

# "DIGGIN'S FROM DAKOTA"



MONTHLY PUBLICATION OF THE "CENTRAL DAKOTA GEM & MINERAL SOCIETY"  
P.O. BOX 2445, BISMARCK, ND 58502 - 2445  
SERVING: BISMARCK, MANDAN, AND SURROUNDING AREAS IN NORTH DAKOTA

DIGGINS FROM DAKOTA  
Jim Ellis Editor  
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58530

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RMFMS - 1st Place, Small Bulletins, 1998  
RMFMS - 3rd Place, Small Bulletins, 1997, New Editor  
RMFMS - 2nd Place, Small Bulletins, 1992  
RMFMS - 2nd Place, Small Bulletins, 1987  
AFMS - 2nd Place, Small Bulletins, 1985  
RMFMS - 4th Place, Small Bulletins, 1985  
RMFMS - 2nd Place, Small Bulletins, 1981



# DIGGIN'S FROM DAKOTA

Published by: The "Central Dakota Gem & Mineral Society"  
P. O. Box 2445, Bismarck, ND 58502 - 2445

In Association With:

Rocky Mountain Federation of Mineralogical Societies  
and American Federation of Mineralogical Societies



Organized: March, 1966

## OBJECTIVES

1. To further the study of mineralogy and geology.
2. To arrange field trips to collect minerals, gems, and fossils.
3. To assist its members to improve in the art of cutting, polishing, and mounting gem materials;
4. To provide opportunities for the exchange, purchase, and exhibition of specimens and materials;
5. To share knowledge about gems, minerals, and activities of the Society with the general public.

— Article II, CDGMS Constitution

**MEETINGS:** First Sunday of each month at the Masonic Center, 1810 Schafer St., Bismarck, ND

**EARLY CLASS:** One - half hour before each meeting.

**ANNUAL DUES:** Junior Member - \$6.00, Single Membership - \$10.00, Family Membership - \$12.00

**MEETING TIMES:** 2:00 PM — From November thru March & 7:00 PM — From April thru October

## COMMITTEE PERSONS

**PROGRAM:** Neill Burnett #223-6758

Jim Nevland #221 - 2419

**HOSPITALITY** Carol Hickle #794 - 3342

**and LUNCH:** Emma Brady #663 - 3903

**HOSPITAL/CARDS:** Gen Buresh #663 - 5397

**FIELD TRIPS:** Steve & Darlene Newstrom #255 - 4675

**EDITOR:** Jim Ellis #794-3192

**ANNUAL SHOW:** (1999) Rodney Hickle #794 - 3342

**EARLY CLASS:** Harold Brady #663 - 3903

**GREETER:** Any Volunteers?

**Parliamentarian:** Gen Buresh #663 - 5397

**STAMP CHAIR:** Doris Hickle #794 - 3173

**LIBRARIAN:** Agnes Berg #442 - 5620

**PUBLICITY:** Any Volunteers?

**HISTORIAN:** Betty Mautz #337- 5775

**DOOR COUNT:** Any Volunteers?

## VISITORS AND GUESTS ARE ALWAYS WELCOME !

RMFMS State Director for North Dakota: Ray Olinger, 516 N. 20th St., Bismarck, ND #701 - 223 - 4986

All members are encouraged to submit articles/news items for publication. Material for the Newsletter should reach the Editor by the 10th of each month. Advertisements are encouraged for the Newsletter. (\$2.00 for 1/8 of a page per month or \$20.00 per year) Permission is granted to reprint non-copyrighted articles if proper credit is given. The "Diggins From Dakota" Newsletter is published monthly.

## CENTRAL DAKOTA GEM & MINERAL SOCIETY'S

### 25th ANNUAL

### GEM & MINERAL SHOW

COMMUNITY CENTER — MANDAN, ND

SEPTEMBER 25 & 26, 1999

Chairman: Rodney Hickle, HC2, Box 191, Center, ND 58530

Phone: 701 - 794 - 3342



## Central Dakota Gem & Mineral Society

Minutes From September 5, 1999

The regular monthly meeting of the CDG&MS was called to order by President Neill Burnett and the Pledge of Allegiance was recited. The next meeting will be held on Sunday, October 3, 1999 with the early class at 6:30 PM and the regular meeting at 7:00. The Oct. meeting will be our annual ugliest/prettiest/most unusual rock contest, so bring in your beauties and beasts. Prizes will be awarded.

We had three guests at our meeting, the Reverend Keith Richy and his son Jordan, and Gary Jochim.

The Minutes of the July meeting were read and approved, there were no minutes from the August picnic.

Treasurer Ray Oliger reported a beginning balance of 179.92 and an ending balance of 189.92.

### Committees:

Hospitality: Servers for Oct. Ray Oliger.

Library: Remember to bring back any books you have checked out.

Show: Show Chairman Rodney Hickle reported that only 6 of our 9 dealers have committed to the show, he hopes the remaining three will respond before the show.

Rodney also had a few comments about display cases. The included the following hints:

- Lights should be clear and not frosted.

- Labels should be neat, clean and of a color to blend with the case lining.

- The case should not be overfilled, too many items in the case make it busy.

- Categories for cases are Open, Fossil, Lapidary and Mineral for both Adults and Juniors.

Door count for September was 21 adults and 7 juniors. The adult door prize was won by Neill Burnett and the junior door prize was won by Justin Leidholm.

Don't forget that starting with our November meeting we go back to afternoon meetings with the early class starting at 1:30 PM and the regular meeting at 2:00.

Our annual Christmas dinner will be at the Royal Fork on December 5. We will eat at noon and have our meeting afterwards.

The meeting was adjourned and an excellent class on flint knapping was presented by Gary Jochim. Several of our junior members were given arrowheads by Mr. Jochim and two more were given to the club for door prizes.

Respectfully Submitted,

Russell Oliger, Secretary

## PRESIDENT'S MESSAGE

I want to THANK YOU all for attending our meeting on Sunday, 5 September 1999, especially the fact that we had seven, yes, 7 Juniors present. Our future is in our young Rock Hounds. It is wonderful to see these young people at our meetings.

We talked about our upcoming SHOW, and had a terrific class on Flint Napping by Gary Jochim. All of you Rock Hounds that were absent, missed a very educational and interesting presentation by Gary. See what happens when you miss a meeting!! You miss out on learning something on a subject that otherwise you would never know anything about.

And now let us review our schedule for the next few months:

- \* 25 - 26 September 1999 - Our annual Gem And Mineral Show. Rodney Hickie, our Show Chairman will need all the help he can get, so let us all get with it and help out. We need enthusiasm, talking it up and lots of volunteers. Remember, this is our show, and we all need to pitch in and make a success of it. We set up on Friday, 24 September. We need displays, labor, attendance and lots of enthusiasm.
- 3 October 1999 - Bring your most unusual rock, your prettiest rock, your ugliest rock or your proudest rock. We will have a contest and award prizes. You will be expected to defend your selection. This should be a fun night, so start planning on it now. You may enter as many categories as you want, and you can enter as many entries as you want. When you come in, you will be given a coded display ticket so that no-one else will know who the display belongs to. We have two independent Judges coming in who will judge the entries and award prizes. This will be the last month that our meetings will start in the evening.
- 7 November 1999 - Meetings start at 1:30 - Early Class and 2:00 Regular Meeting. The program will be fluorescent rocks. Everyone is asked to bring their own rocks that glow (or they think they glow, or you want to find out if it glows), and your instruments. This will be a free-for-all. It should be fun. Bring a guest and your own knowledge and experience concerning fluorescence and enjoy.
- 5 December 1999 - This will be our annual Christmas Brunch. To insure that we will get the room of our choice, at our 5 September meeting, we voted to start the Brunch at High Noon (12:00 PM) at the Royal Fork in Bismarck. More details will be forthcoming later.
- Sunday 9 January 2000 - **WOW** - If we make it past Y2K we will have a meeting on Paleontology. I am proposing that we skip 2 January since it is the day after New Years. More later. I think this is appropriate since our last meeting would have been in the last Century.

Yours in Rocks,  
Your President, Neill C Burnett



## SEPTEMBER BIRTHDAYS

5-Ryan Liffbrig  
13-Marla DeKrey  
14-Rick Huber  
16-Agnes Berg  
18-Philip DeKrey  
27-Verl Mausehund

## SEPTEMBER ANNIVERSARIES

8-Neill & Alice Burnett  
8-Henry & Ethel Hanssen  
12-Save & Darlene Newstrom  
13-Michael & Gwen Brady  
23-Jessie & Bonita Kluck

## Back in '49

*Of men who search for gold,  
You'll find the greedy and the bold.  
Now back in '49 I'm told, a man so good and kind,  
A dusty old man, about as wise as you could find.  
He searched for gold, and gold he found,  
So a claim he staked upon that ground.  
Each day you'd find him panning for his gold,  
And weekly turn it in for a room and food that  
wasn't cold.  
"My gold keeps me happy, one day he said,  
It keeps me busy, warm and fed,  
There's nothing more a man could need,  
Unless he suffered a good deal from greed."*

*One day while working in the hot, hot sun,  
Another man stood watching, by his side a gun.  
A young man, and tall, so clean he seemed to shine.  
Said he, "I intend to take what's yours and make  
it mine."  
This man of greed, with the glittering land around,  
Thought to steal his fortune from that very ground,  
"Dusty old man, you fool, you work so hard for just a  
single sack,  
Step aside, and I'll take a hundred full, and hardly  
bend my back."  
He filled his bags, with all that they would hold of the  
gleaming dust,  
And rode away with stolen dirt, not caring what was  
just.*

*The old man laughed, "I may be dusty, and I may be old,  
But at least I know which is dust, and which is gold.  
It's clear, a lesson that shining fool must learn,  
All that glitters is not gold, and toil the secret for  
what we earn."*

VIA-GEM TIME

Marsha Mertz (-Speight)

## ITACOLUMITE - THE ROCK THAT BENDS

It will bend one way and when turned over, will bend the opposite direction. No practical use has been found for this bending rock but it has been a source for gold and diamonds.

This metamorphic rock will also bend under its own weight. Even thick slabs will bend. The flexibility is caused by symmetrical quartz grains which interlock and so, when bent, rotate against one another. There is also some mica in Itacolumite, which helps provide elasticity for the bending. The minerals chlorite and talc are likewise flexible.

-- Rockhound Rumbings, via ROCK CHIP REPORTER VIA-THE REAR TRUNK

## ALAA - WHO ARE THEY AND WHAT IS THEIR PURPOSE?

In 1991, the President of the American Federation of Mineralogical Societies (AFMS) appointed a select committee to recommend ways to make the Federation more effectively responsive to the political challenges of increasing regulation and decreasing access to public lands that state and federal land management agencies were imposing on amateur fossil and mineral collectors.

The committee recommended that the AFMS form a separate organization whose primary purpose would be to promote the amateur collectors' interests in present and proposed policies, rules, regulations, and legislation with state and federal land managers, elected officials and legislators. In compliance with that recommendation, the AFMS directors voted to establish the **American Lands Access Association (ALAA)** in July 1992. The Association is a 501 (c)(4) (non-profit) organization which means that all moneys raised by the association can go toward lobbying activity. Donations and memberships to ALAA are not tax deductible.

The purpose of the Association is to promote and ensure the rights of amateur fossil and mineral collecting, recreational prospecting and mining, the use of public and private lands for educational and recreational purposes, and to carry the voice of all amateur collectors and hobbyists to our elected officials, government regulators and public land managers.

Their work began immediately! Within days of the July meeting, Senator Max Baucus (D-MT) introduced the *Vertebrate Paleontological Resources Protection Act of 1992* into the U.S. Senate. If enacted, the legislation would have

ended amateur fossil collecting on all public lands managed by the Federal government except under supervision of certain degreed paleontologists in "acceptable institutions."

From defeating the Baucus Bill in 1992 to coordinating a massive public protest to the proposed US Forest Service rules (withdrawn) and the Bureau of Land Management's RS (Revised Statutes) 2477 Rights-of-Way (rewritten), the ALAA has earned the respect of public officials from Washington, DC to state capitals across the country as the voice of the amateur and recreational users of public lands.

The Association has also formed working relationships with many other organizations fighting for private property rights and multiple uses of public lands. These include the *Blue Ribbon Coalition*, the *Alliance for America* as well as treasure hunters, metal detectorists, fishing and hunting enthusiasts, and mining and timber interests. With this network of contacts, the Association reaches into every state and into every congressional district in the country on a national level. That network provides a swift and effective response to issues brought to our attention. On another level, many officers, directors and members of the Association have developed ongoing working relationships with local, state and federal officials and legislators. This other network provides us with immediate access to and an impact on many proposals for changing regulations, policy or legislation before they become set in the concrete of implementation.

ALAA is also there when there are confrontations in the field and when proposals are made for expanding federal ownership of land. ALAA has publicized and fought the *Heritage Corridor Act* and other attempts to establish additional wilderness areas under federal control.





## WASHINGTON MONUMENT RESTORATION

For the first time since 1934 the great obelisk raised to honor our First President is undergoing much needed renovation. It has been covered with a freestanding scaffold made of 37 miles of aluminum. In turn, the scaffolding has been covered with blue netting "which is designed to mimic the stone block pattern and preserve the general shape of the beloved national icon." Michael Graves is a distinguished restoration architect and designer and he wants all Americans to understand the need for the current work. He points out that in Europe it is common to see old buildings under scaffolding, many times simply frameworks of pipes and boards spattered with paint and plaster dust. Graves has designed a scaffold for our monument which is really a thing of beauty "although it loses that wonderful slim, spearlike effect of the structure itself."

Stephen Lorenzetti of the National Park Service described what work will be done. "The entire exterior will be cleaned, all the joints repointed and the lightning protection system repaired." The structure gets struck by lightning about once a year. Copper rods tipped with platinum and goldplated are in the pyramidion, the pencil-sharp tip-top of the monument. The observation windows at the top will be reglazed and the red aircraft warning lights recaulked. But most of the repairs will be to the marble blocks.

"We'll seal the cracks and patch the stones where needed," Lorenzetti tells Michael Kernan, author of an article in SMITHSONIAN Magazine, 'and put in dutchmen where they are needed.'" And what is a dutchman? "That's where most of the stone is still good, but it's so damaged that a patch wouldn't hold, so we cut out part of the stone and replace it with a similar piece, pinning it into the stone. Marble doesn't take pressure that well. Pressure builds on the corners and they break off.'" Dutchmen are already in place from previous repairs. For this job "to get the dutchmen", Lorenzetti says, 'we went back to the original quarry sites, and though the first is still operating, it grinds stone for industrial uses, not for marble blocks. The second one is now a swimming club. We had a topographic map and we pulled in on a hot June day to look for stone, and they didn't have a clue what we were doing. But they were very helpful; they had some stones left around and donated them to the Park Service.'"

Besides repairing the actual stones, stains will have to be removed. The stains are the result of dirt in the air, but also from copper gutters that were installed over the windows at one time. When the gutters were removed, the hardware that held them in place was left and made even deeper stains. Restoration began in January 1998. The building was closed at that time so heating and air-conditioning systems could be upgraded and the elevator modernized. Those projects cost \$1.9 million. The exterior work will cost another \$6 million. General Electric has donated hundreds of fixtures which illuminate the monument at night. Target Stores persuaded other corporations to make donations and more than \$5 million has been raised. Congress provided \$1 million and Target added another \$1.5 million for interior improvements to the observation room and exhibit areas and to the elevator cab.

A bit of history was given in the article. L'Enfant, who designed the lay-out of Washington D.C., had planned a sort of Greek temple at the base, but when construction was begun in 1848 "Lt. Col. Thomas L. Casey of the Army Corps of Engineers, who directed part of the construction, disposed of that idea. He modeled the monument on the obelisks that the Romans had brought from Egypt to Rome as booty. The classic proportions were ten feet in height for every foot in width at the base, with the peak cut away at a 60-degree angle. This 550-foot obelisk measures 55 feet 1.5 inches wide at the base, 34 feet 5.5 inches at the top"

"The monument was constructed in two phases, as funds allowed, from 1848 to 1855 and 1878 to 1884 and cost \$1,187,710 to build." At the time of completion it was the tallest structure in the world, but by 1889 the Eiffel Tower took first place at 984 feet. More statistics: the foundation is 36 feet 10 inches deep -- the walls are 15 thick at the bottom and 18 inches thick at the 500-foot level -- there are 36,000 stones in the structure -- it weighs 80,000 tons and has settled two inches in the past 50 years -- it can sway one-eighth of an inch in a 30-miles per-hour wind -- the mortar between the stones has been replaced at least twice. "Some were caulked -- 'that was popular in the '60s and 70s, but we're getting away from that,' explains Lorenzetti. Caulking uses a rubbery substance but the experts now prefer a very soft mortar mix, 'so it won't be as strong as the stone and if anything moves, it won't be the stone that gives.'"

The article didn't give a completion date for the restoration but it will have been worth the wait when that beautiful white monument, in full glory, again dominates the Mall as a fitting reminder of George Washington. -- Information & quotes from an article by Michael Kernan, SMITHSONIAN, June, 1999

## Is the "Bell Tolling" ?

An editorial by Jon Spunaugle, President, ALAA

After reading a recent article by reporter Audrey Hudson in The Washington Times, a major newspaper in Washington DC, we are wondering if the "Bell is starting to Toll on the end of public use of public lands". The article by Ms. Hudson documents the current administrations plans to "ban most public use of five million acres in six states". The article suggested the purpose is to "placate" the environmental movement. We suspect it is likely an effort to get their financial support for the up-coming elections. Also we believe it is desire of the President to add "land preservation" to the "accomplishments" of his administration.

Several important legislators and administration officials are quoted in the article. Secretary of Interior Babbitt is stated to have asked the President to use the Antiquities Act of 1906 to add 505,350 acres in the State of Arizona as a National Monument. We believe this will likely be the Shivwits Plateau area near the Grand Canyon. This would be the second such National Monument designation for this President and would close many more collecting sites. This Administration's first designation was the 1996 1.8 million acre Grand Staircase-Escalante National Monument in the State of Utah. One Senator was quoted as saying "Our general concern and frustration is what the administration did in Southern Utah they could do anywhere else in the country, and that they were unwilling to work with Congress — especially as we head into a presidential cycle...This has become a political tool and not a means to protect unique environmental assets". Many breccia pipes containing uranium and other minerals lie in the Shivwits Plateau, as well as hobby collecting locations.

In addition, the administration is likely to declare 2.6 million more acres in the State of Utah as a Wilderness Study area (see FEDERAL REGISTER, March 18, 1999). This designation can be made under FLPMA (Federal Land Policy Management Act) without Congressional approval. The lands so designated would remain as defacto wilderness until Congress acts to either add them to the country's Wilderness System or release them for use by citizens. A Bill in this Congress seeks to address the issue of how long can a wilderness study area remain "a study area". (See HR-1258 and HR-1500).

Also, an effort is being made to pass the 1.5 million acre Coastal Plain Wilderness Designation in the Alaska Arctic National Wildlife Refuge [ANWR] (see House Resolution HR-1239 and Senate Bill S-867 in the last newsletter). This action would end an effort to develop the oil located under only 2,000 acres of the total 20 million acres of the entire refuge. The ANWR total area is about the size of the State of South Carolina. It seems almost ludicrous that there would be such opposition to development of only 2,000 acres out of 20,000,000 acres, even in the fragile arctic. The North Slope/Prudhoe Bay oil development proved that the development of the oil reserves did not have the large and dire effects on the arctic environment predicted by some (barring the actions of a drunk tanker captain further south in Valdez, Alaska, which could have happened anywhere in the world).

What would be even more concerning to the ALAA, and our reason for following this particular wilderness proposal, is that if the U.S. Senate should pass the Bill S-867 it would be over the objection, and without the support, of the two Senators from Alaska, the Honorable Ted Stevens and Frank H. Murkowski. In the past, Congress has been unwilling to pass wilderness legislation without full support of the state's two Senators. To pass this legislation [S-867] would set a dangerous precedent for future Wilderness designations where the majority of the population of the State is not in favor of the designation. The State of Alaska and its people are against the Wilderness Bill S-867, and very much in favor and in need of the development of the ANWR oil resources. Also, such a precedent would give outrageous bills like HR-488 a chance of passage. HR-488 is a Bill sponsored by Eastern legislators, and impacts five western states with over 19 million acres of new wilderness. Passage of wilderness bills sponsored by legislators whose constituents are not directly impacted by the loss of public lands to all but "wilderness recreation", seems inconsiderate at best. We would ask all citizens to remember a certain "Tea Party" in Boston Harbor. Something about a lack of representation and imposing someone's will on others. We would suggest that the approval of wilderness in a State might best be done as a State ballot issue. Let the voters of that State approve or disapprove. If they don't want it, don't force it on them. Something like "Don't Tread on Me".

The article also mentions that the upper reaches of the Missouri River in the State of Montana, (which we believe is the Yellowstone River, Madison River, and the Missouri River) are subjects of a National Park or National Monument designation, or at least a National Wildlife Refuge designation. The impacts of such a designation are obvious to collectors who have visited these areas collecting Montana agate, jasper, sapphires, garnets, concretions and the like.

Much of the preliminary work on these designations will be done by the Secretary of Interior Babbitt using his regulatory power to halt logging, oil and gas exploration, and grazing, on public lands. To quote a May 22, 1999, *National Journal* article, Secretary Babbitt is quoted as saying "We've switched the rules of the game. We're not trying to do anything legislatively." Which to us is like saying "he doesn't care about what you or your elected officials think". All of this is being done in the name of "protecting" these areas from big mining and oil companies.



## IS THE BELL TOLLING? (Continued from page 8)

In my opinion, you are the ones who will be most impacted. "Big Mining" and "Big Oil" and timber interests, will go to foreign locations and sources, as they have already been forced to do. Where, incidentally, they don't have to worry about strict environmental rules, replanting and rehabilitation and other environmental concerns. I ask you, "Does that help the total global effect of these activities???" My answer is NO!

As to the smaller mining and oil production operations, as well as the ranching and farming operations, they will just disappear. U.S. jobs will be lost. Lives will be destroyed.

To quote the article and the Honorable Senator Orrin Hatch, "There is no question they are trying to stick it to us, and it's really sad. These are the pioneer families who made the West, and they feel robbed".

Just this year the administration has proposed a two year withdrawal (moratorium) on mineral activities in Montana (429,000 acres), Colorado (165,000 acres) and even in Missouri (5,000 acres). We reported this in our reports on the Federal Register in earlier issues.

Missouri Congressional Representatives have called the withdrawals "unnecessary and inappropriate". Senator Conrad Burns of Montana is concerned with the lack any consultation input from the people who will be directly affected by these withdrawals. He called it an "assault on the West".

Some Congressional action is anticipated to try to change the direction started by these actions of Secretary Babbitt. Bills have been introduced to amend the Antiquities Act by Senators Robert F. Bennett of Utah and Larry Craig of Idaho. The Bill entitled *The National Monument Public Participation Act of 1999* (S-729) is a introduction of a revised bill from the last Congress. Its intension is to give the people a say in these designations. I urge you all to write a letter to your Congressional Representatives and ask them to support this Bill.

Other Bills before this Congress which are intended to deal with these "assault[s] on the West" are:

**HR-883** A bill to preserve the sovereignty of the United States over public lands owned by the United States, and to preserve the State sovereignty and private property rights in non-Federal Lands surrounding those public lands.

**HR-1207** A Bill to prohibit the U.S. Government from entering into certain agreements or arrangements related to public lands without expressed prior approval of Congress.

**HR-1258** A Bill to accelerate the Wilderness designation process by establishing a timetable for the completion of wilderness studies on Federal Lands. (It would eliminate wilderness study areas after ten years without a wilderness designation by Congress.)

**HR-1523** A bill to establish mandatory procedures to be followed by the Forest Service and the BLM in advance of the permanent closure of any forest road so as to ensure local public participation in the decision making process.

**S-510** A Bill to preserve the sovereignty of the United States over public lands and acquired lands owned by the U.S., and to preserve State sovereignty and private property rights in non-federal lands surrounding those public lands.

**S-826** A Bill to limit the acquisitions by the U.S. of land located in a State in which 25% or more of the land in that State is owned by the United States.

**S-1202** A Bill to require a "warrant of consent" before an inspection of land may be carried out to enforce any law administered by the Secretary of Interior. (See also HR-2253)

But **ALL THE BILLS IN CONGRESS** can't put "Humpty Dumpty Together Again" if **YOU DON'T WRITE** and tell your congressional representative that you want them to support these bills. If you do not, they will not be passed into law. As always, in this country, IT IS UP TO YOU. **YOU MUST WRITE!**

**AND THE BELL IS TOLLING.** Remember you don't have to live in the West to support the West. For more information on these and other issues ask for copies of the ALAA Electronic Newsletters from Bob Cranston, ALAA Assistant to the President.

## Do You Have A Meteorite?

If you think you have a rock that might be a meteorite, answer these simple questions:

1. *Is the object solid, not porous?*
2. *Is the object of irregular shape?*
3. *Is the object heavy for its size?*
4. *Is the object black or brown on the outside?*
5. *Does the object show metallic iron on a ground surface?*
6. *Is the object different from the country rocks?*

If you answered "yes" to all these questions, the object is almost surely a meteorite. In a few cases, some of the answers can be "no" and the object may still be a meteorite. If most of the answers are "no", the object is probably not a meteorite.

Things mistaken for meteorites: Earthy nodules of iron compounds, especially hematite. Artificial slag or cinders sometimes contain free iron. Slag or cinders will generally be very porous or spongy, meteorites never are. Pieces of old rusted iron tools are sometimes mistaken for meteorites. Rocks showing conspicuous or well-shaped crystals are not likely to be meteorites. Volcanic rocks are often mistaken for meteorites.

via the Pegmatite, 1/98; via G.I. Nugget, 9/96; condensed from an old pamphlet, "Meteorites", put out by the Smithsonian Institution Meteorite Recovery Project

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## Determining Meteorite

One way to tell in the field if your rock is a meteorite is to always carry a piece of emery paper with you. If in doubt, just rub the stone with the paper. If it's a meteorite, it will disclose bright specks of iron and nickel.

via Quarry Quips, 9/98; from Pick & Pack 3/98  
via The Tumbler June 1999

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## Your Car Was Hit By A What?

On the evening of October 9, 1992, a piece of rock from an asteroid collided with the Earth. As it skimmed through the atmosphere, traveling north up the East Coast of the United States, it created a fireworks show seen by millions.

Much of the asteroid fragment burnt up in the fiery entry. But one piece managed to survive and strike the surface of the Earth. After orbiting the Sun for countless eons, the first solid object this piece of asteroid hit was Michelle Knapp's 1980 Chevy Malibu sitting in a driveway in Peekskill, New York.

The 27-pound meteorite measured 11.5 by 6.5 by 4.5 inches. When it hit, it punched a hole through the trunk of the car and smashed into the ground below, gouging out a 3-inch deep crater.

via the Pegmatite, 1/98; via G.I. Nugget, 9/96; from Astronomy, 2/93  
via The Tumbler June 1999

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## Collecting Micrometeorites

There is an easy way to collect meteorites; but we must be satisfied with finding very small metal ones. They are actually microscopic, and are known as "micrometeorites". Tons of these fall on earth each day. To collect micrometeorites, you need to find a place where they can become concentrated. The drains of a house or a building work well, since rainwater can wash particles off an entire roof and collect them at the drain spout. Tile roofs are best since they drain very well and do not produce many other sorts of particles or debris.

To find metallic micrometeorites, collect and dry some of the material from a deep bowl at the base of the drain spout. After removing leaves and other debris, place the remaining material on a piece of paper, and place a magnet under the paper. Tilt and tap the paper so that all of the non-metallic particles fall off. Many of the remaining metallic particles are pieces of space dust! To examine them, place the paper under a microscope. High power will be required to see them clearly. Although most of the particles are not from space, the micrometeorites will show signs of their fiery trip through the atmosphere. They will be rounded and may have small pits on their surface.

via Pegmatite, 1/98; via G.I. Nugget 9/96; condensed from a Jet Propulsion Laboratory Public Education Office handout

ALL OF THE ABOVE VIA-ROCKHOUND RAMBLINGS

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