



THE BEMS

TUMBLER

July
2007

The monthly newsletter of the **Boeing Employees' Mineralogical Society, Inc.** Seattle, Washington

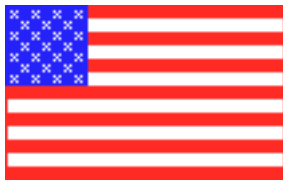
Next Meeting:
July 12, 2007
7:30 p.m.

Boeing Recreation Activity Center

Room B at
22649 83rd Avenue S.

Just off the Valley
Freeway (Highway 167) North
edge of Kent

The Program was not known at
press time



*This month remember to wish a
Happy Birthday to*

Cheryl Kirschner on July 4,

Ed Laville on July 7,

John M. Richards on July 9,

Brandon Morgan on July 13,

Gerald Stickman on July 17,

Virginia Bird on July 18,

Les Akers on July 19,

Dan Clayton on July 24,

Jane Davis on July 24,

Larry Kissinger on July 25,

Mary Kissinger on July 28,

Cindy Waters on July 30,

and also remember to wish a

Happy Anniversary to

Mike & Janet Tanaka on July 5 (27 years),

Leonard & Dorothy Bahr on July 14 (45 years),

Dick & Patricia Morgan on July 14 (45 years),

Malcolm & Karin Wheeler on July 14 (31 years)



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Tips, suggestions, recipes and experiments printed in this newsletter are the experiences and/or opinions of the individuals submitting them. We are not responsible for their authenticity, safety, or reliability. Caution and safety should always be practiced when trying out any new idea.

When on field trips this organization uses CB Channel 7.

Keith Alan Morgan, Editor

Postal, or Email, Exchange
Bulletins are welcome.
Email preferred.

morgangraphix@yahoo.com

Officers & Directors 2007

President Malcolm Wheeler, Sr.
Vice President John Carter
Treasurer Richard Russell
Secretary Keith Alan Morgan
Director Dick Morgan
Director Bill Cook
Past President Mike Brimmage
Federation Representative Michael Blanton
Mineral Council Bob & Jackie Pattie
Program John Carter
Refreshment Esther McKain
Membership Keith & Dick Morgan
Health & Welfare Steve Mackey
Library Charlotte Churchill
Raffle/Display Keith & Dick Morgan
Field Trip Bill Cook
Tumbler Editor Keith Alan Morgan
Webmaster Keith Alan Morgan
Shop Operations Leslie Brooks
Shop Instructors:
 Casting Joe Poston
 Faceting Dan Clayton
 Faceting Cliff Frome
 Jewelry Joe Poston
 Lapidary Dick Morgan

Club eMail address is
morgangraphix@yahoo.com

2007 BEMS Dues are \$15 flat rate Individual, Family, or Retired.

Send or deliver dues to:

Richard Russell

(or pay him at the meeting)

The object of the Society shall be to stimulate interest in the study of the earth sciences, lapidary arts and related subjects.

This Society is affiliated with the *Boeing Company*; the *American Federation of Mineralogical Societies*; the *Northwest Federation of Mineralogical Societies*; and the *Washington State Mineral Council*.

Every member of the club should be receiving a copy of the Northwest Newsletter. If you are not receiving a copy contact Dick Morgan

To get information to the Tumbler via the Internet send it to **morgangraphix@yahoo.com** Please put Tumbler and subject in the Subject Line. The deadline is the 20th of each month, (except December which varies).

The BEMS external website is **<http://www.bemsonline.com>**

Murphy's Law for Field Trips

1. A location for petrified wood will yield geodes.
2. If a large specimen is uncovered, the tools necessary to remove it will be at home in the garage. If tools are available, it will be discovered that the specimen is too large to fit into the vehicle but only after it is dragged over and placed near the vehicle
3. Any specimen chipped to determine quality will promptly shatter and closer examination will reveal that it was a real dandy.
4. The most promising pocket on the cliff will also be a den for scorpions or snakes.
5. The rarity of specimens is inversely proportional to the experience of the finder.

via Gneiss Times, 3/05; via The Pegmatite, 9/04; from Pick & Pack, 6/97



July



SUN	MON	TUE	WED	THUR	FRI	SAT
1	2 Lapidary Shop	3 Board Meeting 	4	5	6 Faceting Class	7
8	9 Lapidary Shop	10 Lapidary Casting Jewelry	11	12 General Meeting 	13 Faceting Class	14
15	16 Lapidary Shop	17 Lapidary Casting Jewelry	18	19	20 Faceting Class	21
22	23 Lapidary Shop	24 Lapidary Casting Jewelry	25	26	27 Faceting Class	28
29	30 Lapidary Shop	31 Board Meeting 				

Lapidary Class Hours:.....Monday.....7:00 pm to 9:00 pm
 Lapidary Shop Hours:.....Tuesday.....9:00 am to 6:00 pm

More Field Trip info can be found on Page 9
 More Show info can be found on Page 10

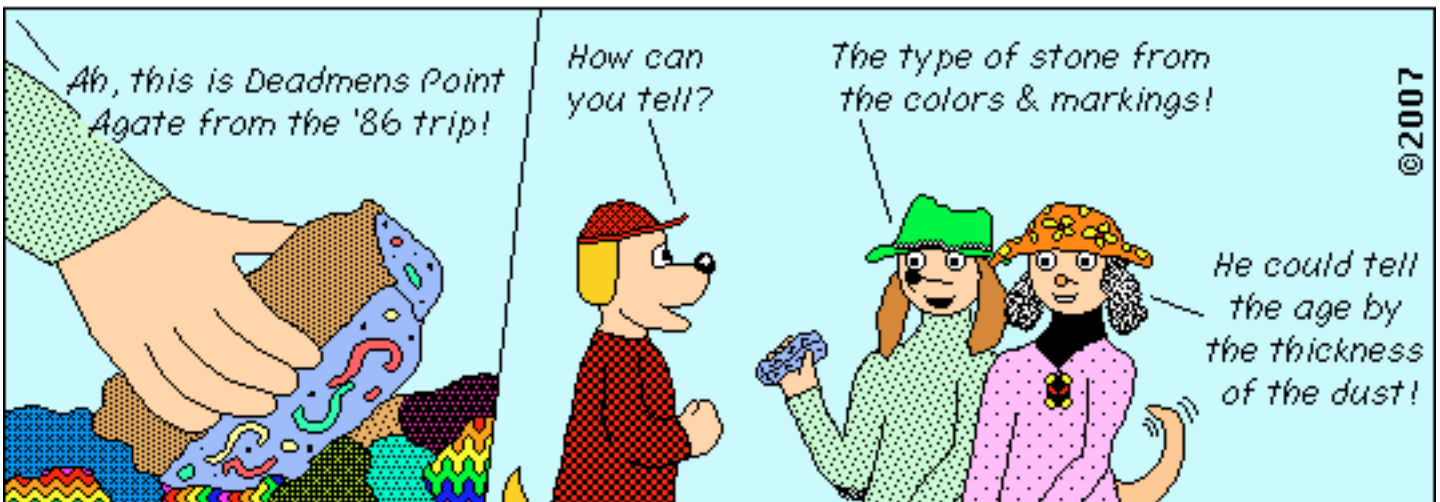
Jewelry Shop Hours:.....Tuesday.....9:00 am to 6:30 pm
 Jewelry Casting Hours:.....Tuesday.....9:00 am to 6:30 pm (Casting Information All Day)

Faceting Shop Hours:.....Wednesday.....9:30 am to 5:00 pm open shop, 5:00 pm to 8:00 pm by appointment
 Faceting Class Hours:.....Friday.....4:30 pm to 8:00 pm

BEMS Board Meeting:.....Tuesday (9 days prior to General Meeting).....9:30 am to 10:00 am
 BEMS General Meeting:.....2nd Thursday.....7:30 pm to 10:00 pm

Mr. and Mrs. Rockhound

by KAM



The Tumbler has received One-Time Rights to publish this cartoon

BEMS Board Meeting Minutes June 5, 2007

by Keith Alan Morgan, 2007 Secretary

Members present

President Malcolm Wheeler

Treasurer Rich Russell

Secretary Keith Morgan

Field Trips Bill Cook

Shop Instructor Dick Morgan

Mineral Council Bob & Jackie Pattie

Guests Pat Morgan & Karin Wheeler

Meeting began a 9:43 am, Malcolm Wheeler presiding.

There is a survey for Recreation that needs to be filled in.

Discussion of revisions to the BEMS constitution. Add laid-off Boeing Employees to eligibility. Two-year term limits are out. Restore that if we pay dues to an organization we elect representatives.

Old Business: We voted to buy a new flat lap from New Universal.

Estimates for badges were gotten from one place.

Talking about rocks at Cottage Grove went well.

Webmaster: Send pictures of field trips, helping out at schools & of the South Sound Show to Webmaster so he can put them up on website.

Shop: Malcolm will pick up surge protectors for the shop from Boeing Surplus.

The drive belt in the 24" saw is popping over.

Field Trips: Greenwater went well, although not many people showed up.

A few people are interested in a trip to the Rice Museum in Oregon.

Mineral Council: A man is claiming to have bought the mineral rights to some claims in Saddle Mountain. The Mineral Council is working with the Bureau of Land Management to clear up the issue.

Meeting adjourned at 11:15 am.

The Situation At Saddle Mountain Petrified Wood Collecting Area

Sections 7, 11, and 13 are under private ownership and the owner is charging \$1/pound to collect petrified wood on his property. The BLM owns the surface rights in Sections 7, 11, and 13, but there is some question about the validity of the owner's claim to the subsurface rights. In the meantime it is probably wise not to even collect on the surface in these sections.

Rockhounds may continue to collect in Section 8, 12, and 14 as these sections are still held by the BLM. According to the BLM, they also own the roads in all of the sections so it is OK to use the roads even in Sections 7, 11, and 13.

Bill Moser passed out some maps of the Saddle Mt area with the GPS co-ordinates of the section corners. These would be useful mostly as an aid to know where you are in the field.

from The Council Reporter, 5/07

Twinned Minerals

Twinned minerals can add a fascinating side to ordinary minerals or can add another dimension to already complex minerals. There are several minerals that form classic twins, such as chalcocite, fluorite, sanidine, microcline, staurolite, gypsum, cinnabar, spinel, and rutile to name a few. Some twins have colloquial names, such as 'fairy cross', 'iron cross' and 'cogwheel' twins. Twins form as a result of an error during crystallization. Instead of a normal single crystal, twins grow out of, or into, each other.

Accidental relationships are not considered twins, that is, where two distinct crystals grow more or less randomly side-by-side or toward each other. Twin formation is never random and follows certain defined rules called twin laws, usually named for well known twins, Spinel law, Albite law, etc.

The twin laws are crystallographic in nature and are caused by flaws in the crystal structure occurring during growth or change in phase. Many minerals form with a stacking sequence. If an error occurs during growth the twin forms as a miss-positioned sequence, which is repeated as if nothing happened. The crystal(s) grow outward in both directions. Twinning has dramatic effect on the outward symmetry of the mineral.

There are two general types of twin styles, contact and penetration. Contact twins have a composition plane that forms the boundary between them, a mirror plane where the twins look like reflected images or an angled plane resulting in a 'bend' to the twin forming dove-tails, fishtails and chevrons. Penetration twins look like whoever made the crystal didn't know how it was supposed to fit and ended up twin crosses, 3-D stars, and complex structures. Twinning is actually rather common in the mineral kingdom, but perfectly formed twins are not.

Reference: <http://galleries.com>

via Breccia, 2/07; via Petrograph, 3/04; from Gem-N-I Newsletter, 7/03

Frequent naps keep you from growing old, especially if you take them while driving.

via Galco Pebble Patter, 12/81; from The Geode

BEMS General Meeting Minutes June 14, 2007

by Keith Alan Morgan, 2007 Secretary

Meeting began at 7:33 pm, President Malcolm Wheeler presiding. 47 people attended the meeting.

The Minutes of the previous meeting were accepted as printed.

Editor's Report: Tumbler is doing fine. Could use articles written by members though.

Webmaster's Report: The website is doing fine. Is thinking about adding a community page where we show how club is helping out in the community & would like pictures of that & the South Sound show to put up. Asked members with websites to submit them to him so he can put up a links page.

Shop Reports: Cliff Frome reported that Friday Night Faceting was doing well.

We are looking for another faceting instructor. Approach Cliff Frome, Malcolm Wheeler or a member of the board if you are interested.

Dick Morgan reported that Monday Night Classes are doing okay.

Need more colored slabs for students to work on.

Field Trips: Bill Cook went with the Puyallup Club & found stuff.

Also went to Black Diamond for petrified wood.

The club was reminded that the last two weeks in June, Jerry Chilson was offering to let club members dig for free at his sunstone claim for a split of findings.

Library: Found that one book was apparently brought back when she wasn't here, but the person did not record that on the sign-out sheet.

Health & Welfare: Dan Clayton's mother passed away. The club sent a card.

Vera Gelbach is having surgery.

Betty Swift is doing okay.

Federation Report: Motion & seconded to give our Federation Representative traveling expenses to the Butte, Montana NFMS show. It passed.

Michael reported that there will be a Rockhound Retreat coming up in September.

Mineral Council: The meeting was last Saturday in Ellensburg. The discussion was on the Saddle Mountain claims. There are three sections of BLM land that are open to collectors. There are three adjacent sections of land that had been owned by Burlington Northern that a man has filed a claim for the mineral rights to petrified wood on this land. There are signs on that property. The legality of this claim is being determined.

Picnic: It will be Sunday, August 12, all day, at Liberty Park in Renton. It will be a pot luck. Coffee & soda will be supplied by the club. There will be an ugly rock contest. Bring rocks to trade.

Motion & seconded to authorize buying two bee traps. It passed.

Old Business: Malcolm & Bob went to Cottage Grove, Oregon to talk about the geology of Oregon to 4th & 5th graders. They gave out samples of Washington & Oregon material. The kids were pleased.

Thank you to the donators of the samples.

New Business: Sunday July 29, 11 am - 4 pm, Boeing will be having an open house & BEMS will be represented. Bring scrapbooks of pictures.

John Carter got an email from German rockhound Edgar Zinc thanking us for the rocks we sent.

Motion & seconded to authorize purchase of material for the raffle. It passed. Amount to be determined at the Board Meeting.

Elliot Woodward found some much cheaper ways to print badges.

Malcolm gave a thank you to all those who bring food for the meetings, Bob for helping with the trip to Cottage Grove, Steve for running the last meeting & the Morgans for running the raffle.

Program: Diamonds In The Rough, Part 2.

Meeting adjourned at 9:04 pm.

Displays:

John Carter - Quartz from Red Top, Washington; Quartz from Silver City, Idaho; Pinolith from Germany

Bill Cook - Petrified Wood from Black Diamond; Red & green jasper & agate from Greenwater; Pictures from Saddle Mountain & Greenwater

Eric Chilson - Greenwater grass agate

Dennis & Carole Swenson - Agate, jasper, etc., from Moab, Utah; Obsidian from Glass Buttes, Oregon

Ed Laville - Smack'em Rocks

Carolyn Sealfon - Green soapstone, sliced into rings to be made into jewelry; 4 faceted stones

It has been said, the one who has a rock collection must have: a house big enough to hold it, a soul big enough to appreciate it, a heart big enough to share it, and a head big enough to hold the surplus.

from Galco Pebble Patter, 12/81

Young Richard's Almanac by Dick Morgan

Finite truth and infinite lies, politics as usual.

**Thoughts About "Rare" In Fossil And Mineral Collecting** by Alan Goldstein

(Note: This was a commentary on the Rockhounds list server as part of thread on the subject.)

For marketing and sales purposes, "rare" can mean anything that "isn't common." In geological publications discussing faunal lists at fossil sites or minerals at a specific locality, I see a general category that goes something like this:

- Abundant
- Common
- Uncommon
- Rare
- Not present

With the exception of the last one, I have not seen these terms defined quantitatively. One person might define "abundant" as widespread so you can find an example everywhere you look at a site. "Common" might be one for every 10 abundant specimens. Uncommon you might find one for every 100 abundant specimens. Rare - you won't find one every time you make a collection from the site. Another person might have a completely different view!

When someone says they have a rare fossil or mineral to sell or trade, they should explain WHY it is rare. The person wanting the specimen could then determine on their own if the rarity is real or perceived by the seller.

If it is unique to a single locality where it occurs in large quantities, on a global scale it might be rare. If it becomes readily available because the volume is converted into mineral or fossil specimens instead of ore or road metal, then it loses its rarity from a collector's point of view. As someone has already pointed out, diamonds are not rare.

A rare mineral might be widespread but undiscovered because of the cost of analyzing the sample.

I suppose if it is on ebay and is listed as "rare" then you can be sure that it really isn't!

I for one appreciate rare minerals or fossils more by becoming as familiar with the species and locality as possible. For instance, smithsonite is a common mineral. Try to find a specimen of smithsonite from the Illinois - Kentucky fluorite district on the commercial market. (I have made more available than anyone else, but I didn't see anything for sale with an on-line search.)

If it is so rare that a collector will never be able to obtain a sample, its rarity becomes a curiosity and has no practical value! (At least that's how I feel about it.)

via The Kyana Gemscoop, 2/07; from Rockhounds list server

How To Saw Montana Agate

People not familiar with Montana agate have, perhaps, wondered how to "set-up" to saw the first nodules they acquire. Most Montana nodules are found in two shapes, flat and slightly curving, or round and elongated. As this material probably has rolled hundreds of miles down turbulent streams, nearly all of it is cracked, so take this into consideration when sawing to get the largest slab free from fractures.

First, look into the rocks with a strong light to determine which way the moss or banding layers lie. Light cuts taken off an end, or side, at right angles to the layers, will then reveal whether you should slab from end to end or side to side. Many people who are used to sawing thunder eggs get used to sawing each nodule through the center to expose the pattern. While this method works well with nodules, it cannot be used to the best advantage with Montana material. It will probably ruin the best sprays as the larger and best ones usually lie toward the center. Sawing across them will render them valueless.

Only a very few specimens carry fine large sprays, so do not be disappointed if the first few do not have them. About the time you are ready to give up, one of the poorest looking pieces may have the fine spray you are looking for.

via Skagit Gems, 6-7/06; via Grindings, 8/05; via The Puget Sounder, 11/99; via Fox Rox News, 11/97; via Rock Rollers, 7/97; via Grindings, 6/94; from Gem Cutting Shop Helps

Ed Note: Much of the Montana Agate is petrified wood, so look carefully for wood grain initially, as you will want to cut the wood differently than the agate nodules.

Qualifications For Being A Good Rockhound

Cheerful — smile even if every muscle and bone in your body aches.

One leg shorter than the other — it helps on the side of hills.

Adventurous — daring to take a road, even if it looks like it goes straight up.

Determination — a willingness to go again after you swore you never would.

Imagination — visualizing a beautiful gem cut out of a plain rock.

from Rock Rollers, 7/06

Sun And Heat Safety by Bill Klose, EFMLS Safety Chair

Now that the warmer weather is with us, so are the dangers associated with sunlight and hot temperatures. Excessive exposure to the sun can cause sunburn, premature aging of the skin, making it appear leathery, rough, and wrinkled, and long term risk of developing skin cancer. Eye exposure to Ultraviolet (UV) rays can cause cumulative destructive changes in the structure of the cornea and lens. Visible light, if too intense, can cause eye strain, headache, and destruction of retina tissue. Infrared radiation transmits heat to the eye causing discomfort and if prolonged can contribute to the development of cataracts. Sunlight reflected from sand, leftover winter snow, or water can also cause damage to the eyes and skin.

To avoid exposure to the skin, wear long sleeves and pants (not shorts) of dense cloth, hats, sun glasses with UV protection, and a non-allergenic waterproof sun screen with a Skin Protection Factor (SPF) of at least 15 on the remaining uncovered skin. Reapply the sun screen every two hours. Protect your skin and eyes even on cloudy days which can be when you will receive the worst exposure. UV damage can be more severe at higher elevations where the air is thinner and filters less out of the sunlight. In exceptionally hot parts of the country, such as the Desert Southwest, avoid exposure to the sun between 10 AM and 3 PM when the sun rays are the most intense.

Some newspapers and radio/TV stations forecast a Sun Intensity Index with the weather, which tells how many minutes it takes for fair unprotected skin to redden. This time is then multiplied by the SPF of your sun screen to give you an estimate of how long you can delay becoming sunburned. If the index is not available and you usually sunburn in 20 minutes, then multiply by the SPF (i.e. 15) of your sunscreen and you will obtain the amount of time you should be protected (in this example 300 minutes or 5 hours) from sunburn.

Recent studies have shown that sun screen does not protect against skin melanomas, a serious form of skin cancer, and that sunburns can lead to skin cancer 10 to 30 years later. Do not believe the myth that a sun tan will protect your skin from sunburn.

The core of the human body works at an optimum temperature of 98.6°F, plus or minus 1.8°F (internal organs and cavities, not skin). Heat cramps, heat exhaustion (also known as heat prostration), and heat stroke may occur if the core temperature rises above this value. A person's ability to think and reason may also be impaired.

The body has its own internal mechanisms to maintain the optimum core temperature described by the equation:

$$H_s = H_m \pm H_c \pm H_r - H_e$$

H_s = Stored Heat

H_m = Heat gained due to muscular work (metabolic activity)

H_c = Heat gained or lost by convection from the surroundings

H_r = Heat gained or lost by radiation from the surroundings

H_e = Heat lost by the evaporation of sweat

From this equation you can see that decreasing activity, temperature, the amount of radiated heat, and increasing evaporation rate will all contribute to the decrease of core body temperature. This means that staying out of direct sun light and heat or taking frequent breaks in a shady, cool, or air conditioned place will decrease the chances of developing heat disorders. The intake of fluids, especially those containing electrolytes, such as sports drinks, will also help the body control core temperatures. In hot humid weather, especially above 97°F, it is best to stay indoors and avoid all strenuous activity, as the body can not sweat enough to properly lower core temperature.

Heat cramps can be caused by muscle exertion during hot weather and are characterized by sudden severe cramping of the skeletal and abdominal muscles, excessive sweating, and thirst. If you should suffer these symptoms, rest in a cool spot, take a drink containing electrolytes, and massage the cramped muscles.

Heat exhaustion or prostration, is caused by the body running out of electrolytes and/or water. The symptoms may include profuse sweating, with pale moist cool skin, headache, weakness, dizziness, loss of appetite, heat cramps, nausea (with or without vomiting), urge to defecate, chills ("goose flesh"), rapid breathing, tingling of the hands and/or feet, dehydration, a low grade fever (99°F to 102°F), and confusion.

Heat stroke is caused by profound disturbance of the body's heat regulating mechanism due to prolonged exposure to the sun, high temperature, high or low humidity, and lack of air circulation. Symptoms include red (flushed) dry skin, headache, dizziness, nausea (stomach pains), confusion, weakness, loss of consciousness, convulsions, weak and rapid pulse and breathing, a high fever (104°F to 106°F) and low blood pressure due to shock.

To treat heat exhaustion and heat stroke, move the victim to a cool spot (air conditioned and with a fan if possible), lay on the back with legs elevated, loosen tight clothing, and place cold compresses on the forehead, neck, and underarms. Water can be sprinkled on the victim, and if conscious and not vomiting, 1 teaspoon of salt dissolved in a quart of water can be administered by mouth at the rate of 4 ounces every 15 minutes. If symptoms persist or the victim is unconscious, seek medical attention or transport to a hospital immediately while continuing treatment.

via West Seattle Petroglyphs, 5/07; from EFMLS News 6/06

Bright Sparkle

For a bright sparkle, mix denture powder as directed and soak geodes with crystal centers and/or your special specimens.

via West Seattle Petroglyphs, 3/07; via SCFMS Newsletter, 1-2/04; via The Southwest Gem, 12/03; from The Load Down

Fossicking On Fossils by Cecilia Duluk, MWF Paleontology

“What IS that fossil oddball, anyway?” Even the most casual fossil collector occasionally runs into a “fossil oddball” -one of those strange looking preservations or imprints that is usually impossible to identify. I’m not talking about unusual preservation or partial fossils that “look like a— ‘petrified dandelion,’” such as a horn coral imbedded in limestone broken across the cup that resembles that weed.

No, I speak of the true “oddball,” an obviously fossilized something that even the professional paleontologists can’t really explain. After many such fossils have been found in a certain locality or strata (usually by a bunch of interested amateur collectors), the pros might get involved, which may (or may not) result in a published solution. On the other hand, such studies may result in even more confusion as to what the “oddball” really was as a living organism, because no modern counterparts exist.

The number one classic example of such a fossil is, of course, the TULLY MONSTER, discovered in the Mazon Creek, Illinois concretions by Francis Tully in the 1950s. Fourteen years and hundreds of “monster” specimens later, Drs. Eugene Richardson and Ralph Johnson of the Chicago Field Museum named the “oddball” *Tullimonstrum gregarium* and described it as “a soft-bodied marine invertebrate animal”¹ that was—like nothing ever seen before!!! The *Tullimonstrum*, in fact, is still an oddball, having been variously classified as a worm, a shell-less mollusk, and a planktonic snail!

One important thing to remember if you collect an oddball - ALWAYS NOTE THE EXACT LOCATION where you found it. You might not know what “it” is, but if you know WHERE IT CAME FROM you can at least put it (in most cases) in a time frame. Unfortunately, some collectors will thumb through a large book like *Index Fossils of North America* (Shimer & Shrock), see an illustration that LOOKS LIKE their “oddball,” and stick that name on it. Then later, any quest to really identify it is doomed to failure because - they put a genus name on it that belongs to an Ordovician species, when in fact, the locality where they found their “oddball” was all Pennsylvanian Age strata!

The best bet is to FIRST study some geologic time charts and other books on “what evolved when,” not for SPECIFIC dates (which are always being reevaluated up and/or down by a few million years) but for the general flow of evolutionary development. This can be a quite inexpensive undertaking. I would like to hereby recommend an exceptionally clear booklet, *Evolution and the Fossil Record* by John Pojeta, Jr. & Dale A. Springer, pub. 2001, by American Geological Institute, Alexandria, Virginia (under \$10 from www.agiweb.org) also sponsored by The Paleontological Society. Write for two FREE U.S. Geological Survey booklets *Geologic Time* by William Newman; and *Fossils. Rocks. and Time*, by Lucly Edwards and John Pojeta, Jr.

(FOR FUN, you might also ask for *Birth of the Mountains (Southern Appalachians)* by Sandra Clark, and *Deserts Geology and Resources* by A. S. Walker. Lots of geology in them - but remember, paleontology is just geology with “oddballs” in it!) All four of the above may be obtained for FREE from the U.S. Geological Survey, Information Services, Box 25286, Federal Center, Denver, CO 80225.

1. For a complete amateur discussion of the Tully, see “*The Monster of Illinois Paleontology and Politics*” by Mary R. Carman, *Rocks & Minerals magazine*, Vol. 64, No.1, Jan/Feb 1989.

Happy “oddball”ing!

via West Seattle Petroglyphs, 3/07; from MWF Newsletter, 11/05

Karat is a measure of fineness. 24 karat is fine gold. 1 karat equals $\frac{1}{24}$ (0.0417). Thus 14 karat gold is $\frac{14}{24}$ fine gold and the balance ($\frac{10}{24}$) alloy. The usual alloy metals are silver, copper, and zinc. Nickel is used in white gold.

Colors of Gold - Yellow, green, red, and white - are produced by variations in the alloy. Silver and zinc tend to give a green color; copper - red and nickel - white.

Gold Filled is made by joining a layer (or layers) of gold alloy to a base metal alloy and then rolling or drawing to the thickness required.

Gold Electroplate is usually made by electrolytic deposition of fine gold on a base metal.

Gold Solders are usually 2 to 4 karats less than gold on which they are used.

Sterling silver is $\frac{925}{1000}$ (92.5%) fine silver and $\frac{75}{1000}$ (7.5%) copper.

Coin Silver is $\frac{900}{1000}$ (90%) fine silver and the balance copper.

Foreign Silverware contains varying percentages of silver. In some cases it is as low as $\frac{700}{1000}$ (70%)

Silver plated ware is made by electroplating fine silver on a base alloy - usually nickel silver or Britannia metal, sometimes brass or copper.

Sheffield Plate (original) was made by soldering sheet silver onto copper, rolling, and manufacturing into hollow-ware.

Imitations are made by electroplating silver or copper.

Nickel Silver - so called - is a composition of nickel, copper, and zinc. (It contains no silver.)

German Silver - a misleading name - the same as nickel silver. (It contains no silver.)

Britannia Metal is a composition of tin, copper, and antimony.

Pewter (original) was primarily a lead alloy. It is now made in a tin, copper, antimony composition similar to Britannia metal.

Grain originally meant the weight of a grain of wheat. It was later standardized for trading purposes, but it’s little used now, most weighing being done in ounces and decimal parts or in pennyweights and decimal parts.

via Breccia, 10/06; via The Mountain Gem, 9/06; via Canaveral Moonstone, 5/06; from Outcroppings, 1/01

Field Trips

The club or clubs sponsoring the field trips are shown in italics. When known I have listed a phone number and contact person for each sponsoring club below the listed trips. If you are not a member of the sponsoring club, you should phone and ask permission to go on their field trip.

Some trips have fees to non club members, so they can be a day member, and be covered under club insurance. The usual fee is \$.50 a day.

Information from the Washington State Mineral Council webpage (<http://www.mineralcouncil.org>).

July 15 *Washington Agate and Mineral Society* - Possibly **Mt Higgins** - Rhodonite - Meet at 9:00 am at Big Lake Store - Bring hardrock tools
Mike Messenger (360) 456-6930 or wams1939@comcast.net

How Opal is Graded and Sold

Rough opal parcels are sorted into three grades: tops, middle, and low. Each tops parcel has a King stone, which is the best stone in the parcel. Some parcels have several King Stones. Color is the primary criteria for grading, but the graders also take into consideration the number of imperfections and faults, and whether a stone is the right shape to be cut into an oval or one of the other popular shapes. You can buy rough opal in several different conditions.

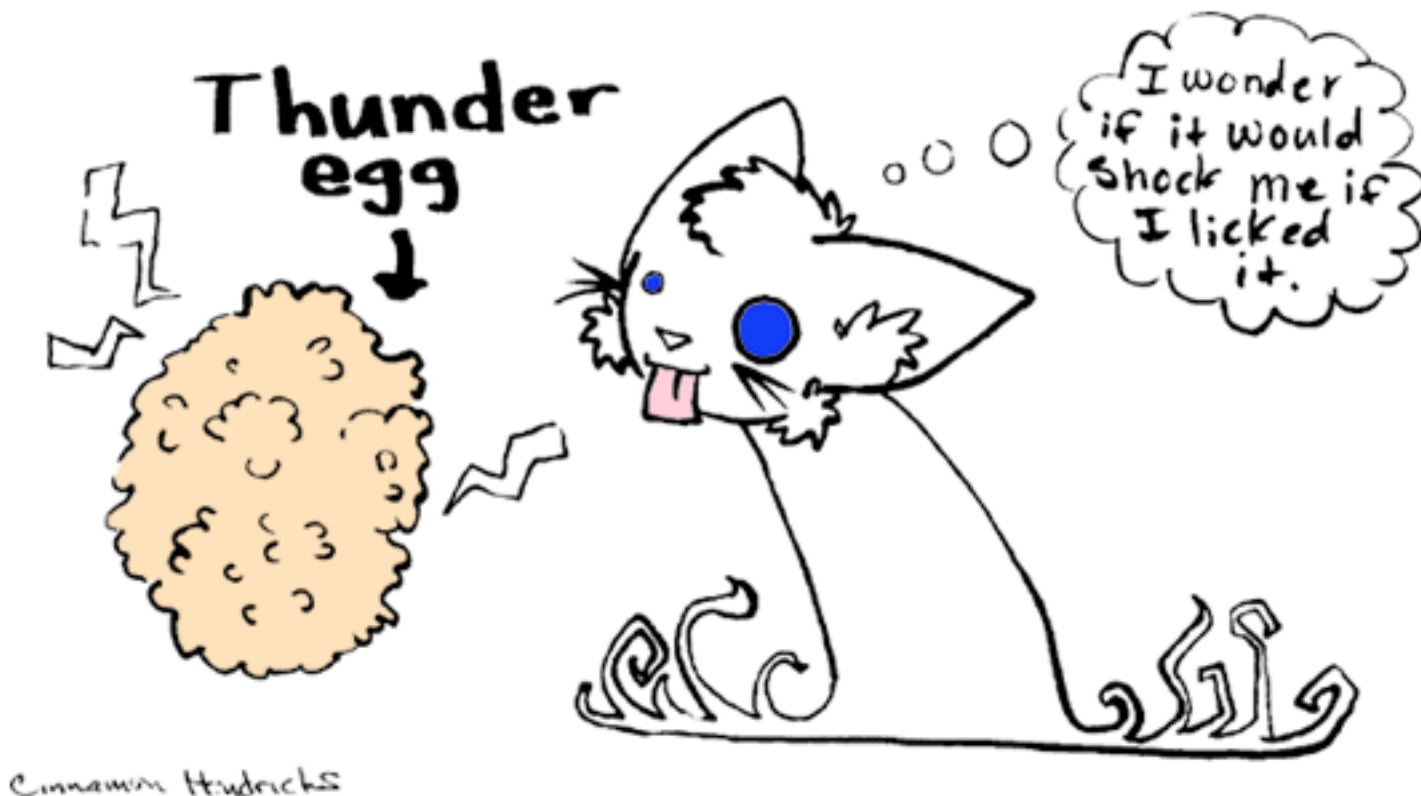
Mine Run. Direct from the mine. The stones have not been cut or ground down. This means that there is more guesswork in the cutting. Purchasing mine run opal can be risky if you are not very experienced.

Off Cuts. The miner has removed whatever opal he has a market for and sells you what's left. With off cuts, you can usually tell what you are going to be able to cut. You must still watch for cracks in the opal because once a crack becomes obvious, a stone can lose half its value.

Rubs. This can often be the best way of buying rough if you are not very experienced. The miner has cut and ground the stones into basic shapes after having removed most of the rubbish. What you have left is the stone nearly ready for the dopping and polishing process. You have the satisfaction of cutting your own stones without the high risk of buying mine run rough.

via Breccia, 5/07; from The Tektite, 6/04

Cinnamon Cartoon by Cinnamon Hendricks





Shows

July 14 & 15: Saturday 10 am - 6 pm; Sunday 10 am - 5 pm
Whidbey Pebble Pushers, Annual Rock & Gem Show

Deer Lagoon Grange Hall
5147 Bayview Rd
Langley, WA

July 28 & 29: Saturday 9 am - 6 pm; Sunday 9 am - 5 pm
Washington Agate & Mineral Society & The Tenino Rock Cruisers, 13th Annual Rock & Gem Rendezvous
During Tenino's Oregon Trail Days

Parkside Elementary School on Stage St. South
Central Ave. E.
Tenino, WA

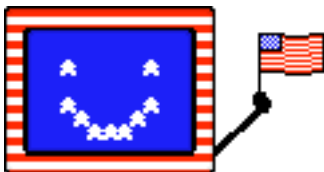


Internet Addresses

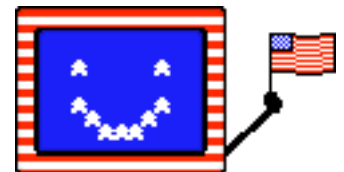
Peru Jewelry & crafts
<http://www.dimasperujewelry.com>

Cerrillos Hills Historic Park, mining region of New Mexico
<http://www.cerrilloshills.org>

The Natural History Museum's Dino Directory
<http://internt.nhm.ac.uk/jdsml/nature-online/dino-directory/>



Download-a-Dinosaur (paper cutouts)
<http://www.rain.org/~philfear/download-a-dinosaur.html>



Dinosaur Drawings to Print & Color
<http://ivyjoy.com/coloring/dinosaur.shtml>
<http://www.alphabet-soup.net/dir7/dinocolor.html>
<http://www.billybear4kids.com/dinosaurs/coloring.html>
<http://www.cdkenterprises.com/coloring/dinosaurs/index.shtml>
<http://www.coloring-page.net/dinosaurs.html>
<http://www.coloring.ws/dinosaur.htm>
<http://www.coloringbookfun.com/dinosaur/>
http://www.first-school.ws/theme/animals/cp_dinosaurs.htm
<http://www.kidscolorpages.com/dinosaurs.htm>
<http://www.kidsdomain.com/brain/dino/color.html>
<http://www.kidsturncentral.com/coloring/dinocolor.htm>
<http://www.primarygames.com/science/dinosaurs/coloring.htm>

http://www.printactivities.com/ColoringPages/Dinosaur_Coloring_Pages/Dinosaur_Coloring_Pages.html