Vanta Family
X-Ray Fluorescence Analyzer

User Interface Guide

Software Version 4.x.xx

10-040361-01EN — Rev. 2
September 2024

This instruction manual contains essential information on how to use this Evident product safely and effectively. Before using this product, thoroughly review this instruction manual. Use the product as instructed.

Keep this instruction manual in a safe, accessible location.

EVIDENT SCIENTIFIC, INC., 48 Woerd Avenue, Waltham, MA 02453, USA

This document was prepared with particular attention to usage to ensure the accuracy of the information contained therein, and corresponds to the version of the product manufactured prior to the date appearing on the title page. There could, however, be some differences between the manual and the product if the product was modified thereafter.

The information contained in this document is subject to change without notice.

Software Version 4.6x.xx
10-040361-01EN
Rev. 2
September 2024

Printed in the United States of America

Table of Contents

List of Abbreviations

EAC	Eurasian Conformity
GPS	global positioning system
LAN	local area network
LE	light element
LOD	limit of detection
PMI	positive materials identification
RoHS	restriction of hazardous substances
USB	universal serial bus

Important Information — Please Read Before Use

Intended Use

The Vanta is designed to perform identification and analysis of elements from magnesium to uranium (Mg to U), depending on the selected model, contained within test samples.

WARNING

Do not use the Vanta for any purpose other than its intended use. It must never be used to inspect or examine human or animal body parts.

Instruction Manual

This instruction manual contains essential information on how to use this product safely and effectively. Before using this product, thoroughly review this instruction manual. Use the product as instructed.

Keep this instruction manual in a safe, accessible location.

Safety Symbols

The following safety symbols might appear on the instrument and in the instruction manual:


General warning symbol

This symbol is used to alert the user to potential hazards. All safety messages that follow this symbol shall be obeyed to avoid possible harm or material damage.

Safety Signal Words

The following safety signal words might appear in the documentation of the instrument:


WARNING

The WARNING signal word indicates a potentially hazardous situation. It calls attention to a procedure, practice, or the like that if not correctly performed or adhered to could result in death or serious personal injury. Do not proceed beyond a WARNING signal word until the indicated conditions are fully understood and met.


CAUTION

The CAUTION signal word indicates a potentially hazardous situation. It calls attention to a procedure, practice, or the like that if not correctly performed or adhered to may result in minor or moderate personal injury, material damage, particularly to the product, destruction of part or all of the product, or loss of data. Do not proceed beyond a CAUTION signal word until the indicated conditions are fully understood and met.

Note Signal Words

The following note signal words could appear in the documentation of the instrument:

IMPORTANT

The IMPORTANT signal word calls attention to a note that provides information that is important or essential to the completion of a task.

NOTE

The NOTE signal word calls attention to an operating procedure, practice, or the like, that requires special attention. A note also denotes related parenthetical information that is useful, but not imperative.

TIP

The TIP signal word calls attention to a type of note that helps you apply the techniques and procedures described in the manual to your specific needs, or that provides hints on how to effectively use the capabilities of the product.

Technical Support

Evident is firmly committed to providing the highest level of customer service and product support. If you experience any difficulties when using our product, or if it fails to operate as described in the documentation, first consult the user's manual, and then, if you are still in need of assistance, contact our After-Sales Service. To locate the nearest service center, visit https://EvidentScientific.com/service-and-support/service-centers/.

Introduction

The Vanta user interface (UI) is an intuitive way to control the Vanta XRF analyzer and manage the collected data. In a manner similar to using a smart phone or tablet, the user makes gestures on a touch screen interface.

This guide describes the controls that exist on all of the Vanta models running the 4.x.xx software. The controls that appear in your UI depend on the methods that are calibrated and the chosen configuration on your Vanta. Only a subset of all possible Vanta controls appear in any given instrument UI.

1. User Interface Overview

This section describes the Vanta analyzer user Interface (UI).

1.1 Gestures

The gestures you use to operate the UI are flick, swipe, tap, drag, and tap and hold.

- Flicking is the contact gesture of quickly moving one or more fingers to skip through content on the screen.
- Swiping is the contact gesture of using one or more fingers to move from object to object (or screen to screen).
- Tap means to press the screen with a finger and then to quickly lift it from the screen.
- Drag means to press the screen with a finger and then move it across the screen.
- Tap and hold means to press the screen with a finger and hold it there until a specific interaction is achieved.

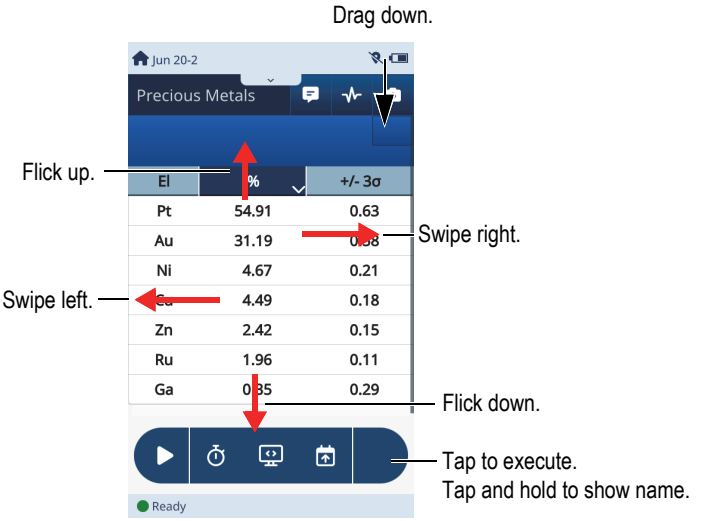

Figure 1-1 Gestures

1.2 Live View

Live View is the screen where testing is initiated and test results are displayed. The live view consists of the following screen elements (see Figure 1-2 on page 17):

- Status icons
- Tabs
- Results area
- Start button
- Favorites
- Status bar

Figure 1-2 Vanta user interface layout

1.2.1 Status Icons

The status icons indicate the status of system memory, the battery, Bluetooth®, and Wireless LAN (Local Area Network).

NOTE

A Bluetooth® adaptor is required for Bluetooth® to function. A Wireless LAN adaptor is required for the Wireless LAN to function.

1.2.2 Tabs Area

Select from Results display, Notes, Spectrum display, and Camera View.

1.2.3 Results Area

The Results area is where you view current test data, historical results, notes, images, and change settings and parameters.

The tabs can include the following:

- Elemental results (see “Viewing Elemental Results” on page 107)
- Spectrum results (see “Viewing the Spectrum Graph” on page 108)
- Notes (see “Notes” on page 44)
- Images (see “Cameras” on page 137).

1.2.4 Start Button

The Start button starts a test when you tap it. After a test begins, the Start button changes to a Stop button.

1.2.5 Favorites

The favorites are three buttons that aid in testing (see example of default Alloy Plus favorites in Figure 1-3 on page 18). A tap on a favorite button eliminates the need to pull down the menu bar, and then tap the identical button there. Buttons can be selected as favorites using the Vanta PC software (Refer to the *Vanta PC Software User Interface Guide*). Each method can be set up to have its own selection of favorite buttons.

Figure 1-3 Live View favorites example

1.2.6 Status Bar

The Status Bar displays the status of the hardware and also system messages.

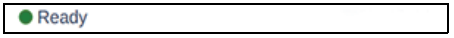

Figure 1-4 Status bar

1.3 Menu Bar

The menu bar is where you select the Menu Tray (see Figure 1-5 on page 19).

NOTE

Live View is the default screen, and is always displayed unless you use the menu bar to choose the Menu Tray.

To use the menu bar

Swipe down anywhere on the menu bar to open the Menu Tray.

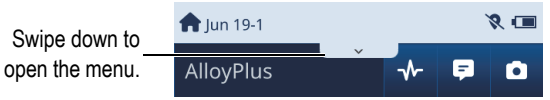

Figure 1-5 Menu bar

1.4 Menu Tray

The Menu Tray contains buttons that select a method (of analysis), set test parameters related to that method, or control certain capabilities of the hardware (see Figure 1-6 on page 20).

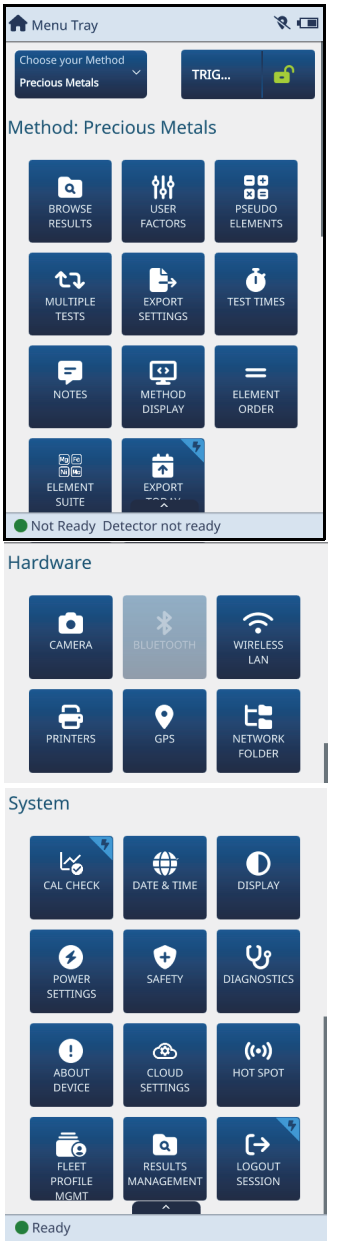

Figure 1-6 Menu Tray Options

There are two types of buttons:

- Action
- New screen

An action button causes an action to immediately occur. An action button is identified by a lighter blue corner with a lightning bolt, with the only exception being the icon for the trigger lock (see Figure 1-7 on page 21).

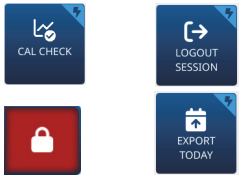

Figure 1-7 Typical action buttons

A new screen button causes a new screen to be opened.

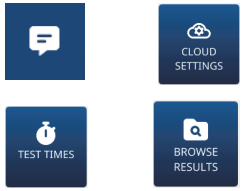

Figure 1-8 Typical new screen buttons

NOTE

Both types of buttons (action and new screen) can also appear in the **Live View Favorites** box (see "Favorites" on page 18).

To return to Live View

- From the **Menu Tray**, drag up the tab at the bottom middle of the screen.

2. Test Setup

This section explains how to set up the Vanta analyzer to test using a selected method. A method is a collection of settings and algorithms to optimize the analyzer for a specific application. So a method name identifies an application or range of applications where the method is used for analysis.

The available methods are as follows:

- Alloy
- Alloy Plus
- Car Catalyst
- Coating
- GeoChem (1)
- GeoChem (2)
- Hot Alloy Plus
- Precious Metals
- RoHS
- RoHS Plus
- Soil

2.1 Common Method Setup Procedures

Some method setup procedures are common, with a few variations, to all methods. These common setup procedures are covered in this section.

2.1.1 Select Method

The **Select Method** button opens a screen where you can select a method from a dropdown list. Only the methods calibrated on your Vanta analyzer appear in the list.

To select a method

1. Tap the **Select Method** button (

) from the Menu Tray.
2. On the **Select Method** screen, select a method (see Figure 2-1 on page 24).

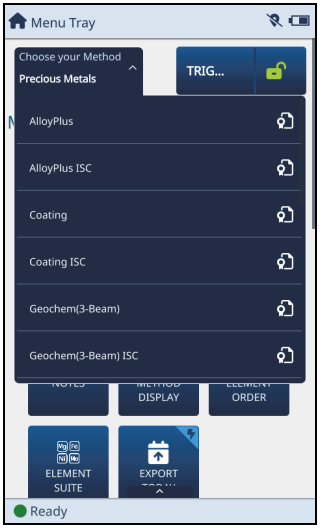

Figure 2-1 Select Method screen

2.1.2 Test Times

The Test Times button opens a screen where you can specify the amount of time that a test will take. This is determined by the minimum and maximum number of seconds that the X-ray beam is active. X-ray tubes generate one beam at a time, so when multiple beams are specified, they are sequential. The test times you enter depend on the degree of precision required. Longer test times increase precision.

To set the test times

NOTE

When setting the test times, make sure the durations are shorter than the power profiles on the **Power Settings** screen (see "Power Settings" on page 126). Otherwise, the test ends when the screen shuts off.

1. Tap the **Test Times** button ( ) [either in the Menu Tray or on the **Live View** screen, if available].
2. Tap a **Min** or **Max** box to highlight it, and then enter a test time (see Figure 2-2 on page 25).
   - **Min** is the minimum testing time before test results are actually calculated and displayed. This value can be set to zero.
   - **Max** is the total length of time a test runs.

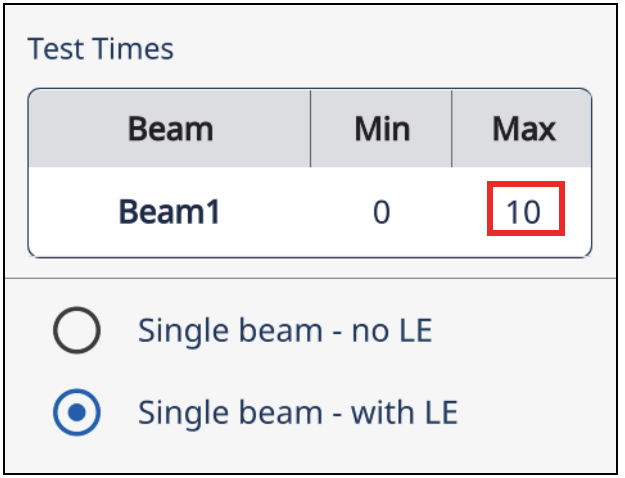

Figure 2-2 Max value on the Test Times screen

2.1.3 Multiple Tests

You can run multiple tests in a variety of ways. You can repeat a single test multiple times. You can program the Vanta analyzer to calculate the average of the repeated series of tests. You can also program the Vanta analyzer to run multiple tests according to a script in batch mode.

2.1.3.1 Repeating a Test

You can repeat a test multiple times. You can also insert a pause between tests to display a confirmation message before each test.

To repeat a test

1. Tap the **Multiple Tests** button (MULTIPLE TESTS) in the Menu Tray.
2. If **None** is highlighted, tap to reveal the **Multiple Tests** menu (see Figure 2-3 on page 26).
3. Tap **Repeat Tests**.

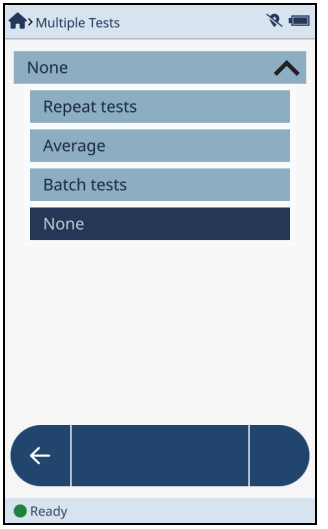

Figure 2-3 Selecting the Repeat Tests option

4. Tap the **Number of Tests** box and enter the number of times you want to repeat the test (see Figure 2-4 on page 27).

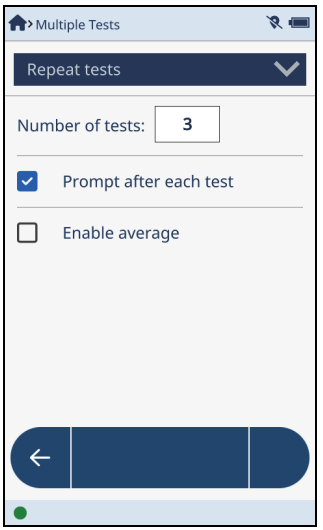

Figure 2-4 Repeat Tests setup

5. Dismiss the virtual keypad.

To insert a pause between each test

- On the **Multiple Tests** screen, select the **Prompt After Each Test** check-box (see Figure 2-4 on page 27).

  In **Live View**, the **Repeat Test** dialog box displays after each test, prompting you to press **Start** before the next test is run (see Figure 2-5 on page 27).

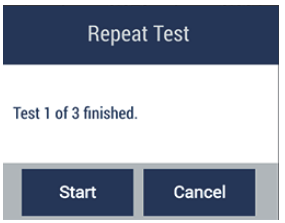

Figure 2-5 Live View — Repeat Test dialog box

2.1.3.2 Enabling a Batch Test

Batch testing enables you to automate the running of a series of tests. The batch script is set up in the Vanta PC Software and then deployed to the instrument.

To enable a batch test

1. On the **Multiple Tests** screen, select **Batch Test** (see Figure 2-7 on page 29).

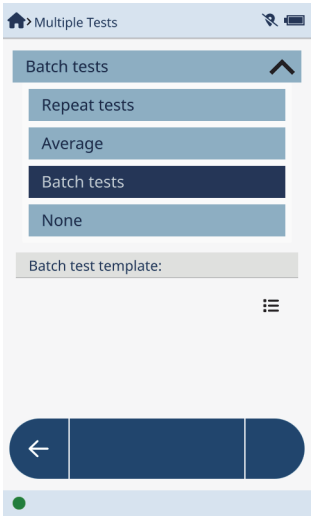

Figure 2-6 Batch Tests option

2. Tap the **Template** list button (☰) to reveal the available batch templates (see Figure 2-7 on page 29).
3. Tap a template to select it.
   In **Live View**, the test(s) will run according to the instructions in the batch script.

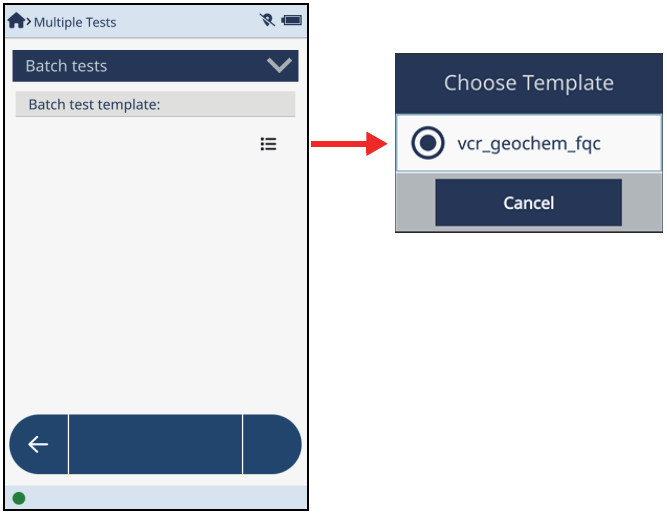

Figure 2-7 Batch Test templates

2.1.3.3 Averaging Test Results

This feature calculates the average of multiple test results and presents those results in **Live View** (see Figure 2-8 on page 30).

In the Alloy modes, the averaged results do not present any grade comparison information, as no grade calculations based on grade libraries are made.

When using the Average feature, you have the choice of the following actions:

- Automatically running and averaging a preset number of tests
- Manually running a preset number of tests (the tests are then automatically averaged)
- Manually running any number of tests, and then averaging all of the tests
- Manually running any number of tests, and then averaging selected tests

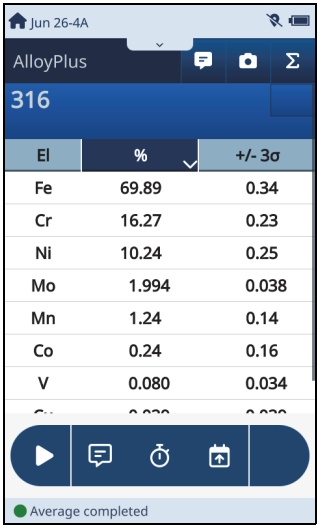

Figure 2-8 Live View — Averaged results

To enable averaging

1. In the menu on the **Multiple Tests** screen, tap **Repeat Tests** (see Figure 2-9 on page 31).
2. Tap **Enable Average**.

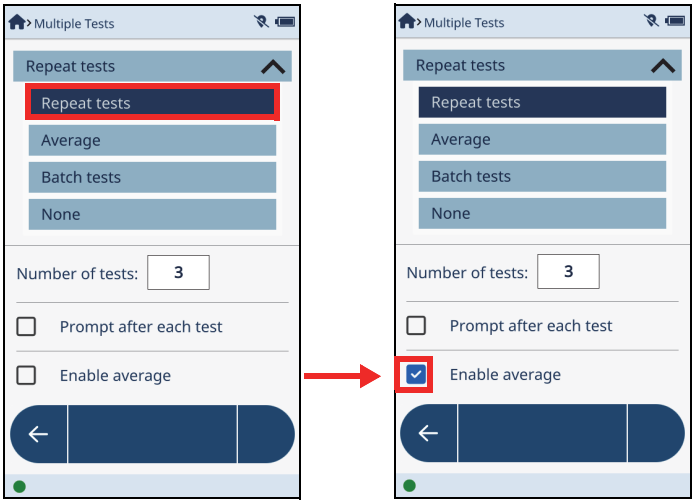

Figure 2-9 Enabling Averaging in Multiple Test screen

3. In the menu on the **Multiple Tests** screen, tap the **Average** to display the available averaging options (see Figure 2-10 on page 31).

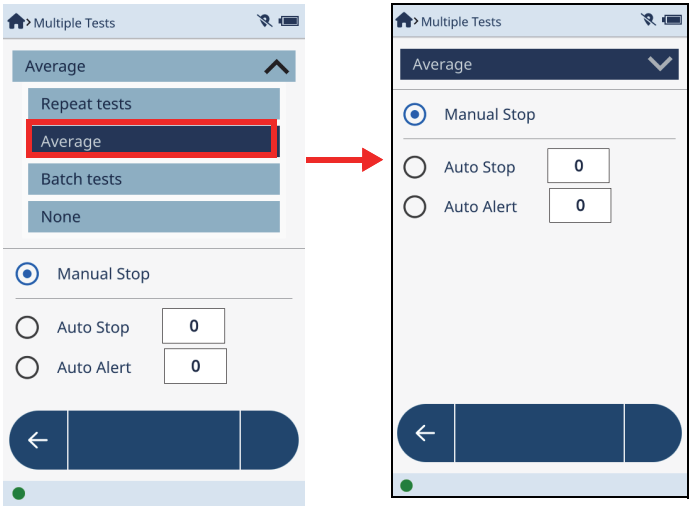

Figure 2-10 Averaging dialog box (right)

To automatically run and average tests

1. In the **Average** dialog box, tap the **Auto Stop** button (see Figure 2-11 on page 32).
2. Tap the **Auto Stop** box, and enter a value.
3. Dismiss the virtual keypad, and then tap the Back button ( ).

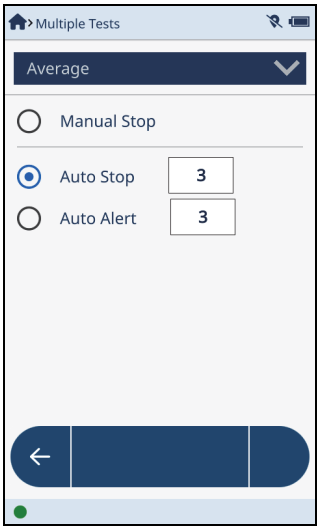

Figure 2-11 Average dialog box

When you start a test in Live View, it runs the number of times defined in the **Auto Stop** box and then calculates the average of the tests.

To manually run a preset number of tests

1. In the **Average** dialog box, tap the **Auto Alert** button (see Figure 2-11 on page 32).
2. Tap the **Auto Alert** box, and enter a value.
3. Dismiss the virtual keypad, and then tap the Back button ( ).

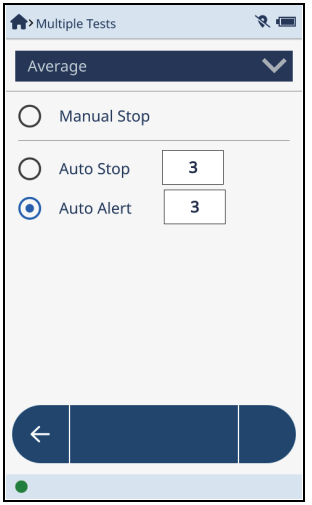

Figure 2-12 Auto Alert enabled

In **Live View**, you must manually start each test. When the number of tests defined in the **Auto Stop** box is reached, the **Auto Alert** dialog box (see Figure 2-13 on page 33) asks if you want to calculate the average or continue in manual average mode.

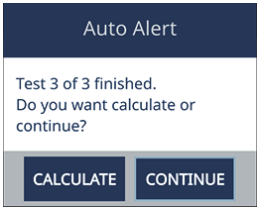

Figure 2-13 Live View — Auto Alert dialog box

To manually run and average tests

1. In the **Average** dialog box, tap the **Manual Stop** button (see Figure 2-14 on page 34).

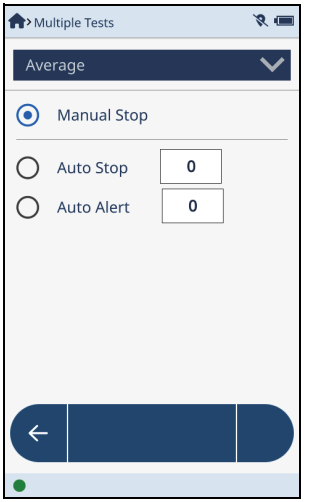

Figure 2-14 Manual Stop enabled

In **Live View**, you must manually start each test. When two or more tests have been run, the **Live Average** button ( ) enables you to average the current list of tests (see Figure 2-15 on page 35).

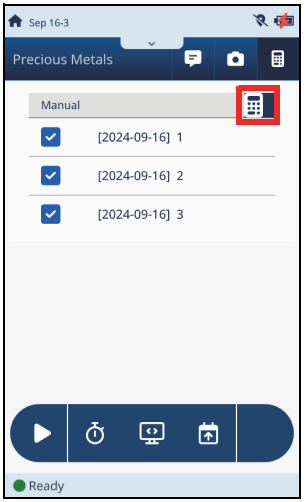

Figure 2-15 Live View — Manual average screen

2.1.4 User Factors

Your Vanta analyzer is optimized at the factory to detect a broad range of elements. You may be able to improve accuracy and account for matrix effects for particular elements of interest by creating user factors with custom **Factor** and **Offset (%)** variables.

You can create multiple user factors and recall them at any time without altering the factory settings.

Before you begin, determine appropriate factor and offset values for your particular elements of interest. This can be done by plotting the known or assayed values versus the measured XRF values and determining a best fit line. The factor will be the slope of that line.

To open the User Factors screen

- Tap the **User Factors** button (USER FACTORS) [either in the **Menu Tray** or on the **Live View** screen, if available] to display the **User Factors** screen.

To select a user factor

1. Tap the down arrow to display a list of available user factors (see Figure 2-16 on page 36).

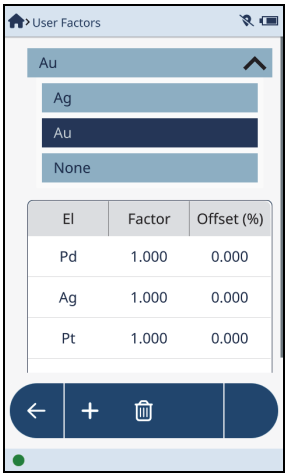

Figure 2-16 Available user factors

2. Tap a user factor to display the elements (see Figure 2-17 on page 37).

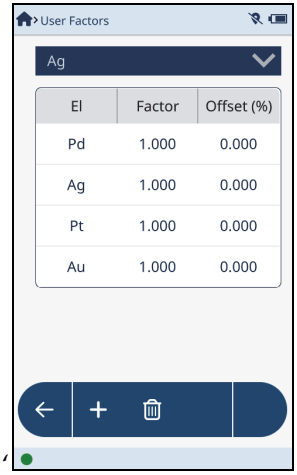

Figure 2-17 User factor elements

To edit a user factor element

1. Double-tap a **Factor** or **Offset** (see Figure 2-18 on page 38).
2. Enter a new value.

   Factor multiplies the result and **Offset** adds to the result. You can make any linear correction to the calculation to achieve agreement with assayed values for varied matrices.

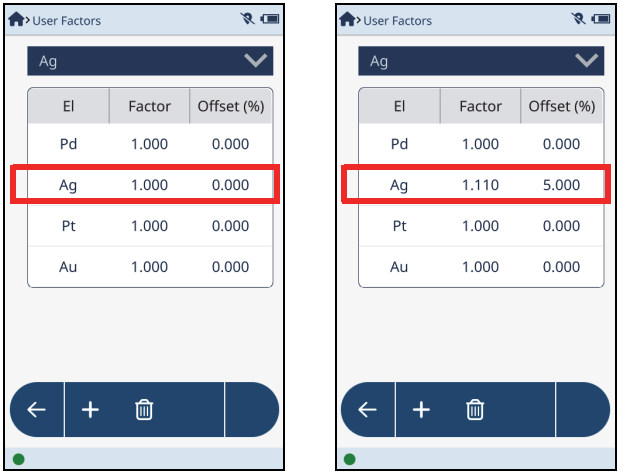

Figure 2-18 Value before (left) and after (right) editing

To add user factors

1. On the **User Factors** screen, tap the **Add** button (+).
2. Tap the dialog box, and enter the factor name (see Figure 2-19 on page 38).

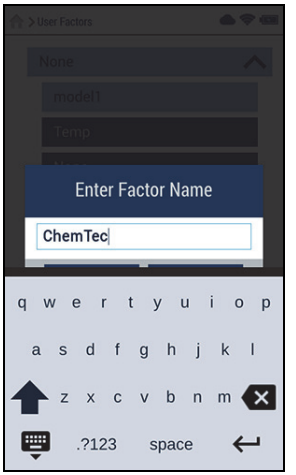

Figure 2-19 Factor name entry

3. Dismiss the keypad, and tap **OK** to view the new user factor (see Figure 2-20 on page 39).

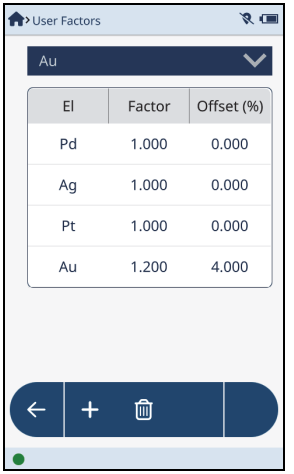

Figure 2-20 New user factor

To delete user factors

1. In the **User Factors** list, tap the factor that you want to delete.
2. Tap the **Delete** button ( ).

   The **Delete** button turns red to indicate that the selected factor will be deleted when you tap again to confirm the deletion (see Figure 2-21 on page 40).

NOTE

You have three seconds to tap the **Delete** button while it is red to confirm the deletion. After three (3) seconds the **Delete** button reverts back to blue, and you must repeat step 2 to start over the delete action.

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3. Tap the **Delete** button again (while it is still red) to confirm the deletion.

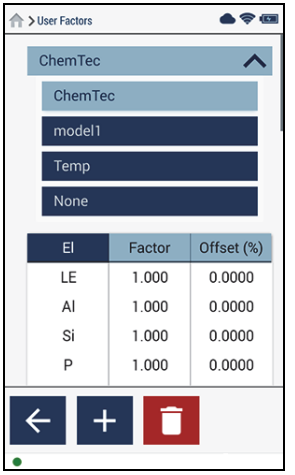

Figure 2-21 User factor delete confirmation

2.1.5 Method Display

The method display options determine what information is displayed in the Method area of the **Live View** screen (see Table 1 on page 40).

Table 1 Method display options

	Show estimated LOD	Show uncertainty	Show chemistry	Show user factor name	Show plate alert	Show Au Karat
Alloy	X	X	X	X		
Alloy Plus	X	X	X			
Hot Alloy Plus	X	X	X			
Coating	X	X	X			
Car Catalyst	X	X		X		
GeoChem (1, 2, or 3)	X	X		X		
Precious Metals	X	X	X		X	X

Table 1 Method display options *(continued)*

	Show estimated LOD	Show uncertainty	Show chemistry	Show user factor name	Show plate alert	Show Au Karat
RoHS	X	X	X			
RoHS Plus	X	X	X			
Soil	X	X	X	X		

- **Show estimated LOD** — Displays the elements that fall below the minimum limit of detection (LOD). Displays elements present at levels below the analyzer LOD for that particular element. These elements are displayed below the elements that are present at or above the LOD. The LOD is estimated and displayed in the ± column.
- **Show uncertainty** — Adds a column to the chemistry display showing the ± or uncertainty values.
- **Show chemistry** — Displays chemistry values for the sample.
- **Show user factor name** — Displays the name of the site-specific calibration containing custom factor and offset variables.
- **Show plate alert** — Displays an alert message that the object under analysis is possibly gold plated.
- **Show Au Karat** — Displays (detected) gold content in karats or fineness.

To select method display options

1. Tap the **Method Display** button (

) [either in the **Menu Tray** or on the **Live View** screen, if available].

   Each method has a selection of one or more display options (see Table 1 on page 40).
2. Select the check-box or option button of the desired display option(s).

2.1.6 Method Display Options Example

The following is an example of the display options selected for the Precious Metals method:

- On the **Method Display** screen for the Precious Metals mode, **Show chemistry**, **Show uncertainty**, **Show plate alert**, and **Show Au Karat > AuKarat > Show Au Karat decimal** are selected (see Figure 2-22 on page 42).

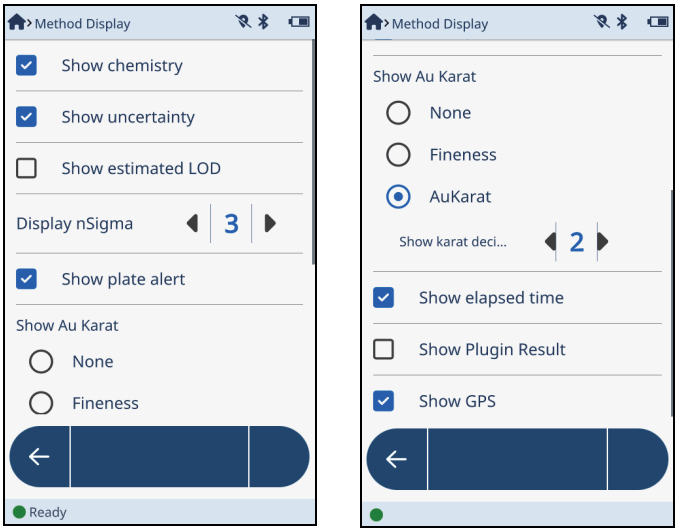

Figure 2-22 Method Display screen: Page 1 (left), page 2 (right)

- When the test is run, the **Live View** display reflects the selections made on the **Method Display** screen (see Figure 2-23 on page 43 and Figure 2-24 on page 44).

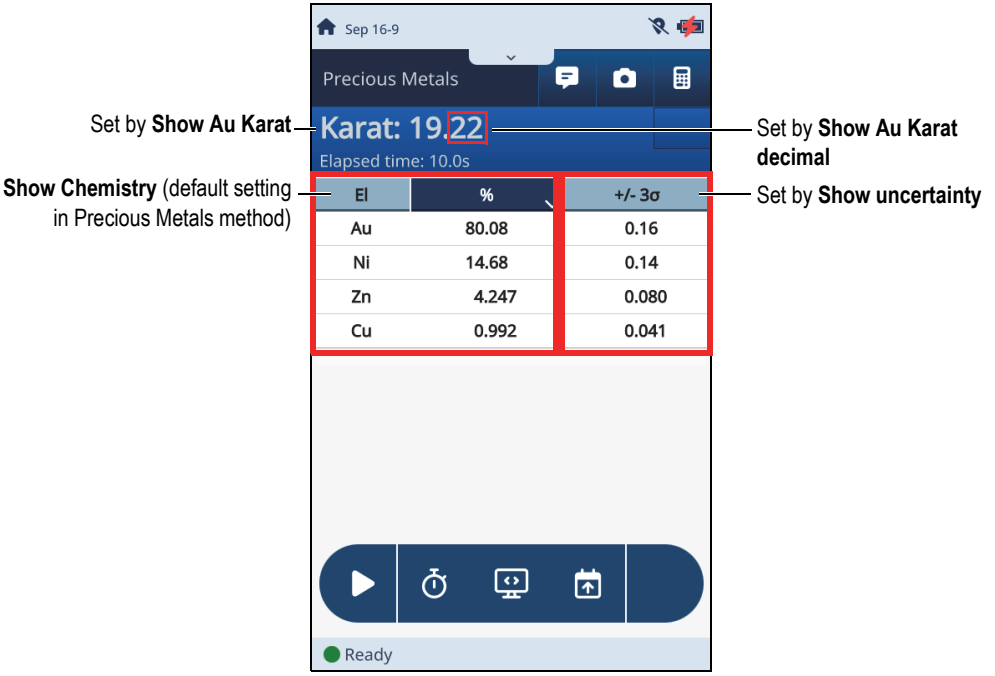

Figure 2-23 Results of Method Display selections (Karat)

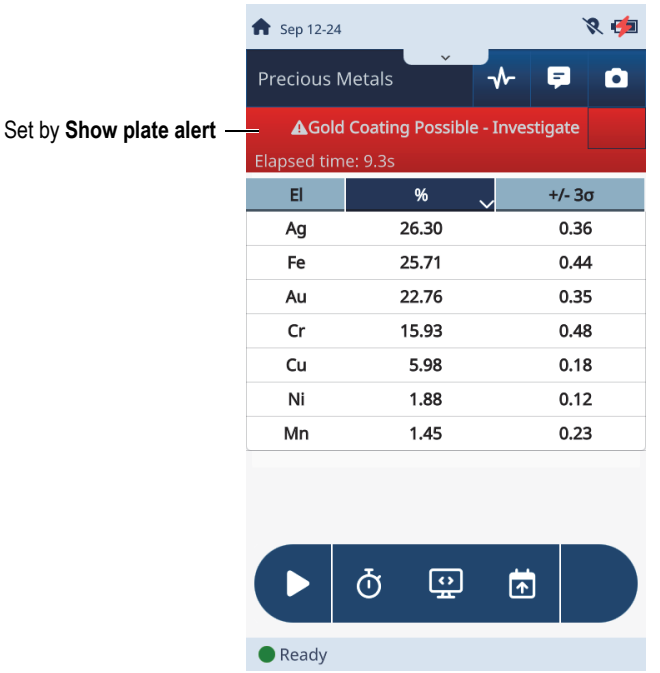

Figure 2-24 Results of Method Display selections (Plating)

2.1.7 Notes

Notes contain text that can be displayed on the screen after a test is run. You can set up notes to be edited before or after a test is run. You can also set up and customize templates for notes in the Vanta PC Software (see the *Vanta PC Software User Interface Guide*).

To open the Notes screen

- Tap the **Notes** button ( ) [either in the Menu Tray or on the **Live View** screen, if available] (See Figure 2-25 on page 45).

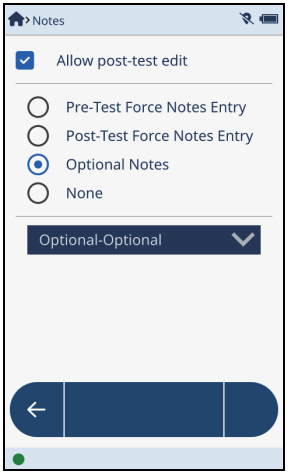

Figure 2-25 Initial Notes screen

To set up optional notes

1. Tap the **Optional-Optional** down arrow so that the **Optional** bar is displayed (see Figure 2-26 on page 45).

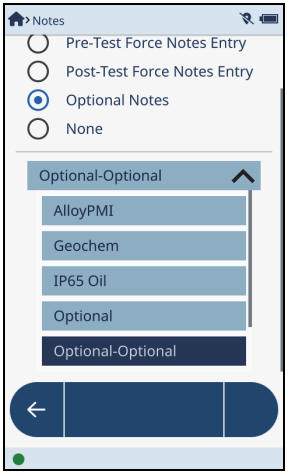

Figure 2-26 Optional Notes bar

2. Tap the **Optional** bar to display the **info** field (see Figure 2-27 on page 46).

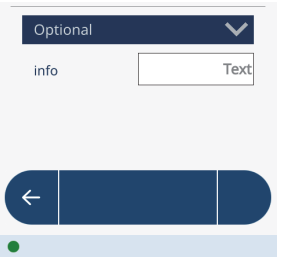

Figure 2-27 Optional bar

3. Tap the **Optional** down arrow to display a list of available note options (see Figure 2-28 on page 46). Note templates can be set up and customized in the Vanta PC Software (see the *Vanta PC Software User Interface Guide*).

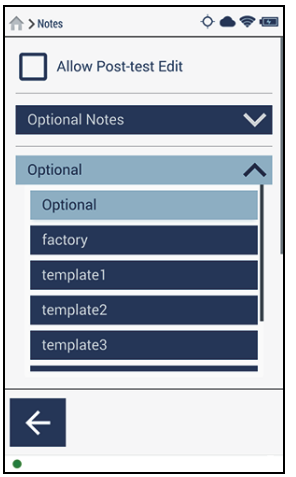

Figure 2-28 List of Note options

4. Tap an option to select it.
5. If available, tap an arrow on the option bar to open its list (see Figure 2-29 on page 47).

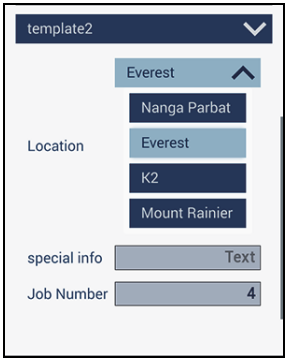

Figure 2-29 Down arrow (Everest) reveals list

6. Fill in any editable fields, if desired (see Figure 2-30 on page 47).

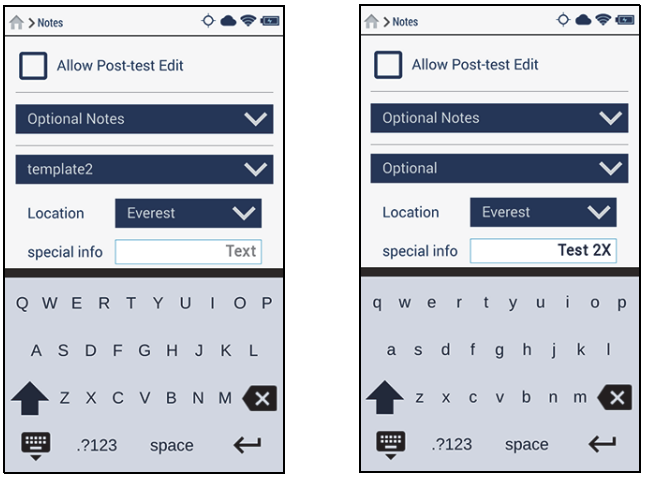

Figure 2-30 Special info field before (left) and after (right) fill-in

The results of your selections can be viewed on the **Live View** screen (see Figure 2-31 on page 48).

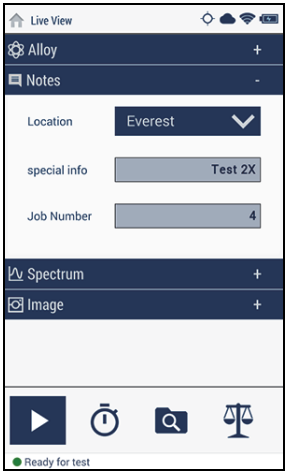

Figure 2-31 Optional note in Live View

To force note editing at test time

1. Tap the **None** down arrow on the **Notes** screen to display all the notes choices.
2. Tap the **Force Notes Entry** bar to display the options (see Figure 2-32 on page 48).
3. Select an option:
   - **Pre-test** forces you to edit the note immediately before a test is run.
   - **Post-test** forces you to edit the note immediately after a test is run.

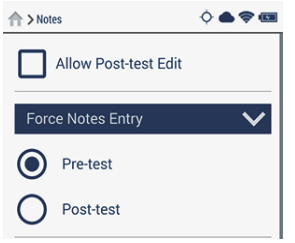

Figure 2-32 Force Notes Entry options

To edit notes after a test

1. On the **Notes** screen, select the **Allow Post-test Edit** check-box (

) to select it.
2. In **Live View**, tap the **Notes** bar to open the test note (see Figure 2-33 on page 49).
3. Tap in an entry box, and enter or modify the text.

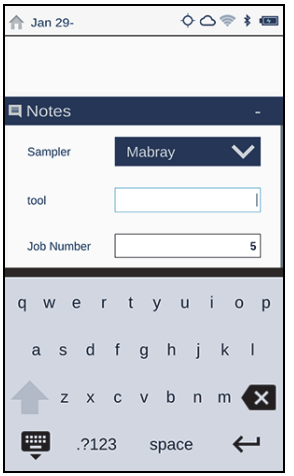

Figure 2-33 Optional note in Live View

2.1.8 Export Settings

You can specify the types of content for export, and select a file and device destination for the exported information. Export templates can be set up and customized in the Vanta PC Software (see to the *Vanta PC Software User Interface Guide*).

To open Export Settings screen

- Tap the **Export Settings** button (

) [either in the Menu Tray or on the **Live View** screen, if available] (See Figure 2-34 on page 50).

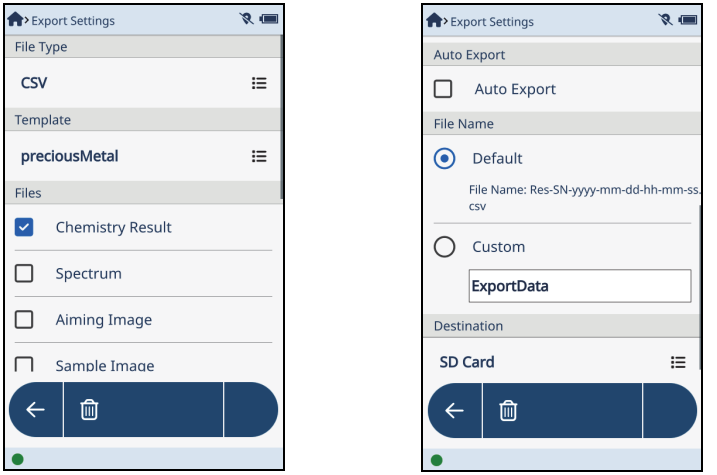

Figure 2-34 Export Settings screen top (left) and bottom (right)

To specify the export content

- Select the check-boxes in the **Content** section to specify the type(s) of content you want exported.

To select an export template

1. Tap the **Template** list button (☰) to reveal the available templates.
2. Select a template name option button (see Figure 2-35 on page 51).

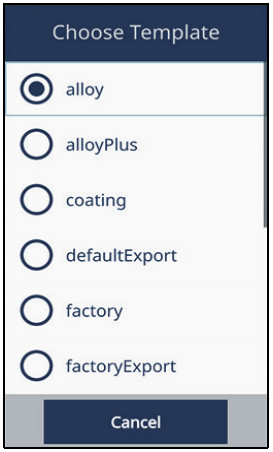

Figure 2-35 Choose Template dialog box

To specify an export file type

1. Tap the **File Type** list button (☰) to reveal the available file types.
2. Select a template name option button (see Figure 2-35 on page 51).

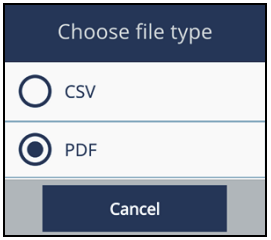

Figure 2-36 Choose file type dialog box

To specify an export name and location

1. Under **File Name**, select either **Default** (file name) or **Custom** (and enter a file name) [See Figure 2-37 on page 52].

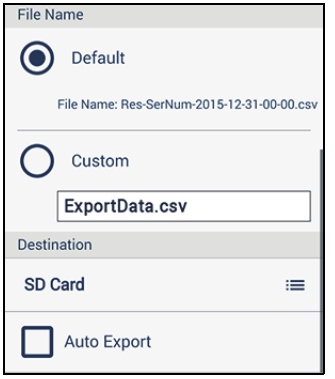

Figure 2-37 Export Settings — export location

2. Tap the **Destination** list button (☰) to open the **Choose Destination** dialog box (see Figure 2-38 on page 53).
3. Tap an option button to select a destination.

NOTE

The microSD card must be installed in the Vanta analyzer before you can select it as a destination. Refer to the *Vanta Family X-Ray Fluorescence Analyzer User's Manual* for more information on installing the microSD card.

NOTE

The USB memory (flash drive) must be installed in the Vanta analyzer before you can select it as a destination. Refer to the *Vanta Family X-Ray Fluorescence Analyzer User's Manual* for more information on installing the USB memory card.

NOTE

A network folder must be mounted before it will receive data. See "Network Folder" on page 113.

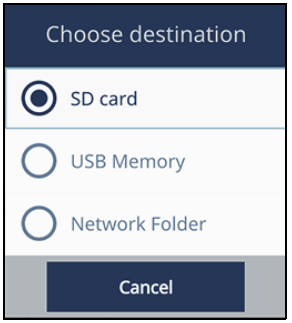

Figure 2-38 Choose Destination dialog box

To automatically export after each test

1. Select the **Auto Export** check-box to automatically export an Excel (.csv) results file to the selected destination after each test is complete (see Figure 2-39 on page 53).

Figure 2-39 Auto Export check-box

2. Go to **Live View** and run a test.
   The results will be exported to the selected destination immediately after the test is complete.

2.1.9 Export Today

The **Export Today** action button () can appear in several areas of the UI.

To export the results for the current day

NOTE

A valid export destination must be set up before using **Export Today**. See "Export Settings" on page 49.

- Tap the **Export Today** button (

) to immediately export test data for the current day in Excel (.csv) format.
  The export parameters are set on the **Export Settings** screen.

2.1.10 Browse Results

The **Browse Results** screen allows you to browse and display test results.

You can also export to a file from the **Browse Results** screen. The result of each test run on the Vanta analyzer is individually stored as a record. Each individual test result record is the smallest exportable unit. Results can be grouped for export as follows:

- Selected individual results
- All results for the current day
- All results for multiple days
- All results for the selected month or multiple months
- All results for the selected year or multiple years

Selected results can also be deleted.

To browse results

1. Tap the **Browse Results** button (

) [either in the Menu Tray or on the **Live View** screen, if available].
2. Tap a year to open the month view (see Figure 2-40 on page 55)

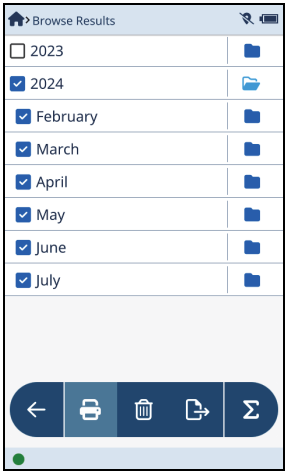

Figure 2-40 Browse Results — Month view

3. Tap a month to display a list of days.
4. Tap a day to display a list of test results for that day (see Figure 2-41 on page 55 [left]).
5. Tap a test result to view the data (see Figure 2-41 on page 55 [right]).

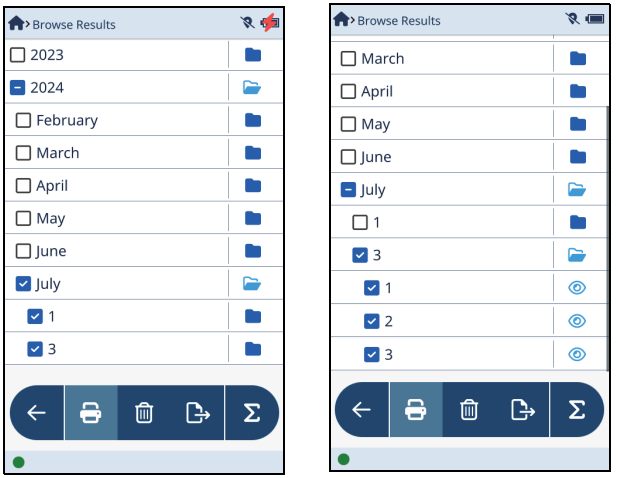

Figure 2-41 Browse Results: Day view (left), data view (right)

To select results for export

- Tap a check-box (or boxes) to select one of the following:
  - All results for the selected year or multiple years
  - All results for the selected month or multiple months
  - Results for multiple days
  - All results for the current day
  - An individual result

  The example in Figure 2-42 on page 56 shows an individual result selected for export.

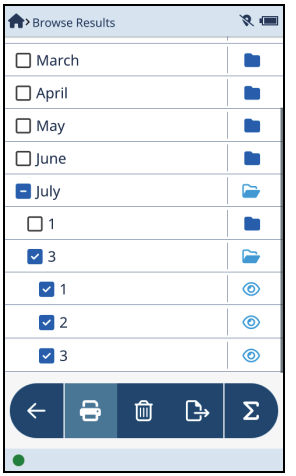

Figure 2-42 Test result selected for export

To export results to the selected destination

NOTE

A valid export destination must be set up before using the **Export** button. See "Export Settings" on page 49.

- Tap the **Export** action button ( ) to export the selected test result(s).

The results are immediately exported according to the parameters set on the **Export Settings** screen.

To delete results

1. Select the check-boxes of the results you want to delete.
2. Tap the **Delete** action button ( ).
   The **Delete** button turns red to indicate that the selected results will be deleted when you tap again to confirm the deletion (see Figure 2-43 on page 57).

NOTE

You have three seconds to tap the **Delete** button while it is red to confirm the deletion. After three (3) seconds the **Delete** button reverts back to blue, and you must repeat step 2 to start over the delete action.

3. Tap the **Delete** button again (while it is still red) to confirm the deletion.

Figure 2-43 Result delete confirmation

2.1.11 Element Order

The **Element Order** screen shows the elements that are calibrated in a particular method, and the order in which elements will be displayed in **Live View** after a test. The first time you open the **Element Order** screen, the default order is shown. When the test is run, the detected elements are listed first, followed by the non-detected elements.

NOTE

Certain **Method Display** options can affect how the elements are displayed.

To change the element order

1. Tap the **Element Order** button (ELEMENT ORDER) [either in the Menu Tray or on the **Live View** screen, if available].
2. Tap and hold an element until it is highlighted (see Figure 2-44 on page 58).

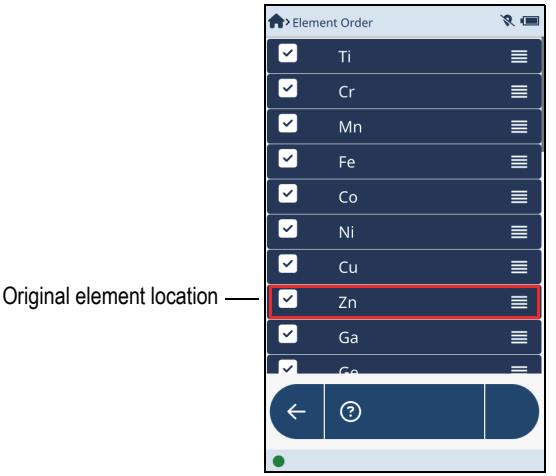

Figure 2-44 Element in original position

3. Drag the element up or down to a different position and release (see Figure 2-45 on page 59)

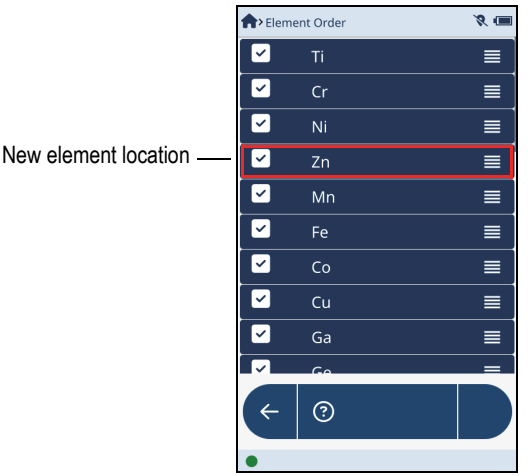

Figure 2-45 Element relocated

4. The displayed elements will change in **Live View** if all of the affected elements are detected.

2.1.12 Pseudo Elements

Pseudo elements are mathematical equations that can be used to express the equivalent of an existing metal or other material. Four examples are presented below.

1. The carbon equivalent of a carbon steel is an empirical value in weight percent, that governs the ability of the parent metal to harden. It is a rating of welding properties related to carbon, manganese, chromium, molybdenum, vanadium, nickel, and copper content. The pseudo element for the carbon equivalent is as follows:

   $$CE = C + Mn/6 + (Cr + Mo + V)/5 + (Ni + Cu)/15$$

2. A geologist would be interested in the mining element ratio Ti/Zr to determine the rock type (basalt or granite).
3. Another use for a pseudo element would be to determine flow accelerated corrosion as follows:

Cu + Mo + Cr

4. The fourth example of a pseudo element would be for determining compliance of the European Packaging Directive as follows:

   Pb + Hg + Cd + Cr < 100 ppm

2.1.12.1 Creating Pseudo Elements

Creating a pseudo element requires the following general steps:

- Creating a pseudo element model
- Building an equation (pseudo element) and adding it to the pseudo element list
- Populating the pseudo element model with equations from the pseudo element list.

To create a pseudo element model

1. Tap the **Pseudo Elements** button (

) [either in the Menu Tray or on the **Live View** screen, if available].
2. On the **Pseudo Element Model** screen (see Figure 2-46 on page 61), tap the **Add** button () to add a new model.

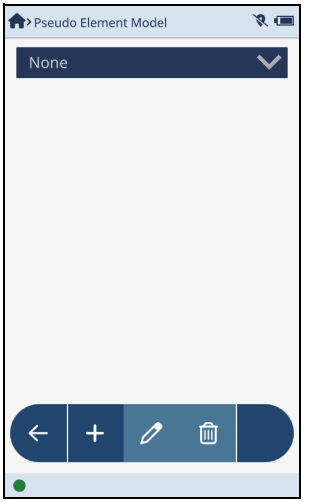

Figure 2-46 Pseudo Element Model screen

3. On the **Pseudo Element Edit** screen (see Figure 2-47 on page 62), tap the **Name** box and enter a model name.
4. Dismiss the virtual keypad.

Figure 2-47 Pseudo Element Edit screen

To build a pseudo element equation

1. On the **Pseudo Element Edit** screen, tap the **Edit List** button ( ) to open the **Pseudo Element List** screen (see Figure 2-48 on page 63, left).
2. Tap the **Add** button ( ) to name and build a new equation in the **Pseudo Element** dialog box (see Figure 2-48 on page 63, right).

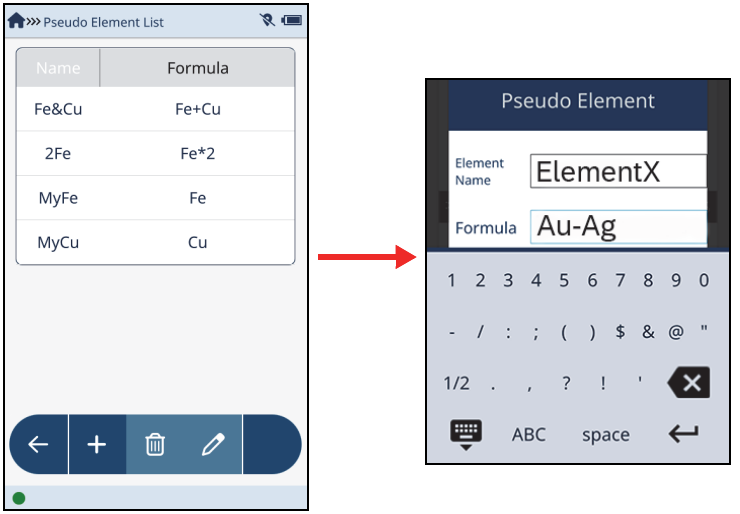

Figure 2-48 Pseudo Element List screen (left) and dialog box (right)

3. Dismiss the virtual keypad to see the new pseudo element added to the list (see Figure 2-49 on page 63).

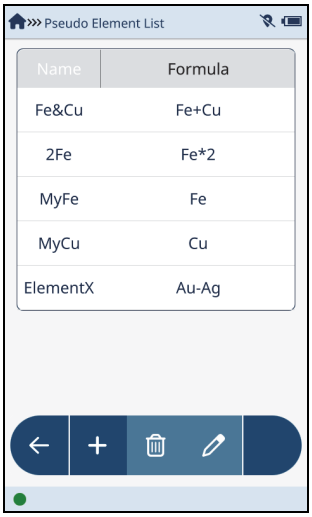

Figure 2-49 New pseudo element in list

To add pseudo elements to a model

1. On the **Pseudo Element Model** screen, tap the element model you want to use.
2. Tap the **Edit** button ( ) to display the **Pseudo Element Edit** screen (see Figure 2-50 on page 64).

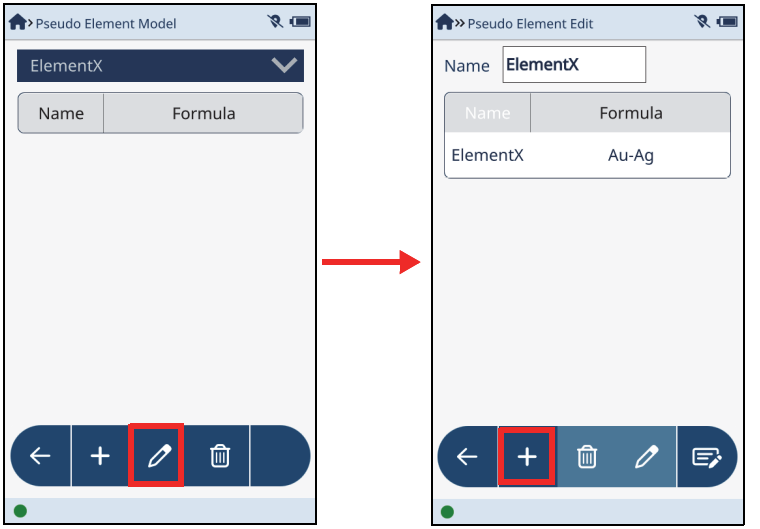

Figure 2-50 Pseudo Element Model screen (left) and Edit screen (right)

3. Tap the **Add** button ( ) to open the **Select Pseudo Element** dialog box.
4. Tap the pseudo element that you want to add to the element model.
   The newly added pseudo element is now listed with the element model (see Figure 2-50 on page 64 [right]).

To edit a pseudo element equation within a specific model

NOTE

Changing a pseudo element equation within a specific model does not change the definition of that pseudo element (in the **Select Pseudo Element** dialog box).

1. On the **Pseudo Element Model** screen, tap a model name to select it (see Figure 2-51 on page 65).
2. Tap the **Edit** button ( ) to display the model on the **Pseudo Element Edit** screen.

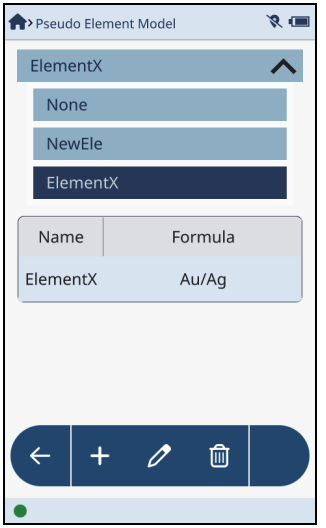

Figure 2-51 Pseudo Element Model screen

3. Tap the pseudo element that you want to edit (see Figure 2-52 on page 66 [left]).
4. Tap the **Edit** button ( ) to display the **Pseudo Element** dialog box (see Figure 2-52 on page 66 [right]).
5. Tap the **Formula** box, and edit the equation.
6. Dismiss the virtual keypad, and then tap **OK**.

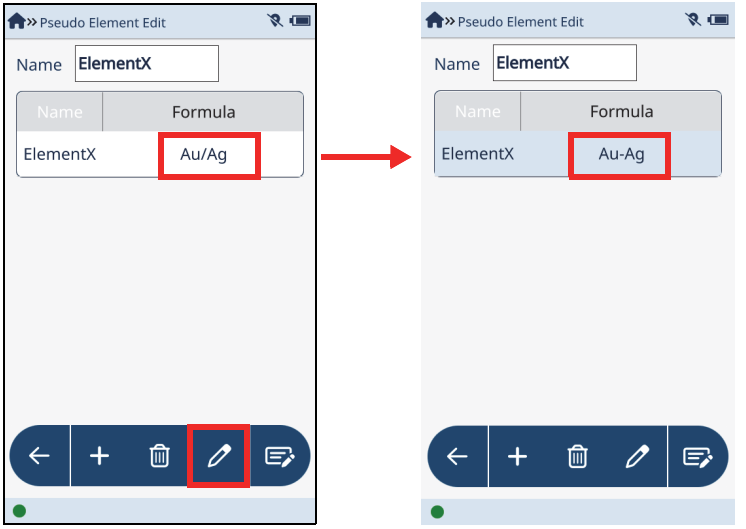

Figure 2-52 Pseudo Element Edit screen unedited (left), and edited (right)

The edited pseudo element for the model can be verified on the **Pseudo Element Model** screen.

To edit a pseudo element equation in the equation list

NOTE

Changing a pseudo element equation in the equation list changes the pseudo element equation globally, based on the model name.

---

1. On the **Pseudo Element Model** screen, tap an existing model name.
2. Tap the **Edit** button ( ) to display the **Pseudo Element Edit** screen (see Figure 2-53 on page 67 [left]).

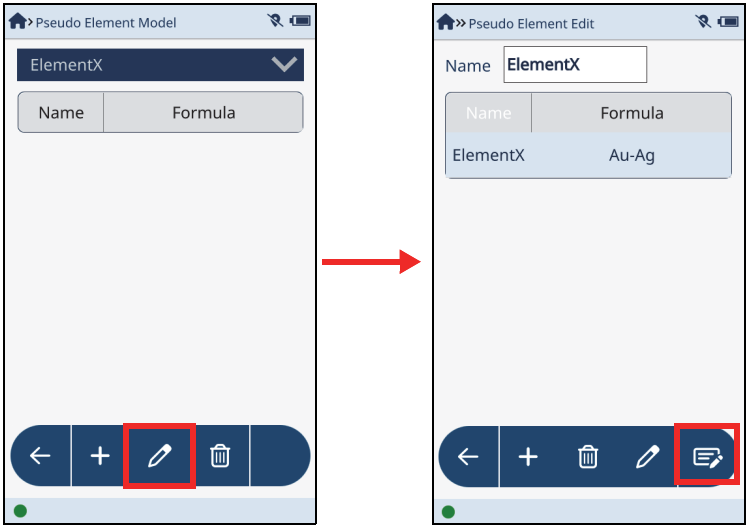

Figure 2-53 Pseudo Element Model screen (left) and Edit screen (right)

3. On the **Pseudo Element Edit** screen, tap the **Edit List** button ( ) (see Figure 2-53 on page 67 [right]) to open the **Pseudo Element List** screen (see Figure 2-54 on page 68).

4. Tap a pseudo element in the list, and then tap the **Edit** button ( ) to display the **Pseudo Element** dialog box (see Figure 2-54 on page 68).

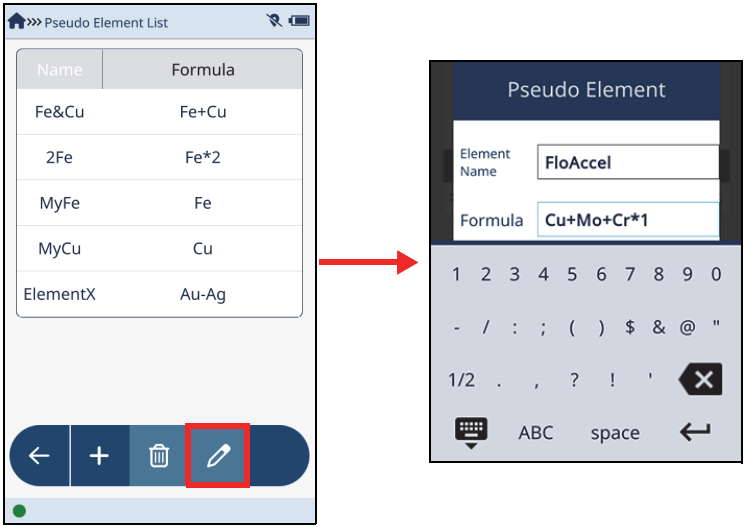

Figure 2-54 Editing an element in the Pseudo Element list

5. In the dialog box, tap the **Formula** box and edit the formula.
6. Dismiss the virtual keypad, and tap **OK**.
7. Tap the **Back** button ( ) to display the **Pseudo Element Edit** screen (see Figure 2-55 on page 69).

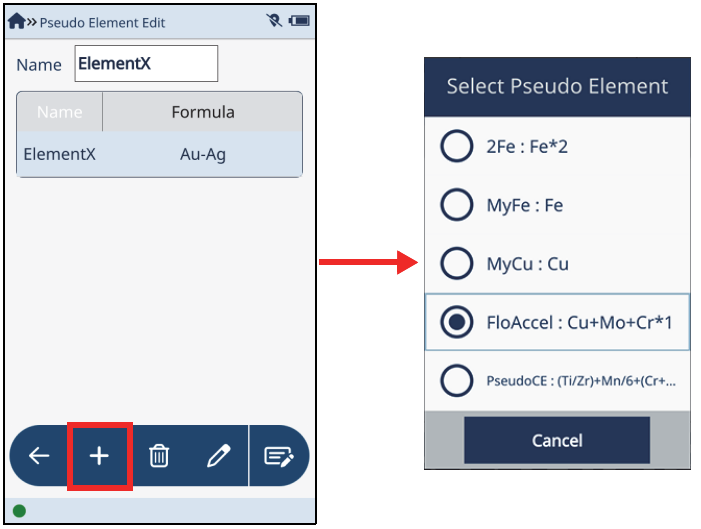

Figure 2-55 Viewing an element in the Pseudo Element list

8. Tap the **Add** button (+) to open the **Select Pseudo Element** dialog box (see Figure 2-55 on page 69).

   You can see the edited element in the dialog box list.

2.2 Alloy and Alloy Plus Methods

Alloy and **Alloy Plus** methods operate similarly, though the methods use a different number of X-ray beams. The **Alloy** method uses one beam. The **Alloy Plus** method uses two beams; beam two uses lower energy X-rays and is able to detect lighter elements such as magnesium (Mg) and aluminum (Al).

When the Vanta analyzer is in an alloy analysis method, it calculates elemental chemistry from spectral data. The analyzer then compares chemical composition values to Grade Library grade tables, and generates grade ID and chemistry values in as little as one second.

2.2.1 Beam Options

The efficiency of the Vanta analyzer can be maximized based on the setting of the beam options. Both of the alloy methods include the **Single Beam - No LE** and **Single Beam - With LE** options (**LE**: Light Elements — Al, Mg, Si, P and S [below Ti]).

The **Alloy Plus** method also includes **Two Beams Always** and **SmartSort** options (see Figure 2-56 on page 71).

- **Single Beam - No LE**

  Select this option when using a weld mask. Tests for elements Ti (Atomic Number 22) and higher. It is not possible to sort several aluminum-based alloy grades (that are separated by light elements) with this option.
- **Single Beam - With LE**

  Tests for elements Ti (atomic number 22) and higher. In addition, this option detects aluminum (Al) and other light elements (LE) indirectly during the beam one test and reports them as LE.
- **Two Beams Always** (Alloy Plus)

  Tests with two beams. Select this option to get information about lighter elements (Mg, Al, Si, P, S). For many grade separations this option is unnecessary.
- **SmartSort** (Alloy Plus)

  Promotes automated sorting decisions that enable you to maximize speed and sorting accuracy. When **SmartSort** is selected, **Alloy Plus** switches to the second beam, if necessary, to provide a conclusive grade match. The SmartSort option provides the following advantages:
  - Short test times (less than three seconds) for most grades.
  - Specific grades set up to automatically extend testing time for proper analysis.
  - Maximum speed testing efficiency by using a second beam when needed to detect light elements (Mg, Al, Si, P, S) without creating unwanted data.

To use the beam options

1. Tap the **Test Times** button (

) [either in the Menu Tray or on the **Live View** screen, if available].
2. On the **Test Times** screen, tap the option button of the beam that you want to select.

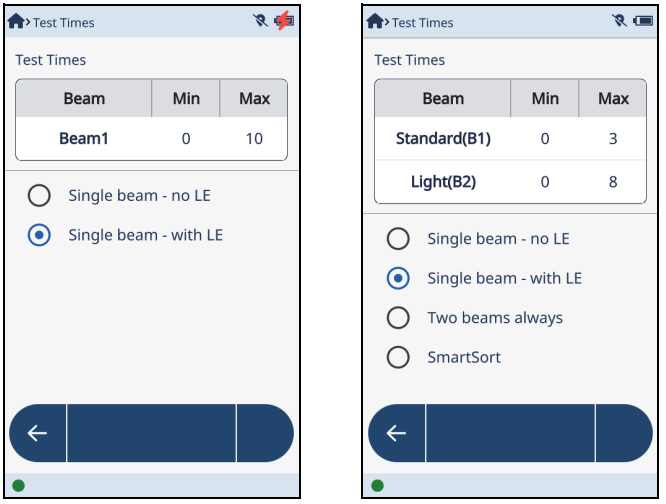

Figure 2-56 Test Times screen — Alloy (left) and Alloy Plus (right)

2.2.2 Grade Match

NOTE

Grade Match is only available in the **Alloy** and **Alloy Plus** methods.

After calculating chemistry, the Vanta compares the chemical composition values to grade tables in a Grade library. The value for a parameter called “match number” is then calculated. The match number indicates how close the measured alloy chemistry is to the library specification. The lower the match number, the better the match. A match number equal to 0 indicates an exact match.

There are three match determination possibilities provided within the Alloy methods:

- **Exact match**

  An exact match means that the calculated chemistry for all elements falls within the grade table specifications. A Grade ID is displayed on the Results screen.
- **Multiple matches**

  In some cases, several grades are shown as possible matches. This can signify one of three conditions:

- Grade specifications may overlap, meaning that a single sample meets the specification of two or more alloys. In this case, it is possible to see an exact match to multiple alloys, and increasing the test time will not separate the matches.
- There was not enough information to definitively separate two or more alloys. The actual identification of the unknown alloy is one of the grades listed. Often, increasing the testing time makes it possible to separate the alloys.
- Several grades matched the sample's chemistry closely enough to have a match number below the "**Show Match No <** " cutoff. Multiple matches with equal match numbers are displayed in alphabetical order.

- **No match**

  There is one cause for a "no match" result: The sample under test does not meet specification. There are several reasons why the result might not meet specification:
  - The test sample does not meet any of the specifications in the Grade library.
  - The test sample is coated.
  - The testing time was too short.
  - The "show match number less than" value is too low.

2.2.2.1 Grade Match Screen

The Grade Match screen is designed to help you set up grade matching, set the parameters for pass/fail, and set your grade comparisons. Grade libraries can also be selected from this screen.

To display the Grade Match screen

◆ Tap the **Grade Match** button (

) [either in the Menu Tray or on the **Live View** screen, if available] to display the Grade Match screen.

The screen is divided into four areas:

- **Grade Match** (see Figure 2-57 on page 73), where you can do the following:
  - Adjust the **Show Match No <** value to determine the highest value (poorest match) displayed in the results (see "Calculations using nSigma and Match Cutoff values" on page 75).

- Adjust the **nSigma** value to set the amount of uncertainty that should be applied to the grade boundary (see "Calculations using nSigma and Match Cutoff values" on page 75).
- Adjust the **No of Matches** value to determine the maximum number of matches displayed on the test screen.
- Select **Grade Message** to display any message associated with the grade in the grade library.
- Select **Nominal Chemistry** to display the elements that are inferred to be detected in the results of a test based on the grade match.
- Select **Match Pseudo Element** to include any defined pseudo element in the grade match calculation.

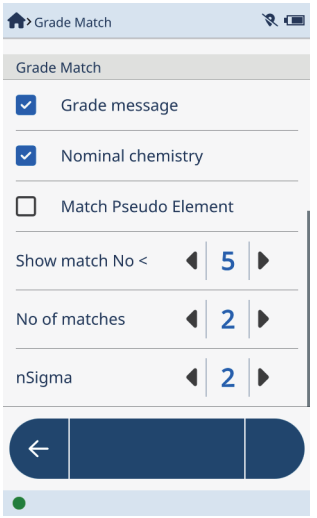

Figure 2-57 Grade Match section of the Grade Match screen

- **Pass Fail** (see Figure 2-58 on page 74).

  You can turn on or off the pass/fail display using the **Pass Fail** selection for the selected grade. Other grades can be listed with their accompanying match numbers. You can view the elemental chemistries of those grades to see how they differ from an exact match.
- **Residuals** (see Figure 2-58 on page 74).

  You can use this library option to ensure that residual (tramp) elements are not penalizing the grade matching. Allowances for residual elements are applied by

base (Aluminum, Cobalt, Copper, Iron non-stainless, Stainless, Nickel, Titanium, or General).

- **Grade Compare** (see Figure 2-58 on page 74).

  Enables you to select whether to display a grade comparison and determines the grade to display.

- **Grade Libraries** (see Figure 2-58 on page 74).

  Displays currently selected grade and residuals libraries that are loaded on the instrument. If available, alternate libraries can be selected.

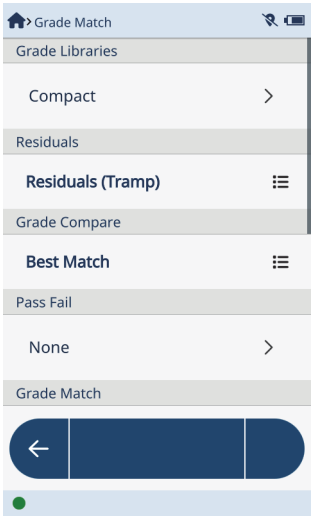

Figure 2-58 Pass Fail, Grade Compare, Residuals, and Grade Libraries areas

To configure the match settings

1. On the **Grade Match** screen, tap the left or right arrow next to **Show Match No <** to select a match number "less than" value (see Figure 2-59 on page 75).

   The match number "less than" value determines whether a grade is considered a match by comparing the calculated match number for that alloy to a cutoff "less than" value.

2. Tap the left or right arrow next to **nSigma** to select the **nSigma** value. The **nSigma** setting is usually no higher than 2:

   - For scrap sorting, an **nSigma** setting of 0 or 1 is most common.

- For positive materials identification (PMI) applications, an **nSigma** setting of 1 or 2 is most common.

3. Optionally do any of the following:
   - Tap the left or right arrow next to **No of Matches** to select the maximum number of matches that can be displayed on the test screen.
   - Select the **Grade Message** check-box to enable the display of grade match messages.
   - Select the **Nominal Chemistry** check-box to display the elements that are inferred to be detected in the results of a test based on the grade match.
   - Select the **Match Pseudo Element** check-box to display the elements that are inferred to be detected in the results of a test based on the grade match.

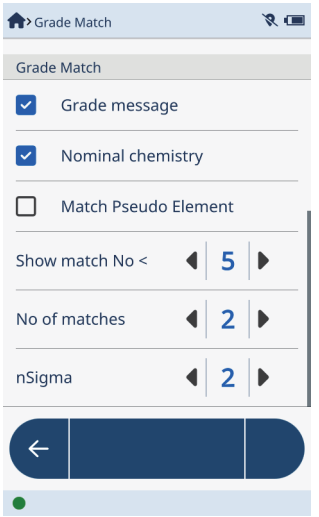

Figure 2-59 Configure match settings

2.2.2.2 Calculations using nSigma and Match Cutoff values

The Vanta calculates match settings using the **nSigma** and **Show Match No <** values.

- **nSigma**

  The analyzer collects measurements and the **nSigma** value is used to calculate the amount of tolerable variation, relative to the grade boundary. The grade boundary is set by the min/max values in the grade library for each element.

The **nSigma** parameter factors in the precision of the measurement to account for statistical variation in the measurement when matching the measurement against a grade specification. The match number calculation widens the grade boundary by the nSigma value times the ± reading on the screen. Lower **nSigma** values mean a sharper, more well defined grade boundary for easier sorting while higher **nSigma** values provide greater confidence in the measured value.

- **Show Match No <**

  After the measured calculations are analyzed relative to the nSigma value, the match number is calculated and compared to the user-configured match number. If the calculated match number is lower than the setting, the grade can be displayed as a match.

2.2.2.3 Pass Fail

The **Pass Fail** feature is designed for high-throughput alloy sorting and quality control.

To create a Pass Fail operation

1. In the **Pass Fail** section of the **Grade Match** screen, tap the arrow to open the **Base Elements** screen (see Figure 2-60 on page 76).
2. Flick through the list of base elements.
3. Tap an element to select.

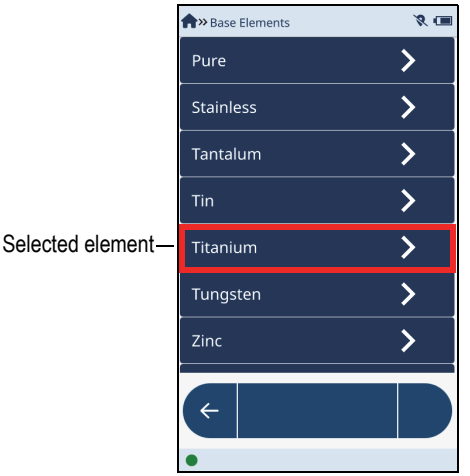

Figure 2-60 Base Elements screen — Selected element

4. On the next screen, tap an element grade (see Figure 2-61 on page 77). This is the grade that **Pass Fail** will use as the reference.

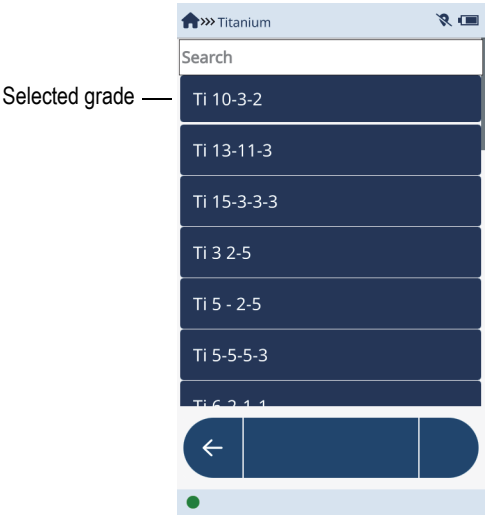

Figure 2-61 Element grade screen

5. Tap the left or right arrow next to **Pass if Match No <** and **nSigma** to set boundaries for the pass or fail (see Figure 2-62 on page 77).

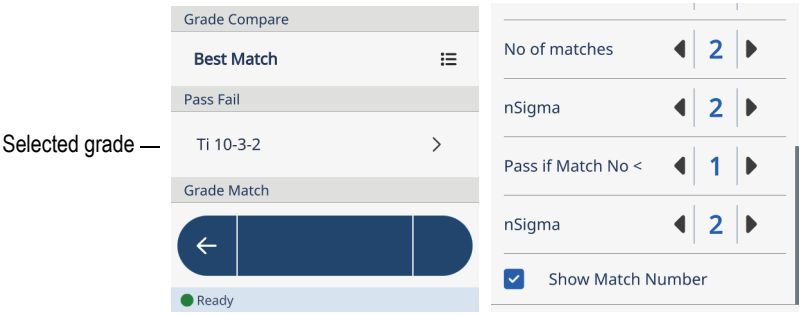

Figure 2-62 Pass Fail reference grade

After the pass/fail parameters have been set, the test pass/fail information is displayed in **Live View**.

To turn off Pass Fail

1. Tap an element in the **Pass Fail** section of the **Grade Match** screen to display the **Base Elements** screen (see Figure 2-63 on page 78).
2. At the top of the list tap **None**.

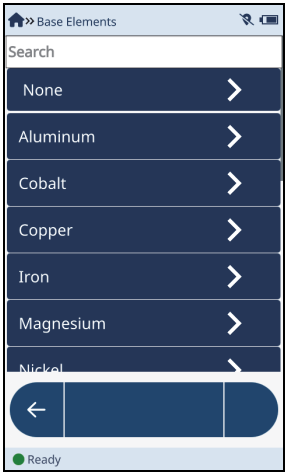

Figure 2-63 Base Elements screen

3. Tap **None** on the next screen to confirm the selection (see Figure 2-64 on page 79).

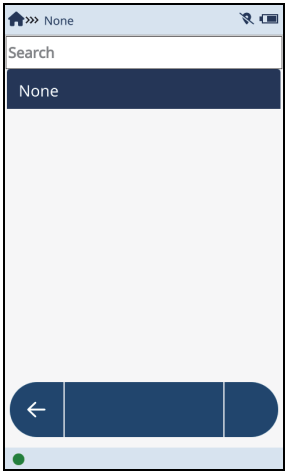

Figure 2-64 None confirmation

2.2.2.4 Grade Compare

Grade Compare determines which library grade to compare against the measured grade.

To compare grades

1. Tap the list button (☰) in the **Grade Compare** section of the **Grade Match** screen.
2. Select one of the options in the **Select Grade Compare** dialog box (see Figure 2-65 on page 80).
   - **Best Match** — Compares measured chemistry to the closest match.
   - **Pass/Fail Grade** — Compares measured chemistry with the Pass Fail grade.
   - **Selected Grade** — Compares measured chemistry with a specific selected grade.
   - **None** — No grade comparison is made. This option is useful if you know what the material is supposed to be.

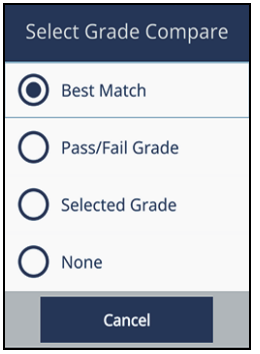

Figure 2-65 Select Grade Compare dialog box

When a test is run in **Live View** with one of the Grade Compare choices set to something other than None an added column is displayed. The column displays the following information:

- The comparison grade
- A color-coded concentration bar for each specified element showing the upper and lower boundaries, and where the detected percentage falls within (or outside of) the boundaries (see Figure 2-66 on page 81).

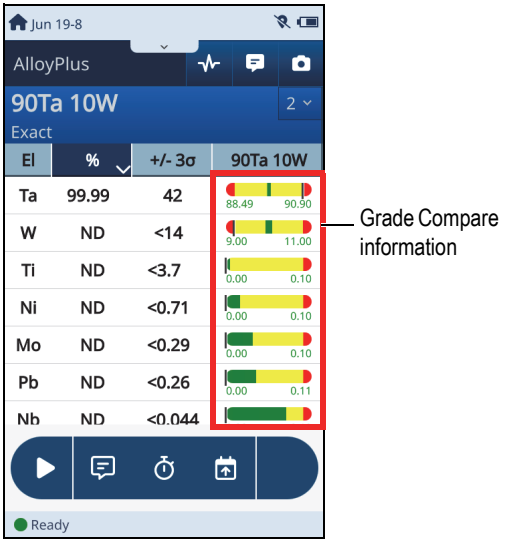

Figure 2-66 Grade Compare information in Live View

2.2.3 Grade Libraries

Grade libraries are available only in the Alloy, Alloy Plus, and Hot Alloy Plus methods.

You can edit all libraries, including the Factory Grade library. However, Evident does not recommend that you edit the Factory Grade library. Instead, Evident suggests that you duplicate the Factory Grade library as a user library, then make any edits on the newly created user library.

The **Libraries** section of the screen, accessed from the **Grade Match** icon, enables you to select, load, and edit one or more grade libraries (see Figure 2-67 on page 81).

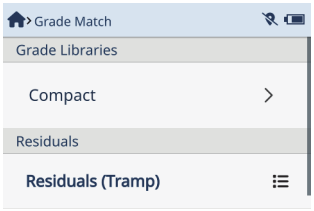

Figure 2-67 Grade Library section of Grade Match screen

2.2.3.1 Loading Grade Libraries

The **Grade Libraries** screen enables you to select the libraries that are referenced during testing.

To load a grade library

1. Tap the arrow ( ) to display the **Grade Libraries** screen (see Figure 2-68 on page 82).
2. Select one or more check-boxes to load the corresponding libraries.

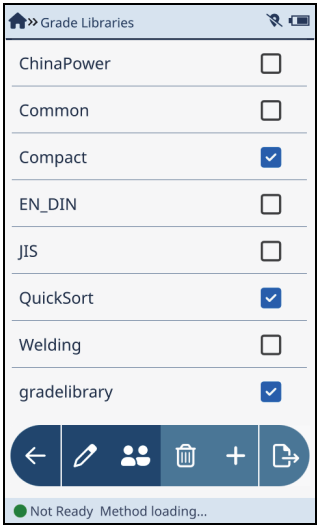

Figure 2-68 Grade Libraries screen

To load a residuals library

The Residual library specifies by base material what residual (tramp) elements are tolerated and at what concentration.

1. Tap the list button ( ) in the **Libraries** section of the screen (see Figure 2-67 on page 81).
2. In the **Select Residuals Library** dialog box, select a check-box to load a residuals library (see Figure 2-69 on page 83).

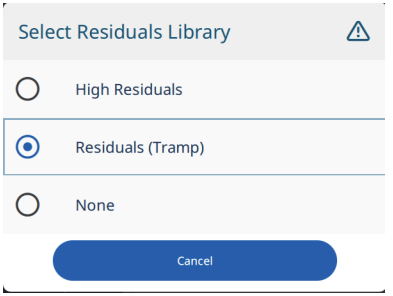

Figure 2-69 Select Residuals Library dialog box

2.2.3.2 Duplicating Grade Libraries and Individual Grades

You can duplicate grade libraries and grades within libraries using the **Grade Libraries** screen.

To duplicate a grade library

1. On the **Grade Libraries** screen, select a library and tap the **Clone** button ( ) to open the **Clone Grade Library** dialog box (see Figure 2-70 on page 83).
2. Enter a library name in the **New Name** box.
3. Dismiss the virtual keypad, and then tap **OK** to create the duplicate grade library.

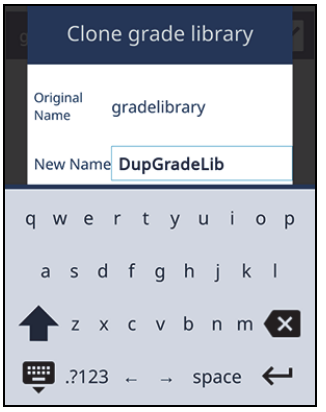

Figure 2-70 Clone Grade Library dialog box

To duplicate a grade

1. On the **Grade Libraries** screen, select a library and tap the **Edit** button ( ) to open the **Edit Library** screen (see Figure 2-71 on page 84).
2. Tap to select a grade.

Figure 2-71 Edit Library screen

3. Tap the **Clone** button ( ) to open the **Clone Grade** dialog box (see Figure 2-72 on page 85).
4. Enter a grade name in the **New Name** box.
5. Dismiss the virtual keypad and then tap **OK** to create a duplicate grade.

Figure 2-72 Clone Grade dialog box

2.2.3.3 Deleting Library Grades and Library Grade Elements

You can delete an entire library grade or individual library grade elements using the **Grade Libraries** screen.

To delete a library grade

1. On the **Grade Libraries** screen, tap the **Edit** button ( ) to open the **Edit Library** screen (see Figure 2-73 on page 86).

Figure 2-73 Edit Library screen

2. Tap to highlight a library grade.
3. Tap the **Delete** button ( ).

   The **Delete** button turns red to indicate that the selected library grade will be deleted when you tap again to confirm the deletion (see Figure 2-74 on page 87).

NOTE

You have three seconds to tap the **Delete** button while it is red to confirm the deletion. After three (3) seconds the **Delete** button reverts back to blue, and you must tap it again to start over the delete action.

---

4. Tap the **Delete** button again (while it is still red) to confirm the deletion.

Figure 2-74 Library grade delete confirmation

To delete a grade element

1. On the **Grade Libraries** screen, tap the **Edit** button ( ) to open the **Edit Library** screen (see Figure 2-75 on page 88).

Figure 2-75 Edit Library screen

2. Tap to highlight a library grade, and then tap the **Edit** button ( ) to open the **Edit Grade** screen (see Figure 2-76 on page 89).
3. In the **Edit Grade** screen, tap to highlight an element.

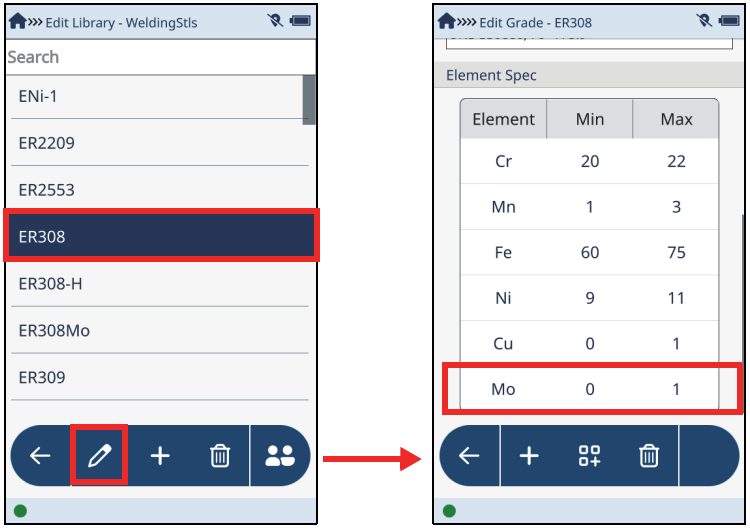

Figure 2-76 Edit Library screen (left), Edit Grade screen (right)

4. Tap the **Delete** button ( ).

   The **Delete** button turns red to indicate that the selected element will be deleted when you tap again to confirm the deletion (see Figure 2-74 on page 87).

NOTE

You have three seconds to tap the **Delete** button while it is red to confirm the deletion. After three (3) seconds the **Delete** button reverts back to blue, and you must tap it again to start over the delete action.

---

5. Tap the **Delete** button again (while it is still red) to confirm the deletion.

2.2.3.4 Editing Grade Libraries

The **Edit Library** screen provides several configuration options that can be applied to the Vanta analyzer's libraries. New grades can be added to any library, and existing grades can be edited. Also, user-defined libraries can be renamed. Libraries are edited in the **Libraries** section of the **Grade Match** screen (see Figure 2-77 on page 90).

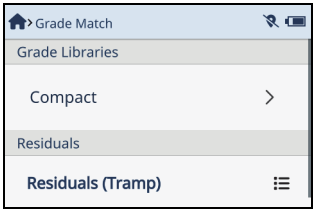

Figure 2-77 Grade Library section of Grade Match screen

To select a library for editing

NOTE

You can edit any library, including the Factory Grade library. However, Evident does not recommend that you edit the Factory Grade library.

1. Tap the arrow ( ) to display the **Grade Libraries** screen (see Figure 2-78 on page 91).
2. Select a check-box.

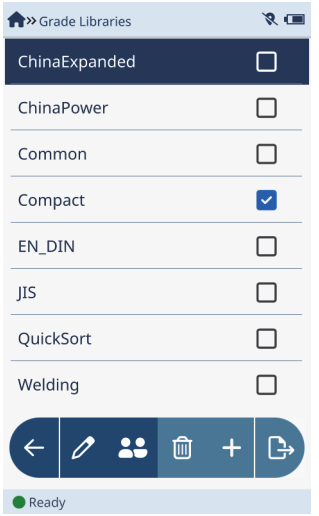

Figure 2-78 Grade Libraries screen

To select a grade for editing

1. In the **Grade Libraries** screen (see Figure 2-78 on page 91), tap the **Edit** button ( ) to open the **Edit Library** screen (see Figure 2-79 on page 92).

2. Tap to select a grade, and then tap the **Edit** button ( ) to open the **Edit Grade** screen (see Figure 2-79 on page 92).

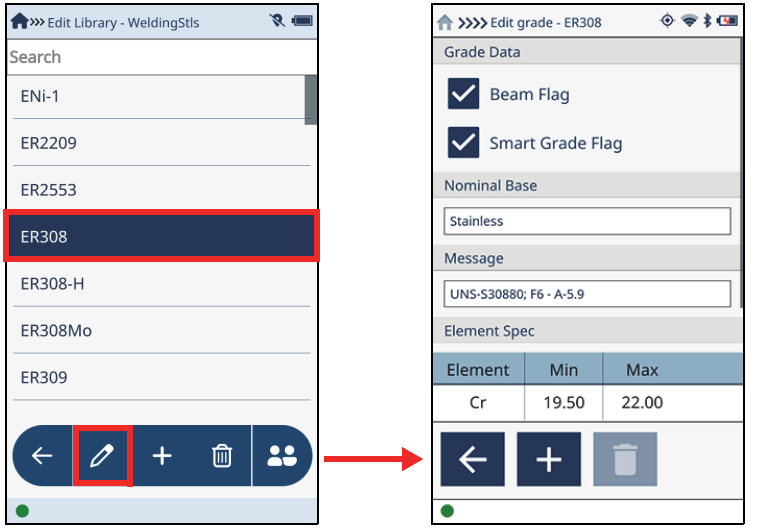

Figure 2-79 Edit Library screen (left), Edit Grade screen (right)

To edit grade data

In the Grade Data section (see Figure 2-80 on page 92) the following options are available:

- Tap the **Beam Flag** check-box to apply the grade parameters to Beam 1 (Alloy mode only), or both beams (Alloy Plus and Hot Alloy Plus modes only).
- Tap the **Smart Grade Flag** check-box to maximize speed and sorting accuracy. When you select the **Smart Grade Flag** check-box, the current grade is then selected to automatically extend the testing time if necessary for proper analysis. Otherwise, the minimum specified testing time is applied.

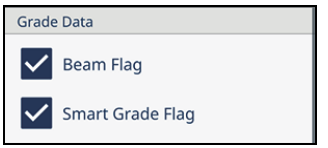

Figure 2-80 Grade Data section of Edit grade screen

To create or edit a grade match message

1. Tap the **Message** text box (see Figure 2-81 on page 93) to edit an existing message or create a new message.

   To select a portion of a message or the entire message, tap and drag your finger on the portion you want to select.

Figure 2-81 Message selected in dialog box

2. Type a message using the virtual keypad.
3. Dismiss the virtual keypad, and then tap **OK** to create or edit the message.

To change existing elements in a grade

1. In the **Element Spec** section of the **Edit Grade** screen (see Figure 2-82 on page 94), tap an element to change it in the **Edit Element Specification** dialog box (see Figure 2-82 on page 94).
2. Tap the **Min** or **Max** box to change the percentage range of an element within a test sample.

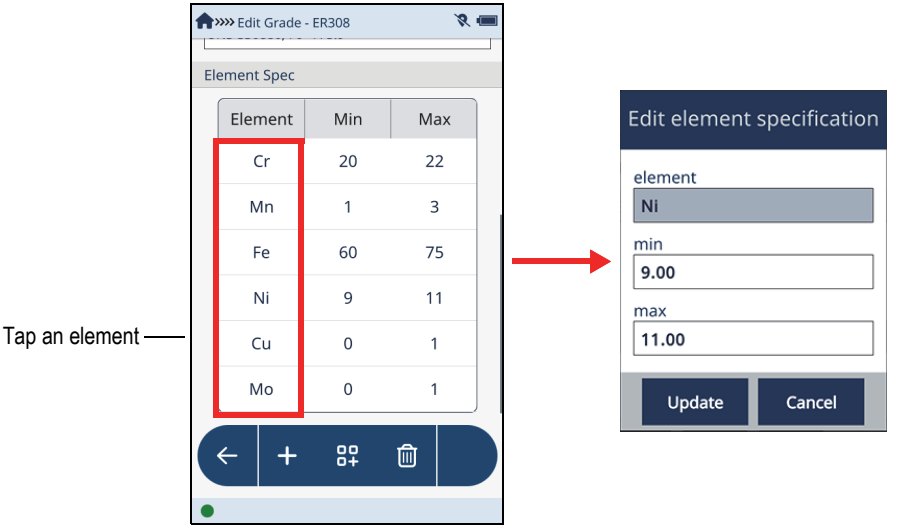

Figure 2-82 Edit Grade screen (left), Edit Element Spec dialog (right)

2.2.3.5 Adding Grades

You can add element grades to libraries using the **Grade Libraries** screen.

To add a grade

1. In the **Grade Libraries** screen, tap the **Edit** button ( ) to open the **Edit Library** screen (see Figure 2-83 on page 95).
2. Tap the **Add** button (+) to open the **Add Grade** dialog box (see Figure 2-83 on page 95).
3. Enter an element name in the **New Name** box.

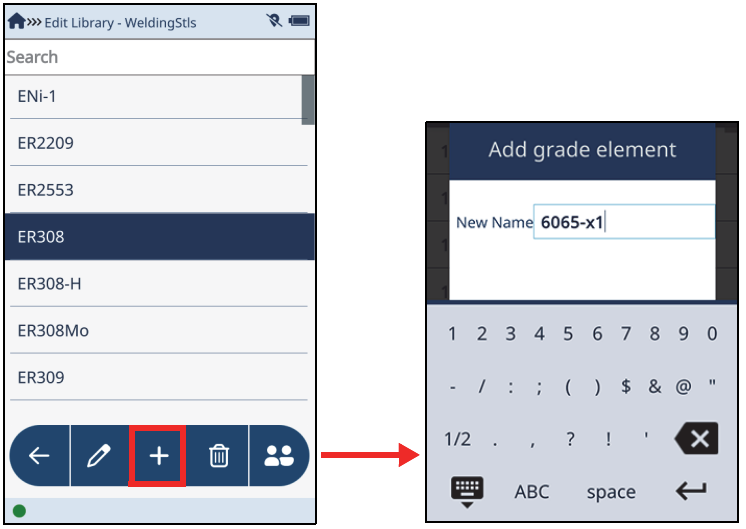

Figure 2-83 Edit Library screen (left), Add Grade Element dialog (right)

4. Dismiss the virtual keypad, and then tap **OK** to open the **Edit Grade** screen for the new element.
5. Complete the information in the Grade Data and Message areas of the screen.
6. Tap the **Add** button (+) to open the **Element Order** dialog box (see Figure 2-84 on page 96).

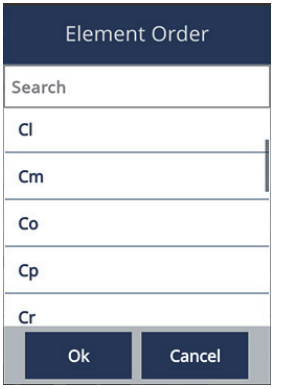

Figure 2-84 Element Order dialog box

7. Tap an element to select it, and then tap **Ok**.
   The selected element appears in the Element Spec.
8. To add more elements, repeat steps 6 and 7.

2.3 RoHS and RoHS Plus Methods

IMPORTANT

RoHS is not compatible with Rh anode instruments. It is available in the following models: V2CW, V2CA, and V2ES.

RoHS and RoHS Plus methods test polymer, alloy, and mixed samples for RoHS regulated elements Cr, Br, Cd, Hg, and Pb.

2.3.1 RoHS Action Level

Set the action level and view the **EAC** (Eurasian Conformity) settings. EAC settings are always visible in the **RoHS Action Level** screen.

To open the RoHS Action Level screen

- Tap the **RoHS Action Level** button (

) [either in the **Menu Tray** or on the **Live View** screen, if available] to display the **RoHS Action Level** screen (see Figure 2-85 on page 97).

To set the action level

1. Tap the down arrow to select **User-Defined**.
2. Enter an **nSigma** value (the default is 3.0).

   The **nSigma** value is multiplied by the measurement ± value and broadens the inconclusive range. So the sample will not pass until all RoHS elements are below the pass cutoff plus **nSigma** times the ± value. And the sample will not be classified as failed unless an element is above the fail cutoff plus **nSigma** times the ± value.

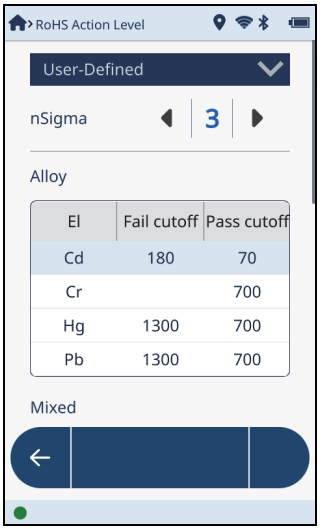

Figure 2-85 RoHS Action Level screen

To view the EAC settings

- Flick down to view the **Alloy**, **Mixed**, and **Plastic** action level pass/fail values.

To edit user defined settings

NOTE

EAC Defaults are set at the factory. In some circumstances, you may want to apply your own screening values in place of the default EAC **Fail Cutoff** and **Pass Cutoff** settings.

1. Double-tap a **Fail Cutoff** or **Pass Cutoff** box to highlight the value and display the keypad (see Figure 2-86 on page 98).
2. Enter a value.

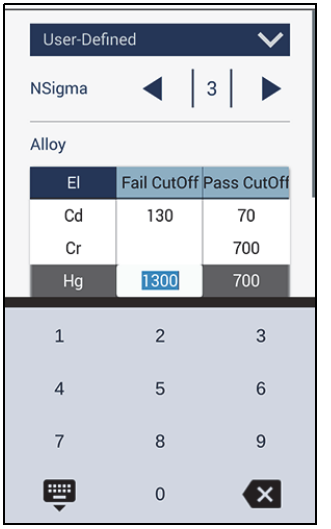

Figure 2-86 Defining cutoff value

NOTE

Each classification (**Alloy**, **Mixed**, or **Plastic**) has its own set of action levels. For example, changing **Plastic** settings will not affect **Mixed** settings.

2.3.2 Force Classification

Force classification parameters aid in the identification of certain materials.

To set Force Classification

1. Tap the **Test Times** button (TEST TIMES) [either in the Menu Tray or on the **Live View** screen, if available] to display the **Test Times** screen.
2. Tap the down arrow to display the force classifications (see Figure 2-87 on page 99).

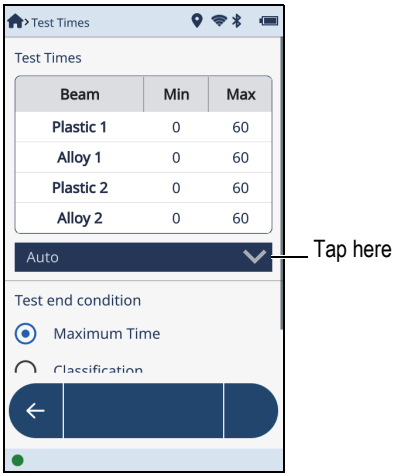

Figure 2-87 RoHS Test Times screen

3. Choose the appropriate classification method (see Figure 2-88 on page 100):
   - **Auto**: Allow the analyzer to choose which calibration matches the current sample.
   - **Forced Plastic**: Always test the sample using the polymer calibration. Also used when testing mixed samples.
   - **Forced Alloy**: Always test the sample using the alloy/metals calibration. This option is useful when testing aluminum alloys, as these will not be automatically classified as alloy.

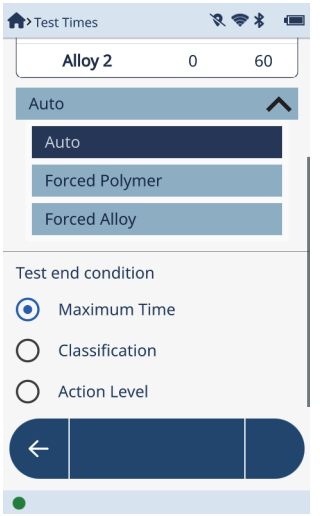

Figure 2-88 Force Classification options

2.4 Geochem (1, 2, and 3) Methods

The **Compound** setup parameter is unique to the Geochem methods.

In the **Geochem** methods, you can display the concentration of elements in their compound form. Note that XRF analyzers are elemental analyzers and are not capable of distinguishing compounds. However, you may want to compare to data that is in the form of an oxide or some other compound form. The Vanta analyzer can display the calculated concentration of compounds based on their atomic weights. For example, the Vanta measures iron (Fe) but can display Fe_2O_3.

To open the Compound screen

1. Tap the **Compound** button (COMPOUND) [either in the Menu Tray or on the **Live View** screen, if available] to display the **Compound** screen.

NOTE

The compound calculation evaluates the entered compound (and does not directly measure it). So it is possible to get data where the concentration adds up to more than 100%. The Vanta analyzer default setting suppresses sums greater than 100% to prevent the "**Caution: Sum > 100%**" message from being displayed in the **Live View** screen.

2. Tap the **None** down arrow in the **Compound Templates** section of the screen to display the list of existing templates (see Figure 2-89 on page 101).

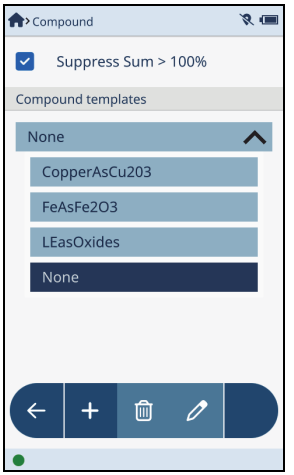

Figure 2-89 Compound screen

3. Tap the **Add** button () to add a new template (see Figure 2-90 on page 102).

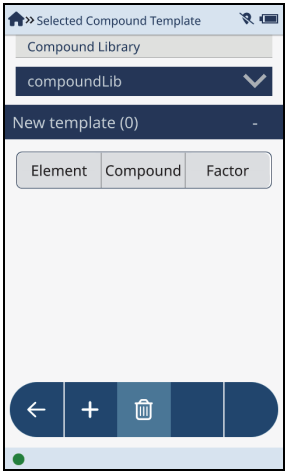

Figure 2-90 Adding new template

4. Tap the **Add** button (+) to display the **Select Compounds** dialog box (see Figure 2-91 on page 102).

Figure 2-91 Select Compounds dialog

5. Tap a compound in the list to add it to the template.
   Examples of acceptable compound names (forms) are Fe_3O_2 or $Fe_2(OH)_2$. The factor for the compound calculation (using $Fe_2(OH)_2$ as an example) is based on:

$$\frac{\text{Total atomic weight for } Fe_2(OH)_2}{\text{Total atomic weight for } Fe_2}$$

6. Continue adding compounds until your template is finished (see Figure 2-92 on page 103.

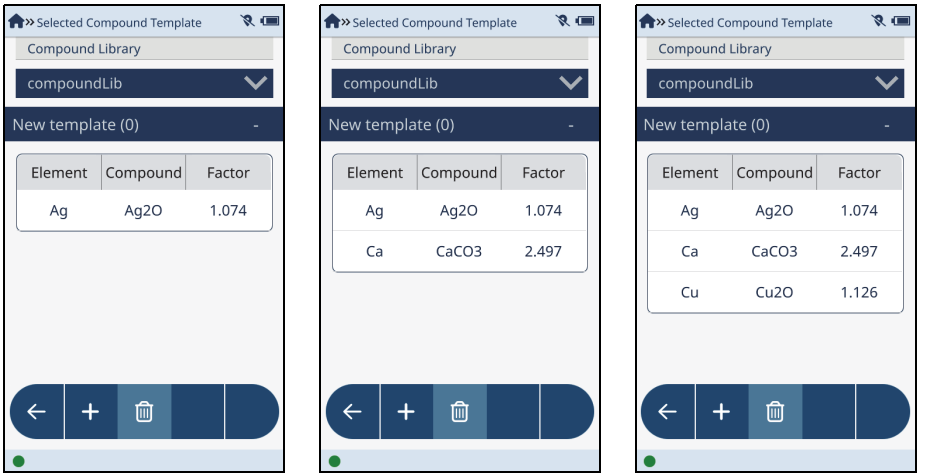

Figure 2-92 Sequence of adding three compounds

7. Tap the **Back** button ( ) to return to the previous screen.
8. Tap the **Edit** button ( ) and then tap and hold on the template name to give the new template a name.
9. Enter a name in the dialog box and tap **Return** to save the name.
10. Tap the **Back** button ( ).
    The newly added compound is listed in the **Live View** screen after running a test.

To delete a compound template

1. In the **Compound templates** list, tap the template that you want to delete.
2. Tap the **Delete** button ( ).

   The **Delete** button turns red to indicate that the selected template will be deleted when you tap again to confirm the deletion (see Figure 2-93 on page 104).

NOTE

You have three seconds to tap the **Delete** button while it is red to confirm the deletion. After three (3) seconds the **Delete** button reverts back to blue, and you must repeat step 2 to start over the delete action.

---

3. Tap the **Delete** button again (while it is still red) to confirm the deletion.

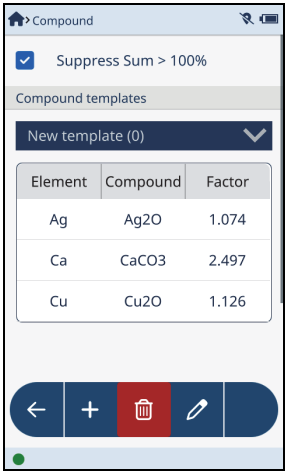

Figure 2-93 Compound template delete confirmation

3. Testing

3.1 Running a Test

The instructions in this section describe all of the actions (procedures) required to start and stop a test. Your analyzer may require specific procedures to start or stop a test. The procedures you will use are set by Evident at the factory, as mandated by the regulations in your region. There is no provision for you to change those regional settings. Please contact Evident with any questions.

Regional settings may activate a secondary infrared (IR) proximity sensor. The IR proximity sensor is an additional safety interlock measure, which stops the test if no sample is detected in front of the analyzer measurement window. Because the secondary IR proximity sensor relies on sample reflectivity, the sensitivity of the proximity sensor depends on the type of sample. Not all features are on every Vanta analyzer model.

The first screen displayed after logging into the Vanta analyzer is the Live View, where you can run a test and then view real-time analysis results.

To begin a test

1. Position the measurement window of the analyzer over the test sample.
2. Begin the test using one of the following methods:
   - Tap the **Start** action button ()
     OR
   - Pull the trigger.
     OR

- Pull and hold the trigger until the test has completed (satisfies the deadman trigger option if selected in the **Safety** screen).

  OR

- Pull and hold the trigger and press the Back navigation button ( ) until the test has completed (if settings that satisfy regional requirements for two-handed trigger operation have been activated at the factory).
  - The test begins, using the currently set parameters.
  - The status bar shows the progress of the test.
  - Results are displayed during testing and upon test completion.

To stop a test

- Press the **Stop** button ( ).

  OR

- Pull the trigger (if the deadman trigger or two-handed trigger options are *not* selected in the **Safety** screen.)

  OR

- Release the trigger if the deadman trigger is selected in the **Safety** screen.

  OR

- Release either the trigger or the Back navigation button ( ) (if settings that satisfy regional requirements for two-handed trigger operation have been activated at the factory).

When the test is complete, tap the method name to view the results.

Figure 3-1 Expandable bars

At the end of a day of testing, it is a good practice to export the results to one of the following:

- A PC via a USB cable
- An installed microSD card
- A storage device through the wireless LAN
- A storage device through Bluetooth®
- A USB flash drive.

NOTE

See "Export Settings" on page 49 for details about exporting data.

3.1.1 Automatically Exported Test Results

NOTE

The correct export settings must be made before results will automatically be exported (see "Export Settings" on page 49).

When the export settings are properly configured, test results are automatically exported immediately after the test completes.

3.2 Viewing Elemental Results

As a test is run, data begins to populate the Elemental Results expandable bar in Live View. When testing is complete, you can view the fully populated final results (see Figure 3-2 on page 108).

Tap the **%** or **+/-** column headings to reverse the display order.

Tap the **EL** (element) column heading to change the display order to A-Z, Z-A, or the display order specified in the Element Order screen (see "Element Order" on page 58).

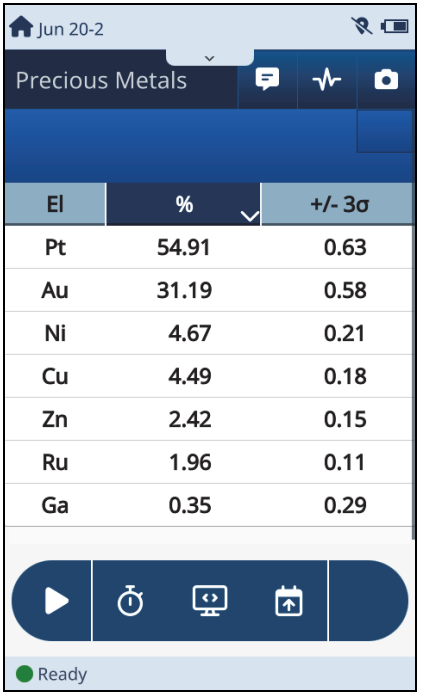

Figure 3-2 Live View — Elemental Results

3.3 Viewing the Spectrum Graph

The spectrum graph can be manipulated to zoom in and scroll for close inspection. The XY coordinates change as you zoom and pan.

To activate the spectrum graph

1. Tap the Spectrum button ( ) to open and view the spectrum image.
2. Tap and hold the spectrum image until it expands to fill the available screen area (see Figure 3-3 on page 109).

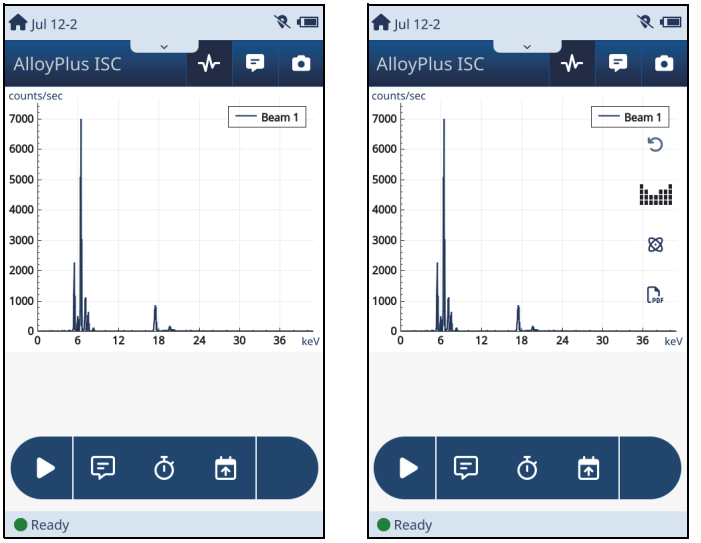

Figure 3-3 Spectrum — Unexpanded (left) and expanded (right)

NOTE

When dragging to zoom and pan, move your finger slowly and deliberately across the screen. You can always return to the initial view by tapping the undo ( ) icon.

To zoom in and out

- Drag up from near the bottom of the spectrum to zoom in or drag down from near the top of the spectrum to zoom out. If the spectrum disappears from view, try panning to the right to bring it back (see the next step). As the spectrum peak of interest becomes larger, you can use that peak as a point of reference for zooming and panning (see Figure 3-4 on page 110).

To pan left and right

- Drag from the left or right side of the screen in a straight line to pan.

The spectrum should move in the direction of your finger. If the spectrum gets larger or smaller, you are not moving your finger in a straight line across the screen.

As you pan the spectrum, the counts per second scale on the left changes to accommodate the height of the spectrum as it varies (see Figure 3-4 on page 110).

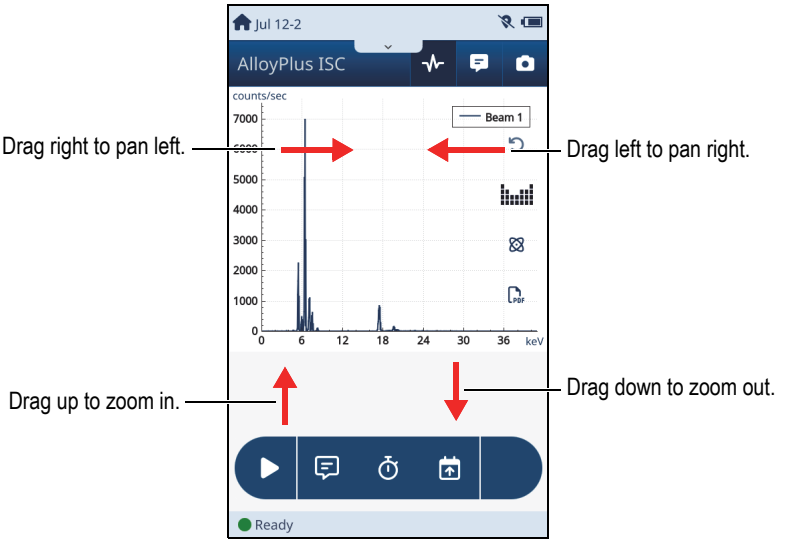

Figure 3-4 Spectrum zoom and pan

3.3.1 Spectrum Markers

You can display markers on the spectrum to compare samples or to verify the accuracy of a result.

Markers consist of lines that represent element composition. The lines reach from the base to the peak concentration point of a given element. At the peak point is text that identifies the element.

To display spectrum markers

1. Activate the spectrum graph.
2. Optionally zoom and pan to display a specific peak.
3. Tap a spectrum peak to make markers appear (see Figure 3-5 on page 111).

Figure 3-5 Marker on spectrum

To select additional elements for marker display

1. Tap the Elements icon ( ) to display the **Select Elements** dialog box.
2. Tap the check-box of the element you want marked and displayed.
3. Tap **OK**.

To select additional elements for marker display

1. Tap the Element Lines icon ( ) to display the **Select Element Line** dialog box.
2. Tap the check-box of the element line you want displayed.
3. Tap **Remove All** to remove all element markers from the display.

3.3.2 Saving an Image of the Spectrum

You can save an image of the spectrum as a PDF file.

To save a spectrum as PDF

- Tap the PDF icon ( ) in the spectrum screen.

3.4 Manually Averaging Results

When averaging is in manual mode you can choose to exclude certain results from averaging. For instructions on how manual averaging mode is set, see “To manually run and average tests” on page 33.

To exclude certain results from averaging

1. After more than one test has been run, you can tap the **Live Average** button ( ) to display the manual averaging list of results.
2. Tap one or more of the check-boxes to exclude those results from the averaging calculations (see Figure 3-6 on page 112).
3. Tap the **Average** button ( ) above the list to begin averaging (see Figure 3-6 on page 112).

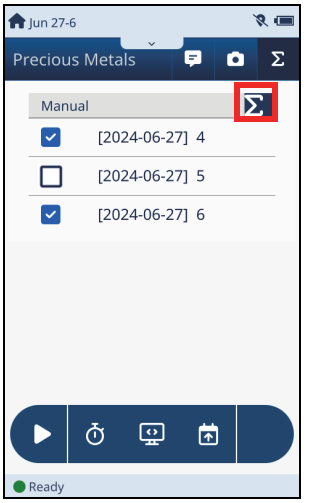

Figure 3-6 Live View — Results 2 and 4 excluded

4. Standard and Optional Features

The Vanta analyzer has standard and optional features that can be configured before initial testing. The buttons that represent these features are located in the **Menu Tray** (Hardware and System sections), and in the **System Tray**. Most of the features in this section are seldom used after initial setup.

4.1 Standard Features

The standard features described below can be found on every Vanta.

4.1.1 Network Folder

NOTE

The wireless LAN must be enabled before you can use this feature. See "Wireless LAN" on page 133.

The **Network Folder** lists folders that can be mounted to receive exported data. Additional folders can also be added to the list.

NOTE

Your IT department may be needed to set up the permissions that allow you to share a network folder.

To display the Network Folder screen

- Tap the **Network Folder** button () in the **Menu Tray** to display the **Network Folder** screen.

To mount a network folder

NOTE

The network folder must properly defined before it can be mounted. See "To add a new folder" on page 116.

1. Tap a network folder in the **Network Shared Folders** list (see Figure 4-1 on page 114).

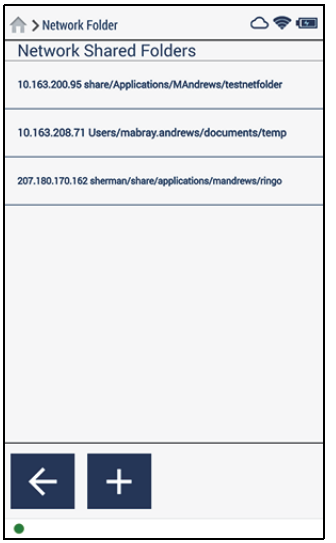

Figure 4-1 Network Shared Folders list

2. Tap **Connect** in the **Edit Folder** dialog box (see Figure 4-2 on page 115).

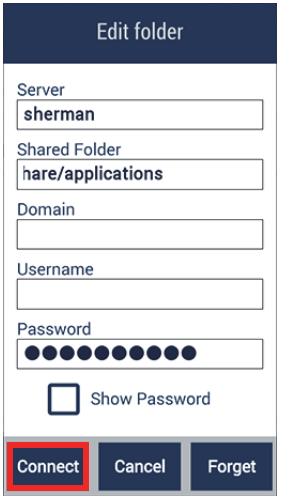

Figure 4-2 Edit Folder dialog box

The “Mounted” annotation is displayed under the folder you selected (see Figure 4-3 on page 115).

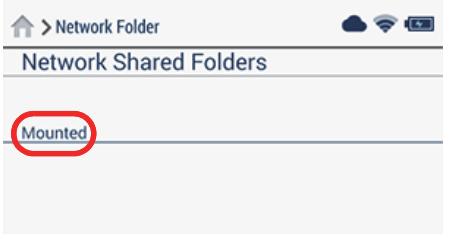

Figure 4-3 Folder successfully mounted

To disconnect a mounted folder

1. Tap the mounted network folder (see Figure 4-3 on page 115).
2. Tap **Disconnect** in the **Edit Folder** dialog box (see Figure 4-4 on page 116).

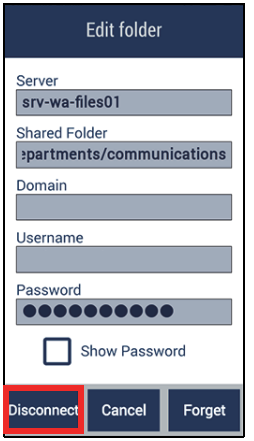

Figure 4-4 Disconnect a mounted folder

To add a new folder

1. Tap the **Add** button (+) in the **Network Folder** screen.
2. Fill in the boxes in the **Add Folder** dialog box (see Figure 4-5 on page 117).

NOTE

To display the backslash character (\ ) on screen two of the special character keypad, tap (.?123) on the alphabet keypad, then tap (1/2).

---

3. Tap **Connect** to accept the changes and connect to the folder.

Figure 4-5 Empty (left) and completed (right) Add folder dialog boxes

To change folder information

1. Tap an unmounted network folder in the **Network Shared Folders** list (see Figure 4-1 on page 114).
2. Tap an IP address (see Figure 4-1 on page 114).
3. Tap **Edit** in the **Edit Folder** dialog box.
4. Tap in a field, and then edit the information (see Figure 4-6 on page 118).
5. Dismiss the keypad, and then tap **Connect** to accept the changes and connect to a folder using the updated information.

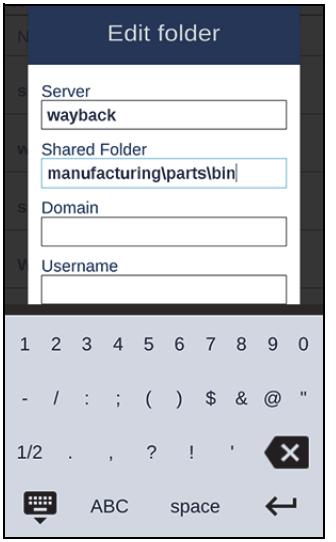

Figure 4-6 Edit Folder (editing enabled)

To remove a folder from the list

1. Tap a folder (mounted or unmounted) in the **Network Shared Folders** list (see Figure 4-3 on page 115).
2. Tap **Forget** to remove the folder from the **Network Shared Folders** list (see Figure 4-7 on page 119).

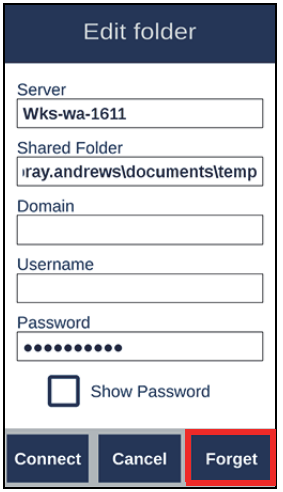

Figure 4-7 Edit Folder — Forget

4.1.2 Cloud Settings

Cloud Settings enables you to register and connect your Vanta to the Evident Cloud.

To configure the cloud settings

1. Go to the Evident Cloud (www.EvidentScientific.com), register your Vanta, and obtain a PIN.
2. In the Vanta **Menu Tray**, tap the **Cloud Settings** button () to open the Vanta **Cloud Settings** screen (see Figure 4-8 on page 120).
3. Tap the **Lock** button, and then enter the PIN (that you obtained from the cloud) in the **Authenticate** dialog box.

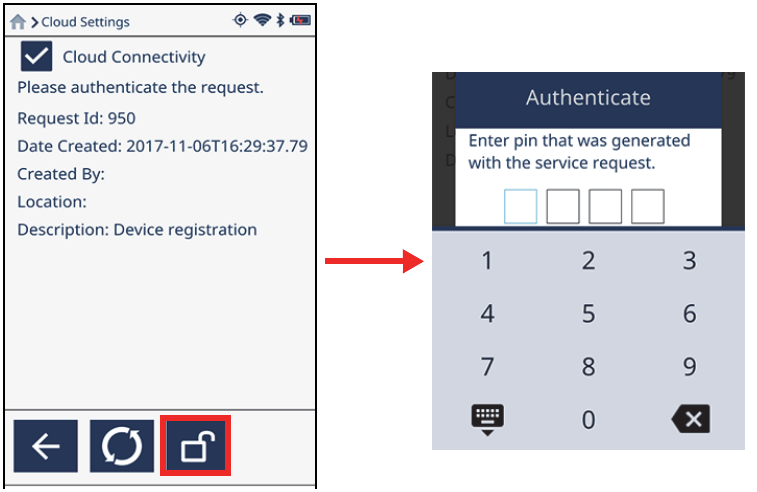

Figure 4-8 Cloud Settings screen

4. When the PIN is authenticated, the **Cloud Settings** screen indicates that the instrument is connected to the cloud (see Figure 4-9 on page 120).

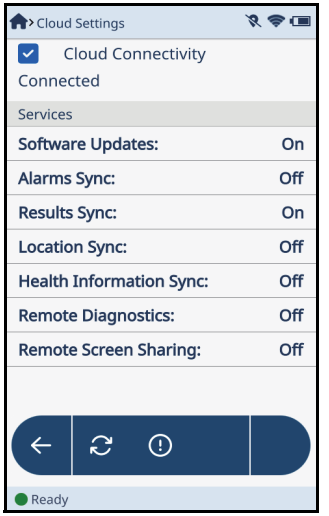

Figure 4-9 Vanta connected in Cloud Settings screen.

If screen sharing is configured in the Evident Cloud, the **Share Screen** check-box appears in the **Cloud Settings** screen.

4.1.3 GPS

Turns on the Vanta GPS (Global Positioning System). In the **Live View** screen when GPS is on, the current GPS coordinates are displayed below each test result.

To enable GPS

1. Tap the GPS button () in the **Menu Tray** to open the Vanta **GPS** screen.
2. Select the check-box to turn on the GPS (see Figure 4-10 on page 121, left).
   The Live View screen will display the current GPS coordinates (see Figure 4-10 on page 121, right).

NOTE

Ensure that the **Show GPS** check-box is checked in the **Method Display** screen.

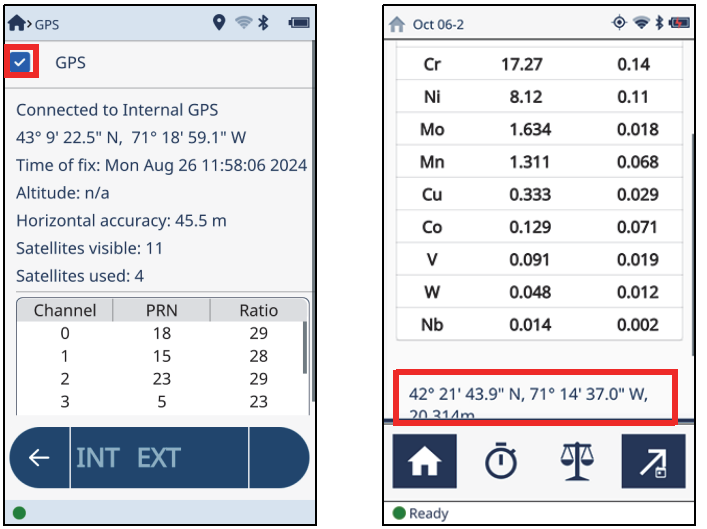

Figure 4-10 GPS screen (left), GPS coordinates in Live View (right)

To quickly turn GPS on or off

1. Close the **Menu Tray** (if open), and then swipe down anywhere on the left side of the menu bar to open the **System Tray**.
2. Tap the **GPS** action button () to turn GPS on or off.

4.1.4 Date & Time

Set the date and time manually, or set the Vanta to automatically synchronize the date and time when it is connected to a network.

To automatically synchronize the date and time

1. Tap the **Date & Time** button (

) in the **Menu Tray** to open the **Date & Time** screen (see Figure 4-11 on page 122).
2. Make sure that the **Automatic date & time** check-box is selected to update the time whenever the instrument is connected to a server.

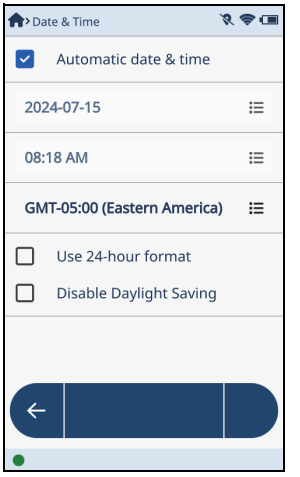

Figure 4-11 Date & Time screen

To choose the display format

1. To choose the 12-hour format, clear the **Use 24-hour format** check-box.
2. To choose the 24-hour format, select the **Use 24-hour format** check-box.

To manually set the date and time

1. Make sure that the **Automatic date & time** check-box is cleared.
2. Tap the top list button (☰) to open the **Set Date** dialog box (see Figure 4-12 on page 123).
3. Flick up or down on the year, month or day to set the correct date.
4. Tap **OK**.

Figure 4-12 Set Date dialog box

5. Tap the middle list button (☰) to open the **Set Time** dialog box (see Figure 4-13 on page 124).
6. Flick up or down on the hour, minute, or AM/PM to set the correct time.
7. Tap **OK**.

Figure 4-13 Set Time dialog box

8. Tap the bottom (GMT) list button (☰) to open the **Choose Time Zone** dialog box (see Figure 4-14 on page 124).
9. Select the correct time zone.
10. Tap **OK**.

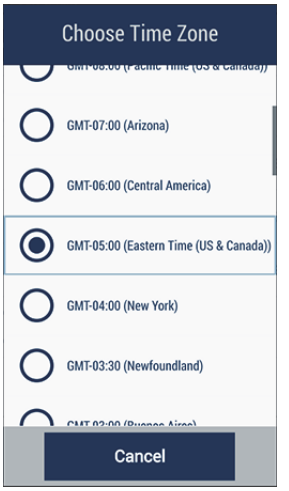

Figure 4-14 Choose Time Zone dialog box

11. Tap to select the **Use 24-hour format** check-box to use twenty-four hour format, or tap to clear the check-box for AM/PM format.

12. Tap to select the **Disable Daylight Saving** check-box to disable daylight savings time, or tap to clear the check-box to use daylight savings time.

4.1.5 Display

Sets the language, font size, backlight intensity, and screen rotation on or off.

To change the Display settings

1. Tap the **Display** button (DISPLAY) in the **Menu Tray** to open the **Display** screen (see Figure 4-15 on page 125).
2. To select a font size, tap an option button.
3. To allow the Vanta screen to change orientation, select the **Allow screen rotation** check-box.
4. Drag the **Backlight** slider left or right to change the screen brightness.

   The **Backlight** slider sets the brightness of the User Defined setting in the **System Tray** (see "To quickly change the screen brightness" on page 126).

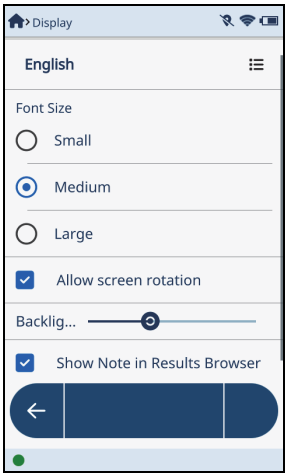

Figure 4-15 Display screen

5. To change the user interface language:

a) Tap the **Language** list button (☰) to open the **Choose Language** dialog box (see Figure 4-16 on page 126).

b) Tap an option button to select a language.

Figure 4-16 Choose Language dialog box

To quickly change the screen brightness

1. Swipe down to open the **System Tray**.
2. Tap the **Display** action button (DISPLAY).
3. Slide the **Backlight** control to change the screen brightness.

4.1.6 Power Settings

The power settings screen is used to control Vanta energy usage. The Vanta has three power profiles that control analyzer energy usage:

NOTE

When setting the performance and power save presets, make sure the durations are longer than the settings in the **Test Times** screen (see "Test Times" on page 24). Otherwise, the test ends when the screen shuts off.

- **Always on** — The touch screen and microprocessor are always on.
- **Performance** — The screen can be set to shut off after a preset time.
- **Power save** — The screen can be set to shut off after a preset time, and the microprocessor can be set to enter sleep mode after a preset time.

To open the power settings screen

- Tap the **Power Settings** button (

) in the **Menu Tray** to open the **Power Settings** screen (see Figure 4-17 on page 128).

To set the power profile

- Tap the power profile you want to select a new power profile.

To turn the cooling fan on or off

NOTE

The internal cooling fan is an option that may be installed on your Vanta. See the *Vanta Family X-Ray Fluorescence Analyzer User's Manual* for more information on installing the optional internal cooling fan.

- Tap the **Enable cooling fan** check-box to either enable or disable the cooling fan.

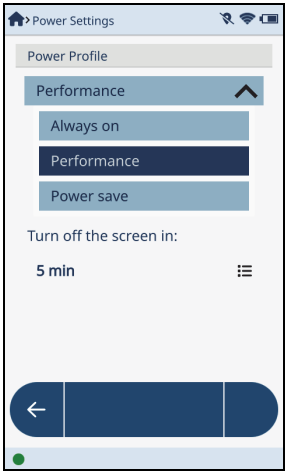

Figure 4-17 Power Settings screen

4.1.7 Safety

Sets the deadman trigger, trigger lock, or whether a workstation is required to run a test.

- The deadman trigger requires that you pull and hold the trigger until the test has completed.
- The trigger lock automatically locks the trigger. You cannot run tests while the trigger is locked.
- The workstation requirement mandates that the instrument be connected to an optional Vanta workstation. Also, a workstation is required for 50 kV exposures.

To open the Safety screen

- Tap the **Safety** button (

) in the **Menu Tray** to open the **Safety** screen (see Figure 4-18 on page 129).

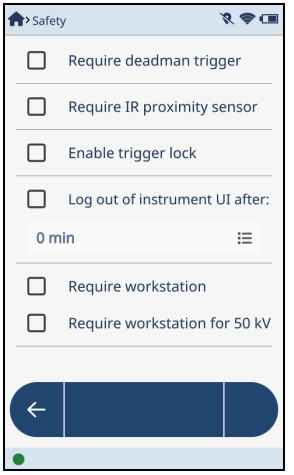

Figure 4-18 Safety screen

To enable the deadman trigger

- Select the **Require deadman trigger** check-box to enable the deadman trigger.

To enable the trigger lock

1. Select the **Enable trigger lock** check-box to lock the instrument trigger.

   In live view, the Trigger Locked icon ( ) replaces the **Start** button (see Figure 4-19 on page 130).

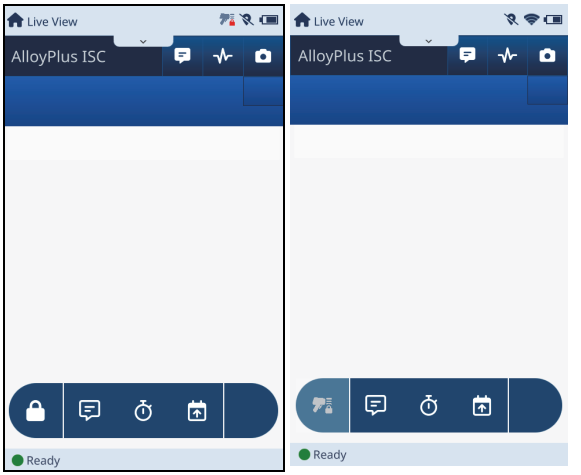

Figure 4-19 Live View — Trigger locked

To unlock the trigger

1. Swipe down to open the menu.
2. Tap the **Trigger Lock** button ( ) to unlock the trigger.

NOTE

You can also use the **Trigger Lock** button ( ) to lock the trigger.

To enable operation only when connected to a workstation

- Tap **Require workstation** to only enable the instrument to run tests when connected to an optional Vanta workstation.

4.1.8 Diagnostics

Use this parameter to view the hardware and battery status and display the system or firmware log.

To open the Device Diagnostics screen

- Tap the **Diagnostics** button (DIAGNOSTICS) in the **Menu Tray** to open the **Device Diagnostics** screen (see Figure 4-20 on page 131).

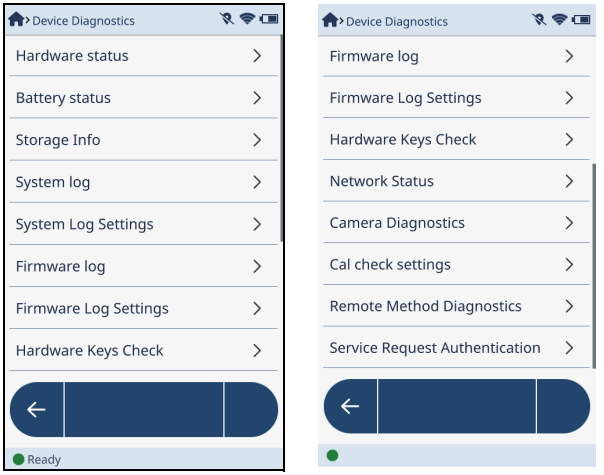

Figure 4-20 Device Diagnostics screen

To view the diagnostic information

- Tap the arrow (›) of a diagnostic category to view the status or log file.

4.1.9 About Device

The About Device screen provides the following information about the Vanta:

- **Model** — Information on the model type, serial number, and cameras
- **Versions and Updates** — Information on the software and firmware versions.
- **Legal** — Intellectual property protection information.
- **Regulatory** — Contains the regulatory symbols found on the instrument and in the *Vanta Family X-Ray Fluorescence Analyzer User's Manual*.
- **Licenses** — Various licensing information.

To open the About Device screen

- Tap the **About Device** button (ABOUT DEVICE) in the **Menu Tray** to open the **About Device** screen (see Figure 4-21 on page 132).

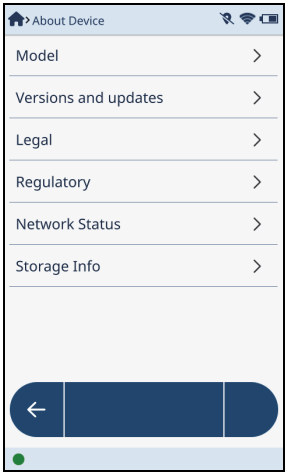

Figure 4-21 About Device screen

To view the device information

- Tap the arrow ( ) of a listed category to view that information.

4.1.10 Cal Check

Cal Check is an action button in the Menu Tray that runs a quick calibration check.

To run a cal check

1. Open the **Menu Tray**.
2. Place the Vanta window on a 316 coin (included) and tap the **Cal Check** button (CAL CHECK).

The test runs (X-rays are emitted) and the results (pass or fail) are reported.

4.1.11 Logout Session

Logout Session is an action button in the Menu Tray that logs out of the current test session.

To log out of the current session

1. Open the **Menu Tray**.
2. Tap the **Logout Session** button (

) to log out of the current test session and display the **Welcome** screen.

4.2 Optional Features

Optional features are included on the Vanta when specified at the time of purchase.

4.2.1 Wireless LAN

NOTE
A wireless USB adaptor is required with this feature.

The Wireless LAN (Local Area Network) feature connects the instrument to a wireless local area network. It behaves much like making a cell phone Wireless LAN connection.

To connect to a Wireless LAN network

1. Tap the **Wireless LAN** button (

) in the **Menu Tray** to display the **Wireless LAN Networks** screen.
2. Select the **Wireless LAN** check-box to enable the **Wireless LAN** (see Figure 4-22 on page 134).

3. Tap to select a network from the list of available networks.

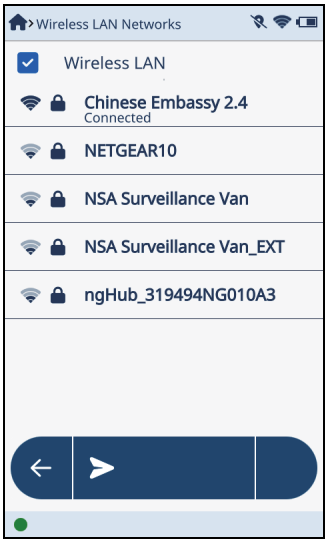

Figure 4-22 Wireless LAN Networks screen

4. Tap in the **Password** box, and then enter a password (see Figure 4-23 on page 135).

   Optionally select the **Show Password** check-box to show the actual password characters you are typing.

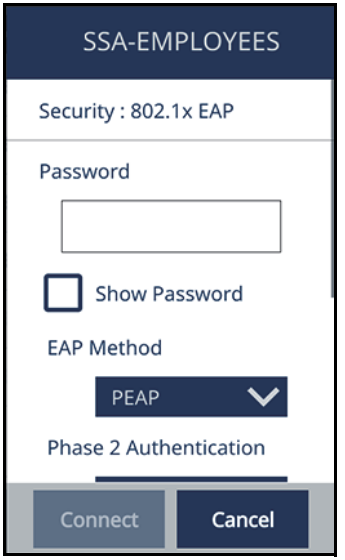

Figure 4-23 Authentication dialog box (part A)

5. Flick down to scroll down to the **Identity** box (see Figure 4-24 on page 136).
6. Enter a network user name.
   For example: mabray.andrews

NOTE

To display the backslash character (\ ) on screen two of the special character keypad, tap (.?123) on the alphabet keypad, then tap (1/2).

---

7. Enter the network domain name/network user name in the following format:
   xxxxxxxx\xxxxxxxxx
   For example: Evident-demo\james.spillane
8. Tap **Connect**.
   This should authenticate the network and connect the analyzer to it.

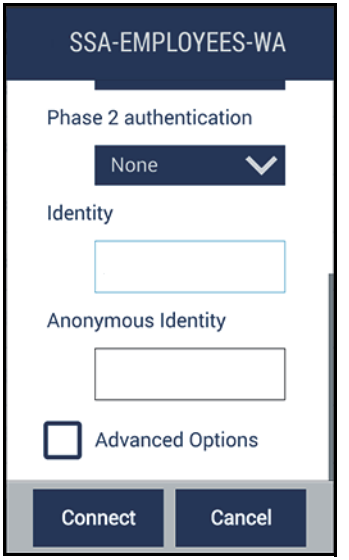

Figure 4-24 Authentication dialog box (part B)

To add a network

1. Tap the **Add** button in the **Wireless LAN Networks** screen.
2. Enter a **Network Name** and **Password** in the **Add Hidden Network** dialog box (see Figure 4-25 on page 137).
3. Optionally set the **Security** and **Advanced Options**.
4. Tap **Connect**.

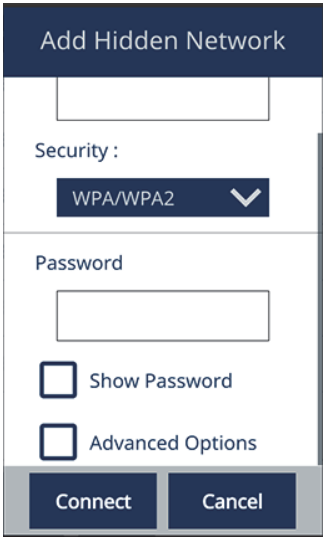

Figure 4-25 Add Hidden Network dialog box

To quickly enable or disable the Wireless LAN

1. Close the **Menu Tray** (if open), and then swipe down anywhere on the left side of the menu bar to open the **System Tray**.
2. Tap the **Wireless LAN (**action**)** button ( ).

4.2.2 Cameras

The optional cameras are the aiming camera/collimator, and the panoramic camera.

The aiming camera and collimator are activated in the **Camera** screen and operated in **Live View**. The aiming records a photo when the next test is started.

The panoramic camera is always available in Live View. Any photos taken with the panoramic camera are saved with the results of the current test.

After you run a test, the image from the aiming camera and any images from the panoramic camera are saved with the test.

To use the panoramic camera

1. On the **Live View** screen, swipe left to display the **Aiming Camera** screen.
2. Tap the **Switch Camera** button ( ) to display the **Panoramic Camera** screen (see Figure 4-26 on page 138).

Figure 4-26 Panoramic camera screen

3. Aim the Vanta at the object of interest.

   There are no focus or zoom controls on the Vanta, so make sure that the area of interest is in focus and positioned within the image frame.
4. Tap the **Shutter** button ( ) to capture the image.

   A thumbnail of the image appears at the bottom of the Vanta screen. This image will be saved with the results of the current test (see Figure 4-27 on page 139).
5. Take as many pictures as you need using the **Shutter** button.

   A thumbnail of each new picture appears at the bottom of the Vanta screen.
6. Press and hold on a thumbnail to select it as the image to be saved with the test information.

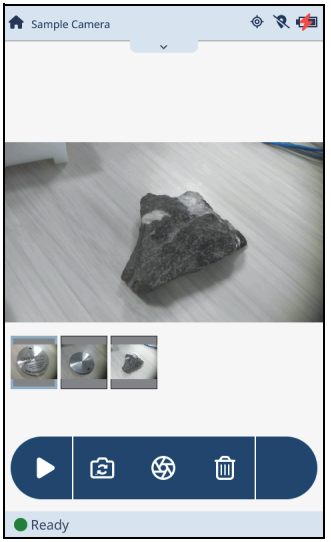

Figure 4-27 Thumbnails in panoramic screen

7. Tap the **Start** button () to begin a test.

To use the aiming camera

1. Tap the **Camera** button (

) to open the **Camera** screen (see Figure 4-28 on page 140).
2. Select the **Enable aiming camera** check-box.
3. Select the **Enable collimator** check-box.

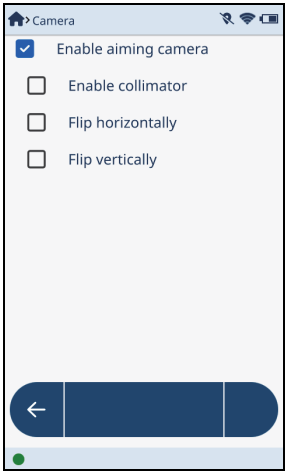

Figure 4-28 Camera screen

4. Go to the **Live View** screen, and then swipe left to display the **Sample Camera** screen (see Figure 4-29 on page 141).
5. Aim the Vanta at the sample.

   Make sure that the area of interest is in focus and positioned within the red circle on the screen.
6. Drag up or down the slider on the right to increase or decrease LED brightness.

Figure 4-29 Live aiming camera

7. Tap and hold the red circle.

   The circle will shrink to approximately half the diameter to indicate the focus area of the collimated beam (see Figure 4-30 on page 141).
8. Make any final positioning adjustments to either the Vanta or the sample.

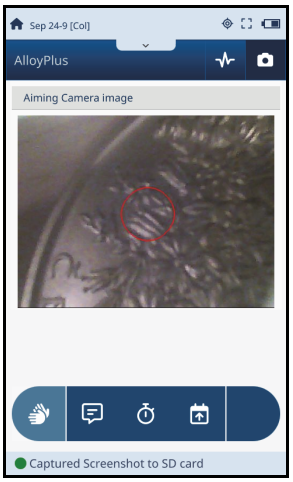

Figure 4-30 Collimated focus area within red circle

9. Tap the **Start** button ( ) to begin a test.

To view saved images

1. When the test is complete, tap the **Image** bar (plus sign) to view the collimated image (see Figure 4-31 on page 142).

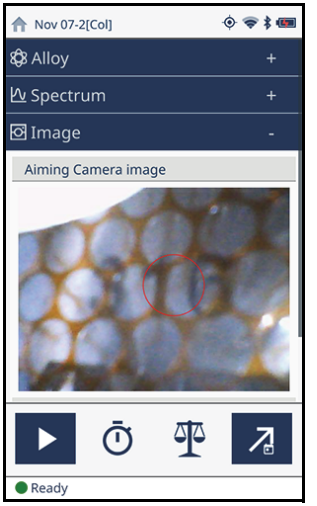

Figure 4-31 Saved camera image

2. Flick up to view any panoramic images.

To quickly turn on or off the aiming camera

1. Close the **Menu Tray** (if open), and then swipe down anywhere on the left side of the menu bar to open the **System Tray**.

2. Tap the **Aiming Camera** button (CAMERA) to turn the aiming camera on or off.

Appendix: Software Buttons

The tables in this section describe the software buttons found in the Vanta UI. The New Screen buttons open new screens or dialog boxes. The Action buttons immediately execute an action.

Table 2 Software New Screen buttons

Button	Name	Description
	About Device	Opens the **About Device** screen.
	Bluetooth®	Opens the **Bluetooth®** screen.
	Browse Results	Opens the **Browse Results** screen.
	Camera	Opens the **Camera** screen.
	Cloud Settings	Opens the Cloud Settings screen.
	Compound	Opens the **Compound** screen.

Table 2 Software New Screen buttons *(continued)*

Button	Name	Description
	Date & Time	Opens the **Date & Time** screen.
	Diagnostics	Opens the **Diagnostics** screen.
	Display	Opens the **Display** screen.
	Element Order	Opens the **Element Order** screen.
	Export Settings	Opens the **Export Settings** screen.
	GPS	Opens the **GPS** screen.
	Grade Match	Opens the **Grade Match** screen.
	List	Opens a dialog box with a list of choices.
	Method Display	Opens the **Method Display** screen.
	Multiple Tests	Opens the **Multiple Tests** screen.
	Network Folder	Opens the **Network Folder** screen.

Table 2 Software New Screen buttons *(continued)*

Button	Name	Description
	Notes	Opens the **Notes** screen.
	Power Settings	Opens the **Power Settings** screen.
	Printers	Opens the **Printer Settings** screen.
	Pseudo Elements	Opens the **Pseudo Element** screen.
	RoHS Action Level	Opens the **RoHS Action Level** screen.
	Safety	Opens the **Safety** screen.
	Select Method	Opens the **Select Method** screen.
	Test Times	Opens the **Test Times** screen.
	User Factors	Opens the **User Factors** screen.
	Wireless LAN	Opens the **Wireless LAN** screen.

Table 3 Software Action buttons

Button	Name	Description
	Add	Adds a new item.
	Aiming Camera	Accesses the parameters (including enabling/disabling) the (Live View) Aiming camera.
	Back	Return to the previous screen.
	Bluetooth®	Turns on or off Bluetooth®.
	Cal Check	Runs a quick cal check.
	Delete	Deletes the selected item.
	Edit	Edits the selected item(s).
	Export	Exports the selected results.
	Export Today	Exports the results collected during the current day.
	GPS	Turns on or off the GPS.
	Logout Session	Logs out of the current test session.

Table 3 Software Action buttons *(continued)*

Button	Name	Description
	Print	Prints to the Bluetooth® printer.
	Start	Starts a test.
	Stop	Stops an in-progress test.
	Switch Camera	Switches between the Aiming camera and the Panoramic camera.
	Shutter	Captures an image with the Panoramic camera.
	Trigger Lock	Disables the Vanta from turning on X-rays. You can pull the trigger, but nothing happens. The Start button is replaced by a lock icon () to indicate that X-rays are disabled until the trigger is unlocked.
	Wireless LAN	Turns on or off the Wireless LAN radio.

List of Figures

List of Tables