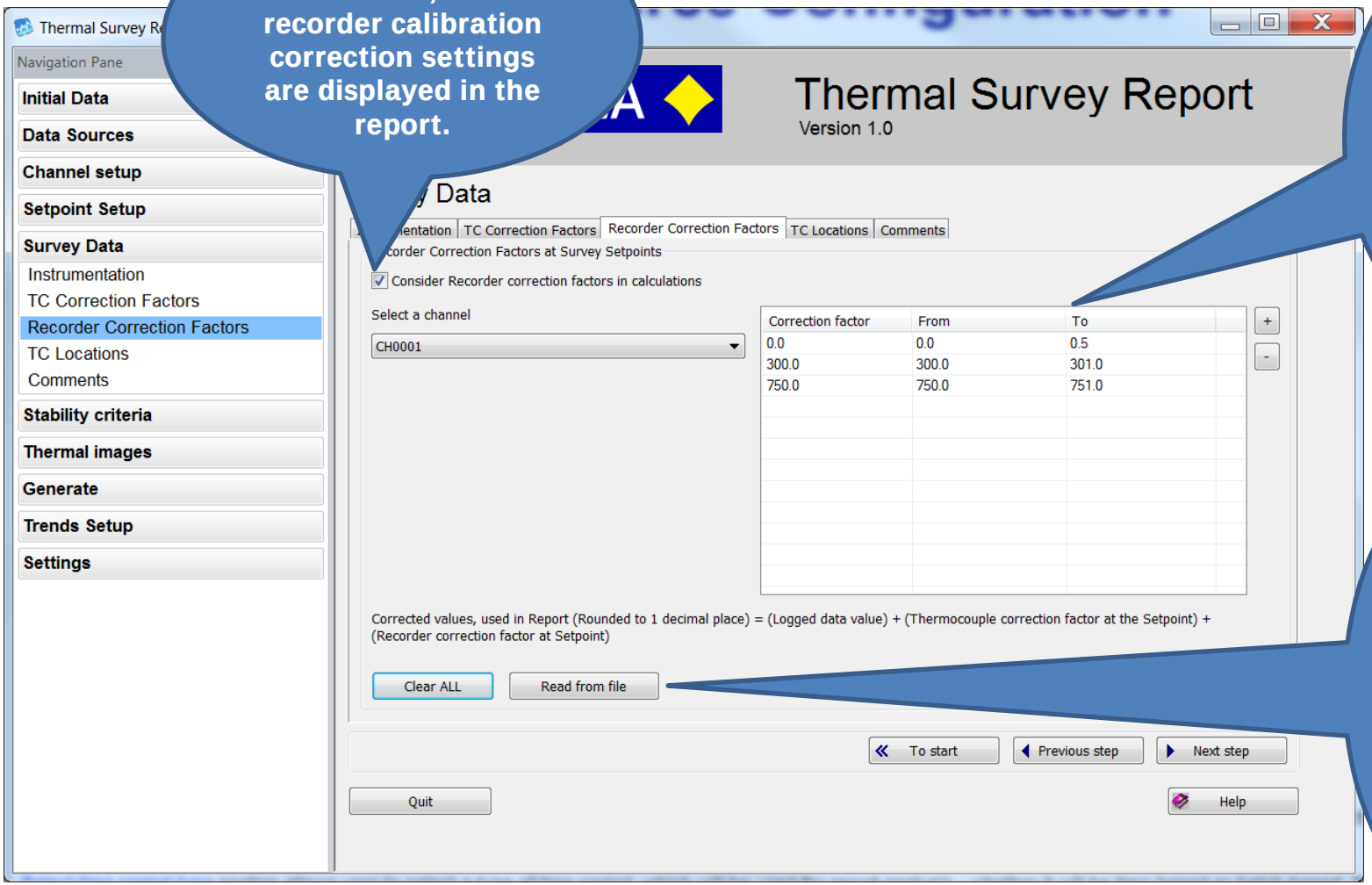


Survey Data; TC Correction Factors



Survey Data; Recorder Correction Factors

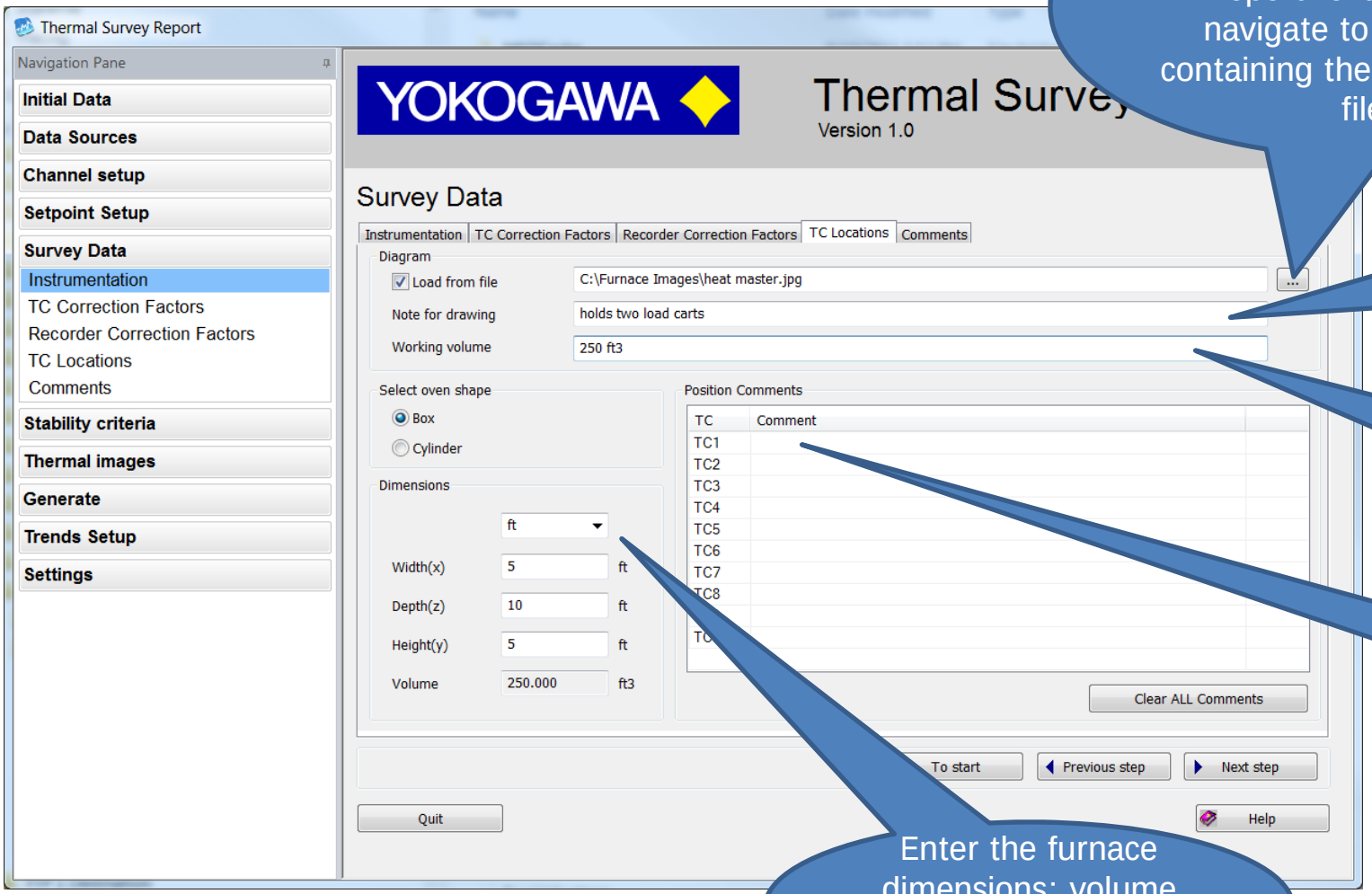
When this box is checked, the recorder calibration correction settings are displayed in the report.



Calibration correction factors for DX .DAD and .DAE, and GX .GDS and .GES files must be entered manually in this table

By clicking Read from file, calibration correction factors are read directly from DX .DSD and .DSE, and GX .GSD and .GSE files

Survey Data; TC Locations



A furnace diagram can be loaded and displayed in the report. Click here to navigate to the folder containing the .bmp or .jpg file

Enter drawing notes

Enter the furnace working volume

Enter comments for each TC

Enter the furnace dimensions; volume will be automatically calculated

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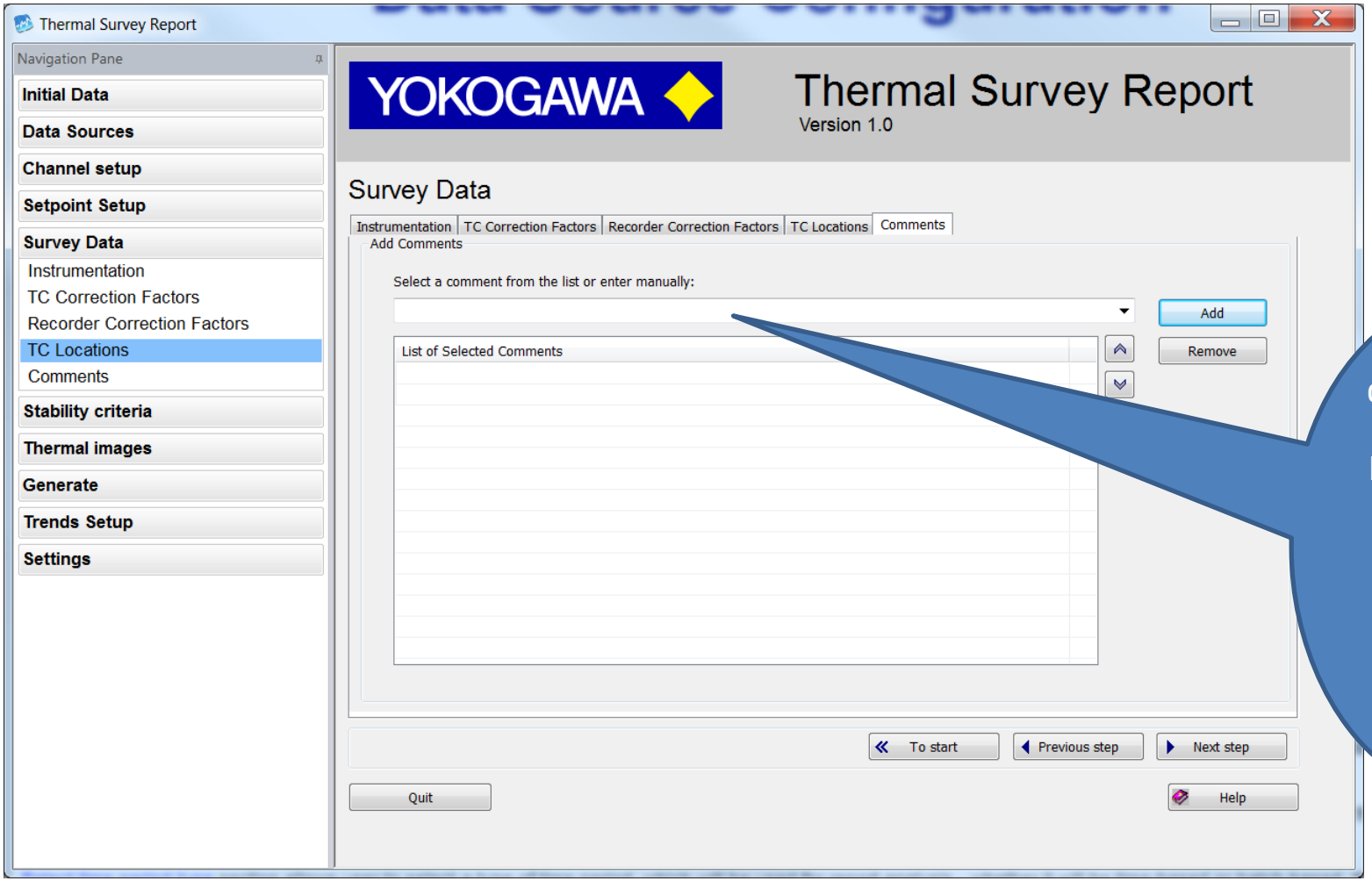
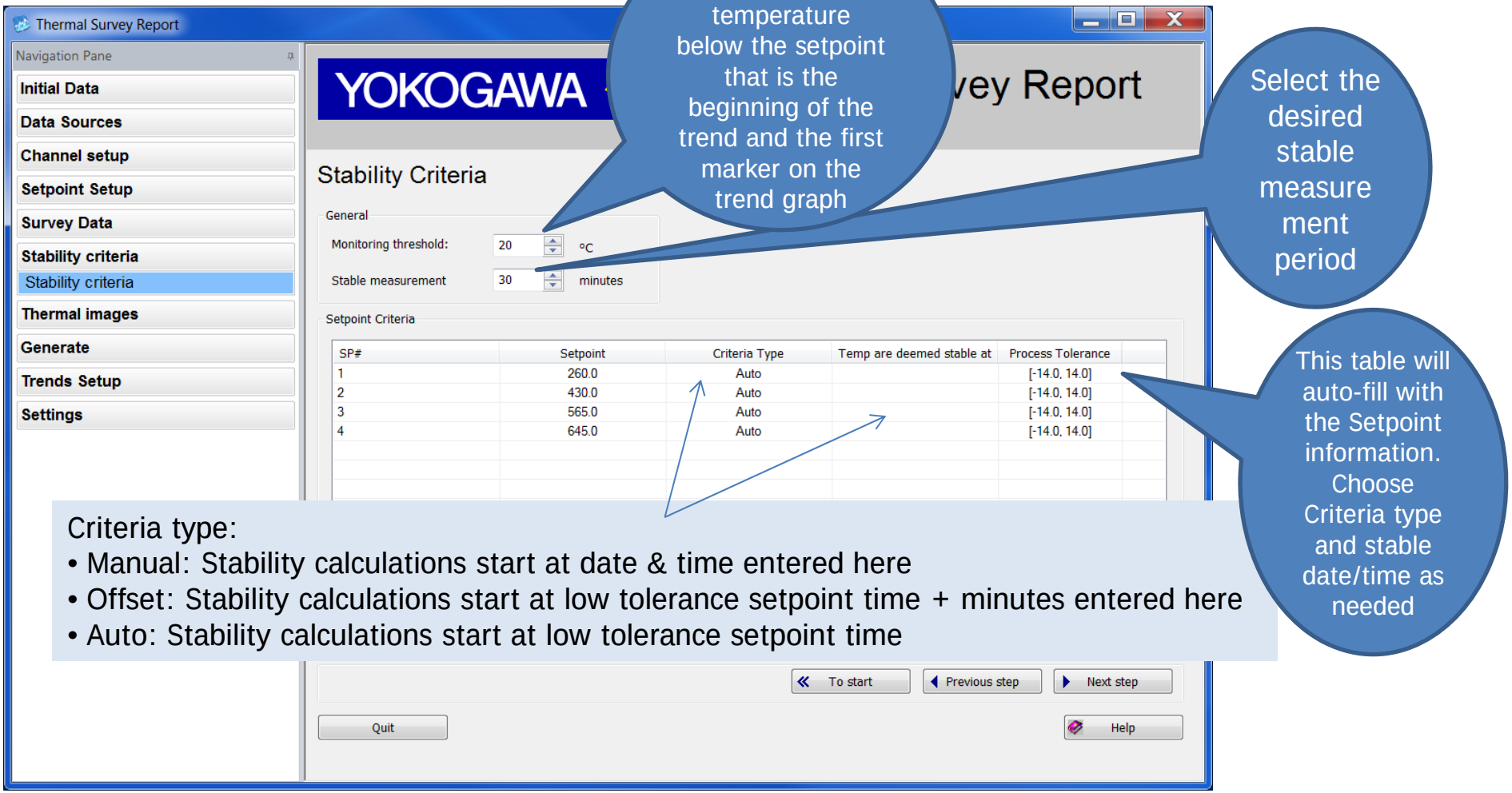
Survey Data; Comments



A range of descriptive text comments can be input in this table and applied to the report. Input the text here and click Add for each line of text

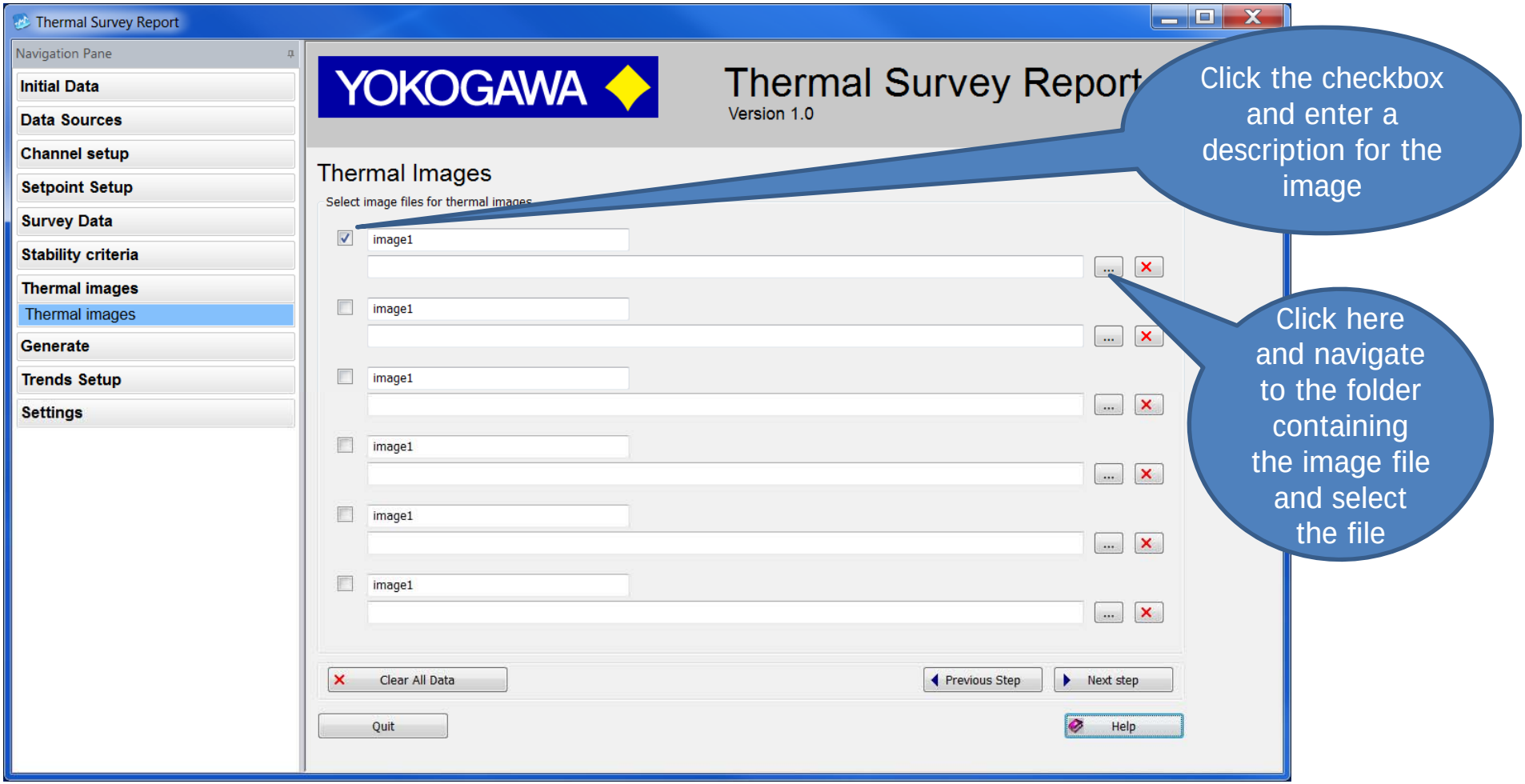
Stability Criteria



Criteria type:
- Manual: Stability calculations start at date & time entered here
- Offset: Stability calculations start at low tolerance setpoint time + minutes entered here
- Auto: Stability calculations start at low tolerance setpoint time

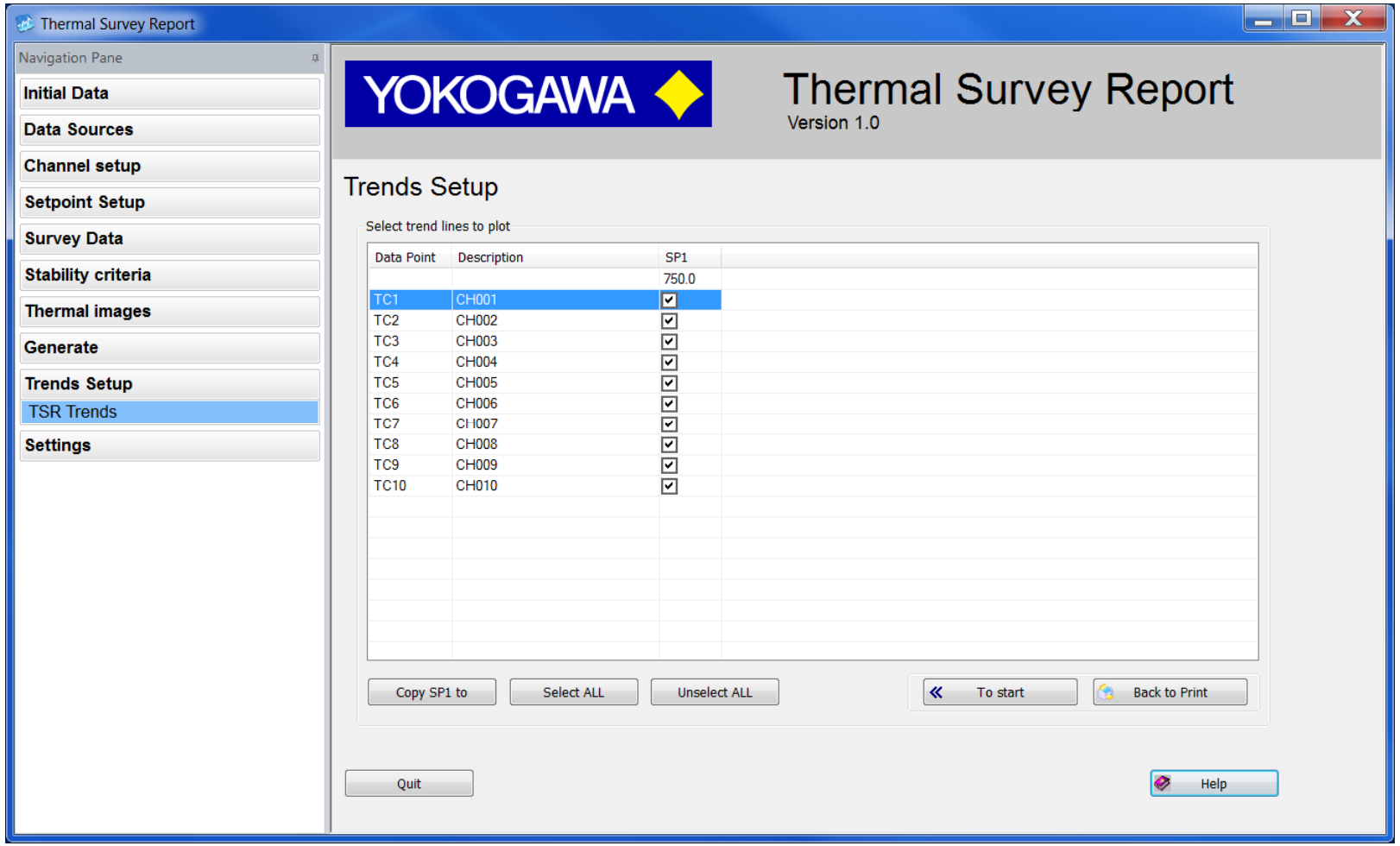
Thermal Images

Up to six thermal images can be placed on the report to supplement the survey information. Supported image files are .bmp and .jpg.



Trends Setup

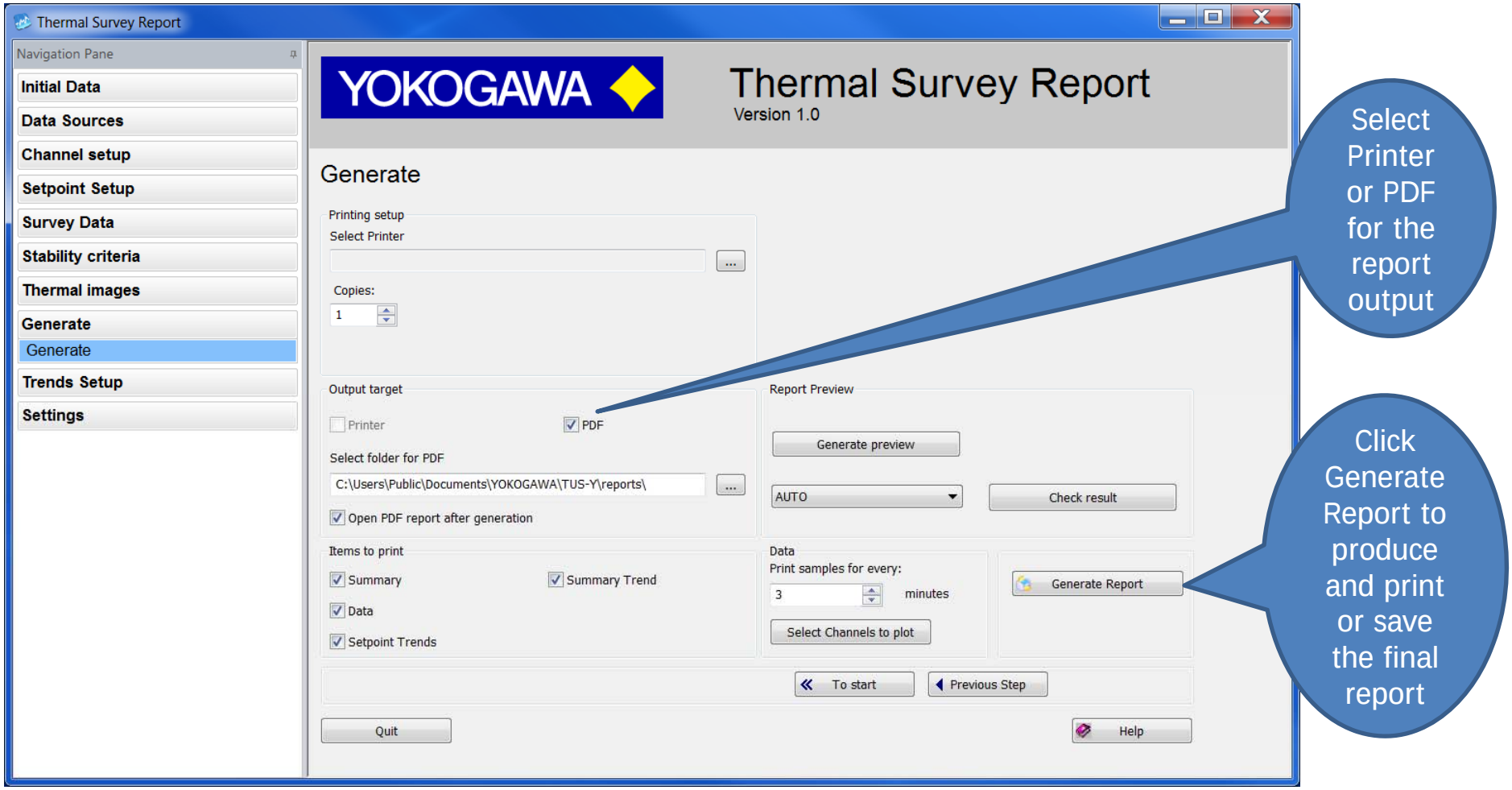
The trend display for each available TC channel can enabled or disabled via the check box selection in this table



Generate; the final step

Select the desired printer and folder for the PDF output on this menu

Click **Generate preview**; a PDF report will be created for review. If an error message is presented, make the stated setting corrections and repeat this step until a report is generated



Revision History

- Oct 18, 2015; revise text on slide 21; step 8; control channels
- Nov 17, 2014; first release