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WHITTIER

ROCKHOUNDER
GEM & MINERAL
SOCIETY

THOSE FABULOUS THUNDER EGGS -PART II
September 22 at 7:30 PM



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ROCKHOUNDER

THE PREZ SEZ:

Greetings everyone! I hope you had an enjoyable summer. With respect to the club, I enjoyed seeing so many club members at both the summer kick-off picnic in June and

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country on good old Route 66 to Branson, Missouri for a family reunion. Although we took our rock hammers and collecting bags with us, we never found the time to unpack them.

As everyone but the very newest members in the club know, we come out of the summer looking head- q p " c v " v j g " E n w

show. This year the show is scheduled for Saturday and Sunday, October 20th and the 21st0 " " C n n " q h " { q w " ð q n f "

show really starts on Friday afternoon when members are called on to perform set up: putting together the show cases, the lights, and members filling their show cases with their wonderful displays. As it is every year your assistance during the show will be necessary if we are to put on a show that we can all be proud of. Takedown of the displays, cases, and lights occurs on Sunday, immediately following the close of the show.

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sufficient latitude for anyone interested in putting together a display case to come up with something to show. Contact Marcia if you want to put a case in the show. If you have never prepared a case, call Marcia and tell her you want to display for the first

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(Continued on page 5)

WGMS General Meeting

Thursday, September 22, 2013

at 7:30 PM

"THOSE FABULOUS THUNDER EGGS -PART II "

This 40 minute DVD program covers thunder eggs in general with a concentration on Oregon eggs. For those who have been there it should be a pleasant trip down memory lane, for v j q u g " q h " w u " y j q " j c x g p ø v " d g g p " v we could go.

Marcia Goetz

Show Info

Hi everyone, I hope you all remember our show is just around the corner and the show committee is working to make it a successful event once again. At the September general meeting we will have a sign-up sheet for the display cases, so be sure you think about what display you can put in that will be interesting for the public. Also we will be asking for nice raffle prizes that will generate excitement among those buying tickets. Speaking of raffle tickets, remember those raffle tickets you received? I hope you are selling lots of them. We are also going to have a silent auction again and if you have any rock you want to donate to that, please bring it to the show. We will be asking for donations for the kitchen of name brand sodas (regular and diet), water, prepackaged (individually wrapped store bought) brownies, cookies, and such.

Marcia Goetz
Show Chairman

The Prez Sez...

(Continued from page 3)

There is additional information elsewhere in this Newsletter about preparing for the show and how you can help. Be sure to read that. Also pay attention to the information about our great field trip scheduled for September (NOTE: the September field trip has been cancelled). Ginger and I will miss that one. We are accompanying my 94 year old father to a convention in Seattle, during the war. Dad is the President of the Association. I guess that need to serve in organizations that we are members of, is part of the Ragazzi DNA.

Looking forward to seeing you at our next meeting and around the campfire.

Art

Richardsons (Priday) Thundereggs

About 40 miles northwest of the Prineville area, just north of Madras OR. on Hwy 97 is Richardsons Rock Ranch. Richardsons is probably one of the best known thunderegg digs. It has been around for many years not only as Richardsons, but part of Richardsons was also the old Priday beds. The Priday plume beds have not been worked for many years now so this particular material is very rare. This is a pay-to-dig ranch. They offer several beds with many types of materials. They also have different agates and jaspers to dig too.



http://www.minerals-n-more.com/ThunderEgg_Info.asp

Obsidian: A Biography

by Terry Yoschak

If we were to tell the life story of a piece of obsidian, one of the millions of pieces native to California, it might go something like this: born in a volcanic eruption, quarried and carved into a scraper for tree bark, traded for ocean shells, chipped into an arrowhead, lost during a deer hunt, buried by debris and sediments, dug up by an archeologist, mailed to a laboratory for testing, and finally laid to rest in a museum collection.

That sounds like a useful, well-traveled life. But a short one, since its lifespan as described above could be a mere 20,000 years or so – quite a youngster compared to most rock and mineral specimens. Yet few other minerals have had as much cultural, historic and scientific importance as obsidian. The key to its usefulness (and its ability to hydrate (to absorb water from the surrounding air or soil)).

When obsidian is born in a rhyolitic lava flow, where the lava cools so fast that no crystals form, the resulting chemical composition is homogenous across the flow. Every flow will contain slightly different amounts of trace elements than every other flow. Pieces of obsidian from the same flow will have identical fingerprints, no matter where a piece of obsidian originated) is accomplished by the use of Neutron Activation Analysis (NAA), which bombards the specimen with a field of neutrons. The trace elements within the sample become radioactive and the radioactive emissions are used to identify dozens of different elements and the amounts of each element. Since no two flows anywhere in the world have exactly the same trace elements in exactly the same amounts, comparing the specimen to a database of previous specimens solves the mystery. According to the scientific literature, the use of NAA to identify obsidian sources is a well-established technique.

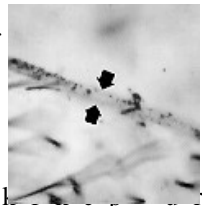
Obsidian sourcing has been a primary means of determining patterns of migration and trading among prehistoric peoples in California. If the same obsidian fingerprints exist on samples formed at Lassen Peak and excavated near Alameda, trading surely occurred during that 250 mile trip. People near the coast who had no local source of obsidian often traded their coastal treasures, such as shells, for the prized spear point and arrowhead-making material.

Like many other minerals, obsidian has a long history of use by humans.

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obsidian is formed, its exposed surface begins to absorb water from the atmosphere. The absorption continues steadily over time, dependent on variables such as local temperature and humidity. By microscopically
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we can determine the date of an obsidian artifact, either relative to another artifact, or sometimes with an absolute date.

When obsidian is quarried or flaked in the process of becoming an artifact, new surfaces are suddenly exposed to the atmosphere, beginning new hydration processes. In our biography above, the tree bark scraper would have been hydrating longer than the arrowhead but how would we know the true age of the artifact when different hydration depths and layers exist on the same specimen? In addition, without knowing how the climatic variables may have changed over thousands of years, the process of the hydration dating method
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to wildly conflicting and controversial theories about the age of the first human settlements on our continent.

A new technique called Secondary Ionization Mass Spectrometry (SIMS) involves slowly penetrating into the obsidian sample with an ion beam and measuring more precisely the distribution of hydrogen (in the absorbed water), and the depth of the hydration rim.³ As science develops even more sophisticated laboratory techniques and computer models to analyze hydration variables, we will gradually be able to refine and
tgxkug"vjg"oyjgpö"qh"qdu
every piece of obsidian can have its own true biography.



Hydration Rim

References:

1. Glascock, Michael. Archaeology, Geology, and Geochemistry of Obsidian for Provenance Research. Oct 2002.
<http://www.peak.org/obsidian/abstracts_g.html>
2. Pgwvtqp"Ce v kxcvkqp" Cp cn { uk u 0 ö " Y q t
<<http://www.wpi.edu/Academics/Depts/ME/Nuclear/Reactor/Labs/R-naa.html>>
3. Vjg"Qdukfkcp"Enqemö"Qcm"Tkfig"Pc
<<http://www.ornl.gov/info/reporter/no7/clock.htm>>
4. Rjqvq"htqo"Kpvtqfw evkqp"vq"Qdukfk
<http://www.obsidianlab.com/info_oh.html>

<http://www.rockrollers.com/bulletin/0407-article.html>

Oddities of Obsidian

By Dolores E. Rose

Obsidian is an extrusive igneous rock formed when the magma of an extrusive rock because it was pushed out onto the surface. The cooling of the but a volcanic glass.

It derives its name according to Pliny, an ancient Roman naturalist, from a fellow named Obsius, who found it in Ethiopia. Originally, it was named

Obsidian occurs in many colors, black being the most common. It can also be red, brown or even green. It can contain inclusions of magnetite, ilmenite, iron oxide, potassium oxide, sodium, oxide, lime and magnesium. It is composed of 66-77% silica, with about 13-18% alumina. Magnetite most likely gives obsidian its black color, and oxidized magnetite or hematite the reds and browns.

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Obsidian is interesting in many ways, but mainly, for all practical purposes, it is a true glass. It has a hardness of 5-5.5 on the Mohs hardness scale. It represents a quickly congealed mass of molten rock, for if it had time to cool slowly, it would have crystallized into a rock similar to granite or rhyolite.

It shows no trace of crystalline structure nor possesses any established composition and must be considered a rock instead of a mineral. It is amorphous, having no regular internal arrangement of atoms as in crystals. The is no pattern to amorphous materials. The atoms are jumbled together in small groups like particles in a pile of sand. It is extremely brittle and breaks easily with shiny, black conchoidal fractures óa feature so perfectly developed that it is easily identifiable in the field. It is translucent and will not soften when heated to a bright red.

Obsidian is found throughout the western United States, mostly in Alaska, Colorado, Utah, New Mexico, Arizona, Wyoming, Oregon, Nevada and

California. It is also found in B. C. and throughout Mexico. American Indians valued obsidian highly. Its perfect texture and easy fracture made it a prize possession for chipping into arrowheads and large ceremonial spear points.

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usefulness in carving ceremonial blades. Even one of their gods was named
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Obsidian is also used to make attractive jewelry as cabochons or faceted. Thin slabs can be cut with a common glass cutter. Due to its extreme heat sensitivity, great care must be taken in working obsidian. Industries use obsidian as a raw material to make rock wool. Surgeons have even used thinly chipped obsidian knives in surgery because of the fine exact cut an obsidian knife makes.

From Stoney Statements, 4/01
Via <http://www.wenatcheerockclub.org/Obsidian.htm>

Lucky Strike and Valley View Thundereggs

These agate filled eggs have a fantastic range of colors. The eggs contain mosses, banded agate, fortification, plumes and some are also geodes.

The Lucky strike mine is located approximately 35 miles northeast of Prineville, Oregon. Follow Highway 26 towards Mitchell, OR. Just before you reach the Ochoco summit, turn left on Forest Road 27 (2730). Follow 2730 until you get to road 200 where you will turn left again. (You will also see a sign indicating the direction to the Lucky Strike Mine on road 2730.). Once you turn left on road 200 go straight. You are only 2 miles from the Lucky Strike Mine.



Leonard Kopcinski (Kop) is the owner. Both mines have been open to the public for over fifty years. Both mines are also for sale.

http://www.minerals-n-more.com/ThunderEgg_Info.asp

Heat Stress Prevention

by Al Dehart of the Richmond Gem and Mineral Society

A reminder to all Club members as to the symptoms of various stages of heat stress, and precautionary measures to be taken during hot weather or excessive temperatures at field trip locations.

Factors leading to heat stress include high temperatures and humidity, direct sun or heat, limited air movement, physical exertion, poor physical condition, and some medications such as antihistamines, anti-depressants and high blood pressure medications.

Those who have not become acclimated (accustomed) to hot and humid environments are more susceptible to heat stress than those who have.

Please observe yourself and your fellow field trip participants when rockhounding in hot environments and look for the following symptoms of the various stages of heat stress.

Heat Cramps - Due to heavy sweating and loss of salt and other electrolytes, symptoms include painful spasms of the arms, legs, and abdomen. Treatment includes drinking water or electrolyte replacement drinks such as Gatorade, massaging the affected area and rest.

Heat Rash - This is not considered to be more serious than heat exhaustion or heat stress, but can be unpleasant and deserves mention. C n u q " m p q y p " c u " r t k e m n { " j g c v . " v j k u
sweat ducts become clogged; trapping perspiration and causing irritation, itching and a rash that can be mild to severe. Heat rash can occur where skin touches skin. Such as the inner thighs, armpits, and under the breasts. Aside from taking normal heat stress precautionary measures, avoid using powders, creams, or ointments that further block sweat ducts. However, calamine lotion can be applied after cool showers to alleviate symptoms. Watch rashes and blisters for signs of infection and contact your physician if you experience increased pain and swelling, red streaks, drainage of pus, swollen lymph nodes, fever/chills, or if symptoms of heat rash persist for weeks or months.

Heat Exhaustion - Due to dehydration and non-acclimatization to heat, symptoms include heavy sweating, intense thirst, pale and moist skin, headache, a rapid pulse, upset stomach or vomiting, and fatigue or weakness. Victims should be moved to the shade or an air conditioned space and allowed to lie down and rest. Loosen clothing, provide water and cool compresses or water mist, and elevate the legs. Watch closely for possible signs of heat stroke, which follows.

Heat Stroke - Due to excessive exposure to high heat environments, regulation fails. Symptoms include high body temperature, lack of sweating, (red, dry skin), rapid pulse, chills, hyperventilation or difficulty breathing, disorientation or unusual behavior, weakness, seizures or fits, and ultimately unconsciousness. Victims require immediate response as this condition can be fatal; call for emergency help, immerse the individual in cold water (the cooler the better), or massage the body with ice.

Preventing Heat Stress:

- < Always have someone nearby when rockhounding in hot environments.
- < We need to look out for each other, recognize the various effects of heat stress and take immediate preventative actions.
- < Field trip participants should wear lightweight, loose-fitting, light-colored clothing.
- < As a general thumb rule, ensure that during rockhounding in hot conditions, have at least two quarts of water readily available per person such that one cup of water can be ingested every 15 minutes on average.
- < Take rest breaks as necessary, and preferably in cooler environments with air movement.
- < Whenever possible, block out the sun or other heat sources.
- < Avoid alcohol, caffeinated drinks or heavy meals.

From The Collecting Bag, 6/13, via Breccia 7/13; via CMSo Tumbler 8/13

Smart Phone APPS

By Jim Stroud

Many of you now have smart phones, which have the capability of using various applications or APPS. I have encountered several apps that I believe would be of interest to my fellow Earth Science or Mineralogy fans. I currently use an iPhone and do not know if these applications are available with an Android. They range in price from free to \$20.

Gems & Minerals is an app, which is a database with 544 minerals with nice photographs, chemistry, mineral class, mineral subclass, uses, and physical characteristics. It also has the capability to add mineral specimens that are not included in the database. This is very good for field verification of mineral specimens and I would recommend it very any enthusiastic mineral collector. The cost is \$0.99, not too shabby.

Geologic Time Scale is an app, which gives you Eons, Eras, Period, Epochs, Ages, with age in millions of years, and has corresponding interesting facts for each time. www.tasagraphicarts.com/apps.html Cost is \$0.99, pretty neat application.

GeoID is unique app, which acts as a compass to measure geologic structure. <https://itunes.apple.com/us/app/geoid/id437190196?mt=8> You can measure strike and dip of geologic structure (i.e. faults, rock contacts, and fractures), plot data on steronet graphs, and export the data as a text file or cvs file format. Steronets are a 2D representation of 3D structure. This is very useful mapping geologic structure and exporting the data for computer generated graphics. The cost is \$0.99, really good for a geologist or a geologist wants to be...

AGI Glossary of Geology 5th Edition is an excellent geologic dictionary and has everything imaginable associated with geology is probably the best geology reference source available.

<http://www.agiweb.org/pubs/glossary/> The cost is free and is a steal!

I saved the best for last. **GeographNC** by Integrity Logic, which is a portable GIS app for your smart phone that has many layers that you can turn on and off as overlays over base maps. It is available for numerous other states as well. <http://www.integrity-logic.com/GeographNC/> Layers consist of Roads, Geology, Named features, Mineral Resources, K/Ar ages, Active mines, Cities, Railroads, UTM zones, Urban areas, Hydrology, Counties, Old Faults, Congressional districts, Zip codes, USGS Quads, Ecological regions, Annual precipitation, Public lands, Hydrology units, Aquifers, Surface materials, Terrain, States, and Bathymetry, WOW, huh? All of this data is at your fingertips on a map with a dot noting your location. This application is for the avid rock hound. It will tell the geology where you are located, any active mine sites, aerial photography, faults, and the list is above. You can pan, zoom, acquire distances & areas, bookmark locations, show a grid, or show current location. It obviously can tell you a lot about your current location or somewhere you would like to go visit. The cost is \$4.99, well worth it!

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Geologic Time Scale is also available for the iPad, and for Android phones and tablets.
AGI Glossary of Geology is also available for the iPad and iPod.

Forsyth Gem and Mineral Club Newsletter, July 2013

The Digital Rockhounder

This Newsletter is available by e-mail as a full-color PDF. If you wish to receive the WGMS Rockhounder directly to your computer, send an e-mail to **res19pnb@verizon.net**.

Editor

Upcoming CFMS Gem Shows

- Sept 7-8** **DOWNEY, CA.** Delvers Gem & Mineral Society
Women's Club of Downey, 9813 Paramount Blvd.
Hours: Sat 9 - 5; Sun 10 - 4
- Oct 2-6** **JOSHUA TREE, CA.** Hi-Desert Rockhounds of Moronga Valley
Yucca Valley Sportsman's Club of Joshua Tree
6225 Sunburst Street
Hours: 9 - 6 daily
Website: <http://www.jtsportsmansclub.com/gem.html>
- Oct 5-6** **BORON, CA.** Mojave Mineralogical Society
Boron Park, South End of Boron Avenue
Hours: 9 - 4 daily
- Oct 6** **FALLBROOK, CA.** Fallbrook Gem & Mineral Facility
123 West Alvarado Street
Hours: 10 - 4
Website: www.fgms.org
- Oct 19-20** **WHITTIER, CA. WHITTIER GEM & MINERAL SOCIETY**
WHITTIER COMMUNITY CENTER
7630 WASHINGTON AVENUE
Hours: 10 - 5 DAILY
- Oct 26-27** **LOS ALTOS, CA,** Peninsula Gem & Geology Society
Civic Center/Youth Center, One San Antonio Road
Hours: 10 - 5 daily
Website: www.pggs.org
- Nov 2-3** **RIDGECREST, CA.** Indian Wells Gem & Mineral Society
Desert Empire Fairgrounds, 520 West Richmond Road
Hours: 9 - 5 daily
Website: www.indianwells.weebly.com
- Nov 16-17** **OXNARD, CA.** Oxnard Gem & Mineral Society
Oxnard Performing Arts Center, 164 Seaspray Way
Hours: Sat. 9 - 5; Sun. 10 - 4
Website: www.oxnardgem.com

WGMS MEETING LOCATION!
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Affiliations



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