

**Official Bulletin
of the
Chugach Gem & Mineral Society**

Alaska Pebble Patter
Chugach Gem and Mineral Society
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CHUGACH GEM & MINERAL SOCIETY, INC.
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THE CHUGACH GEM & MINERAL SOCIETY, INC. maintains memberships in:
 AMERICAN FEDERATION OF MINERALOGICAL SOCIETIES
 NORTHWEST FEDERATION OF MINERALOGICAL SOCIETIES

THE CHUGACH GEM & MINERAL SOCIETY MEETINGS ARE HELD AT
 FIRST UNITED METHODIST CHURCH
 725 WEST 9TH AVE., ANCHORAGE, AK
 (Enter the church from the rear parking lot.)

BUSINESS MEETING – 7:30 PM — 2nd Thursday of each month.

POTLUCK MEETING – 6:30 PM — 4th Thursday of each month.

Bring a hot dish, salad, or dessert (plus serving spoon) to serve 5 people.

Also bring your own plate, silverware and drink. But most importantly, bring a rock to show!

Annual membership fees: Individuals - \$15.00; Families (2 or more) - \$20.00; Bulletin Only - \$10.00
 Lifetime membership fees: Individuals - \$150.00; Families (2 adults & children under 18) - \$200.00



President's Message

March – April 2006

Happy Spring rockhounds,

I know spring is here because there are slush-filled potholes all over town, folks are chipping ice from driveways, and every car in town is the same color--dirty brown. But the harbingers of spring also bring eager anticipation of summer and field trips. Bonnie has once again lined up a list of trips for the summer so be sure to get on the website and check them out. Our first trip will be a camping trip over to Fire Island on April 22nd and 23rd led by Greg Durocher. The trip is full at present but if you are interested get on the waiting list in case some participants have to cancel at the last moment. Greg is also organizing a "reduced rate" trip into Moore Creek in July so if you are interested in trying to find gold at a gold mine this might be a trip for you. There is limited space so get on the list if interested.

Speaking of summer, field trips, and rock collecting there are a few housekeeping issues that I'd just like to mention in passing. Over the past few years there have been some undercurrent comments concerning collecting habits of some members and associates. First and foremost I believe our club is organized to provide a healthy and fun environment for rockhounds and outdoorsy folks to recreate. That being said I would encourage all of our members to keep this in mind when going on field trips or collecting trips. Have fun, be considerate and follow the laws of the land. One Alaska state law makes it illegal to collect fossils from state lands and sell them. I know this has been an issue of whispered discussion. Perhaps some folks are unaware of the rule so I mention it here. In any case, I don't want the club to become a policing organization so I would ask our members to police themselves when out rock hunting.

I, and I assume all of you out there too, want the club to remain a recreational and educational organization. If we all would just consider the following suggestions for "polite" rockhounding, life will be good.

1. Be safe. Watch what you are doing and if it will affect anyone else. Be sure no one is below you when rolling boulders, boys!!!
2. Ask permission to go on private property.
3. Abide by state and federal laws and regulations.
4. Have fun, be considerate, and enjoy each other's company and diversity.

Happy 'Hounding,
Anita

Chugach Gem & Mineral Society
Business Meeting Minutes

President Anita Williams called the March 9, 2006 business meeting of the Chugach Gem & Mineral Society to order at 7:35 PM.

New members Winston and Amy Sears, and Lily Billman, introduced themselves and were warmly welcomed by the Club. Betty Motes told them that she joined the Club in 1961 and always enjoyed the meetings and trips.

COMMITTEE REPORTS

Recording Secretary – As the February minutes were in the current edition of the Pebble Patter, Greg moved that their reading be dispensed with and they be approved as printed. Nancy seconded the motion, which passed.

Treasurer - Linda Ewers reported the total balance of all accounts as \$45,167.93.

Membership - Jean Kane reported a total of 209 members as of the meeting, but said also that 2006 dues were currently due and that the figure would change as old memberships expired and renewals came in.

Corresponding Secretary – No report was given.

Northwest Federation Liaison - Tom Cooper said the Federation was planning a rockhound retreat, and to see him for details. Tom thanked members on behalf of the Federation for saving stamps.

Sunshine - Dorothy Arnold reported on the death of longtime member James Watkins and read the obituary aloud. She said she would send a card to his wife Maryann.

Newsletter – Sue Hilton reported that the January - February edition had been mailed and it was also on the website. Anita said that several members made complimentary comments about it.

Website - Adeline Geldenhuys said the 2006 fieldtrip list was posted, and that any updates would also be posted. The Pebble Patter current edition was also on the site.

Fundraising – Andre Macias said that as the only remaining committee member, it was defunct and the small amount of money raised from the bake sale at

last year's Fur Rondy would be transferred into the club's treasury.

Programs - Greg Durocher said there were a few openings for programs in the summer months but that the winter schedule was full. Future programs were posted on the club website.

Fieldtrips - Bonnie Hepburn had some changes and updates for some trips. LaTouche Island was found to be not doable. Dorothy was planning to again lead the trip to the Golden Zone mine. The cost would be about \$120, there would have to be at least 5 members, and a deposit would be required. Bonnie asked that it be scheduled in late August, preferably on a Sunday.

Scholarships - Steve Jensen was absent. William Groom offered to pass out scholarship applications at the UAA Geology Club geology fair on March 17th.

OLD BUSINESS

Fur Rondy - Andre reported that many interested people visited our table and we gained a few new members. It was good exposure for the club.

NEW BUSINESS

There was no new business.

ANNOUNCEMENTS

Norval displayed two books on minerals for those present to look through, but said they were not for sale.

Greg said Bob Blodgett lost an out-of-print book on fossils and asked everyone to keep an eye out for it.

Tom reported he had brought many old newsletters from various clubs in the Northwest Federation and everyone could take whatever they wanted.

Andre discussed the Alaska Museum of Natural History and that our club would possibly have an opportunity soon to set up a display case to exhibit members' collections. He reminded us that they were in need of volunteers for various projects.

Mary Smith said there were 1300 pounds of granite for the cemetery that had some damage and she would keep us posted on the outcome.

FIELD TRIP REPORTS

Andre related his, Sue, and Anita's recent trip up Caribou creek to retrieve Andre and Sheila's equipment left at the cabin on a previous adventure. Andre said Sue's snowmachines made it possible to get into the area and to his surprise, his equipment and supplies were all there. They packed it up and cleaned up the cabin. On the trip out, they found some fossil bearing rocks and only got stuck a few times!

Tom and Linda traveled to Arizona for the big rock shows and also took time to explore some old mines and did plenty of rockhounding on short trips in the area.

Anita said she had taken the opportunity to go to the Citizens Academy and would be able to ride along with an Anchorage Police department patrolman for an evening. She said the academy was educational, interesting and enlightening.

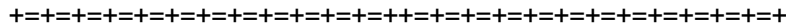
Carol and Dwight Coppock took a trip through Arizona and went to the rock & mineral shows at Tucson and Quartzsite. They also went rockhounding and gathered fossils, agates, and some specimens they would need to identify. They brought some agates to the meeting that they generously offered free to those present (who would always be grateful to acquire another rock.)

After a short break, the evening's program featured Dave Doorenbos who showed slides of his summer in the McCarthy area and at the Kennicott mine.

After the program, door prizes were awarded.

The meeting was adjourned at 9:45 PM.

Respectfully submitted,
Bea Allen, Recording Secretary



Tips For Designing a Mineral Display

By Carolyn Stevens
First published in the Alaska Miner
Volume 33, Number 9

It is definitely an art to develop a truly effective display for a prize mineral specimen. Here are some tips to consider in designing a display for your favorite specimen.

Decisions in Arranging the Display

Decide which angle is the best view of the display specimen. To do this, you should hold the specimen, rotate it slowly, and study it from every angle. For most specimens, one particular angle is the best viewing angle. (This angle is often the one displaying the greatest number of crystal faces.)

Next, determine how the specimen will be supported so that it will be secure in the display with the best viewing angle at optimum exposure. Putty, which can be hidden from the viewer's eye, is often a good support choice, and a variety of mineral display stands are available commercially. Simple stands for specimens are preferable to elaborate decorative supports. Whatever support material is used should not detract from (or damage) the specimen, must provide good support, and must be able to withstand the temperatures from the lighting in the enclosed display case.

The display background is also a very important consideration. Ideally, color and lighting in the background both "present" the specimen and enhance how its color(s) are perceived by the viewer. Background colors should complement and contrast with the colors of the specimen. Generally, yellow, orange and the brighter hues of other colors will distract from the specimen and should be avoided.

Emphasizing the Focal Point

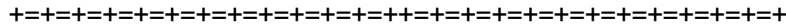
The focus (center of interest) of your mineral display should be your prized specimen. You must be careful not to design the display so that it distracts the viewer from the specimen with visual complications. The display should be designed so that the eye of the viewer is led immediately to the mineral specimen. A couple of ways to lead the viewer's eye directly to the focal point of the display is through contrasting and complementing light and colors, and through effective lighting. Setting dark-colored minerals against a light background (and vice-versa), or displaying clear crystals against darker jewel-colored fabrics (for example) may be very effective ways of properly emphasizing the focal point. Placing the specimen in similar-colored surroundings, however, will probably cause it to look washed out. If you are thinking about using mirrors in your display, carefully consider what else the mirror would be reflecting outside the display case. Using nonreflective glass in displays can create the illusion of the specimen "floating" in air. (Visiting museums and professional displays would be a very

good way to get ideas on how to develop your own effective displays.)

Lighting the Display Effectively

No matter how effective or tasteful your color scheme may be, your display won't capture the viewer's attention if it is too dark. Properly lighting your display can make it a prize-winning showpiece. Fluorescent lighting, or a swinging arm (or otherwise movable) lamp could be the best choice for your display, whether at home or at a show.

Effective lighting of a display can be very tricky. If the mineral specimen is transparent or translucent, it may need backlighting for optimal display. Evenly lighted backgrounds, however, can be uninteresting. Spotlights that can be focused may be used to create bright areas ("haloes") to highlight particularly attractive parts of the specimen or its base. Additionally, the entire specimen (apart from the backlighting) needs to be lighted in such a way that glaring reflections are eliminated from its various crystal faces.



Extract from Doug Copp's Article on the "Triangle of Life"

Submitted by Bea Allen

My name is Doug Copp. I am the Rescue Chief and Disaster Manager of the American Rescue Team International (ARTI), the world's most experienced rescue team. The information in this article will save lives in an earthquake.

I have crawled inside 875 collapsed buildings, worked with rescue teams from 60 countries, founded rescue teams in several countries, and I am a member of many rescue teams from many countries. I was the United Nations expert in Disaster Mitigation for two years. I have worked at every major disaster in the world since 1985, except for simultaneous disasters.

In 1996 we made a film which proved my survival methodology to be correct. The Turkish Federal Government, City of Istanbul, University of Istanbul Case Productions and ARTI cooperated to film this practical, scientific test. We collapsed a school and a home with 20 mannequins inside. Ten mannequins did "duck and cover," and ten mannequins used my "triangle of life" survival method.

After the simulated earthquake collapse we crawled through the rubble and entered the building to film and document the results. The film, in which I practiced my survival techniques under directly observable, scientific conditions, relevant to building collapse, showed there would have been zero percent survival for those doing duck and cover. There would likely have been 100 percent survivability for people using my method of the "triangle of life."

This film has been seen by millions of viewers on television in Turkey and the rest of Europe, and it

was seen in the USA, Canada and Latin America on the TV program Real TV.

The first building I ever crawled inside was a school in Mexico City during the 1985 earthquake. Every child was under his desk. Every child was crushed to the thickness of his bones. They could have survived by lying down next to their desks in the aisles. It was obscene and unnecessary and I wondered why the children were not in the aisles. I didn't at the time know that the children were told to hide under something.

Simply stated, when buildings collapse, the weight of the ceilings falling upon the objects or furniture inside crushes these objects, leaving a space or void next to them. This space is what I call the "triangle of life". The larger the object and the stronger, the less it will compact.

The less the object compacts, the larger the void, and the greater the probability that the person who is using this void for safety will not be injured. The next time you watch collapsed buildings on television, count the "triangles" you see formed. They are everywhere. It is the most common shape you will see in a collapsed building. They are everywhere.

TEN TIPS FOR EARTHQUAKE SAFETY

- 1) Most everyone who simply "ducks and covers" when buildings collapse are crushed to death. People who get under objects like desks or cars are crushed.
- 2) Cats, dogs and babies often naturally curl up in the fetal position. You should too in an earthquake. It is a natural safety/survival instinct. You can survive in a smaller void. Get next to an object, next to a sofa, next to a large bulky object that will compress slightly but will leave a void next to it.

3) Wooden buildings are the safest type of construction to be in during an earthquake. Wood is flexible and moves with the force of the earthquake. If the wooden building does collapse, large survival voids are created. Also, the wooden building has less concentrated crushing weight. Brick buildings will break into individual bricks. Bricks will cause many injuries but fewer squashed bodies than concrete slabs.

4) If you are in bed during the night and an earthquake occurs, simply roll off the bed. A safe void will exist around the bed. Hotels can achieve a much greater survival rate in earthquakes simply by posting a sign on the back of the door of every room telling occupants to lie down on the floor next to the bottom of the bed during an earthquake.

5) If an earthquake happens and you cannot easily escape by getting out the door or window, then lie down and curl up in the fetal position next to a sofa or large chair.

6) Most everyone who gets under a doorway when buildings collapse is killed. How? If you stand under a doorway and the doorjamb falls forward or backward you will be crushed by the ceiling above. If the doorjamb falls sideways you will be cut in half by the doorway. In either case, you will be killed!

7) Never go to the stairs. The stairs have a different "moment of frequency" (they swing separately from the main part of the building). The stairs and remainder of the building continuously bump into each other until structural failure of the stairs takes place. The people who get on stairs before they fail

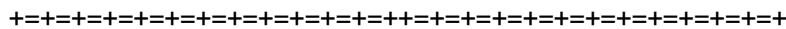
are chopped up by the stair treads - horribly mutilated. Even if the building doesn't collapse, stay away from the stairs. The stairs are a likely part of the building to be damaged. Even if the stairs are not collapsed by the earthquake, they may collapse later when overloaded by fleeing people. They should always be checked for safety, even when the rest of the building is not damaged.

8) Get near the outer walls of buildings or outside of them if possible; it is much better to be near the outside of the building rather than the interior. The farther inside you are from the outside perimeter of the building, the greater the probability that your escape route will be blocked.

9) People inside vehicles are crushed when the road above falls in an earthquake and crushes their vehicles; which is exactly what happened with the slabs between the decks of the Nimitz Freeway. The victims of the San Francisco earthquake all stayed inside their vehicles. They were all killed. They could have easily survived by getting out and sitting or lying next to their vehicles. Everyone killed would have survived if they had been able to get out of their cars and sit or lie next to them. All the crushed cars had voids 3 feet high next to them, except for the cars that had columns fall directly across them.

10) I discovered, while crawling inside of collapsed newspaper offices and other offices with a lot of paper, that paper does not compact. Large voids are found surrounding stacks of paper.

Spread the word to everyone you care about and save someone's life!



Wave goodbye to the daily grind

Microwaving rocks to release the minerals inside could save the mining industry millions and halve its use of electricity

By Natasha Loder
Previously published in The Guardian
Thursday, February 23rd, 2006

Submitted by Greg Durocher

Sitting innocuously on a bench in a laboratory in Chelmsford is what has been advertised as the "world's most powerful microwave". It's a slightly grubby white plastic oven that was, apparently, bought at Currys by researchers at the technology company e2v. In anticipation, I have brought a bag of potatoes. Trevor Cross, e2v's technical director,

reckons his souped-up beauty can cook a baked tatty in 0.02 seconds, although he warns that it might not really resemble a potato when it is done. It might be vapourised.

The microwave, a Proline Microchef, seems to have been something of a ruse to get me down here. E2v does, indeed, have the world's most powerful microwave. But the guts of it are not in the back of the Proline, but in a seven-foot-high steel cabinet to one side. The researchers simply use the Proline as a cavity that they bolt to the guts of the machinery. But when things are 'waved', they are done with plenty of oomph. While most ordinary consumer microwaves put out around 600-800 Watts of power, the bits in the cabinet put out a peak power of 4m Watts - although only for one millionth of a second.

Increasing the yield

The point is not to zap the evening meal faster, but to figure out whether microwaving rocks can help increase the yield of ore for mining companies. Another potential benefit is that it may lower the amount of energy consumed by the mining industry. At the moment, mining companies use mills like giant tumble dryers to break chunks of ore into smaller pieces that can be crushed into powder. It is inefficient and time consuming. Typically, only 1% of the energy input is used to create new surfaces for ore extraction, the rest is turned into noise and heat.

Microwaving rocks sounds strange but, as Paul Burleigh of e2v explains, the idea is quite simple. Mineral-bearing rocks are a composite of the mineral and the stuff around it. Some parts of this composite will absorb more microwaves than other parts, causing selective heating and then fracturing along the boundaries of these different materials. It is like microwaving a treacle tart: the treacle gets hot but the pastry doesn't. So with rocks, a quick blast is all that is needed to weaken the rock, which can then be thrown into a traditional grinding mill. In fact, says Dr. Cross, with some minerals you can put them in, hit cook, and then crumble the results in your hand.

It seems to work. A small sample of vermiculite, a mineral that is known to expand when heated, comes out of the microwave looking like a piece of puffed popcorn. Samples of gold ore, too, seem to have been nicely disassembled. The trick, apparently, is for e2v to find the right size of cavity in which to microwave the rocks and the right frequency, intensity and timing of the microwaves. It is a bit like cooking. Except the rocks need short pulses of microwaves.

The idea came from Sam Kingman of Nottingham University, who has spent the best part of the last

decade working on rock microwaving. He has found that it can disintegrate rocks as effectively as grinding them up, but at half the cost in energy. This could be important because Dr. Kingman has calculated that up to 5% of the world's electricity is used to grind up rocks to release the minerals. The technique may also increase the amount of ore liberated from a lump of rock, and the speed with which it is done. He believes that if this technique were built into the design of a new mining plant, it would save tens of millions of pounds in capital costs.

Commercial effort

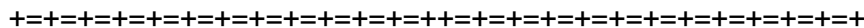
Today, e2v's research work is focused on trying to commercialise this technology on behalf of an Australian mining research group called Amira International. The organisation manages collaborative research efforts on behalf of the big mining companies in the world. So the kind of rocks e2v is testing are the sort of thing that the sponsors of the project, which include Rio Tinto, will find commercially interesting.

Burleigh estimates that the ore industry uses 420bn kWh every year. If this technique can halve this amount, much less carbon dioxide would be released into the atmosphere. To put this figure in perspective, he says the entire UK uses about 350bn kWh every year.

The next step, he says, is to custom build some equipment that can process a lot of ore - putting it bit by bit in the microwave isn't really a starter.

As for my baked potatoes, Burleigh mutters something about "health and safety". I head home supperless.

-Natasha Loder is science and technology correspondent at the Economist.



Evergreen Aviation Museum in Oregon

By Bea Allen

On a recent trip to Oregon, I was able to locate and visit the Evergreen Aviation museum near McMinnville, which was built to house the famous wooden flying boat built by the late Howard Hughes, and dubbed "The Spruce Goose".

This amazing engineering and designing feat was begun in 1942, funded by \$18,000,000 of federal dollars and \$7,000,000 of Hughes' money. It was built to carry troops and war materials and is the

largest wooden airplane with the longest wingspan (319 feet) ever constructed. The government mandated that no materials critical to the war effort be used, nor any workers be hired away from the plants manufacturing war materials. It was made entirely of wood and all parts were glued together and the nails were removed. The laminated wood was formed by a process then in use called Duraform. The plane is actually made of birch, with a little maple, poplar, balsa, and, yes, spruce. Hughes designated the plane H-4 for Hughes and Hercules.

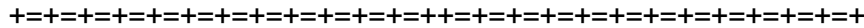
After many accusations of fraud, deception, and

dishonesty the plane was completed in 1947, after the end of World War II. It made only one flight. The unannounced decision to fly it was made by Hughes, and he piloted it for the taxi test. It only flew a little over a mile at an altitude of 70 feet above the water (it is a seaplane), but he proved it could fly. Afterwards, he had a hangar constructed for it near Long Beach, CA and kept it hidden for 33 years.

After Hughes' death in 1976 a new owner acquired it and displayed it. When the Disney Corporation became the owner they decided to cut it up and give sections to various museums. It was saved from this fate and in 1992, was disassembled and transported by barge to Portland, OR. Capt. Michael King Smith, son of Evergreen Aviation's founder Delford Smith,

had a vision for an aviation museum large enough to house the Spruce Goose and many other historic aircraft. Sadly, he was killed in a car accident before he realized his dream, but his father proceeded to have the museum constructed and the huge aircraft completely restored through the efforts of experts and many volunteers.

If you are in Oregon, I highly recommend a visit to this wonderful museum. You will be awed when you enter the Spruce Goose; climb up to a platform to look into the cockpit of the Blackbird spy craft, and stand before a Sputnik. If you chat up the volunteers, you may even be as lucky as my daughter and I, and get to clamber aboard the B-17 with a man who piloted one during WWII!



Rockhound's Code of Ethics

Rockhounds, both as individuals and collectively as members of clubs, pride themselves on their good manners in the field. They know that maintaining their good reputation is important in order to keep the welcome mat out at collecting sites. This code of ethics is in general use throughout the rockhounding community and is posted here for your information.

* I will respect both private and public property and will do no rockhounding on privately owned land without the owner's permission.

* I will keep informed on all laws, regulations or rules governing collecting on public lands and will observe them.

* I will, to the best of my ability, ascertain the boundary lines of property on which I plan to collect.

* I will use no firearms or blasting material in rockhounding areas.

* I will cause no willful damage to property of any kind -- fences, signs, buildings, etc.

* I will leave all gates as found.

* I will build fires in designated or safe places only and will be certain they are completely extinguished before leaving the area.

* I will discard no burning material -- matches, cigarettes, etc.

* I will fill all excavation holes which may be dangerous to people or livestock.

* I will not contaminate wells, creeks, or other water supplies.

* I will cause no willful damage to collecting material and will take home only what I can reasonably use.

* I will support the rockhound project H.E.L.P. (Help Eliminate Litter Please) and will leave all collecting areas devoid of litter regardless of how found.

* I will cooperate with field trip leaders and those in designated authority in all collection areas.

* I will report to my club or federation officers, Bureau of Land Management, US Forest Service or other proper authorities, any deposit of petrified wood or other material on public lands which should be protected for the enjoyment of future generations for public educational and scientific purposes.

* I will appreciate and protect our heritage of natural resources.

* I will observe the "Golden Rule," will use "Good Outdoor Manners" and will at all times conduct myself in a manner which will add to the stature and "public image" of rockhounds everywhere.

