Imaging Quick Reference

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***This reference currently is specific to the standing imaging computer, "Scotty"**

The writing on the white tape here is a bit faded out, but it is used to show what switches should always be off – specifically, these are the Accessory 2, Accessory 1, and Platform Light switches

Step 2: Turn on the Power switch

Pre-imaging Set-up

To start imaging, you must first physically set up the station.

1. Start by logging into the computer
2. Turn the lightbox on with the Power switch (the only green switch). The other switches and dial are already in their correct positions – PLEASE DO **NOT** ALTER ANY OTHER SWITCHES OR THE DIAL
3. The lightbox will require a few minutes to warm up - use this time to finish setting up the station
4. Remove the protective cover from the camera body*
5. Gently remove the lens cap from the camera and the two covers on top of the lightbox*
6. Next, turn on the camera*
   - The button/switch to do so is found in the upper left-hand corner of the camera when you are facing the station
     - Once you turn the camera on, it will play a sound that means it has registered that the camera is connected to the computer and the software is ready to start

***PLEASE** use the stepstool to do steps 4, 5, and 6 – not using the stepstool can easily result in bumping the box or camera and causing misalignments that will affect future images

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Pre-imaging Set-up cont.

7. Select the EOS Utility icon on the desktop
    - This can be found under the Volunteer Apps box
8. Check that the images that you will be taking are going into the correct folder location by clicking "Monitor Folder"
    - At the standing imaging station this should be C:\Scotty\SERNEC\CR2\ followed by the current year
        - Ex. C:\Scotty\SERNEC\CR2\2023
    - The program will auto-generate a specific date folder once you start to take images, but you will NOT make this folder yourself
9. Select the "Camera settings/Remote shooting" option
    - A new box will appear with the camera settings. The "Live View Shoot" option is now available, click it!
    - Another box will then appear on the screen that shows the live-view of the inside of the lightbox*

*Make sure that you rotate the view (if needed) so that the specimen is oriented correctly as viewed head-on. This means that the scale and color corrector should appear at the top of the Live View above the specimen.

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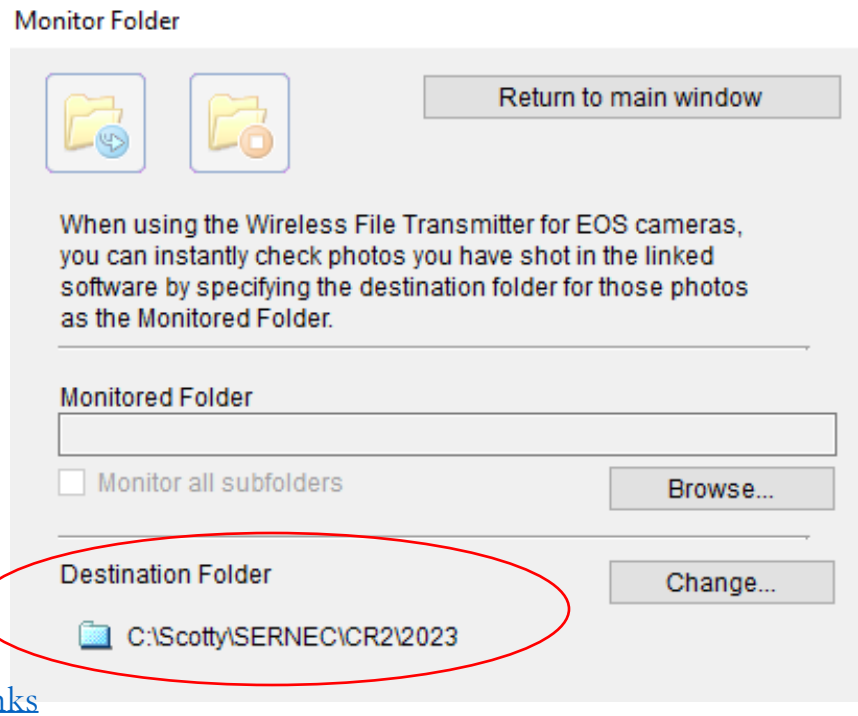
Set-up Pre-imaging: Steps 7 and 8

Selecting EOS Utility will take you here

Then select Monitor Folder to check the Destination Folder



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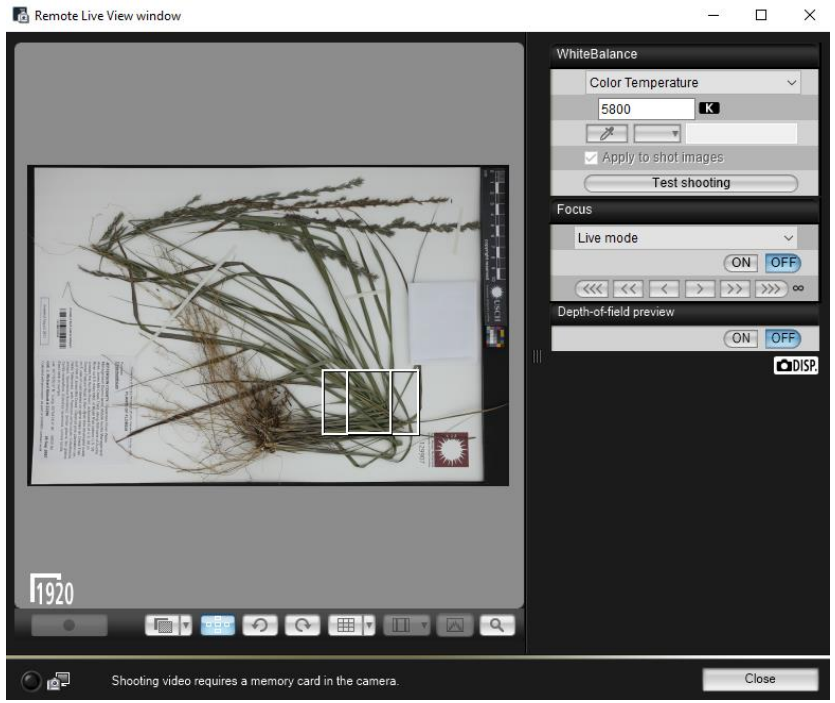
Set-up Pre-imaging: Step 9

Select "Camera setting/Remote shooting"

The EOS 5D Mark II box will then appear. From here select "Live View Shoot"

*A specimen is shown here in the lightbox already for clarity in this reference, but you will not be placing the specimen into the lightbox **until** you have added a barcode to the specimen sheet



The Live View shoot will then display

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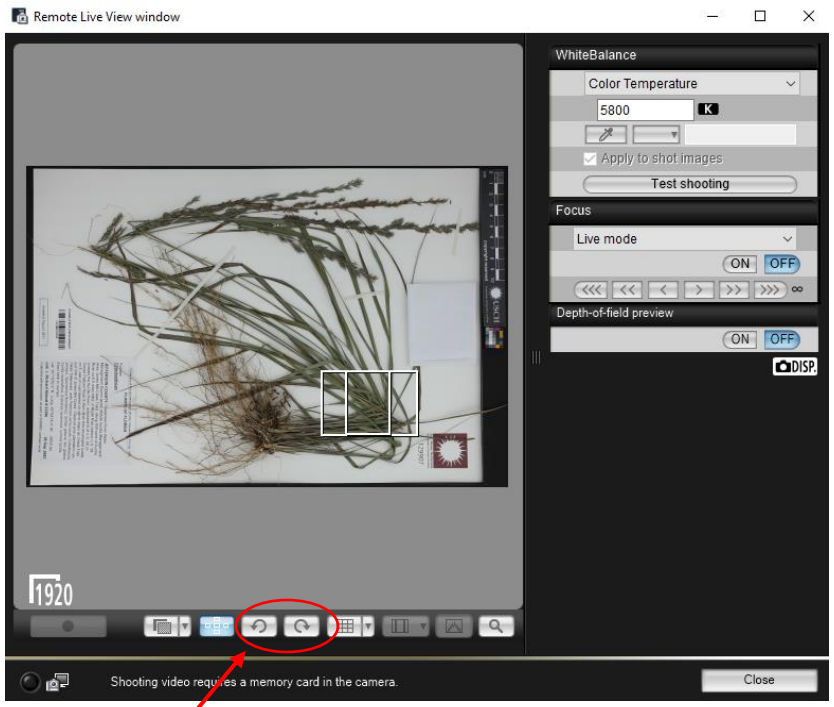
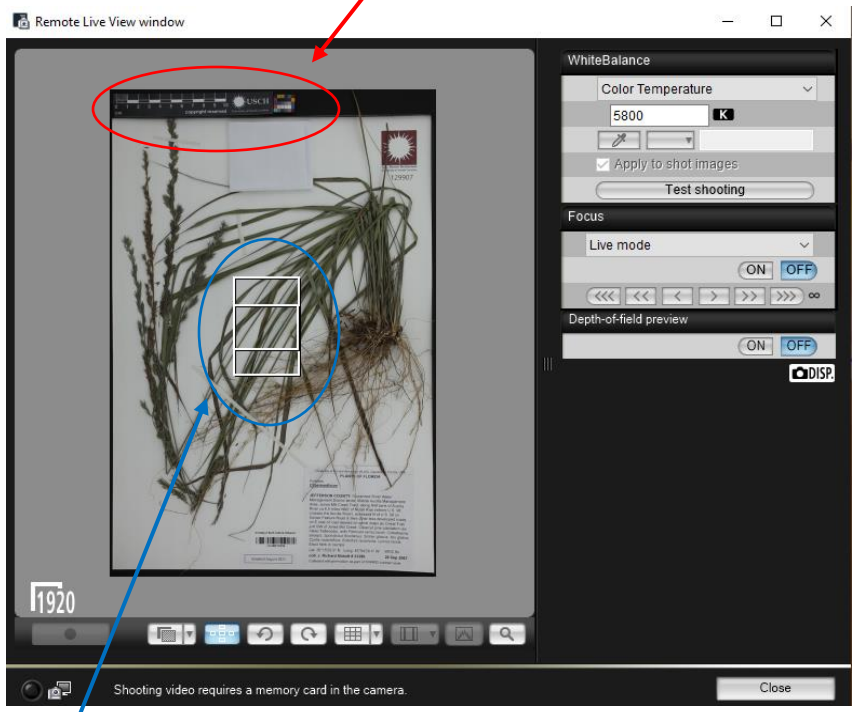
Image Rotation and Focusing

The scale bar and color box should be on top.



Rotate the image using these buttons.



Additionally, move and center the focus box. Double click in the middle of it to focus the camera. It's best to double click on an area of contrast since the camera will not focus on white space alone.

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Preparing the Specimen

1. If the specimen has never been imaged before, you will need to attach a barcode sticker to it. There should only be one barcode per sheet, even when specimens are sharing a sheet. More on this later.
2. It is **very important** to attach the barcode sticker **BEFORE** taking the image! We need the barcode in the specimen image for record-keeping and trouble-shooting!
3. After attaching the barcode, carefully slide open the lightbox doors and center the specimen by lining it up with the pre-cut area.
4. You should also **double-check the alignment** by reviewing the live-shoot window. Straighten the specimen if necessary. Be sure that the entire sheet is in view and that nothing is cut off.
5. Carefully close the doors to the lightbox and check that you do not have cracks of light peeking out or a gap between the doors.
6. Double-click the center square in the live-shoot to focus the camera on the specimen. When the camera is in focus, the inner square will turn green. See this slide for a video example.
    - If it is not in focus, the inner square will turn red. Do **NOT** continue imaging until you are able to focus the camera on the image.

Please view the current camera settings for the imaging station you are working at on the next slide. If the settings appear altered, ***PLEASE ask for assistance.

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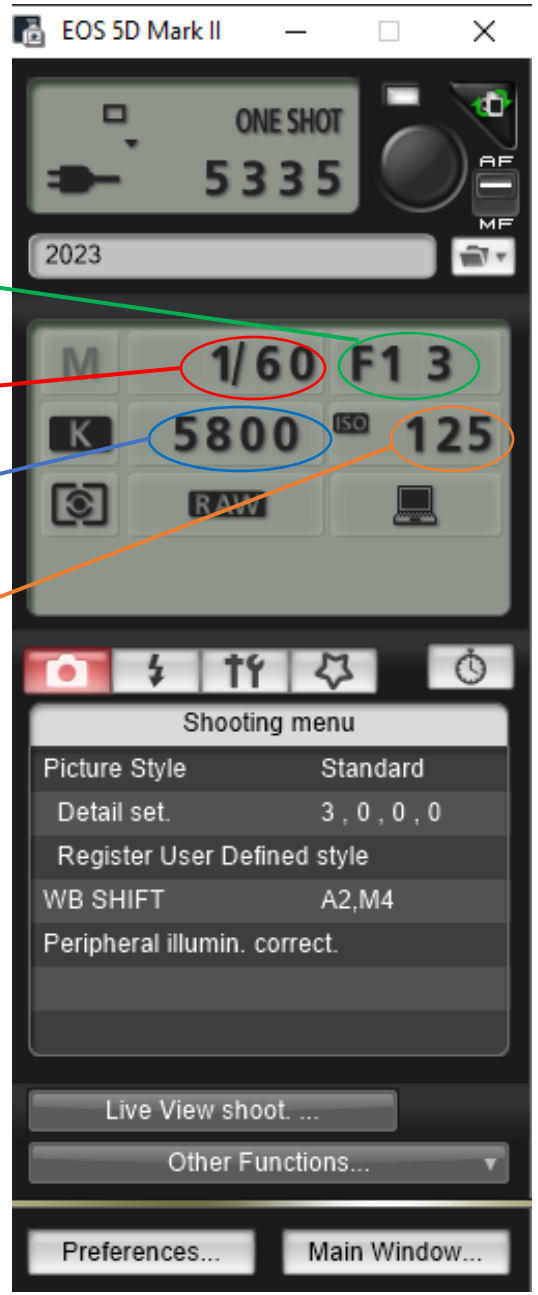
Current Camera Settings (Scotty)

F-stop = focal length / aperture
(focal length divided by aperture)

Shutter Speed

Color Temperature

ISO = light sensitivity
for the sensor



Current as of 5 Sept. 2023

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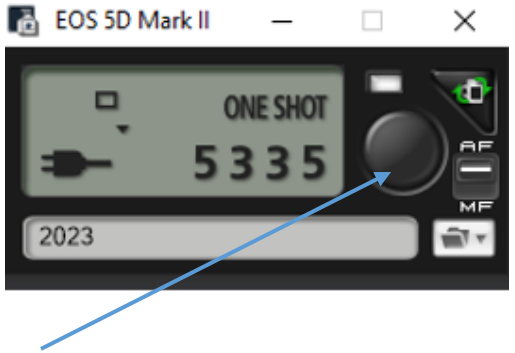
Imaging



1. Take an image of the specimen by clicking the circular button
2. After a few seconds, Digital Photo Professional will open automatically, which will allow you to review and keep track of all the images that you take. A Quick Preview image will also appear.
3. It is **very important** to check the white balance after taking the first image. Do this by double-clicking the image in Digital Photo Professional. The image will take a moment to load. Then scroll up to the top portion of the specimen where the color correction square is present in the image. Double-click to zoom in closer to the lightest colored white square to check the color values. See this video for an example.
4. Three values will display on the bottom left-hand corner of the photo preview. The acceptable range for the white balance values is **235-247**.
    - If any of the values do not fall within the acceptable range, do **NOT** proceed with imaging – ask a staff member for assistance.

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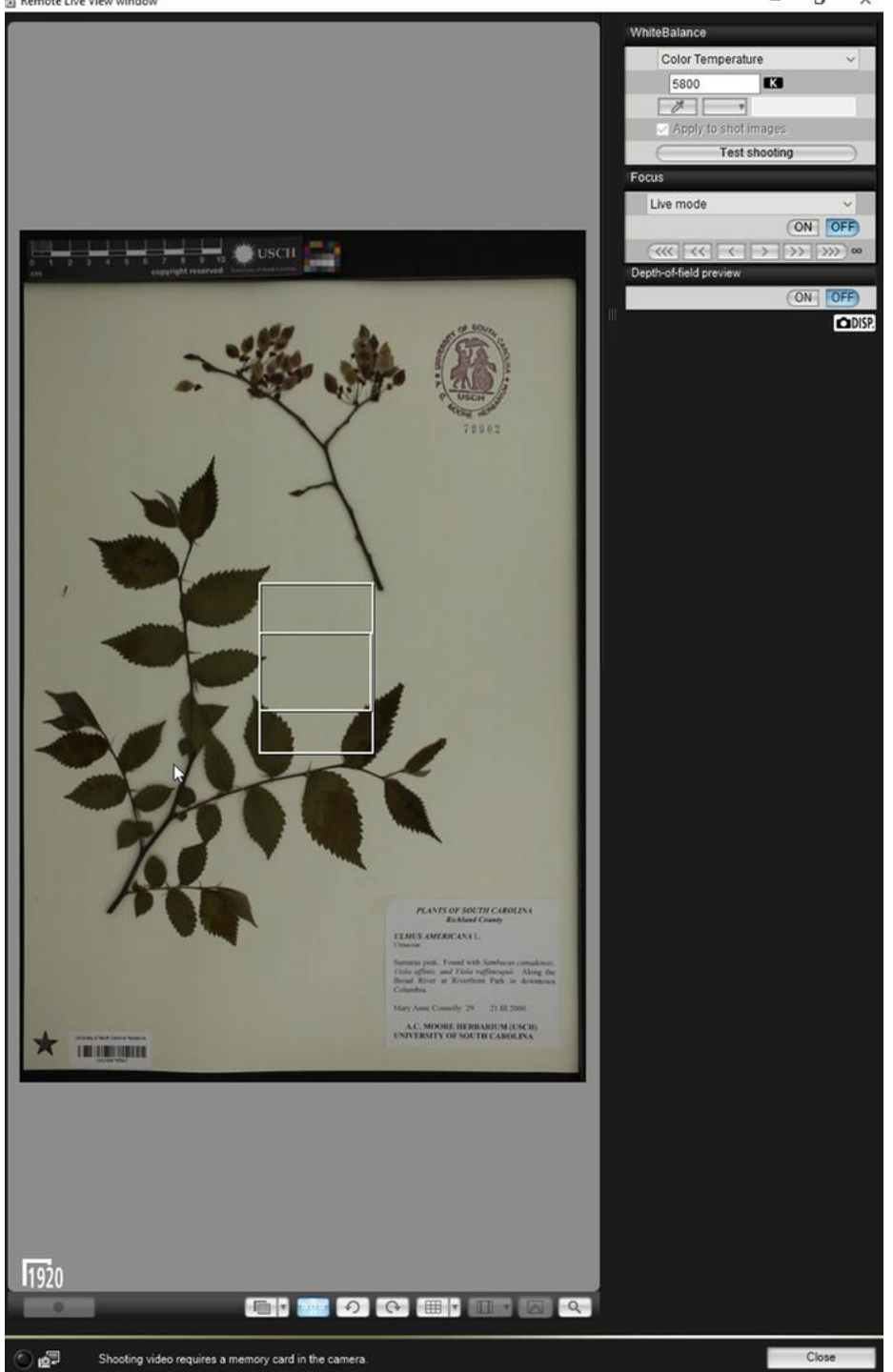
Imaging Example Video 1

- Focusing the camera
- Taking the initial photo



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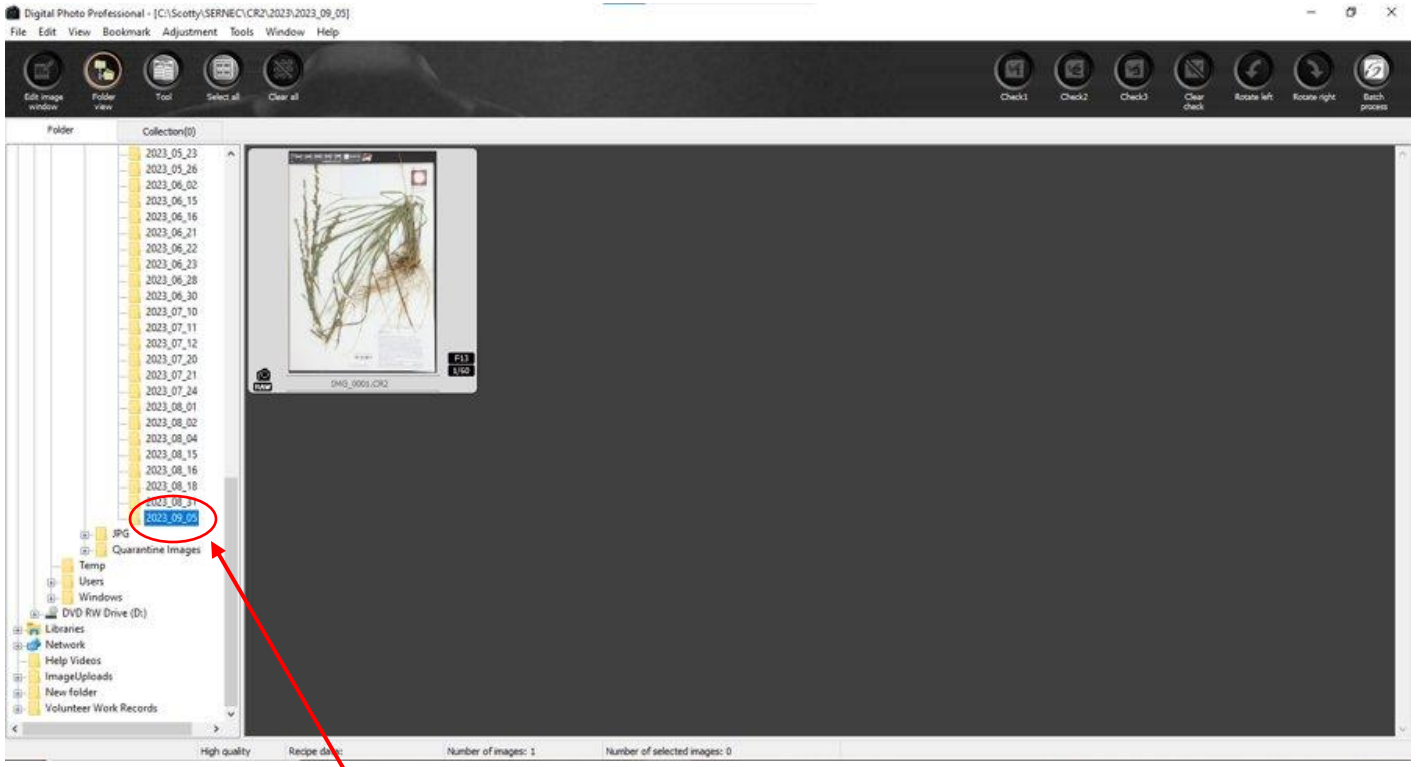
Imaging: Step 2

Digital Photo Professional will also open automatically and begin to display the photos that you have taken.

The Quick Preview will automatically show up for the image that you have just taken.



You should also see the automatically created date folder that the pictures are being added to

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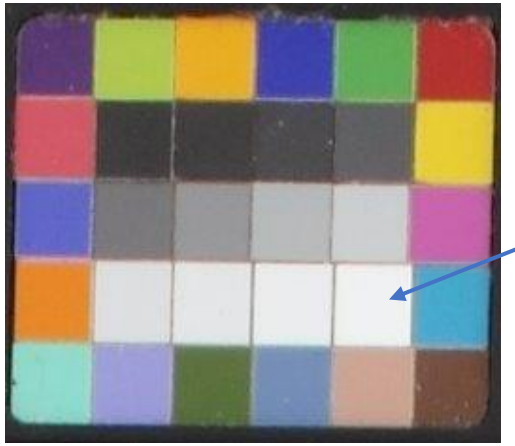
Imaging: Steps 3-4

- Double-click the image in Digital Photo Professional to view it individually and check the white balance.
- Then double-click again to zoom in.
- Scroll up to the color box.

Values will display here!



- Hover the mouse over the lightest white square to view the three values
- The values will display in the bottom left-hand corner of the preview screen

- Our values for this image are 239, 241, and 241. These are all within the acceptable range of 235-247, so we can now proceed to renaming the image.

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Imaging cont.

5. After imaging a specimen, you will need to update the image name. Do this by clicking on the image, and then holding ALT+R on the keyboard.

6. From there, a new box will appear. You want to change the file name by going up to the File Name box and clicking the drop-down arrow. Select the option "User-Selected String." Make sure that you have this field selected before moving to the next step.

7. Next, use the barcode scanner on the barcode sticker that you attached to the specimen. This will auto-fill into the file name field. Once you complete this step, select the "Execute" button.

8. The image should now appear with its new name in Digital Photo Professional. See this slide for an example video.

***The renaming procedure will be slightly different if the specimen has been imaged before, shares a sheet with another specimen, or has a fragment packet. Please see the File Naming Table for these situations and review the example videos.**

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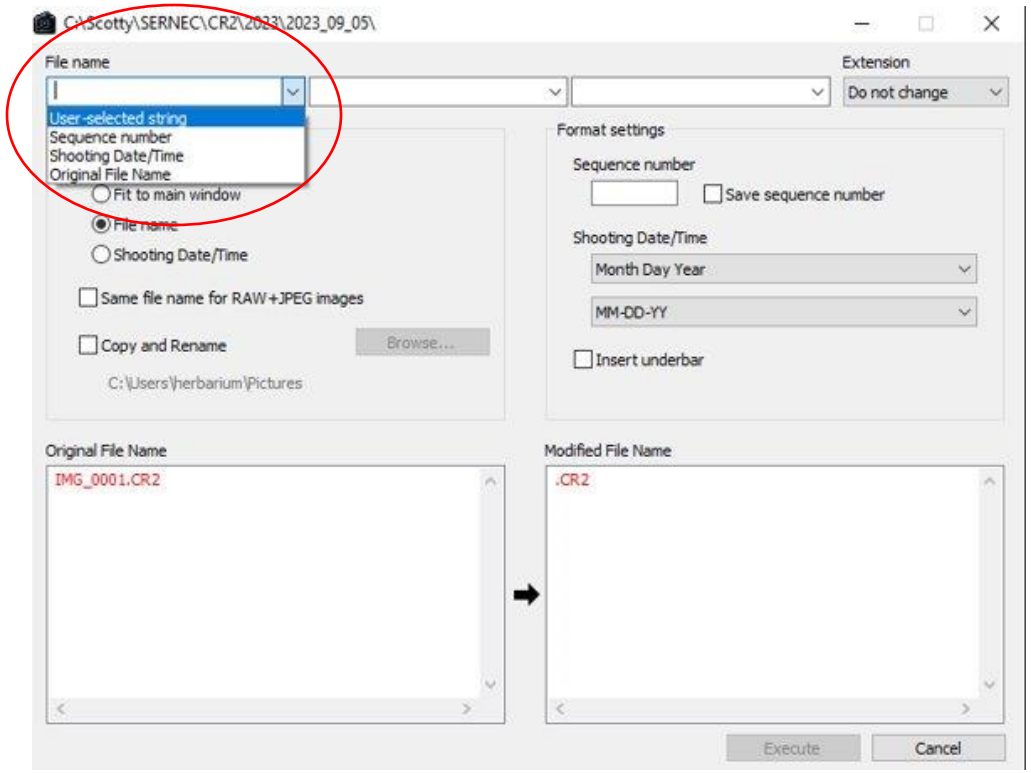
Imaging: Steps 5-6

This is the name that was given to the image automatically that we want to change



After selecting the image and using ALT+R, this box will appear. Select the drop-down arrow for the File Name field and click "User-selected String"

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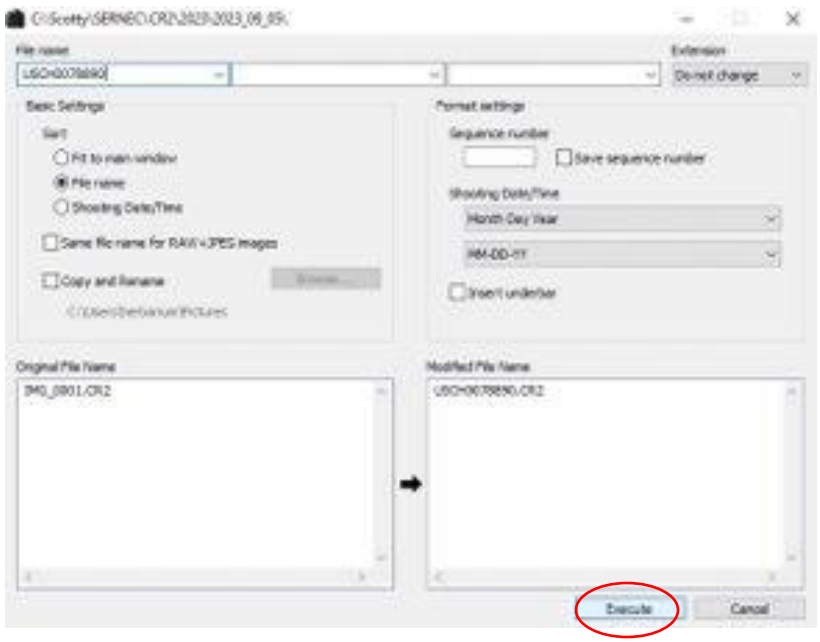
Imaging: Steps 7-8



After scanning the barcode, the File Name will be automatically entered into the field.
From here, hit Execute.

The image has now been renamed.

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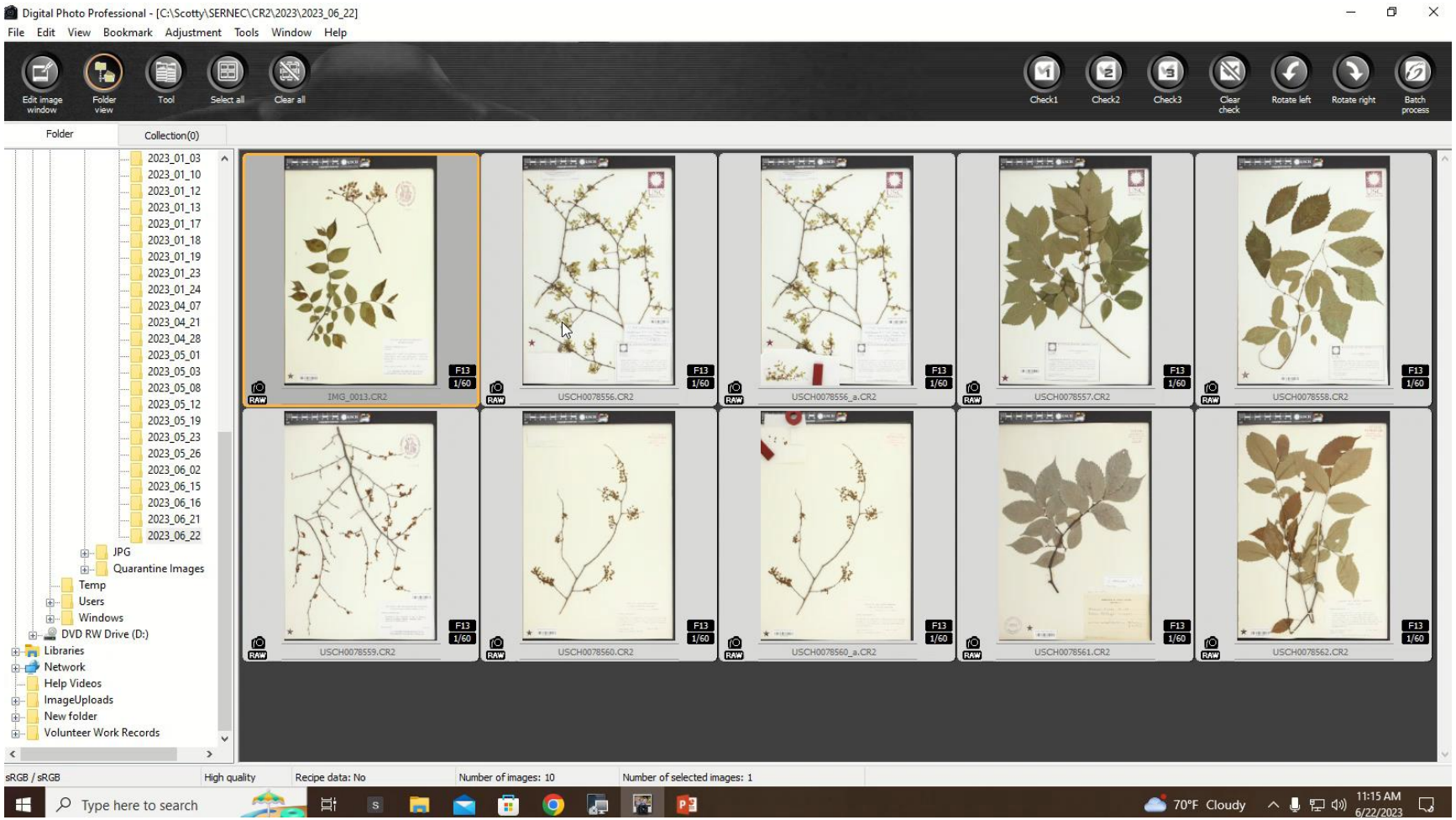
Imaging Example Video 2

- Renaming an image
- Checking image quality and white balance



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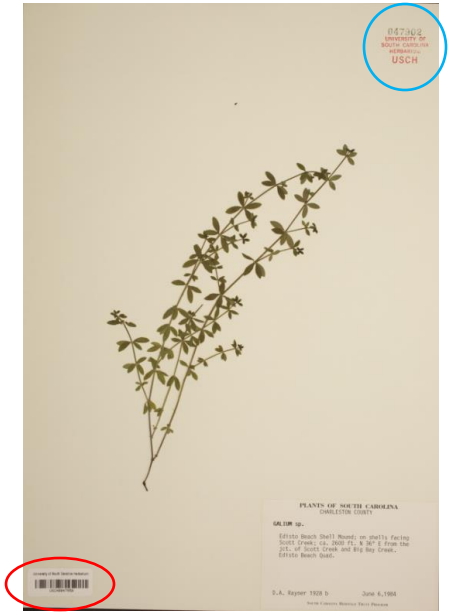
Catalog Number vs. Accession Number

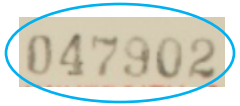


Catalog Number

This is the **BARCODE** number and is included on the specimen sheet in the form of a sticker

Multiple specimens may be found on a sheet with only a single barcode, but we differentiate between specimens with file extensions (i.e., _1, _2, etc.) for the Catalog Number when naming images **and** entering records.

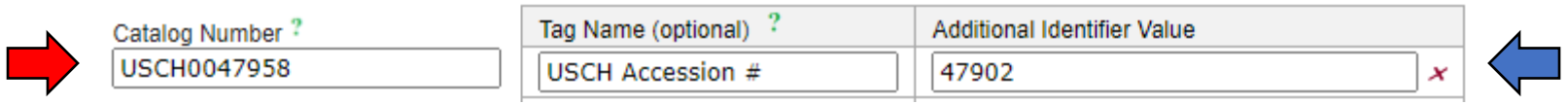
Accession Number



This is also known as the 'Additional Identifier Value' and is included on the specimen in the form of a **STAMPED** number

Every specimen has their OWN accession number! This number is **NEVER** shared with another specimen!

***If you come across a sheet where a specimen does not have its own accession number, tell a staff member ASAP. The specimen should not be imaged and data should NOT be entered until this is corrected!**



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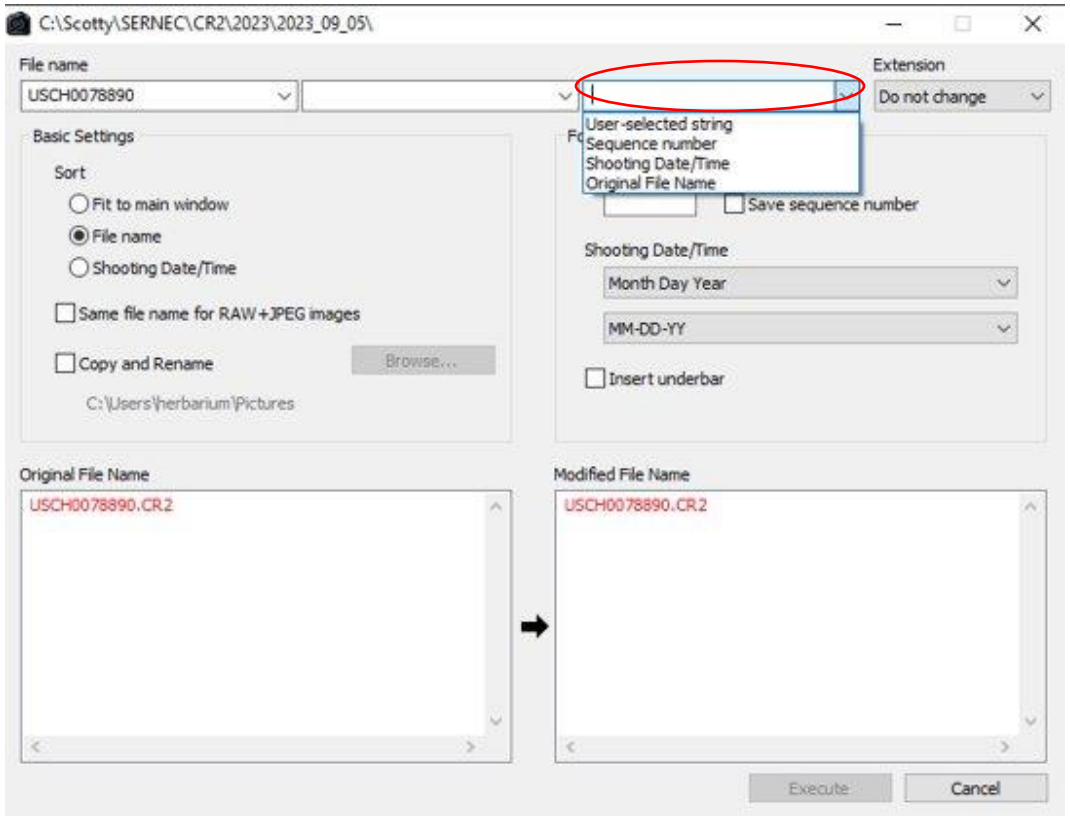
Adding a File Name Extension

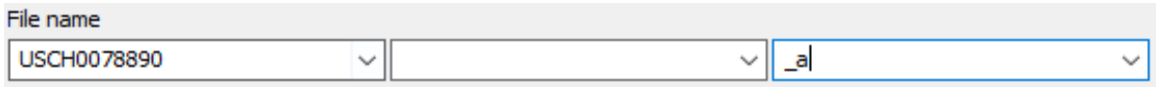
*We do **NOT** enter file extensions in any other box! **Only** use the very last box!



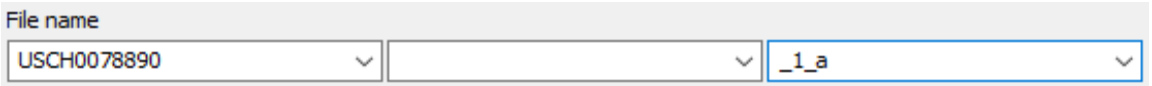
If you need to add an extension to the file name, click on the last box in the File name fields.
You will **not** select any of the drop-down options here.
Simply type in the extension and then click Execute.

Examples:

An _1 is used as an extension on an image of a specimen that is sharing the sheet. The image that gets the _1 refers to the specimen with the higher accession number.



An _a would apply to an image of the specimen that has a fragment packet open or for a specimen has been given a new annotation



An _1_a would apply to an image of the opened fragment packet for the specimen with the higher accession number

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File Name Extensions cont.

- One last thing to note about using file extensions is that they do **NOT** automatically reset after are used
  - This means that unless you change the file extension while renaming the next specimen you image, it will be auto-added onto the image name until it ***IS*** changed.
  - **Please** be aware and remember to double-check your image names and remove unneeded file extensions! See the video on the next slide for an example.

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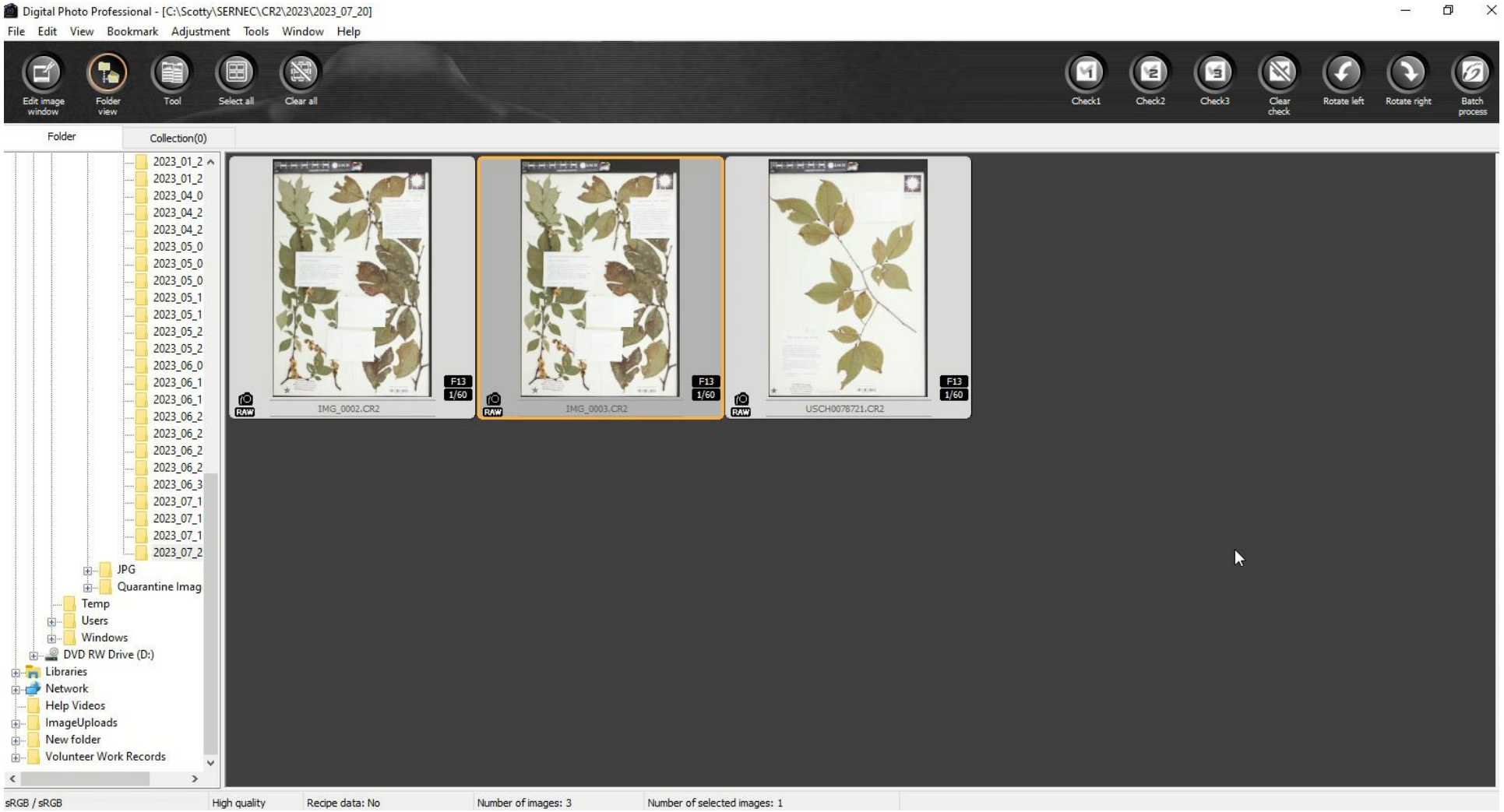
Imaging Example Video 3

- Using file extensions
- Removing file extensions for other specimens



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File Naming Table

*Letter extensions are always entered in **lowercase** (e.g., a, and **not** A)

Situation	Filename	Comments
Took multiple images of sheet with one specimen (ex. annotations, fragment packet, etc.)*	USCHXXXXXXX_a, USCHXXXXXXX_b....	A single image of a specimen that does NOT have a fragment packet and is NOT being reimaged (typically for annotations) does NOT get an underscore with a letter – only the USCHXXXXXXX barcode.
Took multiple images of sheet with two or more specimens	USCHXXXXXXX_1, USCHXXXXXXX_2...	**Multiple specimens**: The lower accession number gets the file name without the underscore (_) because it was added into the collection first.
Took multiple images of sheet with BOTH more than one specimen AND a fragment packet	USCHXXXXXXX_1_a, USCHXXXXXXX_1_b.....	Since we often **also** refer to multiple specimens on the same sheet as specimen a, b, etc., the ending file extension name may be confusing to enter. ***Remember** that the letter extension is **not the same** as the specimen letter on the sheet. The _# refers to the specific specimen, the _#_letter tells us that the image is an *additional* image for that same specimen.

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Specimens Pre-labeled "a", "b", etc.

- In the case of two or more specimens on a sheet, sometimes you will see them prelabeled as "a", "b", etc.
- These letters are only there to help in identification of **what specimen was mounted first** on the sheet.

***In theory, the specimen that was mounted first will always have the lower accession number. But mistakes do happen – please let a staff member know if you find a sheet where the letter labels or accession numbers deviate from this form.

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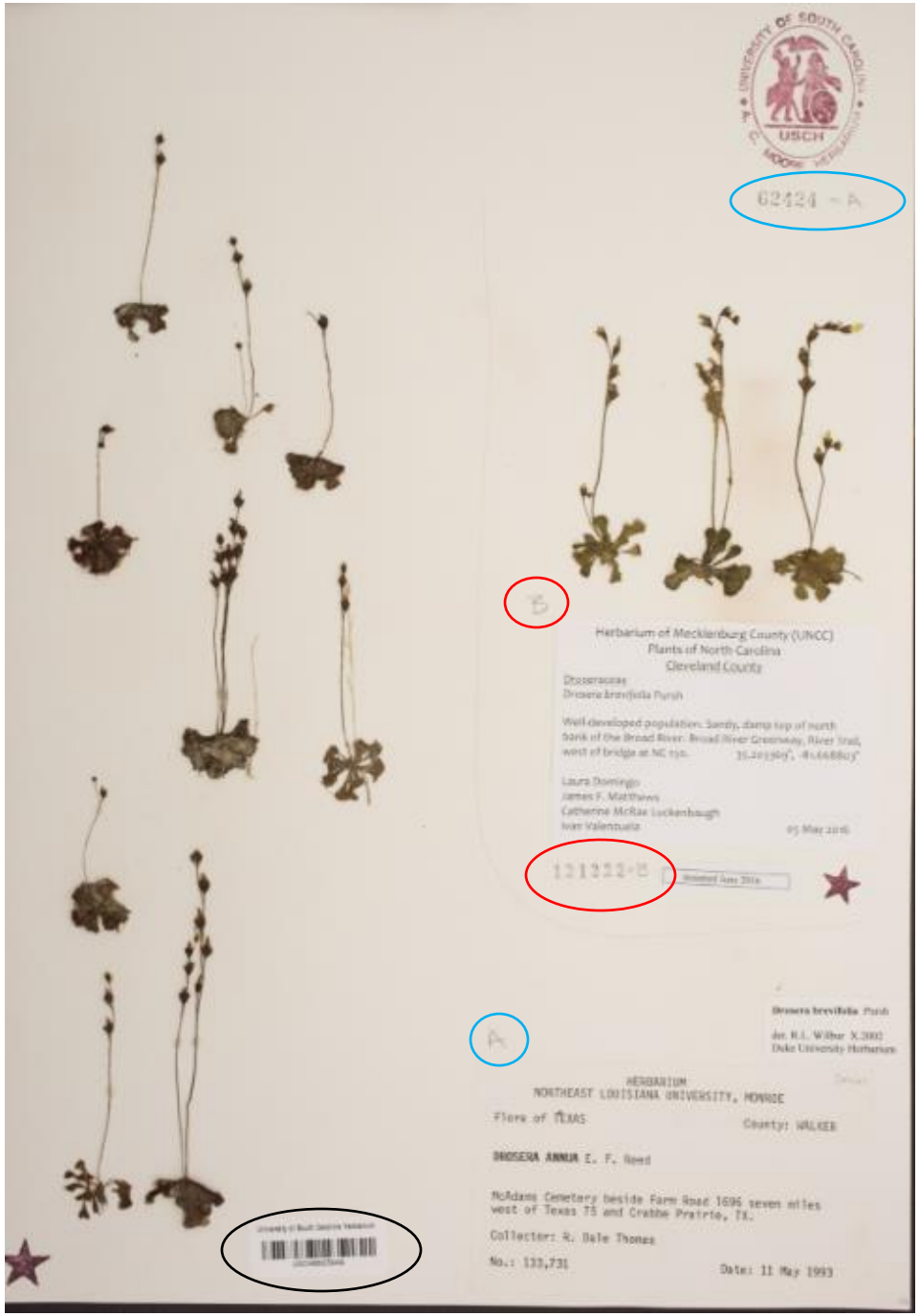

Specimens Pre-labeled "a", "b", etc. Example

62424 - A = Accession Number

USCH0023666

Lower stamped number was added into the collection first

= The image name is **unchanged** from the barcode

121222-B = Accession Number

USCH0023666_1

Higher stamped number was added into the collection later

= The second specimen's image name includes the "_1" file extension

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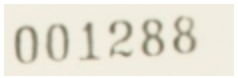
More Than Two Specimens on a Sheet

- While less common, you may come across more than two specimens on the same sheet.
- Remember to still follow the same standards from the previous slides.
- In this (somewhat extreme) example, we have four specimens all on a single sheet.

*Note that accession #155526 also has a fragment packet. If there is anything in it to image, the image name for the fragment packet would be USCH0057722_3_a

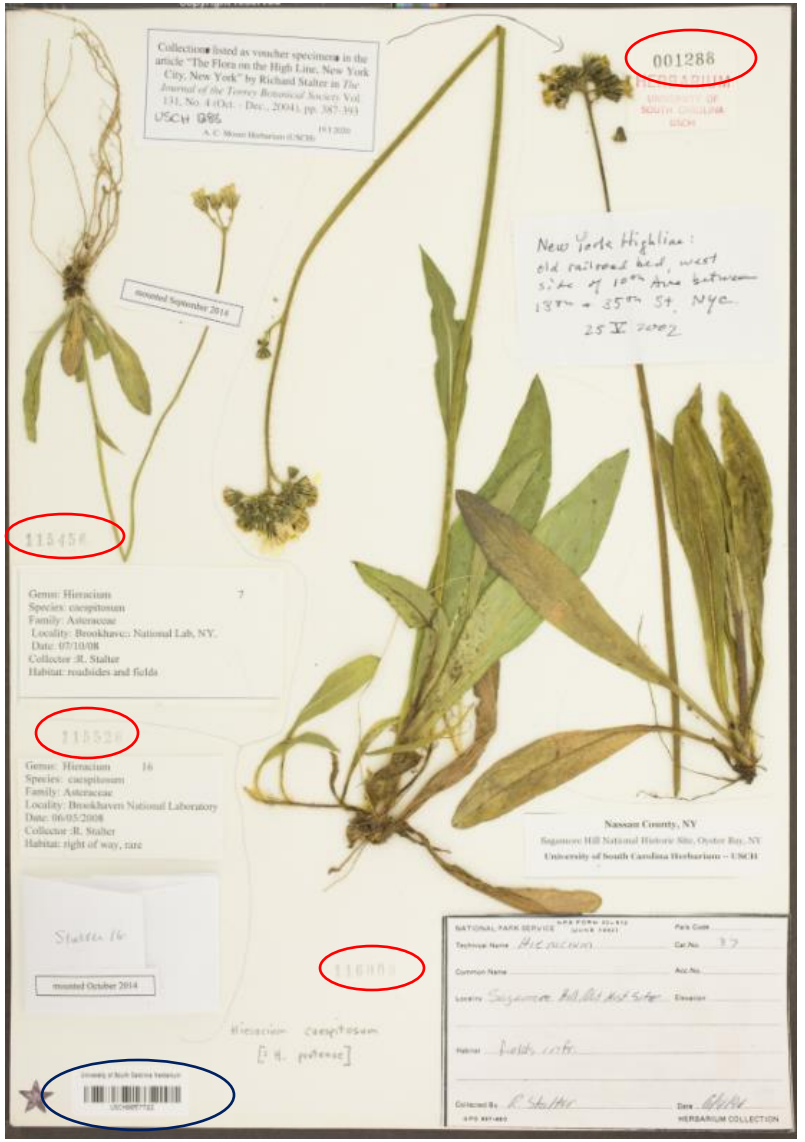


Lowest Accession number = image name is unchanged → Image name = USCH0057722

Second lowest accession number = add an _1 extension → Image name = USCH0057722_1

Third lowest accession number = add an _2 extension → Image name = USCH0057722_2

Fourth lowest accession number = add an _3 extension → Image name = USCH0057722_3



*Having multiple specimens on the same sheet can get very confusing – ***please*** ask if you need help discerning them from each other

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Fragment Packet Procedure

*Provided that there ***is*** actually something in them – **please** do not take pictures of completely empty fragment packets!

- Many specimens have a small paper envelope that is included on the collection sheet – these are for small part or fragments that are from the specimen.
- Fragment packets also need to be imaged!*
  - Carefully open the envelope and place weights on the sides of the envelope to hold it open for imaging. This may obscure the view of the rest of the sheet – this is okay, because for this image the fragment packet is the focus, and you will have the overall sheet in a separate photo
  - Be sure to **change the focus location to the fragment packet** on the Live Shoot before taking the image by moving the box to the fragment packet and then double clicking the inner box.
    - Don't forget to change the focus back to the center when you move on to the next specimen
  - When the middle box turns green, the shot is in focus and you can proceed to imaging!
    - If the middle box turns red, the camera is NOT in focus and you may need to double click again to refocus the camera. If this does not work, move the box to a different spot to attempt refocus. If this *still* doesn't work, **please** ask for assistance.
- File naming for fragment packets
  - The beginning of the file name will remain the same, but an extension will need to be added to the end. See the File Naming Table and this video!

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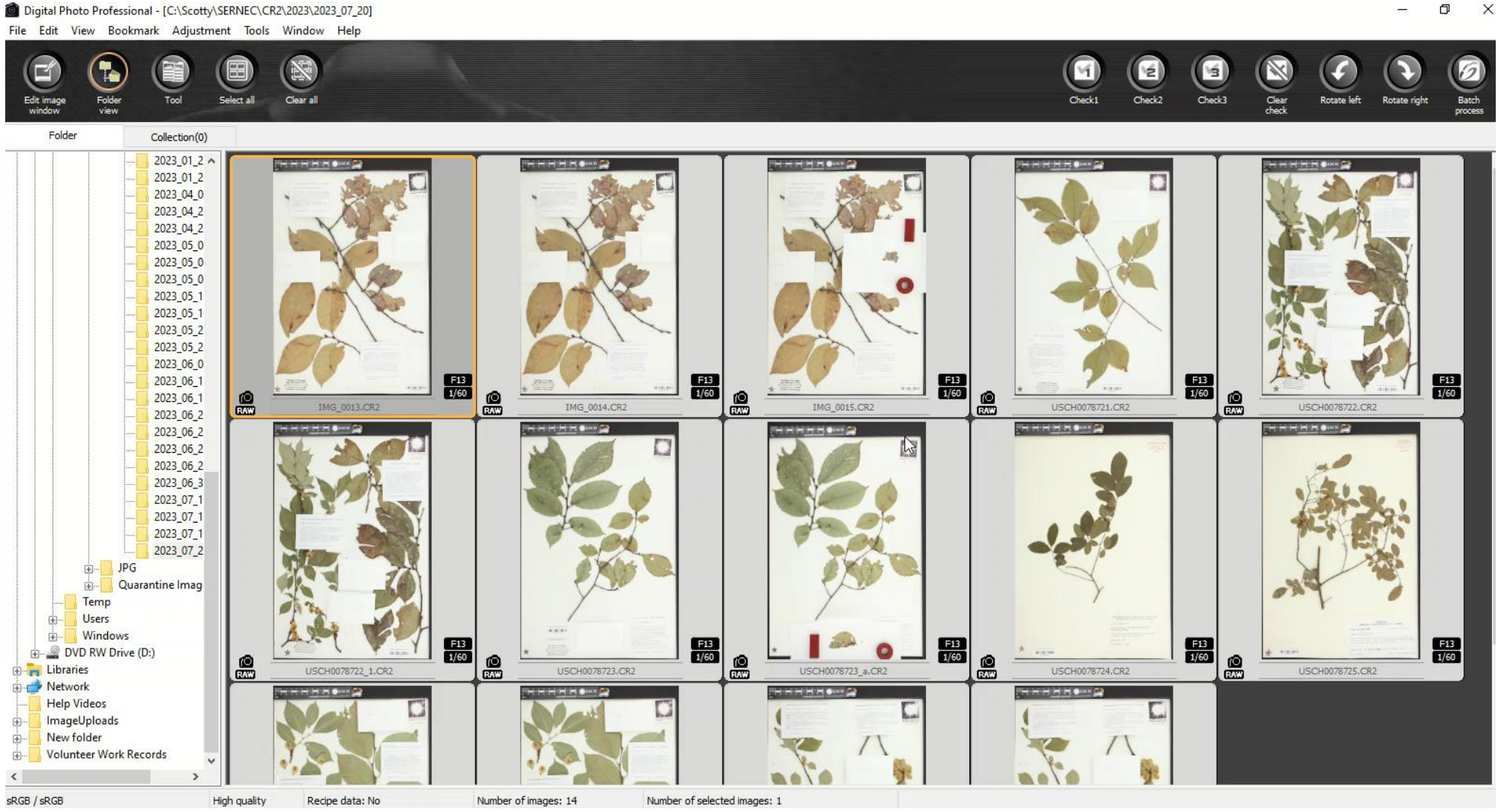
Imaging Example Video 4

- Naming images for more complex sheets

  Ex. Two specimens on one sheet and a fragment packet



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Post-Imaging

1. After you have finished imaging and checked over your work, simply close Digital Photo Professional
2. Turn off the Power switch on the lightbox
3. Use the stepstool and turn the camera off
4. Gently reattach the lens cap and replace the protective cover over the camera body

Log your volunteer hours using the Volunteer Hours Tracker on the main desktop screen

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*Additional Things to Know

- It is **VERY** useful to continue to **check each image** after taking a specimen's photo, especially to avoid mistakes.
  - It only takes you a few extra seconds and can keep you from having to reimage up to an entire session of work.
- Make sure that the label is clear and in-focus, along with the specimen itself, **and** the barcode label. **Check that the barcode portion of the image name matches the barcode in the photo.**
- Also make sure that the specimen is aligned properly, and no information is 'cut-off' on the bottom of the photo. Double-check that you have properly executed the new file name.
- Images should **NOT** appear to have an overall hue. If the image appears blue or orange at all, the color temperature may have been accidently altered and you should ask for help from a staff member
  - In general, additional clicks can accidently change settings – **if something looks off, let us know!**

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