

Collection Cataloging

Tom Mortimer

A collection is the organization of chaos


Mineral collection cataloging is a topic frequently discussed in newsletter articles. With some idle beach hours this summer, I thought I would relate my long experience with this activity.

My interest in the mineral collecting hobby was rekindled in 1974 with my membership in the Nashua Mineral Society. In high school I had a small collection, but my limited mobility prevented the acquisition of more than a few dozen specimens. Even with this modest start, I began a catalog using lined 3 x 5 cards. I still have these.... I save way too much stuff!

003	C	PB
Quartz Crystals with Chlorite Phantoms		
Shingle Springs, El Dorado Co., Calif.		
Quartz with Chlorite Shingle Springs El Dorado Co. Calif.		
Purchase / Nov. 2, '74 / \$1.00 (251 \$1.00)		



As my collection began to grow in the mid-seventies, I felt the need to give my catalog cards a more professional look. I designed and had printed a thousand cards with the information that I deemed important to record.

SPECIES: Adularia (a variety of Orthoclase)	CAT. NO. 305 DANA NO.
VARIETY / ASSOCIATION: w/	
COMPOSITION:	
LOCALITY: B&M Quarry: Ashland, Mass.	
REMARKS: Dissolved calcite out of vug in fall of '80, exposing Adularia xtal (i.e. xtal, prismatic, in foreground of vug). note: top view x-section =  Identification aided by talk by Carl Francis of Harvard @ 80 show	
COL. <input checked="" type="checkbox"/> GIFT <input type="checkbox"/> FROM:	
EXCH. <input type="checkbox"/> PURCHASED <input type="checkbox"/> DATE: 11/74 COST: VAL.	
TOM MORTIMER	



In the late seventies my electrical engineering career at Sanders Associates provided me access to one of the earliest timeshare computer systems, the Digital Equipment PDP 10. From a teletype terminal at Nashua, Canal St., I could enter data to my account on the PDP 10 computer five miles away in south Nashua. I entered my catalog data via a mechanical teletype and saved my data on a punch tape (Anyone remember punch tape?) Technology moved forward. The teletypes were replaced with line printers with fifteen-inch wide paper. I still used punch tape for local storage. Many lunch hours were spent entering catalog data.

CAT#	NAME/VARIETY	CHEMICAL COMP.	LOCAL	ACQ./DATE	COST	/VAL
001	Mulfenite	Pb ₂ MoO ₄	Red Cloud, Yuma, Ariz.	P 11/2/74	1.50	
002	Berite	Ba(SO ₄)	Stoneham, Col.	P 11/2/74	1.00	
003	Quartz crystals w/ Chlorite	SiO ₂	Shinola Springs, Calif.	P 11/2/74	1.00	
004	Grossularite Garnets (2)	Ca ₃ Al ₂ Si ₃ O ₁₂	Mexico	P 11/2/74	.50	
005	Galena	Pb ₂ S		P 11/2/74	.50	
006	Fluorite Cleavages (2)	Ca ₂ F ₂		P /62	.50	
007	Natrolite	Si ₂ O ₂	B&M Quarry, Ashland, Mass	F 11/74		
008	Smoky Quartz Group	Si ₂ O ₂	Sugarloaf Mtn: Bethlehem, NH	F 10/74		
009	Smoky Quartz Crystal	Si ₂ O ₂	Sugarloaf Mtn: Bethlehem, NH	F 10/74		
010	Smoky Quartz Crystal	Si ₂ O ₂	Sugarloaf Mtn: Bethlehem, NH	F 10/74		
011	Smoky Quartz Crystal	Si ₂ O ₂	Sugarloaf Mtn: Bethlehem, NH	F 10/74		
012	Epidote Crystals w/ Chlorite	Ca ₂ (Al,Fe)2(SiO ₄)3(OH)	Bauer Mine, Groton, NH	F 10/74		
013	Epidote Crystals w/ Chlorite	Ca ₂ (Al,Fe)2(SiO ₄)3(OH)	B&M Quarry: Ashland, Mass.	F 10/74		
014	Scorzalite	(Fe,Mn)Al ₂ (PO ₄)2(OH)2	Palermo Mine: Groton, NH	G 10/74		
015	Arsenowrite Crystals		Deloro, Ont.	G 10/74		
016	DISCARDED					
017	DISCARDED					
018	Microcline w/ Smoky Quartz	K ₂ Al ₂ Si ₃ O ₈	Government Pit: N. Conway, NH	F 9/74		

15 inch wide PDP10 line printer output of my catalog. (Note sprocket feed holes)

The power of a computer enabled me to sort and search my catalog for categories like localities and species. This was revolutionary!

Parker						
10400	Beryl Crystal	Be ₃ Al ₂ Si ₆ O ₁₈	Parker Mine: Cntr. Strafford, NH	F 6/12/76		
10500	Beryl Crystal	Be ₃ Al ₂ Si ₆ O ₁₈	Parker Mine: Cntr. Strafford, NH	F 6/12/76		
15800	Eucryptite	Li ₂ Al ₂ Si ₂ O ₄	Parker Mine: Cntr. Strafford, NH	F 5/22/76		
Palermo						
01400	Scorzalite	(Fe,Mn)Al ₂ (PO ₄)2(OH)2	Palermo Mine: Groton, NH	G 10/74		
08400	Heterosite	(Fe,Mn)PO ₄	Palermo Mine: Groton, NH	E 6/26/76		
11400	Vivianite w/ Scorzalite	Fe ₃ (PO ₄)2.2(H ₂ O)	Palermo Mine: Groton, NH	F 8/2/75		
13600	Siderite	Fe ₂ CO ₃	Palermo Mine: Groton, NH	F 8/75		
16900	Messelite w/ siderite	Ca ₂ (Fe,Mn)(PO ₄)2.2H ₂ O	Palermo Mine: Groton, NH	F 7/75		
17500	Siderite	Fe ₂ CO ₃	Palermo Mine: Groton, NH	F 6/75		
21400	Autunite on S. quartz	Ca(UO ₂)2(PO ₄)2.10H ₂ O	Palermo Mine: Groton, NH	F 7/18/77		
21600	Scorzalite in Mica	(Fe,Mn)Al ₂ (PO ₄)2(OH)2	Palermo Mine: Groton, NH	F 7/18/77		
21700	Fairfieldite	Ca ₂ (Mn,Fe)(PO ₄)2.2H ₂ O	Palermo Mine: Groton, NH	F 7/18/77		

PDP10 locality sorting (above)

00080	DANA	NAME/VARIETY	CHEMICAL COMP.	LOCAL	ACQ./DATE
00081	****	*****	*****	****	*****
Schrol					
03600		Schrol in Mica Schist	NaFe ₃ B ₃ Al ₃ (Al ₃ Si ₆ O ₂₇)(OH) ₄	Strickland Qry: Portland, Ct.	F 4/2/75
04100		Schrol	NaFe ₃ B ₃ Al ₃ (Al ₃ Si ₆ O ₂₇)(OH) ₄	Rice Mine: Groton, NH	F 8/2/75
04200		Schrol	NaFe ₃ B ₃ Al ₃ (Al ₃ Si ₆ O ₂₇)(OH) ₄	Rice Mine: Groton, NH	F 8/2/75
06800		Schrol	NaFe ₃ B ₃ Al ₃ (Al ₃ Si ₆ O ₂₇)(OH) ₄	Rice Mine: Groton, NH	F 9/6/75
06900		Schrol (7. Specimens)	NaFe ₃ B ₃ Al ₃ (Al ₃ Si ₆ O ₂₇)(OH) ₄	Rice Mine: Groton, NH	F 9/6/75
*					
Beryl					
07000		Beryl (terminated)	Be ₃ Al ₂ Si ₆ O ₁₈	Rice Mine: Groton, NH	F 9/6/75
08200		Beryl (6 Specimens)	Be ₃ Al ₂ Si ₆ O ₁₈	Rice Mine: Groton, NH	F 9/6/75
10400		Beryl Crystal	Be ₃ Al ₂ Si ₆ O ₁₈	Parker Mine: Cntr. Strafford, NH	F 6/12/76
10500		Beryl Crystal	Be ₃ Al ₂ Si ₆ O ₁₈	Parker Mine: Cntr. Strafford, NH	F 6/12/76
16100		Beryl	Be ₃ Al ₂ Si ₆ O ₁₈	Beauregard Mine: Alstead, NH	F 9/26/76
19600		Beryl	Be ₃ Al ₂ Si ₆ O ₁₈	Hobart Hill Mine: Hebron, NH	F 10/2/77
19700		Beryl	Be ₃ Al ₂ Si ₆ O ₁₈	Beauregard Mine: Alstead, NH	F 9/26/76

PDP10 species sorting (above)

Next dawned the era of the micro-processor. Sanders began incorporating these wonders into the military systems they were designing in the early eighties. Software for these Intel processors was designed and debugged on a system called the MDS 80. The MDS 80s had two significant innovations: a monochrome display and dual eight inch floppy drives. Think dinner plates! They also supported a paper tape interface so I could port my PDP 10 catalog to the MDS 80. Thus, I migrated from paper tape storage to magnetic storage. Wa-hoo!

In 1984 I bought my first personal computer, the IBM PC. With an acoustic modem (again, anyone remember these? - data communication over a voice phone line) I was able to transfer my MDS 80 catalog text file to my IBM PC. Using the IBM BASIC language program that came with my PC, I was now ready to write my own catalog data base program. Two years later, I switched to BETTER BASIC (by Summit Software - long defunct). This BASIC had much better features for designing data records. My IBM PC with its 360 Kbyte drives was later replaced with a newer version with an Intel 386 PC and dual 1.4 Mbyte drives for backup catalog storage.

My next iteration of a home-grown catalog program (1995-1999) grew from my proficiency with MATLAB, a powerful software program for signal processing that I used at my work. It is a gross overkill to write a cataloging program, but it gave me something useful to do during my lunch hours. One feature that I particularly liked was my statistical report. (Example below). It is a nice summary of the distribution of specimen sizes, acquisition sources, New England state locality distribution, and total investment. *Seriously, wouldn't you like to know this about your collection?*

Statistics for mineral catalog CAT 09-06-1999

Catalog contains 1120 specimen entries, (156 K bytes).
 Catalog contains 299 note entries, (53 K bytes).

SIZE DISTRIBUTION		ACQUISITION DISTRIBUTION		NEW ENGLAND	
=====		=====		=====	
7	Micro	133	Exchange	66	ME
634	Thumbnail	604	Found	468	NH
224	Miniature	76	Gift	35	VT
136	Small Cab	293	Purchase	62	MA
105	Cabinet	14	Unknown	64	CT
14	Unknown			1	RI

Collection investment sum = \$ 2015.25

Another feature of the MATLAB version was a numerical species report, example below.

H Mineral Collection of Tom Mortimer, Amherst, NH 12-07-1995
 Alphabetical mineral list and population for file CAT.DAT. Number of specimens = 869 Number of species = 198

(discarded)	3	Cordierite	5	Mimetite	2	Unknown	1
(graded)	1	Corundum	2	Molybdenite	7	Uralite	2
(unassigned)	5	Covellite	1	Montmorillonite	2	Uraninite	1
(unknown)	3	Crocoite	5	Muscovite	6	Uvarovite	2
(unlocateable)	1	Cuprite	2	Natrolite	8	Uvite	1
Actinolite	4	Cyrtolite	1	Olivine	1	Vanadinite	6
Adamite	2	Danburite	1	Opal	1	Vesuvianite	18
Aegirine	3	Dendrite	1	Orpiment	1	Vivianite	2
Albite	6	Diopside	5	Orthoclase	4	Wavelite	2
Allanite	4	Diopase	1	Pectolite	3	Weloganite	1
Almandine	22	Dolomite	9	Pervoskite	1	Wernerite	1
Amber	1	Dravite	1	Phenakite	1	Willemite	1
Amblygonite	1	Dumortierite	1	Phillipsite	1	Wolastonite	1
Analcime	3	Elbiate	12	Pinnite	1	Wolframite	1
Anatase	1	Enargite	1	Plagioclase	2	Wulfenite	8
Andalusite	5	Eosphorite	2	Powellite	1	Xenotime	1
Andradite	2	Epidote	26	Prehnite	6	Zircon	6
Ankerite	1	Ettringite	1	Psilomelane	1	X not-assigned	1
Anthophyllite	1	Euclase	1	Purpurite	1		
Antigorite	1	Eucryptite	1	Pyrite	28		
Antlerite	1	Fairfieldite	1	Pyrolusite	1		
Apatite	23	Ferberite	1	Pyromorphite	2		
Apophyllite	4	Fluorichterite	1	Pyrophyllite	1		
Aragonite	2	Fluorite	14	Pyrrhotite	1		
Arfvedsonite	11	Franklinite	2	Quartz	112		
Arsenopyrite	16	Gahnite	1	Ramsdellite	1		
Artinite	2	Galena	5	Realgar	1		
Astrophyllite	3	Garnet	1	Reibecite	1		
Augite	1	Goethite	2	Rhodochrosite	4		
Aurichalcite	2	Gold	5	Rosasite	1		
Autunite	3	Graphite	2	Rutile	8		
Axinite	2	Grossularite	22	Scapolite	14		
Azurite	3	Gummite	3	Schorl	20		
Babingtonite	1	Gypsum	3	Scolecite	1		
Barite	14	Helvite	2	Scorzalite	2		
Bastnaesite	1	Hematite	9	Selenite	2		
Beryl	17	Hemimorphite	4	Serandite	1		
Betafite	1	Herderite	2	Serpentine	1		
Bismuthinite	6	Hessonite	9	Siderite	10		
Boleite	1	Heterosite	1	Sillimanite	2		
Brazilianite	1	Hornblend	1	Silver	2		
Brochantite	1	Hornblend(?)	1	Smithsonite	3		
Brookite	2	Hornblende	2	Spessartine	2		
Brucite	2	Huelandite	1	Sphalerite	3		
Buergerite	1	Ilmenite	2	Spinel	3		
Calcite	22	Ilviate	2	Spodumene	4		
Cancrinite	1	Kyanite	5	Staurolite	12		
Cassiterite	2	Lazurite	2	Stibiconite	1		
Celestite	2	Lepidolite	1	Stibnite	3		
Cerrusite	2	Limonite	1	Stilbite	7		
Chabazite	2	Linarite	1	Strontianite	3		
Chalcanthite	1	Loellingite	2	Sulfur	2		
Chalcedony	1	Magnesite	1	Talc	3		
Chrisoberyl	1	Magnetite	20	Tennantite	2		
Clinocllore	3	Marcasite	2	Thorite	1		
Clinozoisite	1	Margarite	1	Titanite	7		
Cobaltite	1	Messelite	1	Topaz	6		
Colemanite	1	Microcline	16	Tourmaline	12		
Columbite	1	Microelite	2	Tremolite	2		
Copper	3	Millerite	2	Triphylite	1		

The current iteration of my mineral catalog began in 2006, when (then) MMNE member Carlos Gristani introduced me to Handbase by DDH software. This is a marvelous program! It is a fully customizable, searchable, data base. Its best feature is that it works seamlessly between handheld devices (Apple, Android) and desktop computers. You can enter/edit catalog data on a desktop pc and synchronize the catalog to your smart device. Your complete catalog can be in your shirt pocket at a mineral show. Should you spot, for example, a nice Book Cliffs, Colorado, barite, you can instantly check.... Do I have one already? If so, what did I pay for it? My Handbase custom designed catalog entry form for my micro mineral collection is shown below.

A screenshot of the Handbase program data view is shown below:

Nu	Species	Var/Ass	Locality	Town	State	Size	Acq	Date	Cost	From
945	Augelite		Chandler Mills Mine	Newport	NH	TN	F	8/17/06	0.0000	
946	Pyromorphite		Mineral Hill	Wakefield	NH	UM	F	8/12/09		
947	Pyromorphite		Mineral Hill	Wakefield	NH	UM	F	8/12/09		
948	Cerussite		Mineral Hill	Wakefield	NH	UM	F	8/12/09		
949	Pyromorphite		Mineral Hill	Wakefield	NH	UM	F	8/12/09		
950	Anglesite		Mineral Hill	Wakefield	NH	UM	F	8/12/09		
951	Pyromorphite		Mineral Hill	Wakefield	NH	UM	F	8/12/09		
952	Ushkovite	on Scorzalite	Charles Davis Mine	N. Groton	NH	UM	G	9/09		From Bob Wilken
953	Plumboppyrochlore		Boulder pipe, N. Sugarloaf Mtn	Bethlehem	NH	TN	F	/8x	0.0000	
954	Synchesite-Ce		Rt. 11 road cut Lake Shore Park	Gilford	NH	UM	G	6/09	0.0000	Gordon Jackson
955	Ferrotschermakite ?	EDS analyzed by Kerry Day 9/09	Ellacoya Locale	Gilford	NH	UM	F	5/14/04		
956	Beraunite	EDS analyzed by Kerry Day 9/09 - Set 4	Palermo Mine	N. Groton	NH	UM	G	8/08	0.0000	From Bob Whitmore Had thought might be Cacoenite - bu
957	Strengite	on Rockbridgeite	Fletcher Mine	N. Groton	NH	UM	G	9/19/09		Gordon Jackson
958	Goyazite	with Augelite	Chandler Mills Mine	Newport	NH	UM	F	8/24/06	0.0000	
959	Stewartite	with Bermanite & Strengite	Fletcher Mine	N. Groton	NH	UM	G	9/19/09	0.0000	Gordon Jackson
960	Stewartite		Ruggles Mine	Grafton	NH	UM	P	6/08	5.0000	Gilsum Rock Swap - purchased chunk \$20.
961	Goyazite	many micro xls	Chandler Mills Mine	Newport	NH	UM	F	8/24/06	0.0000	
962	Bermanite	with Stewartite and Phosphosiderite - see also u959	Fletcher Mine	N. Groton	NH	UM	G	9/19/09		Gordon Jackson
963	Strunzite	with Beraunite	Ruggles Mine	Grafton	NH	UM	P	6/08	5.0000	Gilsum swap - part of \$20. chunk of ph
964	Sphalerite	with siderite on quartz	Palermo Mine	N. Groton	NH	UM	F	9/26/09		
965	Sphalerite	with siderite	Palermo Mine	N. Groton	NH	UM	F	9/26/09		

The data for each specimen that I consider important is evident. I insert a word of caution here when designing your data base. The more fields you include, the more effort will be required for each specimen. It might be nice to have the chemical formula or crystal class, but if you want these parameters, they can be quickly referenced on the web. I maintain two mineral catalogs: one for micros and one for non-micros. Each presently has about 2,500 specimens. There are a couple of fields that I wish I had included earlier on: one to indicate if I had a photo (with photo file name) and one to indicate if I had a supporting analysis (also with file name). The Handbase program appears to support the inclusion of a photo with your record. I have not tried this. Each text record is quite small, byte-wise. Specimen photos would make the records MUCH larger.

Now for some of the beauty of this program: How many Palermo specimens do I have in my micro collection? Quickly found: 574. How many of these are whitmoreite? Up pops 10. (Image below) How many did I purchase? Answer: 2. How much did I spend? \$3 each.

Nu	Species	Var/Ass	Locality	Town	State	Size	Acq	Date	Cost	From
132	Whitmoreite		Palermo Mine	N. Groton	NH	UM	G	/8x	0.0000	R. Janules
463	Whitmoreite		Palermo #1	N. Groton	NH	UM	P	/03	3.00	Sauktown Sales
594	Whitmoreite	Jahnsite & siderite	Palermo Mine	N. Groton	NH	UM	P	3/11/05	3.0000	MMNE sale from Cares collection
989	Whitmoreite MSNG	naval mine habitat	Palermo Mine	N. Groton	NH	TN	G	/08	0.0000	From crate of rocks given by Bob Whitmore
1267	Whitmoreite	micro xls on multiple sides of specimen	Palermo Mine	N. Groton	NH	UM	G	4/11	0.0000	ex. Walter Lane material
1270	Whitmoreite		Palermo Mine	N. Groton	NH	UM	G	4/11	0.0000	ex. Walter Lane material
1425	Whitmoreite	naval mine habit	Palermo Mine #1 - Pod 3	N. Groton	NH	UM	G	6/13	0.0000	Gift from G. Jackson - ex. Forrest Fogg
1518	Whitmoreite	Largel	Palermo Mine	N. Groton	NH	UM	G	/08	0.0000	From small box of micro chunks from Bob Whitmore
2016	Whitmoreite		Palermo Mine	N. Groton	NH	UM	G	9/11/16	0.0000	Collected by Clayton Ford. Gift from Gordon Jackson

A critical adjunct to a useful collection catalog is specimen numbering. Once you have determined that you have 10 Palermo whitmoreites, you likely want to review them, which means finding them in your drawers or boxes. Many collectors use a simple numerical numbering approach... 0001, 0002, 0003 ... I use this and store micro-boxed specimens in numerical order. Finding a handful of specimens in a collection of thousands is easy. Specimen numbers are on the lid of each box. The temporary vacancies in the drawers allow easy return to their numerical order.

For non-micro (larger than TN) specimen numbering, more effort is required. For these larger specimens the catalog number must appear on the label AND affixed to the physical specimen, as labels too often get separated from their specimen. Here I recommend small identifying numbers (mine are about 3 mm x 6 mm) glued to the backside of the specimen with Duco cement. A little computer effort can generate a sheet of 500 sequential numbers in the desired small font. These can be cut out as needed and glued to specimens, usually on the backside. (5.5 cm specimen below)

The screenshot shows the MINCAT 1 software interface. The 'Number' field is set to 1617. The 'Species' field is set to 'Heterosite'. Other fields include 'Var/Ass', 'Locality' (Chickering Mine), 'Town' (Walpole), 'State' (NH), 'Size' (MN), 'Acq' (F), 'Date' (11/5/07), and 'Cost' (0). There are buttons for 'OK', 'Cancel', 'Details', and 'New' at the bottom.



Consider also the space available on a label is limited. A "Notes" field in your catalog record will allow adding as much detail as you would like.

Some final thoughts

Migrating my catalog over several computer platforms over several decades has taught me to always make sure I have saved a version of my catalog as a simple text file. If your catalog is in some format that is native to a specific data base, you will face great difficulty in porting it to another program when the current program vendor goes "poofa". Yes, many collectors use MS EXCEL for cataloging and the program file formats has remained transportable throughout its life. (My personal view is that EXCEL is primarily a spreadsheet program, and is somewhat clunky as a catalog program.)

When saving catalog data as a text file, I recommend using a comma delimited format. If this approach is taken, commas cannot be used within your data fields. I use "-" where I would use a comma.

The Handbase app is available for download from Apple. However, it appears that it has not been updated in several years. This non activity by the vendor is a bit worrisome. I would like to think that it is so good that no further

improvement is necessary. My search for other programs with similar features has turned up nothing, especially the cross platform syncing.

Once you have the Handbase program, you are not limited to just mineral catalog databases. I also configured a database of EDS analysis testing and a database recording dates and destinations of field collecting trips.

A printed version of your catalog is strongly recommended. If your catalog only exists on a CD ROM, DVD, or USB stick, a future person may fail to recognize the importance of this digital media and discard it. A printed catalog is immediately recognizable for what it is. Include a media copy in the binder with the printed copy. Generating a printout of a Handbase catalog is not one of this program's stronger features. Options for formatting the printout are limited. One may desire to export the catalog to a text file and use MS WORD or EXEL to archive a satisfactory print copy.

A feature of my self-written MATLAB catalog program that I wish was available in Handbase is to show an alphabetized histogram of all species in my catalog. To clarify, this is an alphabetical list of all species with a count of how many of that species I have. The program could also do this for each New England state: how many from each state do I have? I can do this with my Handbase catalog, but need to filter each state separately. Presently, I have 2041 from NH of 2324 total.

Finally, if your collection is already of moderate size (500 or more), entering a collection catalog for it is a tedious task. To make the task less daunting, one might consider starting with a locality-specific sub-catalog such as Palermo or Mt. St Hilaire. By taking "small bites", a completely cataloged collection may be achieved.