Mineral Collection Documentation Process

Written by Wayne Dodd and Tom Toothman

We thought a summary of the documentation process for a rock and mineral collection would be of value to our Club members. We both developed a similar system independently and have put together an overview of the key points with options and details for clarity.

Please don't get overwhelmed with the details here. Start the process with the basics.

Collection documentation will help you keep track of your specimens for decades and increases the value of your collection as it grows.

It is better to start this process when your collection is small rather than tackle the process years later if it has grown to several hundred specimens or more. Also, it is best to keep up with this process as your collection grows as you can get discouraged if you are dozens of specimens behind and have to play catch-up.

There are a few key components of the documentation process. First, the list of the specimens and associated data. Second, marking the rock with an ID number. Third, an identification card unique to your collection. Fourth, specimen storage. Last is optional photo documentation.

Part 1: Specimen List.

Each time you field collect or purchase addition specimens add them to the growing list. Our lists use Excel as a spreadsheet. The software came on a disk years ago and does not require the current monthly subscription process. Other computer software or even paper can be used. Today there are several free applications that do most of what Excel can do. One good one is known as LibreOffice. https://www.libreoffice.org/

Not all of my specimens are added to the spreadsheet list. Purchased rocks are always added to the spreadsheet. When field collecting a few of the best specimens are added- anywhere from 2 to as many as 10. Other may be collected, but not included in the overall list.

The collection list spreadsheet includes the following columns in order:
(1) Identification Number. Letters can be added after the starting number for multiple specimens collected at the same location, such as, 206A, 206B and 206C. Another number can be added if the specimen has two halves such as, two halves of the same geode. The same specimen would have ID numbers 206A1 & 206A2.

One good approach to creating catalog numbers is to establish a master list. This will simply be a sequential listing of the number and only include the mineral name and any additional specimen identifiers for the same mineral and locality (see “Identification number” above). So, it’s only 3 columns on your Specimen # tab. You can have a list for

each type of specimen that you catalog separately such as mineral, rock, fossil, geode, etc. With this listing, when you get your next specimen, you go to your list and the next unused number on the listing becomes your new specimen catalog number.

Other options include:

(1) Adding your initials to the beginning of the ID number.

(2) Add letters to the beginning of the number to create categories, such as, G for Geode, M for Meteorite, R for Rock etc.

(2) Location. Basically, where to find the specimen in your home. We have two display cases to view specimens. Many others are stored in cardboard flat boxes which all have an ID number on the box. Several are labeled as "Yard".

(3) Name. All the different minerals are included with a specimen. There are a few labeled as "Unknown". Another option is to have multiple spreadsheet columns for rocks that contain multiple minerals and a binding matrix if present. It is generally best to maintain your listing in alphabetical order. It's quicker to find a specimen that way. Of course, if using Excel or a similar spreadsheet program, the data can be resorted by catalog number, location found or any other data point you are interested in. One technique that I use it to copy the entire specimen listing page to a blank page. Then any resorting I do is on the new page. The original is never resorted to prevent a "sorting disaster".

(4) Weight. Each rock is weighed in metric units of grams. If the specimen is larger than our scale capacity, the alternative is to use a bathroom scale and record the weight in pounds.

(5) Physical dimensions. Metric units using centimeters or millimeters are recommended.

(6) Location Found. As many details as you know or can find. Some specimens are labeled as "Unknown" here also or just a country, like "Brazil". Do the best you can. Current specimens commonly have better details than those from years ago.

(7) Location Purchased. This is typically a rock shop, a vendor and may include a Rock and Gem Show name. Not used for self-collected rocks.

(8) Date. When found or purchased. Try to include at least a year. Many dates include the month and day.

(9) Price. This column is left blank for field collected specimens. Sometimes purchases include a few specimens together, such as at a CCGMS auction. Just split the total cost into the number of specimens.

An option here is to add a column labeled "Value". The Value is an estimate of the current value of a purchased specimen or an estimate for a field collected specimen. The Internet or rock show vendors with similar rocks may help here.

(10) Comments. Note if the specimen came with an identification tag and the name of any previous owners. Include details on color, crystal size and structure. Columns or text can be used to note whether the specimen fluoresces in Ultraviolet light, UV light wavelength range (Long Wave, Mid Wave or Short Wave) and what color it fluoresces.

Also, if you notice that the specimen is phosphorescent. Rarely, adding a magazine reference to a similar specimen or the field location is the ultimate in detail.

Limit the length of this text box, by going to the "Format" tab and switching to "Wrap Text". This will switch the long text string into 2 or even 3 lines. Another option is to add an Excel feature called "Notes". This will show the entire text and keep the process to one line.

Additional reference details can be included by using Spreadsheet Tabs. These Tabs may include meteorite, geode or similar grouping details. The Tabs can include technical data; Mineral Class, Crystal Structure type, and Specific Gravity. The location of a specimen photo can be linked here.

I record all this information as it is accumulated for each specimen in a Composition Notebook. This is "old school", but it is easy to then add all the specimen information to the Collection List on your computer.

If specimens are sold, gifted or donated highlight the entire line background color yellow or a similar color. Add text in the Comments section (10) on who it was donated or gifted to or whether it was sold and for how much. Include a date here. Never remove the line item nor reuse an identification number.

You do not need to keep a paper copy of the collection list. It is very important to have a back-up electronic copy on a spare external hard drive or a memory stick that is updated. I have both.

One humorous side note. One field trip I took was led by the head of the major mineral museum in Los Angeles. One evening people were sitting around explaining the details of their Collection List. Many of the collectors had no list. About half way through my quick explanation the museum curator started chuckling. He said the Museum he worked at had no where near this detail and level of information recorded anywhere.

Part 2: Specimen Labeling & Identification.

The traditional method is to add a small area of white acrylic or white model enamel paint to the back or bottom of the specimen. Then write the number in black permanent ink, such as, a fine tip Sharpie marking pen.

A purchased specimen may already have an identification number on the back. Do not remove it. Add your collection number nearby.

Other options include:
(1) Use a small round hole punch and paper label stock. Then the collection number is added using a sharp pencil. If necessary, the small label is glued on with Elmer's glue or a similar adhesive. Periodically a label does pop off, but the original specimen can be located using the Collection List. If a known specimen is found without an ID number, it can be weighed and then renumbered using the Collection List.

(2) Print out the Identification Number on paper using a variety of font sizes. Cut out the label that best fits the available space on the specimen. Then use a clear acrylic adhesive to attach the label. A layer of adhesive under the label may help. A Q-Tip can be used to get the best adhesion.

Part 3: Identification Cards.

This is one step where you can be very creative. This is also a very important step to increasing the value of a collection. Good identification with the specimen name and collecting location details are the most important. A good way to verify this is by watching a CCGMS auction or by asking one of the Club members that manages collection purchases.

One option is to format several cards (12 to 18) to a single sheet of paper. Information can be added to the Tags with computer text or by neat writing. These tags are manually cut out with a pair of scissors. If an error or additional details are found later, the tag can be easily updated and replaced.

A second option is to purchase commercially printed "business cards". One side can include a color picture of one of your favorite specimens. These are not as expensive as you may think.

Lines and a background color are added to the back of the cards. One line is titled simply "Name". Next is the "Location"- where the rock was collected. We have a small box at the bottom right corner for the "Collection ID number". There are a few spare lines where a field trip name or Rock Show can be added. It is common to add a date and whether the specimen is fluorescent in UV light. All information is added with a permanent pen.

There are options for keeping the Identification Tags. The first option is to keep them near the specimen if they are not over crowded in a display case. The second option is to keep the collection labels organized in a small, metal, hinged box.

Another detail is very important. Always keep any earlier tags or other specimen documentation purchased with a specimen. This is known as Provenance Documentation. This again adds value for later down the road. Options include to keep these in separate envelopes with collection ID reference numbers or to paper clip them to your new tags. I have a notation column on the spreadsheet which indicates whether I have provenance documentation or not. Your identification tags become part of the Provenance for the specimen.

Last, note an earlier comment that not all the field collected specimens are given a collection identification number. ID cards are made up for all these added specimens and kept with them in the flat boxes.

Part 4: Specimen Storage.
There are many options here.

Display cases are common. These can range from repurposed curio cabinets to specially designed mineral specimen cabinets. Upgrades include glass shelves, glass doors to reduce dust and good lighting. A bookshelf works just fine. Our finest specimens, both field collected and purchased, are kept here. Very fragile specimens are kept away from others and a few are in small clear plastic boxes. We have a few rocks that are light sensitive- colors can fade with direct sunlight. We keep these on the cabinet sides away from direct sunlight. Several of the specimens have small purchased clear plastic display stands to keep them upright. For years we have been using the small plastic stands that come with home delivered pizza. These are trimmed with scissors to provide the best specimen viewing angle.

Many of our non-cataloged specimens are in display bowls around the house. These included tumbled stones, cabochons, crystals, and spheres.

Another storage process is to use cardboard boxes known as flats. These are standard dimensions with multiple depths for larger rocks. You can view many flat boxes in the first shed behind the CCGMS Workshop. We purchase small foldable boxes to keep the specimens separated to prevent damage in the flats. Damage prevention is very important to maintain the quality of your specimens. Small nicks in crystals can dramatically reduce their appearance and value. These foldable boxes come in various sizes and you do not need a wide variety of dimensions. The ID cards of the specimens not included in the Collection List are kept inside or underneath the foldable boxes. Each flat box is numbered and the specimen flat number is included in the Collection List (Part 1, #2 above- Location). These flat boxes can be stacked several high.

The last specimen storage location is our yard. Some of these specimens do have ID numbers on the back and are included in our Collection List. Many are field collected "extras". We do not display any delicate specimens in the yard. This is also a good place to add oversize and fluorescent rocks. Many of the fluorescent rocks can be plain looking in sunlight, but can be dazzling at night when grouped together and viewed with an ultraviolet light. We enjoy explaining the specimens to people walking by and also provide periodic night time light shows. Almost no one realizes the total value of this outdoor display.

Part 5: Photo Documentation (Optional).
This process is optional and can be started later in the collection process.

Good lighting and a camera or cell phone can be used. A colored background is good to highlight the specimen colors. A black background is the most common.

Add the specimen identification number to the photo title to help with sorting the pictures. If taking multiple pictures of the same specimen add a letter to the identification number, such as, #105A, #105B, etc. This keeps the photos organized.

Microscope photography is quite popular. Stereo microscopes with digital cameras can be used to document the fine crystals which can be better formed than larger crystals on hand sized specimens. Further refinements including computer stacking of multiple pictures made at successive depths of field (focal points) to provide a single picture of incredible clarity.

Last, you can substitute regular lighting with an ultraviolet light for fluorescent specimens. Clean away any fluorescent fibers from the background. You may need a tripod to hold your phone or camera as the exposure times increase if the specimens have lower transmitted light levels.

Tom Toothman and Wayne Dodd

The following are examples of an Identification Card that Wayne creates for each catalogued specimen and that Tom uses for his. Note: on Wayne's Card the Cat. # on the actual specimen would be WD00656.