# QUICK START GUIDE

## GEMORO XRF Gold & Precious Metal Analyzer



GEMORO®

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## 1. POWERING UP THE UNIT

### 1.1 INSERTING THE BATTERY

The **GEM**ORO XRF Gold & Precious Metal Analyzer is battery operated. The battery is part of the bottom of the handle. The battery is housed in the handle and forms the bottom of the handle. Insert the battery into the handle, until the connectors click into place. The battery is directional and keyed to only go in one way, so don't force it.



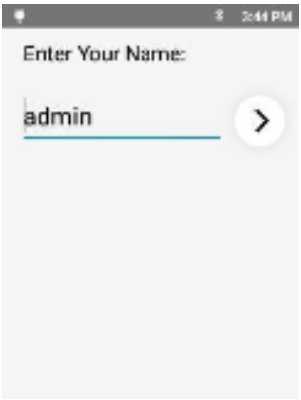
### 1.2 TURNING ON THE UNIT

The on/off button is on the top of the unit. Press it to turn the unit on.



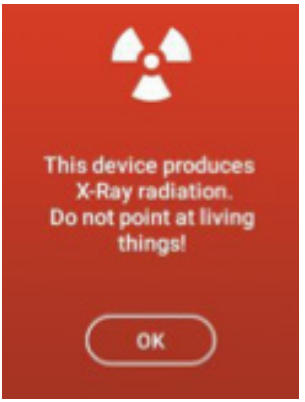
## 2. LOGGING IN

The factory set name is **admin**. The factory set passcode is **12345**. The administrator can change this later.










The X-Ray warning screen appears.

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**X-Rays can cause serious harm to people and animals!**

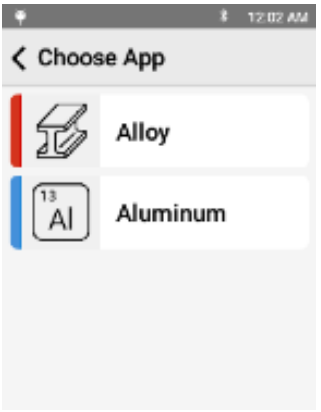
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Tapping "**OK**" on this screen means you understand that, and that you will not use this XRF unit improperly.

Next, the Analyze screen appears. Tap "**Analyze**" to start your first analysis of a sample.

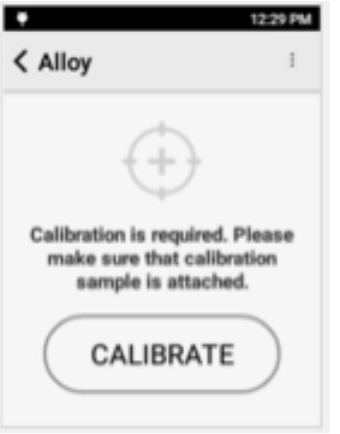
The screen listing the applications installed on your unit will appear. Tap the mode intended for the type of analysis you intend to do. *The rest of the screenshots in this QuickStart are from the Alloy App.*



### 3. CALIBRATING THE UNIT

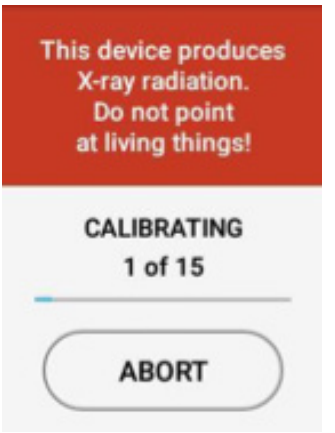
If this is the first time the unit is being used or the first time the unit being used for the day), the unit will need calibrating. If calibration is required, the unit will automatically bring up the Calibration window.



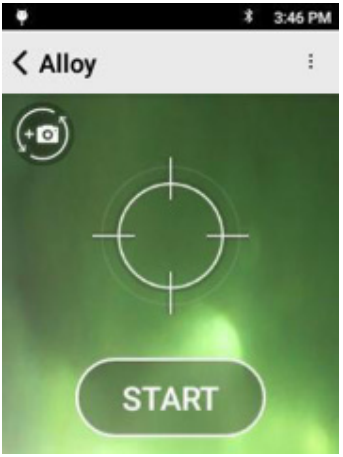

Place the 316 coupon that came with the unit on the nose. If the coupon is not available, use a clean, known 316 steel sample. Make sure the 316 coupon completely covers the analysis window. Tap "**CALIBRATE**" to begin the process.




Calibration takes 15 seconds. 1 of 15 means the first second of the 15 seconds of the calibration.



When the calibration is successful, the "**START**" screen appears. Remove the coupon from in front of the aperture. You can now use the instrument to test your samples. If the calibration fails, an error message will be displayed.

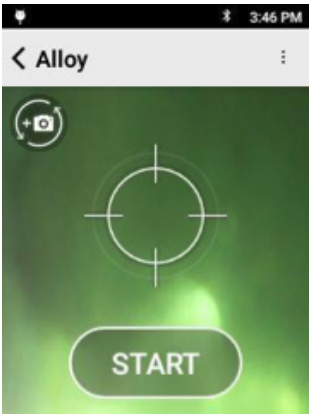



Confirm the piece of 316 coupon is positioned correctly in front of the window and retry the calibration.

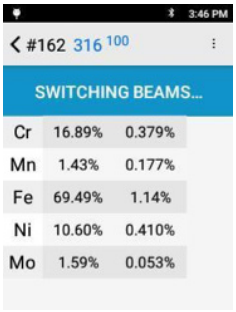
If the calibration continues to fail, please contact **GEM**ORO/SY KESSLER SALES, INC. technical support at **+1 800 527 0719**.

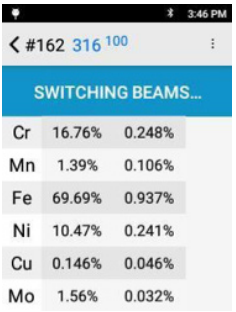
**4. TAKING A TEST**

Align a sample with the window and tap "**START**". Or squeeze (and release) the trigger at the top of the handle. The test will start. Ensure the sample you are testing is making direct contact (touching) with the testing window. When testing - you must test on a carbon neutral base. Utilizing the foam within the Pelican carrying will work as well.



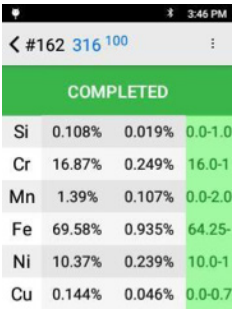









Tests report findings in real time, so as the test continues and more information is obtained, the data on the screen will be updated. When the "**COMPLETED**" screen appears, the test is done and the final values are given.

**5. LOOKING AT RESULTS**

The top portion of the screen lists:

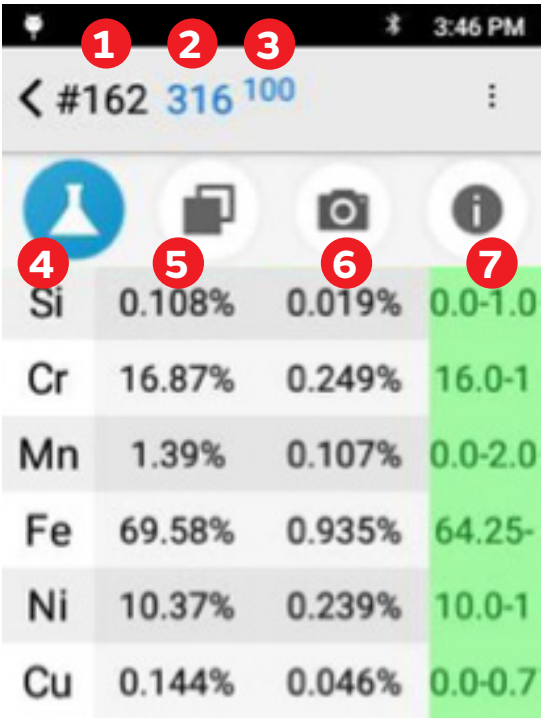
1. Test Number
2. Top Grade Match
3. Grade Match Score where 100 is a perfect score meaning that all elements measured fit within the alloy grade specification.

4. The first column on the left lists all detected elements. Scroll down to see additional elements.
5. The second column is the concentration of that element.
6. The third column is the confidence or uncertainty of the measurement.
7. The green column on the right is the Specifications column.

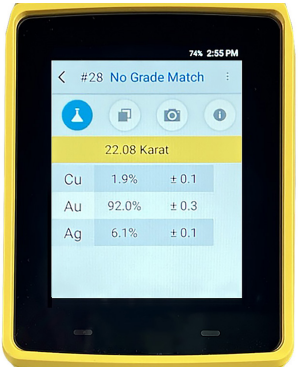
Specifications column lists the specification of the best alloy grade match for the determined chemistry of the sample.

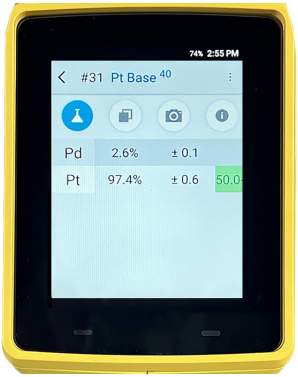
The grade specification will be highlighted in green if a detected element is specified in the alloy grade and the amount detected is within the grade's specification.

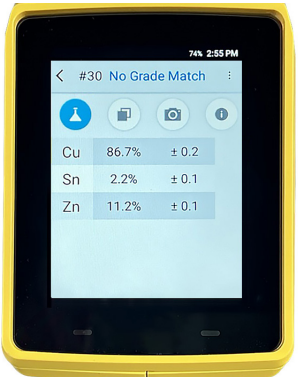
In this example test, all elements found in the sample are in grade 316 and are within spec for that grade.



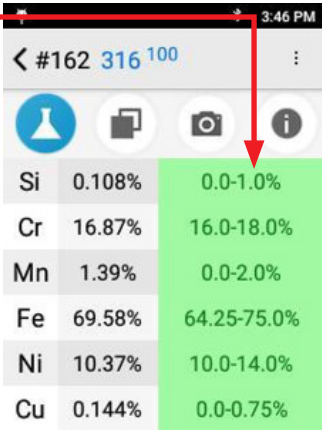
When Au (Gold) is present, the Karat Gold Purity level will be stated on the top of the grid making it very easy to interpret results. The top bar comment “No Grade Match” will continue to be stated as the unit is still seeking specific alloy grade matches such as Platinum. In this example, Pt (platinum) is the dominant element in the sample with a concentration of 97.4%, with a +/- 0.6 confidence/ uncertainty, and a Specifications columns (green highlighted) activated which means that indeed Platinum is detected within the grade’s composition allowance (50.0+).



To see the complete information in the Specification column, tap it. The column will expand, showing the range of the spec for the detected element for that grade. In this test, all the detected elements are both found in SS 316, and are within range for SS 316, so all the ranges are green.




**6. COMPARE RESULTS TO A DIFFERENT GRADE**

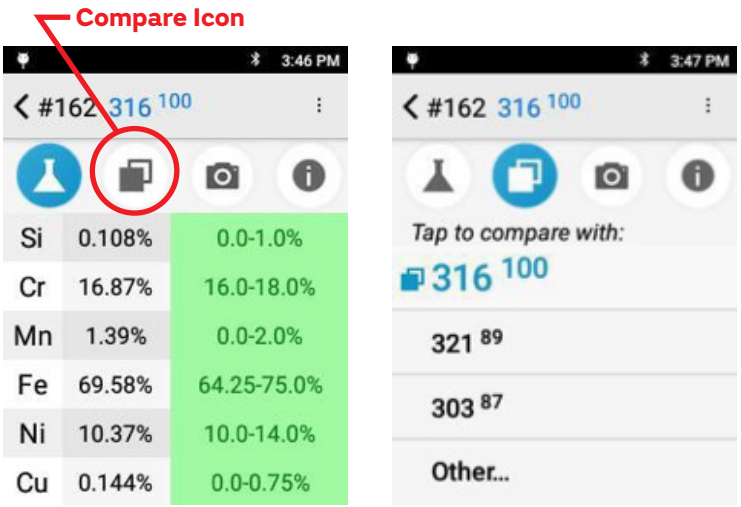
The best match is always shown when a test is completed. You can look at other grades to see why they are not the best match.

Tap the "**Compare icon**". The top three (3) matches will be listed. The superscripted numbers after the grades is the grade match score for that grade.

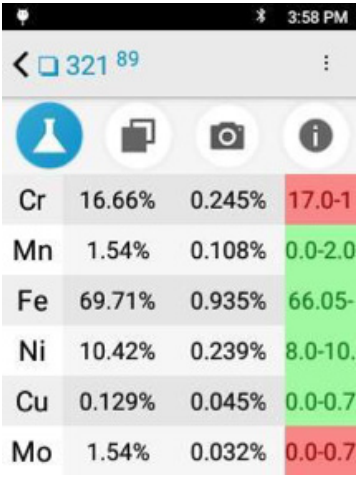
Tapping "**Other**" will show you additional grades that have lower grade scores than the three listed.

In this image, the grade match score for the top three (3) results are:
100 for 316
89 for 321
87 for 303

Tap on a grade listed to see why it is not the best match.



In this example, 321 was selected. Cr and Mo are not within specification for 321.



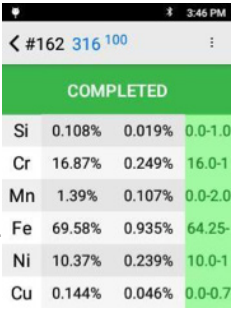

**7. TAKING THE NEXT TEST**

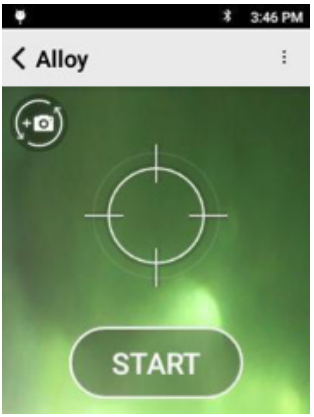
Taking additional tests is the same as taking the first test. You may start another test from the result screen or use the back button to return to the targeting screen.

From the current result: Align a sample with the window and squeeze (and release) the trigger.

OR

From the start screen, align a sample and tap "**START**". Squeeze (and release) the trigger at the top of the handle. The test will start.

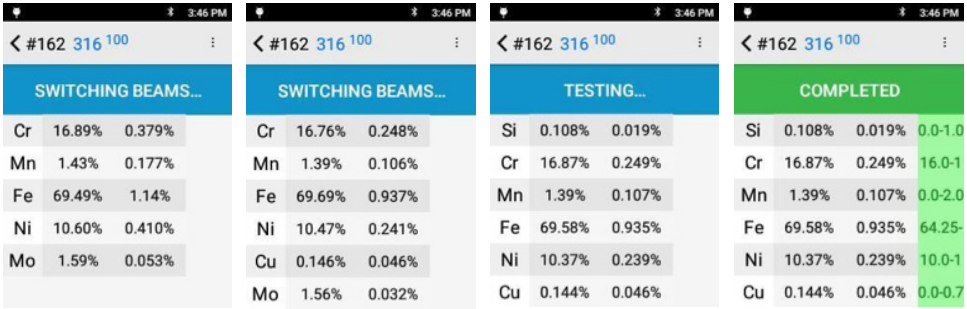





Tests report findings in real time, so as the test continues and more information is obtained, the data on the screen will be updated.

When the "**COMPLETED**" screen appears, the test is done, and the final values are given.

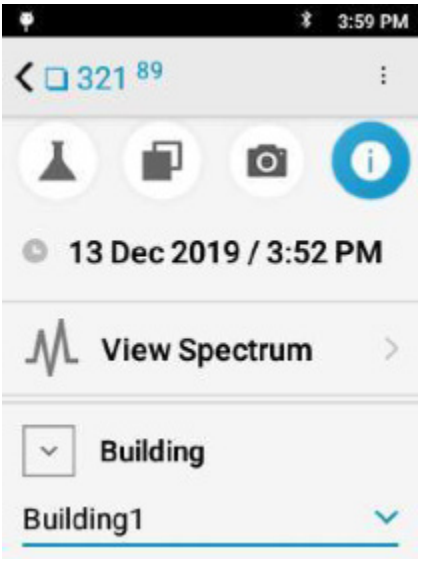



## 8. INFORMATION ABOUT THE TEST

Tap the "**i**" icon to see the available information about the specific test.

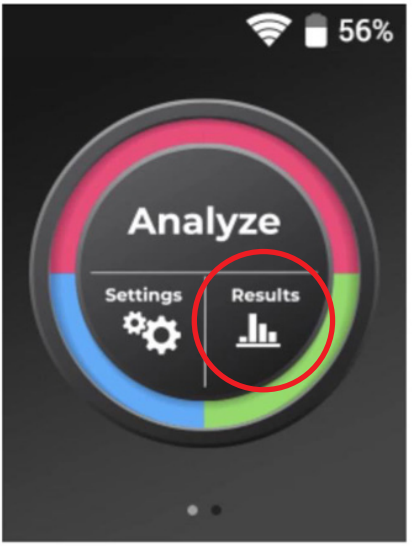
You can view:

- Date and time
- Spectrum
- Other user-created information of the test



## 9. EXPORTING TESTS

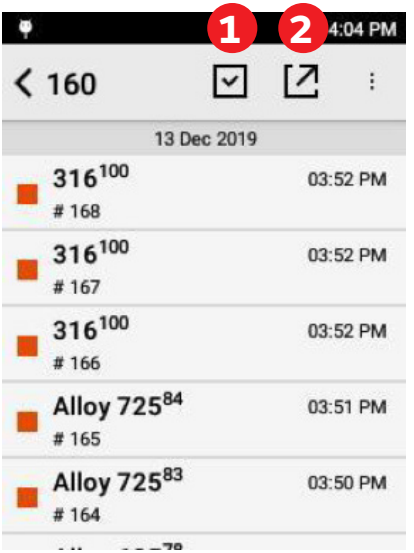
From the Home Screen, tap "**Results**"



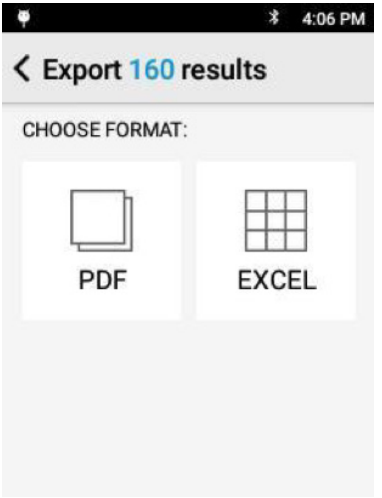

The default screen will list all of the tests taken on the instrument.

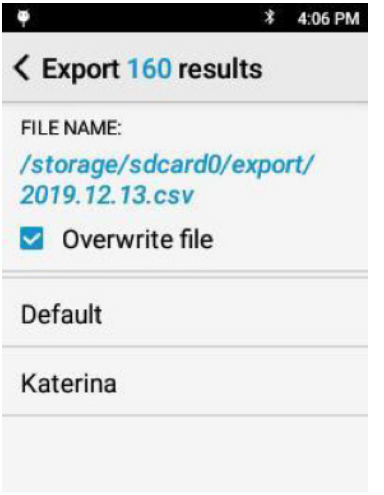
Tap the Menu button to open additional export options, including "Filter by Date" for quickly exporting a batch of results.

Tap the Checkbox button 1 to individually select multiple tests for export.
Tap the Export button 2 when ready to finalize the export.



Tap to select the desired export format.
Tap the filename to change the export location or tap the template name (Default) to finish the export.

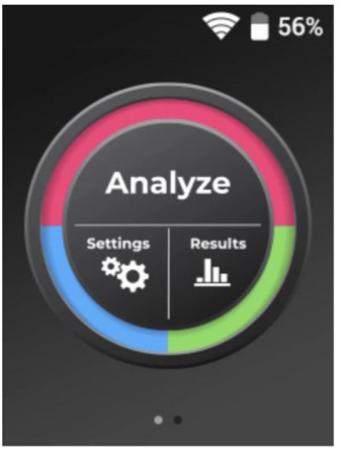


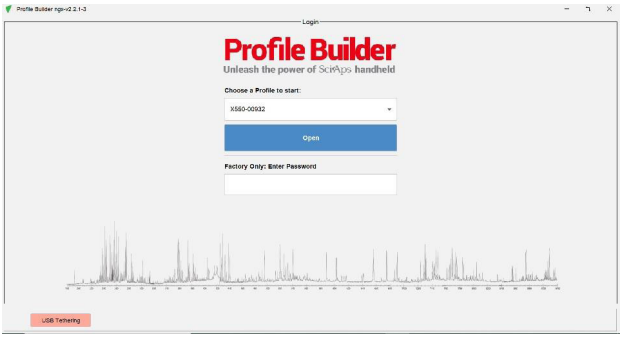

The **GEM**ORO XRF Gold and Precious Metal Analyzer uses an embedded SD card to store the test results. The SD Card can be accessed by connecting the analyzer to a computer using the micro USB cable. Once connected, the analyzer's SD Card will show as a new drive from the computer s file explorer. Navigate to the export location selected at time of export (default export location is SD card export. Drag the exported files over from the SD Card to the desktop to save copies locally on the computer.

## 10. CONNECTING ANALYZER TO PROFILEBUILDER SOFTWARE

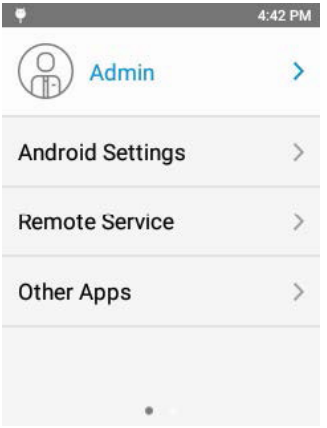
1. Connect the instrument to the computer via USB cable. The USB port on the instrument is located on the underside of the instrument, below the touch screen.
2. Power on the analyzer using the power button located near that end of the snout by pressing one time.
3. Log into the analyzer using the "admin" profile and password 1-2-3-4-5. If other profiles and passwords have been established on the analyzer, those can be used as well.
4. Agree to the X-Ray radiation caution screen by pressing "OK" on the analyzer screen.
5. This will bring you to the Analyze screen shown here:



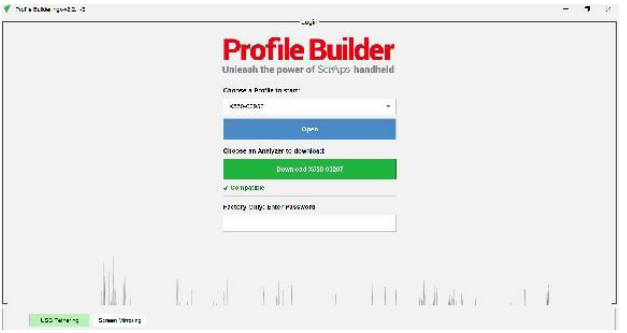
6. At this point, open Profile Builder software on the computer.
   Link to download software. *(link will automatically download)*




7. Back on the analyzer, swipe your finger from right to left to go to this screen:

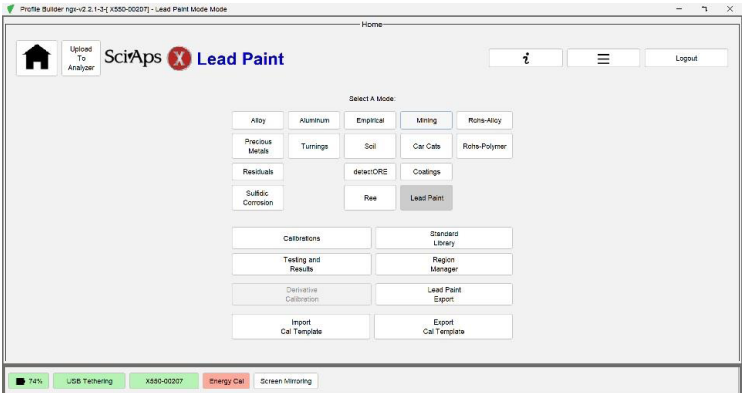



8. Select “Remote Service”
9. On the Profile Builder software, you should now have the option to select your analyzer for downloading, and the “USB Tethering” area should be green.

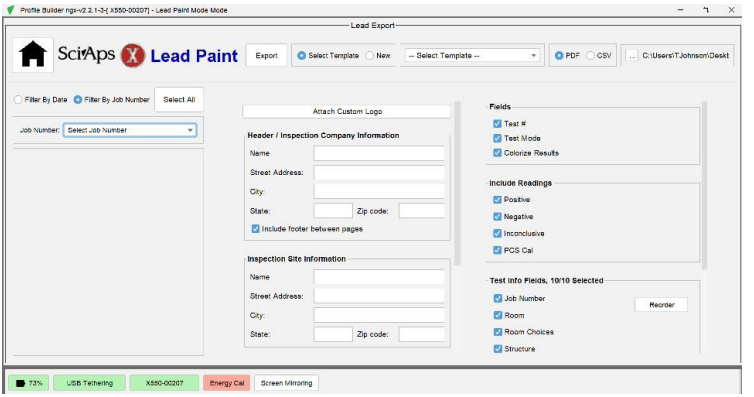



10. In the middle of the screen, select Download
11. The download time will depend on the size of the database being downloaded.

12. When complete, this page will be displayed




13. Select “Lead Paint Export”
14. The screen should now look similar to this:

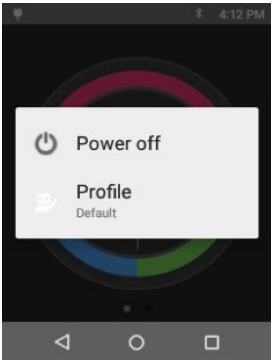


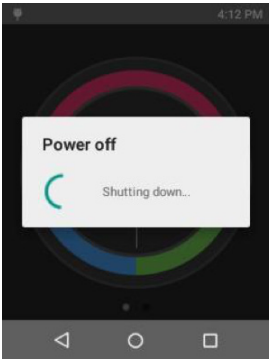

From this screen, you can select what results you wish to view by filtering by date or job number on the left side. The middle of the screen is information on who performed the work and the inspection site. The right side allows the user to select the information they would like displayed.

**11. TURNING OFF THE UNIT**

Press and hold the on/off button for 2 seconds. The Power off screen appears. Tap "**Power off**". The unit will power off.








**12. HOW TO SAFELY USE GEM**ORO **XRF GOLD & PRECIOUS METAL ANALYZER.**

Radiation Safety is up to you. As the owner or operator of an X-Ray tube device, you are responsible for understanding the safety requirements and state regulations for using your X ray tube equipment. When the **GEM**ORO XRF Gold and Precious Metal Analyzer is not actively testing samples, no-X

rays are emitted. When the **GEM**ORO XRF Gold and Precious Metal Analyzer is energized, X rays are emitted, through the window in the nosecone. X-rays are invisible to the human eye; you will not see them when they are being emitted.

## STAY SAFE WHEN USING HANDHELD XRF INSTRUMENTS

***Best Practices for Safe Operation***

- Trigger finger should be the body part closest to the analyzer window. Run tests with the XRF pointed away from other people
- Pay attention to where the beam is pointed
- Don't hold samples in your hand
- Maintain control of the analyzer
- Limit operation to trained personnel

## 13. HOW TO CLEAR THE CACHE

***Clearing The Existing Test Data and Show Battery Life Remaining***

- Start at the Circle Analyze Screen
- Go to Results in the lower right of the circle
- Go to the three dots in the upper right corner
- Select delete all



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