



MWF News

JUNE 2013 - ISSUE No. 523

WEB SITE - www.amfed.org/mwf

Member of the American Federation of Mineralogical Societies



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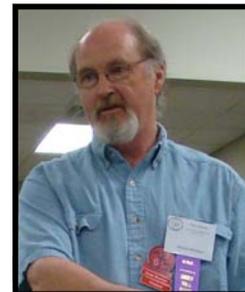
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PRESIDENT'S MESSAGE - THANK YOU, NEWSLETTER EDITORS

by Dennis Westman

I am late in getting this President's Message to Sharon, the MWF News Editor. Officers like me frequently forget how important the editor is to a healthy club or federation. Dates like, "the newsletter has to go to the printer," are absolute. It is not acceptable to mail the newsletter the week after a club meeting. My wife, Marilyn, was our club's editor for 6 years, so I have no excuse for being late. The key to doing the newsletter is getting everything before you start. It's a given, the editor knows there will be a secretary's and a president's report. Are they going to be one-fourth of a page or 2 pages each? A middle-of-the-winter club meeting is much different from a pre-show meeting. If you can't get your report submitted in time, call and let the editor know how long it will be.



The job of editor is the most important job in a club. Many positions are busy for half of the year. The newsletter job is year-round. How could you explain to a potential visitor what this month's program or activity will be? How would anyone know about field trips, show information, or lapidary classes? There are resources like exchange newsletters, and the MWF and AFMS newsletters from which an editor can get articles. The MWF has a supplies bulletin that is filled with games and puzzles. Great fillers!

I know this from experience; rockhounds are talkers. Write about your collecting trip, or the jewelry you designed. You might say, "But, I can't write!" If you can talk, you can write. Write just like you talk. The story is important. Have someone else edit the spelling and grammar. If you're a butcher, baker or candlestick maker, you are a good writer. Your readers of the newsletter dream of doing thing that you have done. Write!

The Nominating Committee is looking for a 2nd Vice-President nominee.

If you have been on a MWF Committee

for at least one year, and have

interest in being an officer,

contact Cindy Root.

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UPCOMING EVENTS

JUNE

- 1-2 VIROQUA, WI.** Coulee Rock Club's Annual Show; Viroqua Middle School Gym, 100 Blackhawk Dr.; Sat. 10-5, Sun 10-4; Contact: Allison Conrad, 507.895.8109, rockinbabe@acegroup.cc.
- 8 MONROE CITY, MO.** Gem City Rock Club's Show & Swap; M.W. Boudreaux Visitor Center at Mark Twain Lake, Rte. J at Clarence Cannon Dam; Sat. 9-4; Contact: Jeanne Smith or Debbie Franke, 30263 207th Ave, Ewing, MO, 63440, 573-439-5890, jsmith45@marktwain.net.
- 8 SKOKIE, IL.** Chicago Rocks & Minerals Society's 2nd Annual Rock Swap; St. Peter's United Church of Christ gymnasium (indoors), 8013 Laramie (across the street from the Public Library on Oakton); Sat. 1-5; Contact: Jeanine N. Mielecki, 773.774.2054, jaynine9@aol.com, www.chicagorocks.org.
- 8-9 KALAMAZOO, MI.** Michigan Geology & Gemcraft Society's Annual Seminar; Rood Hall, Western Michigan University, near W. Michigan and Ronkin Ave.; Sat. 9-5, Sun. 9-4; Contact: Don Brown, 734.421.8159.
- 8-9 PLYMOUTH, WI.** Glacial Drifters Annual Show & Swap; Sheboygan County Fairgrounds, North End, 229 Fairview Dr.; Sat. 9-5, Sun. 10-4; Contact: Kevin Ponzio, 920.980.6413, earthprospect@frontier.com.
- 8-9 MANSFIELD, OH.** Richland Lithic and Lapidary Society's Annual Gem, Mineral, Jewelry, and Fossil Show; Arts & Crafts Building, Richland County Fairgrounds, 750 N. Home Rd.; Sat. 10-6, Sun. 11-5; Contact: Tom Kottyan, 419.562.1152.
- 14-16 PARK HILLS, MO.** Mineral Area Gem & Mineral Society's Missouri Mines Rock Swap; Missouri Mines State Historic Site, 50000 State Hwy. 32; Fri. 9-6, Sat. 9-6, Sun. 9-4; Contact: Boneta Hensley, 573.760.0488, mojellybean63@yahoo.com.
- 15 OSSEO, MN.** Anoka County Gem & Mineral Club's Rock Swap; United Methodist Church parking lot, 16 2nd Ave. SE; Sat. 10-2; Contact: Martha Miss, 651.459.0343.

JUNE - cont'd

- 15 WYOMING, MI.** Indian Mounds Rock & Mineral Club's Tailgate Sale; Wesley Park United Methodist Church, 1150 32nd St. SW; Sat. 9-noon; Contact: Ed Krzeminski, 3838 Crowfoot SW, Gandville, MI 49418, 616-530-9571, krzeminski.ed@gmail.com or Gordon Spalenka, 2119 Waldron St SW, Wyoming, MI 49519, 616-249-0513, gnsपालenka@sbcglobal.net, www.indianmoundsrockclub.com.
- 21-23 BLOOMINGTON, IN.** Lawrence County Rock Club, Inc.'s 48th Annual Gem, Mineral, & Fossil Show 2013; Lawrence County Fairgrounds, 11265 W. U.S. 50, Bedford, Indiana; Fri. 10-6:30, Sat. 9-6:30, Sun. 10-4; Contact: Dave Treffinger, 812.295.3463, lawrencecountyrocksclub.org.
- 22-23 ELDON, MO.** Osage Rock & Mineral Club's Annual Show; Eldon Community Center, 309 E. 2nd St.; Sat. & Sun. 11-5; Contact: Recorded Info 417-532-4367, ormc2013show@centurylink.net.
- 29-30 ROSEVILLE, MN.** Anoka County Gem & Mineral Club's Gem & Mineral Show; HarMar Mall, 2100 Snelling Ave. North, Roseville, Minnesota; Sat. 10-6, Sun. 12-5; Contact: 763.421.8521.
- JULY**
- 9-14 WEST FARGO, ND.** Lake Agassiz Rock Club's Fair Event - Prospecting; Red River Valley Fair, 1805 W. Main; Tues.-Sun. 11-8; Contact: Ben Kessel, 1513 10th St. N, Fargo, 58102, quietwolf30@yahoo.com.
- 13-14 MOOSE LAKE, MN.** Carlton County Gem & Mineral Club's Annual Agate Days; Moose Lake High School, 413 Birch Ave; Sat. 9-5, Sun. 9-4; Contact: Gary Pitoscia, 815 N 13th Ave, Duluth, MN 55805, 218-724-1894, pitosciajg@charter.net.
- 14 LINCOLN, NE.** Lincoln Gem & Mineral Club, Inc.'s Grinding Party, Pioneers Park Nature Center, Chet Ager Building, Coddington & Pioneers; Sun. 1-4; Contact: Karen Messenger, 402.432.1767, kamessenger@hotmail.com, www.lincolngemmineralclub.org.
- 19-20 MINOCQUA, WI.** Lakeland Gem Club's Rock & Gem Show; Lakeland High School, Hwy. 70 West; Fri. 10-6, Sat. 9-5; Contact: Patti Hartmann, 715.477.2519, gypsy1120@coslink.net.

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UPCOMING EVENTS - CONT'D

(Continued from page 2)

JULY - cont'd

27-28 FREDERIC, WI. Indianhead Gem & Mineral's Annual Show; Frederic High School, 1437 Clam Falls Dr.; Sat. 9-5, Sun. 9-4; Contact: Roy Wickman, 1127 7th St., Almena, WI 54805, 715-357-3223, rktswick@chibardun.net.

AUGUST

2-4 ISHPEMING, MI. Ishpeming Rock & Mineral Club's 38th Annual Show & Field Trips; Elks Club Lodge, 597 Lake Shore Dr.; Sat. 9:30-4:30, 7:00 p.m. Cracker Barrel session; Field Trips Fri. & Sun.; Contact: Ernest Johnson, 1962 W. Fair, Marquette, MI 49855, 906-228-9422, ejohnson@nmu.edu.

9-11 BLOOMINGTON, IN. Lawrence County Rock Club, Inc.'s 48th Annual Gem, Mineral, & Fossil Show 2013; Lawrence County Fairgrounds, 11265 W. US 50, Bedford, IN; Fri. 10-6:30, Sat. 9-6:30, Sun. 10-4; Contact: Dave Treffinger, 812.295.3463, lawrencecountyrockclub.org.

9-11 HOUGHTON, MI. Copper Country Rock & Mineral Club's Annual Show; Houghton Elementary School, 203 Jacker Ave.; Fri. 1-8, Sat. 10-6, Sun. 11-3; Contact: Norm Gruber, 1850 Clark St., Marquette, MI 49855, 906-228-6764, pres@ccrnc.info, www.ccrnc.info.

10-11 RICE LAKE, WI. Northwest Wisconsin Gem & Mineral Society's Gem & Mineral Show and Sale; Youth Expo Building, Barron County Fairgrounds, Hwy. 48 North; Sat. 10-5, Sun. 10-4; Contact: Roy Wickman, 715.357.3223, rktswick@chibardun.net.

11 YOUNGSTOWN, OH. East Ohio Lapidary's Swap Meet, Silent Auction & Cookout; Woodworth Park, E. Western Reserve Rd.; Sun. 12-?; Contact: Larry Kerr, 330.501.6918.

16-18 BRIDGETON, MO. Greater St. Louis Association of Earth Science Club's Annual Show; Machinist Hall Auditorium, 12365 St. Charles Rock Rd., Bridgeton; Fri. 3-8, Sat. 10-6, Sun. 11-5; Contact: Willis Smith, 314-521-8896 or Robert Morse, 636-462-4423.

AUGUST - cont'd

17 STEVENS POINT, WI. Heart of Wisconsin Gem & Mineral Society's Swap Meet; Parking Lot behind Applebee's, 5609 U.S. Hwy. 10; Sat. 10-5; Contact: Sandy Brandl, 715.344.3889, stoniesz@charter.net, www.fromtherockroom.com.

23-25 SOUTH BEND, IN. Michiana Gem & Mineral Society's Annual Show; St. Joseph County Fairgrounds, 5177 S. Ironwood Rd., Fri. 2-7, Sat. 10-6, Sun. 10-4; Contact: Marie Crull, 574-272-7209, musicman0311@gmail.com, www.sauktown.com/michiana.

24-25 MOUNTAIN HOME, AR. Ozark Earth Science Gem Mineral & Fossil Club's Annual Show and Sale; Van Matre Senior Citizens Center, 1101 Spring Street; Sat. 9-5, Sun. 9-4; Contact: Sharon Waddell, 417.256.8948 (home), 417.274.8712 (cell), www.ozarkearthscience.org.

24-25 PEORIA, IL. PAS Geology's Annual Rock and Mineral Show; Grand Hotel, 4400 N. Brandywine Dr.; Sat. 9-5, Sun. 10-5; Contact: Jim Travis, 309.645.3609, boatnick@aol.com.

WE LOVE A ROAD TRIP!

by Martin Dougherty, Lincoln Gem & Mineral Club, MWF Member, and CFMS Member

The term applies especially to Linda and me, and to illustrate it, we attended the finest Lapidary Show Lincoln, Nebraska has seen in years!

The road trip was several months in the planning and, because of some family business to attend to in Lincoln, I figured we should support the Lincoln Gem and Mineral Club (LGMC) by entering into competition with a display I had used in competition at the 2010 California Federation of Mineralogical Societies' (CFMS) / American Federation of Mineralogical Societies' (AFMS) annual show in La Habra, California.

I was about to reach an important milestone in my 60 years, as I was due to retire from the Southern California Gas Company on April 1, 2013, no joke!

Being a member of the CFMS for 10 years, and competing in Lapidary displays for the last four years, has been a rewarding and educational experience. The

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WE LOVE A ROAD TRIP! - CONT'D

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club Linda and I previously belonged to in Southern California had exchanged newsletters with LGMC for several years, so I knew who Sharon Marburger was because of that. She is their editor, also.

I have continued to correspond with Sharon from time to time, and found out that there would be a show in Lincoln about the time that we would be there on family business. We joined their club, since we couldn't enter competition without doing so, and got the case together.

Every road trip we start leaves at 5:00 a.m., coffee and donuts at the local shop before we hit the road. On this day, our first day out, we traveled 565 miles to Holbrook, Arizona, home of the Petrified Forrest. Our second day's drive ended in Amarillo, Texas, where we encountered some late season inclement weather. The freezing rain and snow lasted all the way up to Dodge City, Kansas, our next stopover. One thing about leaving California is the savings in filling the fuel tank as we move East, at least 50 cents on the dollar!

Heading north through Kansas, we stopped at a road cut at the I-70 and Highway 14 interchange, and were rewarded with some nice marine fossils. Welcome to Kansas!

It was late in the day on Thursday when we arrived in Lincoln, just in time for a great barbecue dinner. The weather was great when we got there, low 80's, a nice change from the previous two days.

We had missed the Lincoln club's Thursday field trip, but we were cued up for Friday's trip to the Nemaha River to collect more fossils. I took my sister along and introduced her to rockhounding, and since that induction, I would see her looking down at the ground for rocks wherever she went.

We returned to Lincoln later that day, in time to set up the competition case at the show venue. Out of all the wonderful displays, there were only two of us with competition cases, Barbara Sky with her Pyrite minerals, and me with my glass display. Unfortunately for Barbara, there was no one there who could judge her case. Fortunately for us, Barbara was able to judge ours, and she found another man to help with clerking.

That night we went to the Cracker Barrel where we met some of the people that were visiting from all around the Midwest.

Aside from the shortage of competitors, the show itself was a huge success. The local press ran a story in the area paper, and there was a line of people out the door the first morning, waiting to get in. There was also a little incentive to come because the first 2,000 people in the door received a small emerald! With the great weather, a prize at the door, and hourly raffle prizes, you couldn't go wrong. There was also a HUGE garage sale in the building next to the show that helped to bring the people in, also. Everyone walking away from the garage sale had some kind of thing they had picked up at a can't-be-beat price. Next to them, there were some horse shows, so it was a busy day for the fairgrounds on Saturday.

Saturday night brought about the banquet. They had a great speaker, Robert Swanson, Director of the United States Geological Survey, Nebraska Water Science Center, and he talked all about the geology of Nebraska; it is a very impressive state. Jim and Sharon Marburger were presented awards for being such a big help with the show, and were also given crowns and named King and Queen of the show!

There were a lot of dealers with a lot of different things than we see in California at our shows. Some very interesting fossils are found around the Midwest states. I won a \$20 raffle drawing to get something at one of the dealers. It was a hard decision, but I finally decided on a very large fossilized clam shell. Now I just have to decide where to put it where it will be safe. They had some great items on the silent auction table. We bid on a lot of different things and got most of them. I was bidding on a piece of Nebraska Blue Agate and a man from Wisconsin wanted the same piece. When the price got to \$25.00, I told him to go for it. He said he would pay whatever price it went up to, he wanted it that bad.

Sunday night saw us tearing down the case and wondering when the rain was going to hit, it had started to get cloudy in the afternoon. We could feel little drops coming down here and there, but nothing too bad. That night we had a spectacular lightning storm. We don't see many of those around the

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WHAT ARE MINERALS?

by Andrew Alden, About.com Geology Guide

<http://geology.about.com/od/mineralsresources/a/whatsamineral.htm>

If you play “Twenty Questions,” the first question is “Animal, vegetable or mineral?” If the answer is “mineral,” it could mean anything that isn’t alive or formerly alive. That’s too vague for geology. Minerals are any substance with all of four specific qualities.

1. Minerals Are Natural: substances that form without any human help.
2. Minerals Are Solid: substances that don’t droop or melt or evaporate.
3. Minerals Are Inorganic: substances that aren’t carbon compounds like those found in living things.
4. Minerals Are Crystalline: substances that have a distinct recipe and arrangement of atoms.

That’s much better. Look at the mineral picture index (found at <http://geology.about.com/od/mineralsresources/a/Mineral-Index.htm>) to see lots of examples that match these criteria. But geologists still know of some exceptional cases.

Unnatural Minerals

Until the 1990s, mineralogists could propose names for chemical compounds that formed during the breakdown of artificial substances, things found in places like industrial sludge pits and rusting cars (although iron rust is the same as the natural minerals hematite, magnetite and goethite). That loophole is now closed, but there are minerals on the books that aren’t truly natural.

Soft Minerals

Traditionally and officially, native mercury is considered a mineral, even though the metal is liquid at room temperature. At about 40 degrees below zero, mercury solidifies and forms crystals like other metals. So there are parts of Antarctica where mercury is unimpeachably a mineral.

For a less extreme example, consider the mineral ikaite, a hydrated calcium carbonate that forms only in cold water. It degrades into calcite and water above 8 degrees Celsius. It is significant in the polar regions, the ocean floor and other cold places, but you can’t bring it into the lab except in a freezer.

Ice is a mineral, even though it isn’t listed in the mineral field guide. But when ice collects in large enough bodies, it flows in its solid state—that’s what glaciers are.

And salt (halite) behaves similarly, rising underground in broad domes and sometimes spilling out in salt glaciers. Indeed, all minerals, and the rocks they are part of, slowly deform given enough heat and pressure. That’s what makes plate tectonics possible. So in a sense, no minerals are really solid except maybe diamond.

Other minerals that aren’t quite solid are instead flexible. The mica minerals are the best-known example, but molybdenite is another. Its metallic flakes can be crumpled like aluminum foil. And of course the asbestos mineral chrysotile is stringy enough to weave into cloth.

Organic Minerals

The rule that minerals must be inorganic may be the strictest one. The substances that make up coal, for instance, are different kinds of hydrocarbon compounds derived from cell walls, wood, pollen and so on. These are called macerals instead of minerals (for more, see Coal in a Nutshell at http://geology.about.com/od/mineral_resources/a/aa_nutshellcoal.htm). But if coal is squeezed hard enough for long enough, the carbon sheds all its other elements and becomes graphite. Even though it is of organic origin, graphite is a true mineral, carbon atoms arranged in sheets. Diamond, similarly, is carbon atoms arranged in a rigid framework. After some 4 billion years of life on Earth, it’s safe to say that all the world’s diamonds and graphite are of organic origin even if they aren’t, strictly speaking, organic.

Amorphous Minerals

A few things fall short in crystallinity, hard as we try. Many minerals form crystals that are too small to see under the microscope. But even these can be shown to be crystalline at the nano-scale using the technique of X-ray powder diffraction, though, because X-rays are a super-shortwave type of light that can image extremely small things.

Having a crystal form means that the substance has a definite recipe, or chemical formula. It might be as simple as halite’s (NaCl) or complex like, say, epidote’s $(Ca_2Al_2(Fe^{3+}, Al)(SiO_4)(Si_2O_7)O(OH))$, but if you were shrunk to an atom’s size, you could tell what mineral you were seeing by its molecular makeup and arrangement.

But a few substances fail the X-ray test. They are truly glasses or colloids, with a fully random structure at the atomic scale. They are amorphous, scientific

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MINERALS - CONT'D

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Latin for “formless.” These get the honorary name mineraloid. Mineraloids are a small club of about eight members, and that’s stretching things by including some organic substances (violating criterion 3 as well as 4). See them in the Mineraloids Gallery found at <http://geology.about.com/od/minerals/ig/Mineraloids/>.

Rock Forming Minerals

A handful of very abundant minerals account for the great majority of the Earth’s rocks. These rock-forming minerals are the ones that define the bulk chemistry of rocks and how rocks are classified. Other minerals are called accessory minerals. The rock-forming minerals are the ones you want to learn first.

Mineral	Usual Color	Crystals	Cleavages	Hardness	Diagnostic
Biotite	Black	Rare	1 perfect	2–3	Cleavage
Calcite	White	Common	3 good	3	Acid fizz
Dolomite	White	Common	3 good	4	Acid no fizz
Feldspar	White or pink	Common	2 good	6–6.5	Hardness
Hornblende	Black	Common	2 (60/120°)	5–6	Cleavage
Muscovite	White	Rare	1 perfect	2–3	Cleavage
Olivine	Green	Common	1 fair	6.5–7	Color
Pyroxene	Dark	Rare	2 (87/93°)	5–6.5	Cleavage
Quartz	White	Common	None	7	Fracture

How to Identify Minerals: 10 Steps to Mineral Identification

1. Pick Your Mineral. Learning mineral identification is like learning to cook. You begin by following step-by-step procedures and looking up a lot of things. But after a while you notice regularities, become familiar with the usual suspects, make some productive mistakes, and get better at it until it becomes easy and fun.

Another way mineral identification is like cooking is that professionals can go to school, learn to use expensive equipment and master the subject fully, yet amateurs can handle nearly all the common possibilities using just a few simple tools.

The first thing to do is to observe and test your mineral. Use the largest piece you can find, and if you have several pieces, make sure that they are all the same mineral. Examine your mineral for all of the following properties, writing down the answers. After that you’ll be ready to take your information to the right place.

2. Luster. Luster is the way a mineral reflects light and the first key step in mineral identification. Look for luster on a fresh surface. The three major types of luster are metallic, glassy (vitreous), and dull. A luster between metallic and glassy is called adamantine, and a luster between glassy and dull is called resinous or waxy. See the gallery of mineral lusters (found at http://geology.about.com/od/mineral_ident/ig/lusters/) for some examples and further explanation.

3. Hardness. Use the 10-point Mohs hardness scale. The important hardnesses are between 2 and 7. For this you’ll need your fingernail (hardness about 2), a coin (hardness 3), a knife or nail (hardness 5.5) and a few key minerals.

4. Color. Color is important in mineral identification, but it can be a complicated subject. Experts use color all the time because they have learned the

usual colors and the usual exceptions for common minerals. If you’re a beginner, pay close attention to color but do not rely on it. First of all, be sure you aren’t looking at a weathered or tarnished surface, and examine your specimen in good light.

Color is a fairly reliable indicator in the opaque and metallic minerals—for instance the blue of the opaque mineral lazurite or the brass-yellow of the metallic mineral pyrite.

In the translucent or transparent minerals, color is usually the result of a chemical impurity and should not be the only thing you use. For instance, pure quartz is clear or white, but quartz can have many other colors.

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MINERALS - CONT'D

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Try to be precise with color. Is it a pale or deep shade? Does it resemble the color of another common object, like bricks or blueberries? Is it even or mottled? Is there one pure color or a range of shades?

If you have an ultraviolet light, this is the time to see if the mineral has a fluorescent color. Make note if it displays any other special optical effects.

5. Streak. Streak is the color of the finely crushed mineral. Streak is somewhat more reliable than color and is essential for a few minerals. You'll need a streak plate or something like it. A broken kitchen tile or even a handy sidewalk can do. Scratch your mineral across the streak plate with a scribbling motion.

6. Crystal Form and Mineral Habit. A good knowledge of crystals is very helpful once you're past the beginner stage, but often minerals do not display any crystal faces, so for simplicity's sake, we'll ignore it. For beginners, a mineral's crystal form is less important than its cleavage (see the next step). When you're ready to learn this aspect of minerals, you'll want a book.

One thing even beginners can do, though, is to observe a mineral's habit, the general form it takes. There are more than 20 different terms describing habit—see most of them illustrated in the Mineral Habits Gallery (found at <http://geology.about.com/od/minerals/ig/mineralhabits/>).

7. Cleavage and Fracture. Cleavage is the way a mineral breaks. Many minerals break along flat planes, or cleavages—some in only one direction (like mica), others in two directions (like feldspar), and some in three directions (like calcite) or more (like fluorite). Some minerals, like quartz, have no cleavage. Cleavage is a profound property that results from a mineral's molecular structure, and cleavage is present even when the mineral doesn't form good crystals. Cleavage can also be described as perfect, good or poor.

Fracture is breakage that is not flat. The two main kinds of fracture are conchoidal (shell-shaped, as in quartz) and uneven. Metallic minerals may have a hackly (jagged) fracture. A mineral may have good

cleavage in one or two directions but fracture in another direction.

To determine cleavage and fracture, you'll need a rock hammer and a safe place to use it on minerals. A magnifier is also handy, but not required. Carefully break the mineral and observe the shapes and angles of the pieces. It may break in sheets (one cleavage), splinters or prisms (two cleavages), cubes or rhombs (three cleavages) or something else.

8. Magnetism. Magnetism is a distinctive property in a few minerals. Magnetite is the prime example, but a few other minerals may be weakly attracted by a magnet, notably chromite (a black oxide) and pyrrhotite (a bronze sulfide). Use a strong magnet. The magnets I use came from the corners of an old plastic shower curtain. Another way to test magnetism is to see if the specimen attracts a compass needle.

9. Other Mineral Properties. Taste is definitive for halite (rock salt), of course, but a few other evaporite minerals also have distinctive tastes. Just touch your tongue to a fresh face of the mineral and be ready to spit—after all it's called taste, not flavor. Don't worry about taste if you don't live in an area with these minerals.

Fizz means the effervescent reaction of certain carbonate minerals to the acid test. For this test, vinegar will do. (Learn more about the acid test at http://geology.about.com/od/mineral_ident/ig/acidtest/).

Heft is how heavy a mineral feels in the hand, an informal sense of density. Most minerals are about three times as dense as water, that is, they have a specific gravity of about 3. Make note of a mineral that is noticeably light or heavy for its size. Galena is distinctly heavy. Sulfides and oxides tend to be dense.

You don't always need to do these tests, but remember them for the times they're called for.

10. Look It Up. Now you are ready for mineral identification. Once you have observed and noted these mineral properties, you can take your information to a book or to an online resource. Start with my table of the rock-forming minerals (on page 6), because these are the most common and the ones you should learn first.

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WE LOVE A ROAD TRIP! - CONT'D

(Continued from page 4)

California coastline, so we stayed awake until it passed by the house.

And that is the start of the next leg of our road trip, and another story, as we were on the road 26 days.

EDITOR'S NOTE:

Marty failed to mention one point in his story. He won first place for his "Molten Minerals" case.



Barbara Sky presented the MWF plaque to Marty.

MINERALS - CONT'D

(Continued from page 7)

If you find yourself getting more interested in this subject, you'll benefit from a good book on rocks and minerals. An old one is as good as a new one in many respects, and having two or three books is better than having just one.

SUBMISSION OF ARTICLES

Material may be e-mailed to Sharon Marburger at mwf.editor@windstream.net, or submitted via the U.S. Mail (see address on page 1). Acceptable e-mail formats include MS Word (.DOC & DOCX), Adobe (.PDF), rich text format (.RTF), or plain text (.TXT). Pictures must be in png, jpg, tiff, or gif format. If e-mailing an article, it may be included within the body of the e-mail message or sent as an attachment. Thank you for your submissions!

