



CEDAR VALLEY GEMS

CEDAR VALLEY ROCK & MINERAL SOCIETY

CEDAR RAPIDS, IOWA

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FEBRUARY 1995

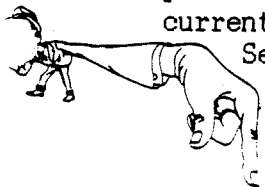
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Cedar Valley Rocks and Minerals Society will meet February 15, 1995, at the AEGON/LIFE INVESTORS BLDG, at the corner of Edgewood Rd and 42nd St. N.E., Cedar Rapids, Iowa, at 7:15 PM

Sharon Sonnleitner reports Amy Alabastro and Mike Barinek, our 1994 scholarship students from the University of Iowa, will present the program. Their topic is "Introduction to Faults/ Structural Geology."

Hosts and Hostesses will be Jim & Myrna Shetterly and Robert & Leslie Blin.

Don't forget - new membership books will be ready for the March meeting, and also for members to pick up at the show. There will be 1 membership book per member family. To be listed in the directory, your dues will need to be current. Dues are just \$7.00 per family, or individual. See Treasurer Dale Stout at the meeting.



INDOOR FIELD TRIP

Our winter indoor field trip is set for February 12, 1995. We will visit the home of George Vacik in Coralville and also Iowa Hall in Iowa City. You may go to George's home at 1 PM. George has a wonderful collection, which is beautifully displayed. He will probably have the tumbler going. He has a big rock saw which I suspect will be cutting some kind of rock. This is a real learning experience. Iowa Hall opens at 12:30. If you have not been there, this will be a perfect opportunity. If you would like to car pool, or do not have a car, please give one of the club officers a call. We will try to work it out. We will probably plan to get together around 4:30 or 5 PM and go out to eat. This is optional.

These indoor field trips are very informal - and FUN!! Everyone is welcome. Come on out and get acquainted.

PROGRAM NOTES

You really missed it if you weren't at the last meeting! We had a double-header program: Marcus Minifee, our scholarship student from Cornell, gave a report on his summer camp experience in Maine and Canada. He supplemented his talk with maps and specimens. Following the business meeting refreshments, Jeff Groff gave an extremely interesting presentation about digging geodes at Scheffler's mine in Wayland, MO. Jeff shared with us some of his secrets in getting the "BIG ONES"--what tools to use, how to use them and where to dig. He also had great geodes with various minerals in them. He punctuated his presentation with many humorous anecdotes. To top it all off, he had his geode cracker there and we all got to either crack geodes that we brought or watch them being opened.

Sharon Sonnleitner

SHOW NEWS

The show is shaping up to be our biggest and best. All we need is YOU!! Do you have your exhibit ready - or in the planning stages? Your exhibit is needed. There are still committees that can use your help. Please check with Sharon Sonnleitner or Marv Houg to see where more help is needed.

Maynard Green will be here to present his program, "Lake Superior Agates," once on Saturday and once on Sunday. He will make a special presentation Saturday evening immediately following the catered supper, for benefit of the club members who have been busy in various capacities and unable to attend during show hours. Also, some of the other dealers may wish to take advantage of this special showing. Maynard, sometimes referred to as Mr. Lake Superior, will bring a large exhibit and will have a small sales booth.

John and Judith Washburn will be here. Judith will be demonstrating and selling Gem Trees. John is Archaeology chairman for the MWF and is also a geologist. He will have a table where he will identify minerals and fossils. It has been awhile since we have had someone doing gem trees, and probably even longer since we had someone, in particular, identifying fossils and minerals.

There will be several other dealers that are new to our show. DON'T MISS IT. BE THERE!!

EGG CARTON DAY

We will meet at the home of Bill and Sharon Sonnleitner's, Saturday, February 25, 1995, 2 PM. If you have some styrofoam egg cartons, bring them. If you have a quantity of small fossils, crystals or minerals, bring them. We will mount the fossils and crystals in the egg cartons and will attach labels in the egg carton lid. Many of these egg carton sample kits are needed for the Pebble Pit at the show. These kits are a real teaching tool for the kids, in fact quite a few teachers buy them for teaching purposes. You, too, may learn from helping with this project. We will have an assembly line for this project so plan to come and help. This is very informal and fun. Dress casually and comfortably. All members are welcome.

Bring a covered dish, or two. When the egg cartons are filled, we will enjoy one of those delicious potluck suppers.

PEBBLE PIT

Speaking of the Pebble Pit - If you are cleaning up, or high-grading your collection, keep the Pebble Pit in mind. We will need lots of material for all the kids to choose from - crystals, minerals, fossils, agates or tumbled stones. These need not be perfect specimens. They do need to be larger than the material we use in the egg carton kits. Children from all grade levels will be shopping at the Pebble Pit. The kids can buy specimens for very minimal prices. As you know, youth groups with their leaders, are admitted free. We will have lots of kids.

DOOR PRIZES will be needed also. If you have a nice specimen, some jewelry, a good book, or what have you. We need lots of door prizes.

HERE AND THERE WITH OUR MEMBERS AND FRIENDS

Congratulations to Robin Rea Ruchotzke and Dennis B. DeFord. Their engagement was announced in THE CEDAR RAPIDS GAZETTE, Sunday, January 22, 1995. Their wedding is planned for September 16, 1995.

I saw Edith Nekola at the grocery store, January 21. She said Jeff did not get home until the 23rd for Christmas. He went back right after Christmas as he had papers to grade. She said Jeff had found a previously undiscovered cold air slope right near the campus. He has been in contact with Terry Frest about this cold air slope. Edith said it may turn out to be something pretty big. Maybe we will hear more about it from Jeff. (In case you have forgotten, Jeff is a professor at the University of Wisconsin at Green Bay.)

We welcome new member: Randy Costello
703 W. 21st St.
Cedar Falls, IA 50613
319-266-5860



Mel Freymuller has a new address: 136 F Sycamore Lane, Oldsmar, FL 34677

Larry DeSotel reported he had taken rocks and spoken to 1075 kids and 71 teachers and adults this past year and had driven 311 miles in doing so.

I know Marv Houg and Sharon Sonnleitner have given several talks to schools and other groups. How about you? What have you been doing? Have you exhibited at any shows other than ours? Spoken to schools or other groups? Let us hear from you. Tell us about your field trips, shows you have attended. Some of our members are no longer able to travel, or go field tripping. They are still interested in what you are doing.

Gerry and Helen Sullivan were seen at the flea market February 5, '95. They had a selling table with many beautiful materials - including jewelry, amethyst, geodes, fossils and lots more. Very nice display.

MID-AMERICA PALEONTOLOGY SOCIETY

(MAPS)

What is your main interest in the area of rockhounding? If you like fossils, or if you have just a passing interest or curiosity, you might want to visit a MAPS meeting. You surely will want to attend the MAPS NATIONAL FOSSIL EXPO, April 7, 8 and 9, 1995, Student Union, Western Illinois University, Macomb, Illinois. You will see fossils that you probably have never seen before. There will be people there from all over the Nation as well as from several foreign countries. Several of the members of Cedar Valley, are also members of MAPS.

The next regular meeting will be held at 1 PM, March 4, 1995, Trowbridge Hall, Iowa City. If you are interested, or need directions, check with Marv Houg or Sharon Sonnleitner.

*Leslie Blin resigned
as Phone Committee Chairperson
Alice Brown volunteered
to be on phone committee*

**SECRETARY'S MINUTES
BOARD MEETING**
(edited & abbreviated)

The meeting was called to order by Marv Houg at Marv's home, Jan. 11, 1995, with 13 members in attendance.

SHOW INSURANCE was discussed. Current policy expires 3/22/'95. Those present felt more information is needed about coverage.

Show: **FLOOR PLAN** was discussed. Concerns about the **LIGHTING** and the **POWER SUPPLY** available at the hall was discussed. It may be necessary to rent a generator for more power. Bob Sweet will check on the cost of renting a generator. **SECURITY**- Julie Sova will check on the Explorers and the National Guard as alternatives to hiring a security firm for two days. **FOOD** - We discussed letting the **CATERERS** at the hall take care of the **FOOD**. This will let several members be free to do other things for the show. **ADVERTISING** is done except for Newspapers, radio and TV.

The next Board and Show meeting will be held Feb. 8, 1995, at Marv & Sue's, at 7 PM.

Show dates for the '96 show at the Teamster's Hall were discussed. We need to find out the Lincoln, NE and the Kansas City show dates.

For a theme exhibit, Sharon will inquire about the Amana meteor.

Meeting adjourned.

Respectfully submitted,

Tom Whitlatch, Secretary

GENERAL MEETING MINUTES
(edited & abbreviated)

Cedar Valley Rocks and Minerals Society met January 18, 1995, at the AEGON/LIFE INVESTORS Bldg, at 7:15 PM.

Meeting called to order by President Marv Houg. Twenty-five members and 4 guests were present.

Blane Phillips moved to accept the minutes as published in the newsletter. Seconded and carried.

Treasurer Dale Stout gave the financial report. Sharon Sonnleitner moved to accept. Seconded and carried.

Marcus Minefee, our scholarship student from Cornell College, Mt. Vernon, gave a presentation on his summer field trip to Maine. He used maps, pictures, graphs and samples from the area, in the presentation.

Marv extended his thanks to the Board members leaving the board and welcomed the new Board members. Those leaving are Sharon Sonnleitner, Jim Shetterly, Leslie Blin, Larry DeSotel and George Vacik.

Larry DeSotel made a presentation to a class at Grant School, January 18, '95. Larry gave a summary of presentations made over the last year. (See report in HERE AND THERE...)

Special note made by Milo Cervený of persons offering to teach other club members the skill and techniques in the area of their lapidary expertise.

The indoor field trip to George Vacik's home and to Iowa Hall at the University of Iowa will be Sunday, February 12, 1995, at 1 PM either place.

Show Committees and display case sign up sheets were passed for members to sign.

Egg carton day was set for 2 PM, Saturday, February 25, 1995, at Sharon and Bill Sonnleitner's home. Bring styrofoam egg cartons and small rocks, fossils or crystals with which to fill the egg cartons. Potluck supper will follow.

Julie Sova reported on security for show.

Teamster's Hall hours for the show access are as follows: Friday. 9:30 am - 9 pm; Saturday 8am - 9pm; Sunday 8am - 9pm. There will be no clean up Sunday night except for the rented tables.

Marv asked for Science Fair judges for Saturday, March 25, 1995, from 8AM 12PM, at Westdale Mall. Leslie & Robert Blin, Blane Phillips and Marv Houg volunteered. Contact person if you want to volunteer is John Margis at 395-8419 (work) or 377-9236 (home).

Marv announced a Board meeting, 7PM. Wednesday, Feb. 8 at Marv & Sue's home.

Bill Mitchell moved to adjourn. Seconded and carried.

Jeff Groff had brought along his geode cracker. Following a talk about how to dig the geodes, tools to use and more, we adjourned for refreshments, and a demonstration on the geode cracker. Many had brought along geodes to be cracked. There were many "oohs and ahs" as the sparkling crystals were revealed.

Respectfully submitted
Tom Whitlatch, Secretary

EXCHANGE BULLETINS

A year or so ago we discussed putting together a collection of some of our favorite, or better articles from the exchange bulletins. There are so many good articles - more than we can possibly share with the membership in the bulletin.

Gladys and I have discussed this quite a bit and have done some work in preparation toward some sort of publication. Let's face it. We want this to be something you will read and use. Therefore we need to have a committee to define goals, set limits, and especially help from someone with broader interests and more knowledge than Gladys and I have. Neither of us know much about lapidary - cutting, polishing, capping, faceting and other related activities. Neither of us have been able to go on many of the field trips the last couple years. We are out of touch with which methods of cleaning fossils and crystals have proved the most successful.

I really had hoped to have some type of a sample book done by show time. The more we studied this, we decided we should wait until we had help and could determine what or where your interests are. We do need your input or the matter will be dropped.

I will bring some bulletins to the meeting which I hope you will take home, read and initial when you are finished. Bring them to the next meeting so someone else can read them. If you see articles that you think other members will enjoy seeing in our bulletin, please call it to our attention.

I plan to include an article in this bulletin about two booklets which have been compiled and published by two clubs. There is also a book which can be purchased from the Michigan DNR Geological Survey, MICHIOLOGIC TIME LINE. I have ordered some copies of the latter book which will be available at the book booth at our show, or at MAPS Expo At Macomb, ILL. Possibly at the meeting.

HERE'S WHAT'S HAPPENING

- March 11-12, 1995 GEODELAND EARTH SCIENCE CLUBS - SHOW, Western Illinois University, Student Union, Macomb, Illinois, Sat. 10 - 7
Sun. 10 - 5.
- March 18-19, 1995 CEDAR VALLEY ROCKS AND MINERALS SOCIETY - SHOW,
Teamster's Hall, 5000 J. St. S.W., Cedar Rapids, IA Hours 9am - 6pm;
10am-5pm
- March 24-26, 1995 ROCK HOBBY CLUB OF GREATER ST. LOUIS - SHOW,
Machinists Building Auditorium, 12365 St. Charles Rock Road, St. Louis, MO
- March 25-26, 1995 LINCOLN GEM & MINERAL CLUB - SHOW, Pershing
Auditorium, 15th & N St., Lincoln, NE Sat. 9 - 7; Sun. 10 - 5.
- April 1-2, 1995 FULTON COUNTY ROCKHOUNDERS - SHOW, Wallace Park,
250 S Ave. D, Canton, IL
- April 7-9, 1995 MID AMERICA PALEONTOLOGY SOCIETY (MAPS), National
Fossil Exposition XVII, Western Illinois University, Macomb, Illinois Fri.
8 - 6; Sat. 8 - 5; Sun. 8 - 3.
- June 23-25, 1995 LAWRENCE COUNTY ROCK CLUB - SHOW & SWAP - Buying
Selling & Trading, Monroe County 4-H Fairgrounds, Bloomington, IN Fri. 8 -
7; Sat. 8-7; Sun. 8-4. Camping \$6. per night. Inside and outside space
for selling and swapping. Bring your own tables - \$2. per front foot space
charge. Gate opens at 2 pm Friday. (This is a really big event)
Reservations taken when number of feet requested and money accompanies
resevation. Space reserved according to postmark. No telephone
reservations
- September 23-24, 1995 AUSTIN GEM & MINERAL SOCIETY - SHOW, St. Edwards
Community Center, Austin, Minn
- October 13-15, 1995 MICHIGAN MINERALOGICAL SOCIETY - MIDWEST FEDERATION
CONVENTION AND SHOW, Detroit, Michigan
- October 28-29, 1995 BLACKHAWK GEM & MINERAL CLUB - SHOW, Milan Community
Center, Milan, Illinois

WARNING

Fake aquamarine, morganite, and tourmaline made from glass have appeared on the market by the thousands of carats. They appear to be native cut and to come from Brazil. Visually, those stones are difficult to identify. Refractive index is a sure way. Glass is 1.51-53, beryl is 1.57, and tourmaline is 1.62-1.64. Glass is singly refractive while beryl and tourmaline are doubly refractive. The glass fluoresces - the real things don't.

-Stone Age News via T-Town Rockhound, 9/94, to us via THE ROCKPILE 1/95

A MESSAGE FROM THE MWF PRESIDENT

Greetings!

In my last message to you, I spoke about sharing our hobby with others in the community in a number of ways. This month I want to talk about what is probably the most common means of sharing the mineral and lapidary hobby with other people: that is, through putting on a show. Certainly not all clubs put on an annual show, but a majority of those in our Federation do, and it is one of the best ways to share our enjoyment with the general public.

At the typical show, there are demonstrators, who are members of either the sponsoring club or of another club, who are willing to come to share with the sponsoring club their expertise. The general public finds the demonstrators' area one of the most interesting parts of a show, since they can see a stone being faceted, another being cabbed, and wire-wrapping or other jewelry techniques being used to form beautiful items.

Another area of sharing at a show is found in the exhibits, where club members arrange their collections for others to see. Whether the exhibits are competitive or not, an attractive case, with easy to read, accurate labels, is one of the best ways of educating people about the hobby. The club member who feels awkward speaking before a group can let his collection do the speaking for him (or her). A club member who feels he does not have enough pieces to display can join with others in a club case, and a knowledgeable member can work with the others to show them how to arrange the case to make the most impact on the viewer. A case with specimens from many members of the club is often the best way to get individual members started on the road to having their own exhibits. And for the person who does not feel his collection is exhibit quality, what about making up an educational exhibit, showing how or why something in the hobby is the way it is? For that matter, putting together a club educational case can be truly educational for the exhibitors as well as the viewers.

These two areas, demonstrating and exhibiting, are the most important things in differentiating our club shows from commercial shows that are just a bunch of dealers. Let's emphasize them (while of course still having dealers at the club shows too) so we stand out in the memories of those who attend. An enthusiastic, sharing club is more apt to be a growing club.

Anne

SPECIAL PUBLICATIONS (via THE ROCKPILE)

The Benton, Ill., club published *State Stones & Other State Symbols*, by club members Donna Curtis and Diane Dare. This 101 page book (plus index), published in 1993, is a handsome soft cover volume with a plastic comb binding that has brought together a host of informational bits and pieces about all 50 states, with emphasis on the officially designated state stones, rocks, minerals and fossils. It contains the sort of information that is not readily available in any other one source, with an eye to the special interests of rockhounds.

The book was awarded the first place trophy in the 1994 MWF Bulletin Editors Contest in the special publications category.

It can be purchased for \$8.50, plus \$1.50 (book rate) shipping and handling or \$3.00 for priority mail, from Donna Curtis, Rt. 2 Box 508, Murphysboro, IL 62966. Make check payable to Southern Illinois Earth Science Club.

The ROCKPILE'S How-To Book - A Manual for Rockhounds, published in April 1994 by MMLSD, is the second special publication referred to above. The book is a 10-year collection of rockhound hints, tips and "how-to" articles printed in the club's bulletin from 1984 through 1993. It has 46 pages of content with illustrations and photos, a table of contents and subject index. It has a soft cover and a plastic comb binding. It was compiled by ROCKPILE editor Walt Vogtmann.

By decision of the club's Board of Directors, the book was made available without charge to members of record as of March 15, 1994.

It is available to members who joined the club after that date and to others for \$10.00 (including tax) and can be ordered from Walt Vogtmann, 10455 Hart Ave., Huntington Woods, MI 48070. The mailing cost within U.S. (priority mail) for one or two copies is \$2.90. Make check payable to MMLSD.

- ROCKPILE staff

CHUNK OF HISTORY FOUND IN QUARRY; IT'S A METEORITE

By Dave Hillstrom

From THE STAR, Sunday, September 11, 1994

Workers find more than just rocks in Thornton's huge limestone quarry.

On June 28 they found a very old thing lying around.

A very old thing.

How old? Try 4.6 billion years old.

For non-science types, that's roughly the age of the entire universe.

A meteorite apparently was blasted out of the limestone and sent up a conveyer belt that carries all rocks into a crusher.

Nobody suspected that one of the rocks was a possible scientific discovery.

"They knew something was unusual when it stuck to the magnet and kept shutting the system down," said Raphael Martinez, a 38-year veteran of Material Service's quarry operation.

The magnet detects all objects other than the limestone. Any pieces of machinery, truck parts or other metal objects are caught before they can clog up the crusher.

Since the meteorite is composed mostly of iron and nickel it stuck to the magnet.

The crusher still managed to chop up the billions-of-years-old meteorite into several different pieces.

Brian Rice, manager of aggregate technical service for Material Service, which operates the quarry, estimated that the meteorite was between 800 and 1,000 pounds before it went through the huge crusher.

"It's too bad we couldn't keep it in one piece," said Rice. "It would've been easier to study its contents.

The space rock was originally verified as a meteorite in a laboratory at Marblehead Lime Co. in Chicago Heights.

"I believe that there's only been about 1,400 meteorites ever found on earth," said Rice.

Pieces of the meteorite have been sent to the Illinois Geological Survey in Champaign, and other pieces have been

sent to labs in Arizona and Canada, according to Rice.

Chicago's Field Museum of Natural History has expressed interest in the largest surviving piece of the meteorite which is about one-and-a-half feet long, one foot wide and six-and-a-half inches thick, according to Mark Alvey of the museum's geology department.

That piece is currently being kept in a safe place, Rice said.

"If the (Field) museum is interested we'll probably let them have it," he said.

The meteorite hit the earth about 407 million years ago, Rice said. It landed in Thornton when the quarry was a coral reef, part of a huge temperate sea similar to the Caribbean Sea, according to Rice.

Over the years of mining the quarry, researchers have uncovered fossils of sea creatures similar to clams that no longer exist and which appeared on earth even before fish, according to Rice.

The materials of the meteorite are estimated to be between 4 and 4.6 billion years old.

"It's as old as the earth and surrounding planets," Rice said.

Theorists believe meteorites have been circling the universe since the beginning of time.

"The creation of the meteorites is based on the theory that a mass explosion, the Big Bang, created the universe," Rice said.

Rice said meteorites have periodically hit the earth when they've gotten close enough to the earth's atmosphere to be pulled in by gravity.

A researcher for the University of Chicago is reserving his glee until he sees proof of the meteorite.

"They don't turn up very often," said Andrew Davis, senior research associate at the University who has studied meteorites

Reprinted from; THE TULLY, November 1994, to us via SMOKE SIGNALS

VOLCANIC RAINBOWS

By Elmore Easter, VUG Examiner 2/90

The life of a lapidist is not always an easy one. When one finishes a project he casts about for another worthy subject to pursue--and it takes ingenuity and sweat to select one that affords satisfaction. The old brain started clicking as I reached that point.

Glass!--it finally struck me. Glass is a wondrous substance, but I never quite comprehended the intricacies of its composition. So here's a rockhound favoring glass. Now, what could be more attractive than the study of natural glass, of which part of the US is amply endowed.

So, with this small study of obsidian it is anticipated that somewhere in this collage we will develop a better understanding of the material.

Looking at obsidian we note that indeed it is a glassy extrusive igneous rock. It has a variable elemental composition approximating granite, but it cooled and froze before the elements in the melt were able to crystallize. It thus became an amorphous glass without the crystal orientation of its molecules. I hesitated to use the term "rock" until I found the definition included "a body of undifferentiated mineral matter, e.g., obsidian" (Dictionary of Geological Terms, Am Geol Inst, 1984)--a rather fine distinction.

An interesting fact is that none of it is "old" in the geological sense, because it is unstable, either slowly crystallizing to a fin-grained rock, or decomposing by slowly absorbing water. Obsidian is only found in recent geological history (F. Pough, *A Field Guide to Rocks & Minerals*, 1983).

Obsidian is usually identifiable at a glance by those familiar with it, mostly by its black, coal-like appearance along with the shiny conchoidal fractures often seen. Other features like the red/black streaks of mahogany obsidian, or the gray phenocrysts dotting black snowflake obsidian are dead giveaways. The latter being a case where obsidian is already altered partially to crystalline rock.

As water is absorbed over a period of time, a fine network of cracks develops which disintegrates the obsidian to a powder (perlite) encasing nodules of unaltered obsidian, sometimes called "Apache tears". These are collected by some for lapidary use.

A little more about the composition which varies somewhat, depending on the type of lava from which it originates. Being silica-rich, it comprises about 35% silica (SiO₂), 63% feldspars, and 2% of iron/magnesium minerals (*Audubon Field Guide to N. Amer. Rocks & Minerals*, A.A. Knopf, 1987). In various types of lava which may be a source for obsidian, the

extremes of silica may vary between 35% for nepheline basalt to as high as 73% for rhyolite (*Collier's Encyclopedia*).

Obsidian is locally abundant in the western US, but does not occur in the east, according to Pough. One noted locality (Collier's--volcanoes) is at Silver Cliff, Colorado, which I visited around 1960. Just driving into town, I noticed in the distance a pile of black rocks I took to be coal. Upon walking a quarter mile to the site, I was surprised to find it was indeed obsidian and hadn't realized it was a notable locality. Other sources in the US include Obsidian Cliff in Yellowstone NP, Wyoming; Colorado (Apache tears--another place); Utah (snowflake); Superior, Arizona; Glass Butte, Oregon; Montgomery Pass, Nevada; and Glass Mountain, California.

Getting to the chief purpose--cutting and polishing obsidian, I'll mention some of my efforts along this line.

Phenomenal Obsidian

Years ago, fresh at this hobby, I cut stones and made jewelry as Xmas presents (don't we all?) for the whole family including relatives living in Colorado. I had prepared a pin containing a cabochon of silver sheen obsidian for my sister and many moons later, recalling the beauty of it, decided to try again. This urge, coupled with the fascination for the phenomenal stone (those with optical effects) prompted me to order 4 or 5 pounds of rainbow and sheen obsidian.

What is sheen? Read on.

There are several types of obsidian, not all exhibiting special optical effects.

-Snowflake--a black rock containing patch gray/blue inclusions of crystals radiating from a common center, somewhat reminiscent of snowflakes. It is a very popular material and takes a high polish; you can't go wrong on this one. It has no optical effects, however.

-Mahogany--named for the color and is reddish brown, sometimes streaked with white or black, indicating lines of flow while still in its liquid state. It is easily recognized and takes a good polish, but it normally has no sheen.

-Gold or Silver Sheen--this material is black with small reflecting plates or crystals included within the glass. They are all oriented in the same direction due to the flow of the obsidian while still molten. Proper orientation of these reflective particles is essential to accentuate the optical phenomenon. The color, whether gold or silver, is

due to the nature of the inclusions. An explanation of the physics of sheen effects in layered obsidian was offered in the *Lapidary Journal*, December 1979.

-Rainbow--appears black, but when examined under adequate light is found to contain other colors such as pink, purple, green, bronze or red. These are all oriented in parallel layers, probably due to residing flow lines. When the dome of a cabochon is formed, the rounding intersects the various color planes at different levels, causing the rainbow play of colors.

-Fire Obsidian--shows a reddish flame-colored aventurescence somewhat like burning embers buried in the dark obsidian.

-Double Flow--composed of black and brown obsidians mixed in streaks and swirls. It has no optical effect.

-Brecciated--black, angular fragments cemented together with red material in beautiful patterns. It too has no sheen.

Slicing the rough properly requires some attention to the orientation of the piece in the saw vise. The nodules in my rainbow shipment from Mexico ranged from about fist size to 2 or 3 inches in diameter--small chunks. I noticed that each piece had a chip knocked from it, and this is the way the supplier tests for rainbows. By doing this routinely, they can readily tell if it is good--but it took me a bit longer.

Orienting the Phenomenal

Wet the nodule thoroughly with water--even immerse it in a panful--and, with a bright light (150-200W) directly overhead, look at the fracture scar on the nodule, turning it up, down, and sidewise until you see a hint of color--blue, green, purple, etc. Then, using a marker--I use a white crayon type pencil--draw a horizontal line completely around the piece. Be sure to keep the color flash upright and toward the ceiling. This line is the one to cut on with your diamond saw. Large chunks may be clamped on your saw vise, exactly in line with your mark. Check carefully. Smaller pieces may be sawed by hand to save time.

As you finish the cut and look at the flat surface, you will see a broad splash of color across the whole face--that is just what you want. If you slab in any other direction you may get no color.

Should the nodule have no chipped surface, and you see no color at all, try striking a flake from its edge with a small hammer with care. Flakes detach rather suddenly and with force. Then examine the scar for colors. If none were visible, discard the piece (or tumble polish it).

Here's an alternate approach to orientation when no glimmer of color is to be found. Many times there

may be a rough, lighter, outer rind due to the uptake of water and the obsidian's susceptibility to weathering. Often the parallel color-bearing layers are outlined beautifully on the weathered surfaces. Mark the direction of the layers all around with the white pencil, and saw exactly parallel to the layers. Layers may sometimes be visible on a freshly chipped surface as well.

Fire obsidian is a bit more difficult to orient than the rainbow. The "fire" is isolated in distinct layers, which are not necessarily in a flat plane, but probably curving upwards or downwards as a result of viscous flow. Not all these layers are "fire" layers. The trick is to trace the color-bearing strata lines to determine the form or shape of the "fire" layer. The best observations are done in direct sunlight.

Mark the layer all the way around as before. The layer reflects both from the upside or downside which is nice to know when outlining your cab on a slab. Larger "fire" areas may contain both concave and convex shapes, in which case you can cut the material in two, turn one half over and work both pieces similarly. Sanding and polishing are standard using cerium or tin oxide on a leather disc (courtesy *Desert Diggers*, Mentone, CA 1980).

Concluding, the sheen obsidians are fun to work with and offer exciting challenges. I must do more work on them because I feel that more can be learned about the optical properties of these phenomenal stones. For example, take a peek at the polished surface of one of them through a microscope at about 25 power and you may be surprised at some of the things you can see just below the surface. The cab that started by interest in obsidian was a sliver sheen with coarse spangles, which under magnification became a myriad of sparkling quartz crystals.

Reflections from inclusions or other structures sometimes produce a characteristic sheen summarized in the Table of Sheens (*Sinkankas, Mineralogy*, 1964).

<u>Characteristic</u>	<u>Reflections from</u>
pearly	partly developed cleavages
schiller	small separations
aventurescence	small inclusions (spangles)
silky	hair-like inclusions
chatoyant	oriented inclusions (catseyes)
asterism	cross-oriented inclusions (stars)
opalescence	hazy appearance

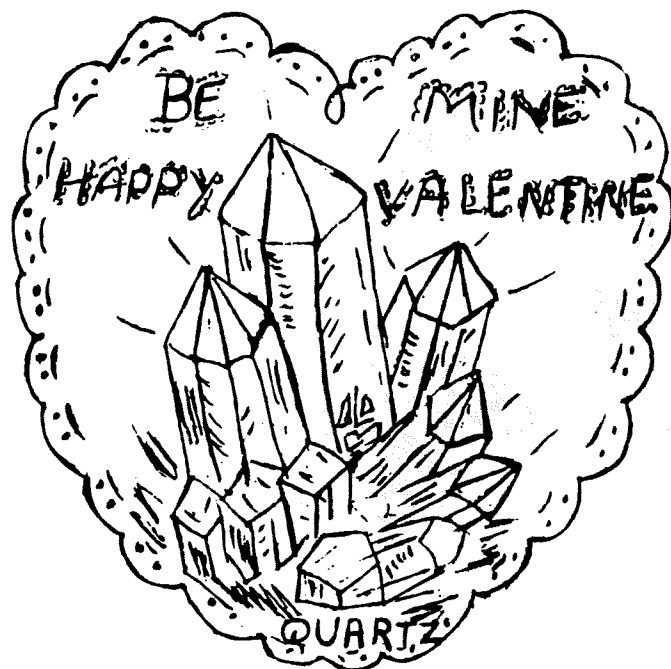
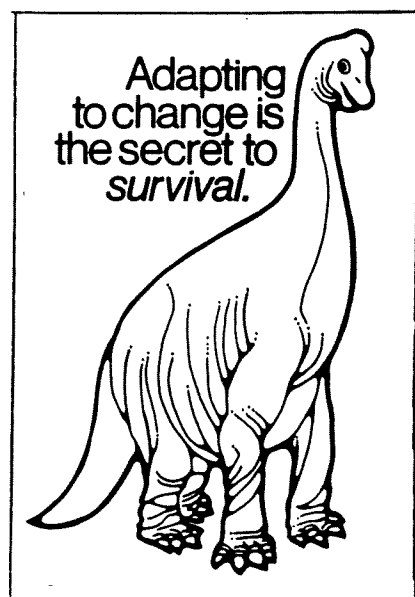
Some of these sheens can be observed in obsidian after judicious cutting of the rough nodule.

SHOW PREPARATION

The hurrier I go the behinder I get
 is the story of my life, it hasn't changed yet!
 For gee whiz! Holy Smokes! Here it is our show date
 And once again, Oh boy! Am I late!
 What will I exhibit? What will I bring?
 For I've nothing that's new, just the same old thing.
 Better grab the case, the riser and lining -
 Wish I had time to scrub the rocks till they're shining.
 I'll have to hunt labels, I hope I can find some.
 Why'd I put off getting ready; I sure am dumb.
 Where are the scissors, some thumb-tacks and pins.
 To get this all ready, I need to be twins!
 I can't find the lights, much less the spare;
 And the center piece rock is not anywhere.
 I'll need my name plate and some masking tape.
 If I'd learn to say NO I'd not be in this shape.
 Paper towels and windex are going to be needed..
 "Get ready early" is good advice I've not heeded!
 I'll have to get rocks for our sales table, too.
 And some door prizes, at least one or two.
 The case padlock is here, but where is the key?
 I just know where it should be.
 The clothes that I'll wear I still have to press.
 I could develop an ulcer from last minute stress.
 I must bake a cake to help feed our visitors;
 And gather up tools as I'm one of the demonstrators,
 I hope - maybe next year - if I work all year steady -
 I'll have a new exhibit, and have it all ready!
 The phone just rang, and what do you know??
 I heard me say, "I'll bring an extra display for the show."
 Maybe it's reasons like this that I never get done,
 But taking part in our show is just loads of fun!

-by Lee Kendall

via FLINT ROCK, GEM NEWS and R. R. NEWS 3/94, to us via ACHATES 9/94
 (Believe me, I have a twin and it doesn't help. Cedar Valley editor)



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SUNDAY, JANUARY 12
SEE PAGE 1 FOR DETAILS

Historian

