


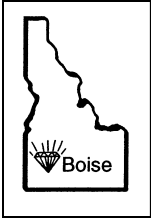
Grindings

Idaho Gem Club, Inc.

P.O. Box 8443  Boise, Idaho 83707-2443

VOL 73 NO 6

June 2013



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863-9336

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362-3941

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939-4508

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Deana Ashton
794-5628

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Phillip Worley
891-3990

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906-5968



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322-5985

TREASURER
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794-9474

NFMS DIRECTOR
Charles McCreath
344-5085

EDITOR
Tony Griffin
467-9286
highdesert2003@q.com

CLUB WEB SITE
www.idahogemclub.com

President's Message

It sure has been fabulous weather here in Boise, sure feels like summer is here! As I understand the last field trip to Graveyard Point was a success. I hope everyone took what he or she wanted and will enjoy working on some beautiful agate. Now we need to gear up for the next trip to McDermitt for some petrified wood. Look for details inside this newsletter.

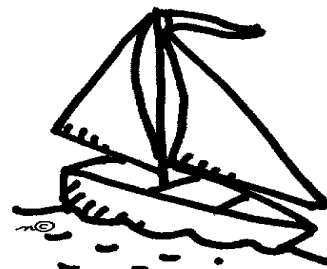
Be aware that with all the spring weather we have had the grass is taller and when it dries it doesn't take much to spark a fire with a hot catalytic converter, cigarettes or campfires. You might also find other critters hiding in the tall grasses. Last year we came across several rattlesnakes, they will usually avoid you unless they feel threatened. Please respect nature and think things through so you do not cause harm to yourself, others, or the great outdoors.

For the next three months we will be holding auctions at our monthly meetings. This is a great way for new members to start their collections. Remember to start gathering and bring items for the auction. Last year's auctions were great and the money generated helped off set the cost for our annual banquet.

Bill Woods will be having a rock sale that will be open to club members on June 29th-30th from 1-7 both days. Address: 401 East Pennsylvania, Boise. © [869-7225](tel:869-7225). Enjoy!

July and August our meetings will be a picnic in Ann Morrison Park, details to come, but I just wanted all of you to start planning on what fabulous dish you will be bringing. Happy Rock Hunting to all.

Brent Stewart
President



**MINUTES OF THE IDAHO GEM CLUB
GENERAL MEETING
May 14, 2013**

President Brent Stewart called the meeting to order at 7:50pm.

The Pledge of Allegiance was led by Bill Belknap.

Adult door prizes were drawn for 17 lucky winners. Junior door prizes were drawn for 11 lucky winners. Building fund was drawn for 1 lucky winner.

A motion to accept the minutes as printed in the "Grindings" was made by Willa Renken and seconded by Bill Belknap; the motion carried.

Secretaries report-- the receipt of bank statements, a few membership renewals, and deposits for the treasurer.

We had numerous guests and new members present this evening.

Juniors report-- Ed Moser was excused for the evening. Janelle spoke about new fieldtrip is being planned and more information will be available in the future. She is wanting parents to know of the need for help when this trip occurs. Janelle is having the Juniors meet her outside for their meeting tonight, due to working with sand.

Treasurers report-- Barbara Wanner (our new treasurer) took over this evening. She spoke of balances and disbursements.

Federation report--- Charles donated obsidian specimens for the Juniors. It was given to them when door prizes were given out. Charles spoke about how to cut it properly. He made mention of the Butte Meeting. The NFMS newsletter has sign-up applications for showcases. He stated some fieldtrips and events may require pre-registration and to check the NFMS website at www.amfed.org/nfms.

Library report--- I've received a new Rock & Gem Magazine, and a Kingsley North catalog. I've finished cataloging the other half of our IGC Library and I'll have a new list of everything. I also received a donation of several books from George and Karol Cawthon this evening. I've sent a "Thank You" card to express our clubs thanks.

Workshop report-- Willa spoke about the importance of having a shop for our members. With the

investment of the equipment available. Doug and Willa graciously provide their shop every 3rd Thursday of the month. The time is from 6:30pm to 9:30pm. They will have a fire available for roasting hot dogs and making s'mores. Donations of those items is also welcome. Volunteers were asked for to help with use of equipment and clean-up. Also available to instruct on how to wire wrap will be Marge Conley and Dick Corbett. The gold and silver wire cost a small fee of \$10.00 and copper is available for free.

Old business-- there was none at this time.

New business--- Deana spoke about the table at the Renaissance Fair on Fathers Day weekend. She'll be promoting our club and information about our license plates. She will have membership applications available. She's looking for volunteers for this event, so contact her at 794-5628 or by e-mail at shesteched@msn.com. Because it is a Renaissance Fair one requirement is to dress in the appropriate clothing of those times. She will also have jewelry available from Lorraine Horton's and John Brookman's recent estate sale. Our website to advertise license plates is closer to launching. She'll have additional information available in the near future.

Our program tonight will be about the Star Garnet and given by President Brent Stewart.

We broke for refreshments at 8:15pm. The meeting was adjourned at 9:10pm.

*Respectfully submitted,
Melodee Worley - Secretary*



MINUTES OF THE IDAHO GEM CLUB**Board Meeting****June 4, 2013**

President Brent Stewart called the meeting to order at 7:35pm.

Board members present were Phil Neuhoﬀ, Melodee Worley, Deana Ashton, Barb Carey, Willa Renken, Ed Moser, and Phil Worley. Jim Clinton was excused for the evening.

Officers present were Charles McCreath, Barbara Wanner, and Melodee Worley.

Guests recognized for the evening were Shirley McCreath and Doug Renken.

A motion to accept the minutes as printed in the "Grindings" was made by Willa Renken and seconded by Barb Carey; the motion carried.

Secretaries report--I sent a "Thank You" card to George and Karol Cawthon, for their recent donation of books to our Library. I've received an new Rock & Gem magazine for the library too.

Treasurers report-- Barbara spoke of balances and disbursements.

Federation report-- Charles stated he's still awaiting paperwork for credentials for the NFMS Meeting in Butte, MT. In his recent NFMS newsletter, for May 2013, there still wasn't any motel/hotel information for the Butte area either.

Charles has advised the Board of a Proposal to be voted on at the Annual Meeting in Butte. It's a Proposal being moved by Lakeside Gem & Mineral club, Inc. The Proposal for Operation Procedures to amend duties of the Scholarship Committee. The details of the Proposal can be viewed in detail at www.amfed.org/nfms. I along with Charles will have the NFMS newsletter available for anyone without internet access. A vote was called for by Willa Renken to accept a motion made by Phil Neuhoﬀ and seconded by Ed Moser to accept the Lakeside Gem & Mineral Club, Inc. proposal.

The Program for the June General Meeting will be an auction of donated items, any donations for the auction would be greatly appreciated. These dona-

tions can be raw or finished items. The moneys go toward our Annual Meeting and Banquet in January 2014.

Juniors report-- Ed said "BRING YOUR FOLDERS!"

Workshop report-- Willa stated there would be a shop on Thursday the 20th from 6:30pm to 9:30pm. She will need instructors and help for the shop. Of course, snacks are welcome. There will be a fire for hotdogs and s'mores.

License plates report-- Deana showed us a sample of our new "webpage." The First phase of creation is ready. The second phase is soon to be launched; fine tuning will happen and the site will be up and running within days. Deana said she'll also be doing a mass mailing to teachers from k-12. To advise them what our license plate sales moneys are used for. For the teachers to contact her she is asking to get a P.O. Box for their questions.

Sunshine Lady, Deana is wanting to send a plant to the Madsen's on the birth of their new daughter. She's going to do so.

Old/New business-- there was none at this time.

New membership applications-- 2 new members. A motion to accept was made by Phil Worley and seconded by Ed Moser, the motion carried.

The meeting was adjourned at 8:57pm.

*Respectfully submitted,
Melodee Worley--Secretary*

Welcome New Members

Martha Nelson
2074 Taggart St
Boise, ID 83705-3449
660-888-1171

Gary Monroe and Karen Clark
5225 S Choctaw Way
Boise, ID 83709
861-1003

News From the A.L.A.A.

From Shirley Leeson, ALAA

"ALL, it looks like Idaho may go the way Utah wants to go and "take back" their lands..."

Sent: Friday, March 22, 2013 8:30 AM

Subject: Idaho House Panel Agrees to Study Federal Land Transfer; Magic Valley Times News 3/20/2012

Idaho House Panel Agrees to Study Federal Land Transfer
BOISE • State lawmakers officially began their efforts Tuesday to wrest control from the federal government millions of acres of public forest, backcountry and rangelands across the state.

The House State Affairs Committee voted along party lines in support of a resolution that demands the federal government transfer ownership of about 35 million acres now overseen by the U.S. Forest Service, the Bureau of Land Management and other federal agencies.

Republican proponents insist the state can do a better job as stewards of the land, reducing the size and damage caused by summer wildfires and earn significantly more revenue from those lands with oversight of industries looking to cut timber, mine or graze Idaho's vast inventory of public acreage.

Rep. Lawrence Denney, the plan's chief sponsor, said the time has come for Idaho to assume a bigger role as landlord, even if it brings increased costs and administrative responsibility. "When the question is asked 'how can we afford to take over management,' I think the question is how can we afford not to?" said Denney, R-Midvale. The committee also signed off on a separate resolution that calls for appointing a panel of lawmakers to spend the summer months studying all aspects, costs and potential benefits and pitfalls of a future handover of federal lands. (continued top of next column) Both measures are headed to the House for more debate.

Idaho's model for ownership change mirrors legislation adopted in Utah a year ago that demanded that the federal government surrender control over 20 million acres of federal land in that state by 2014. Should the government ignore the deadline, Utah lawmakers spearheading the issue say they are poised to make their case in court that federal officials long ago reneged on a constitutional pledge to relinquish control of federal landholdings in each state.

A similar bill that emerged in Arizona last year was shelved after a House committee deemed it unconstitutional. It was later revised then vetoed by Gov. Jan. Brewer. Like the Utah bill, the version passed out of committee Tuesday requires Idaho to give back lands now deemed part of the National Parks, protected wilderness areas, national monuments, tribal reservations or Department of Defense or Department of Energy holdings. The state is not proposing to give back the Hells Canyon National Recreation Area or the Sawtooth National Recreation Area. Nor is it proposing to transfer back to the feds the roadless national forest lands, wilderness study areas, the Boise Foothills or the Morley Nelson Birds of Prey along the Snake River in the state's southwest corner. The state would also have the authority to sell off part of any

new landholdings, with 5 percent of the proceeds going to a fund to support public schools and the remaining sum sent back to the federal government to pay down the national debt, according to the resolution.

Denney cautioned the intention is not to privatize huge tracts of land now available to anyone, from any state. The Idaho Constitution, he said, limits transactions to any one person to 320 acres. "This is not a land grab just to sell to the highest bidder," he said. The measure also won favor Tuesday from the Idaho Farm Bureau. However, it drew criticism from environmentalists who argued that the potential for Idaho officials to one day auction off public parcels imperils one of the state's most cherished characteristics — unfettered access to huge tracts of wild forests, rivers and trails.

Detractors urged the committee to consider the potential costs tied to fighting wildfires in a state where federal officials spent nearly \$200 million last year battling blazes across more than 1.7 million acres of forests and rangeland.

Jon Robison, the Idaho Conservation League's public lands director, cautioned that while federal bureaucracy and decision-making can be slow, irritating and inefficient, the system of regulations and laws protecting access, species, water and habitat is more protective than anything the state has to offer. "We understand public lands can be managed better than they are," Robison told the committee. "Idahoans simply don't want to see 'No Trespassing' signs blocking access to their family campsites, fishing holes, hunting camps or hiking trails. These lands contribute immeasurably to our economy and our outdoor way of life."

From MVGC April 2013

**Chemically Induced Inclusions - Dendrites Moss Plume
Gemstone Coloration and Dyeing - Table of Contents**
Copyright © George W. Fischer 1990

Dendrites, moss, plume and similar inclusions have added interest and value to gemstone for about as long as man has been aware of the beauty and gem potential of such "rock". But apparently up to now, man has been dependent on inclusions formed in nature. The process by which they developed in nature has been only vaguely understood and thought to require long periods of time, even in the geological concept of time. Any means, therefore, of inducing the formation of inclusions in gemstone is automatically of more than transitory interest.

Quite by accident (as is often the case) I have been fortunate enough to discover a method of inducing the formation of dendrites, moss, plume, etc. in gemstone. It all started back in 1965. I had made for my wife a two stone bracelet, the snakeskin cabochons for which had been colored blue by the copper nitrate process (No. 1). After cementing the finished cabochons in place, I set the bracelet aside and, due to the distractions of more mundane demands, did not return to it to "clean it up" until (Chemically Induced Inclusions - continued on page 9)

YESTER YEAR

July 20, 1971

The July picnic was held at Fireplace #1 at the Municipal Park.

The silent auction brought in \$15.00 for the material Glen Burrows brought from Arizona. The field trip will be to Beacon Hill on Sunday.

Virgie Towell will be the delegate to the NWF meeting in Spokane in September.

The BLM proposal on mineral hunting on it's lands requested comments from the club. Most regulations were agreed with, but as they gave us short notice we did not have time to comment in detail.

\$700.00 was moved from the checking account to the savings account.

The next field trip was lead by Clark Elwell to Rome, Ore. This is to be a two day trip with some one meeting the members that were coming on Sunday at the highway. There was good hunting for all.

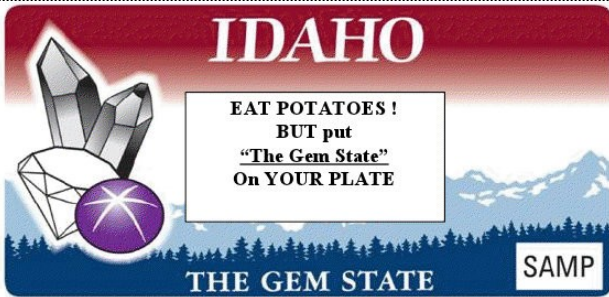
A surprise house warming was held on Thursday August 12th for the Hoods, whose house was partially destroyed last year. They were given an Electric Frying Pan.

Jenny Higby gave the club her #2 Queenstone Jasper Claim and the next field trip will be to that location.

A Ustick school teacher ask if some one from the club could give a talk to her third grade class on rocks.

The President congratulated Rex Owings, Junior member, he came in 1st in Junior faceting at the National show at Seattle, won the Junior Sweepstakes, and placed 3rd in Thumbnail Minerals.

*In Loving Memory
Patsy Bethel—Historian*



IDAHO

EAT POTATOES !
BUT put
"The Gem State"
On YOUR PLATE

THE GEM STATE **SAMP**

Purchase the Earth Science/Lapidary Special Interest
License plate for your Vehicle or RV
At your local Idaho DMV or online !
Current registration credited towards purchase.
Proceeds benefit Idaho K-12 Earth Science Education.

Rock Hounds

Rock Collection for Sale

All Material Seriously Discounted.

Slabs (approximately 400) Carisite, Bigs (old and new), many other varieties available.

Rough rock, garnets, fire agate, sphere rocks, thunder eggs, Oregon Sunstones, petrified wood, polished specimens.

Sale Dates—June 28, 29, 30

All dates 9 am till 6 pm

8345 Stetson Dr., Boise

869-6325— Joe Nielson

Two links for additional newsletters we receive as members of the rock club.

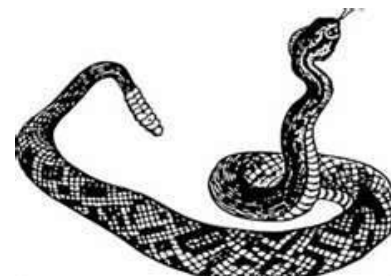
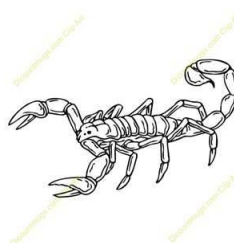
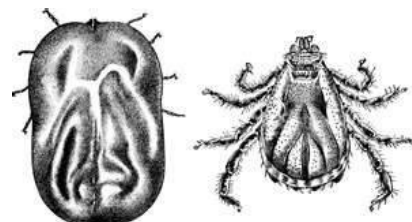
NFMS—Newsletter available at:

http://www.amfed.org/nfms/documents/NorthwestNewsletter/NW01_0213.PDF

AFMS—<http://amfed.org/news/default.htm>

Watch out for these critters when you are rockhounding!

female & male tick



HAPPY



BIRTHDAY

JUNE

6/1 Nathan Nagy
 6/3 Keith Chipman
 6/4 June McConnell
 6/5 Sherry Woodbury
 6/6 Michiel Bugher
 6/6 Angie Gomm
 6/11 Gabriella
 Schuldenfre
 6/11 Robert L. Turner
 6/12 Teri Hetherington
 6/14 Darlena Rowland
 6/15 Sarah Neuhoﬀ
 6/16 Chris Blickfeldt
 6/17 Sandy Blodgett
 6/17 Max White
 6/18 Karla Glick
 6/21 Laura Lindsay
 6/23 Dennis Halladay
 6/24 Bill Carey
 6/24 Ethan Chase
 6/24 Beth Rouse
 6/25 Barbara Davenport
 6/30 Jonathan Barnett

June Birthstones

Faceted — Alexandrite
 Cabochon — Moonstone
 Traditional — Pearl

JULY

7/1 Mike Jones
 7/1 Paula Lane
 7/2 Wayne Snowball
 7/5 Andrea Kinnaird
 7/5 Patrick Vanderbeek
 7/10 Renee Carpenter
 7/10 Lonnie Hicks
 7/12 Debra Burns
 7/12 Loren Francis
 7/12 Aaron Weslowski
 7/13 Anna Gomm
 7/15 Gordon Roberts
 7/17 Jennifer Wilson
 7/18 Kathy Griffin
 7/20 Pat Bethel
 7/20 Lynne Davis
 7/22 Tom Rogers
 7/24 Amy Hinkler
 7/24 Keith Lenzner
 7/24 Maxine Smith
 7/25 David Douglas
 7/26 Larry Ridley
 7/28 Philena Thompson
 7/29 Catherine Parsons
 7/30 Debbie Housh
 7/31 John Huffer
 7/31 Travis Leach

July Birthstones

Faceted — Ruby
 Cabochon — Carnelian

Dates To Remember**GENERAL MEETING**

3rd. Tuesday of every month

June 18, 2013

Church of the Brethren

2823 N. Cole Road, Boise, Idaho

Meeting Starts at 7:30 p.m.

BOARD MEETING:

1st. Tuesday of every month

July 2, 2013

Church of the Brethren

2823 N. Cole Road, Boise, Idaho

Meeting Starts at 7:30 p.m.

June Refreshments

Chair: Deana Ashton 794-5628

Christi Hogle 283-8891

Becky Gibson 383-0040

REFRESHMENT COMMITTEE GUIDELINES

Need approximately 15 dozen cookies. Wrapped door prizes are also needed. Arrive early enough to set up the chairs. The chairperson brings the coffee urn, coffee, punch, cream, sugar, cups and napkins. Afterward, put meeting tables & chairs away, clean kitchen and sweep the room. Gather and take all the trash with you. Don't forget it is the responsibility of the chair for the coming month to pick up the coffeepot, take it home and bring it the next meeting.

July Refreshment Committee

We need refreshment committee volunteers for July and August! Please email (pneuhoff@yahoo.com) or call (939-4508) Phil Neuhoﬀ if you can help. For July and August, the refreshment committee is in charge of setting up and cleaning up for the picnics and supplying door prizes.

THE GRINDINGS

is the monthly newsletter of the Idaho Gem Club, Inc., associated with the Northwest Federation of Mineralogical Societies. Permission to copy is freely granted when proper credit is given to both the publication and the author. Articles without bylines are written by the Editor or President.

CHECK OUT THE CLUB WEBSITE!

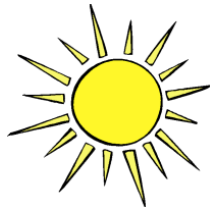
www.idahogemclub.com



Deana Ashton is our Sunshine Lady

Her job is to send some cheer to members who are ill, in need of prayers, or need some cheering up. Deana needs your help in accomplishing this, you can help by letting her know of anyone that is in need of a little sunshine. Deana will send a card or flowers depending on their situation or occasion.

Deana's phone number is 794-5628



Bench Tips

Small silver or gold spheres for accent pieces

Craig asked:

>How do you make the balls where they don't have a flat spot on them? >The small pieces do form a nice ball shape except where they lay on the solder pad, it is flat, i need them round all the way around....

On the small balls, the flats don't give me a problem. It helps to keep them from rolling around while I solder them.

When I need as round a ball as possible, I take a ball bur and cut a spherical depression in the solder pad, place my scrap over the hole, cover it with flux, and melt it into a ball.

I often use little balls of silver and gold as accent pieces on my designs. They can be made as needed from pieces of scrap. Cut the scrap into little pieces, put them on a solder pad and melt them with a torch. Then throw the balls into a small cup of pickle.

If you need to make all the balls the same size, you need the same amount of metal to melt each time. The best way to do that is to clip equal lengths of wire.

But there's an easier way to get a good supply of balls. Some casting grain comes in near perfect ball form. Just grab your tweezers and pick out the ones you need. When you need larger quantities of balls, pour the casting grain out onto a baking pan, tilt the pan a bit, and let all the round pieces roll to the bottom. Bag the good ones, and pour the rest back into your bag for casting. Balls can be sorted into different

sizes using multiple screens.

Polishing Wheels

In the finishing sequence there's a step called pre-polishing, between sanding and buffing, and one of the most effective tools I've found to help here is the little silicone wheels used in a Foredom or Dremel. They come in several different abrasive levels and several different shapes. The wheels are color coded to denote their abrasive level. Different shapes (coin, knife, cylinder, point, etc) are available to match the geometry of the area being cleaned up.

For a starter, I'd suggest a medium, a fine and an extra fine wheel in both the coin shape and the knife-edge shape. The thicker coin shapes are particularly handy. Be sure to get a few extra mandrels so you'll have one of each wheel shape mounted and ready to go.

Cylinder shapes are nice for doing the inside of rings. Knife-edge shapes clean up the base of bezels quickly. Most jewelry catalogs carry these wheels, but often the color codes don't match between different manufacturers.

More BenchTips by Brad Smith can be found at [facebook.com/BenchTips](https://www.facebook.com/BenchTips) or groups.yahoo.com/group/BenchTips/



**Rocky Rattles
Juniors need to bring their folders
to the meeting this month**

Idaho Gem Club Field Trip

May field trip to Graveyard Point was a nice day in the desert. Lot's of material was found by all who attended.

June field trip will be to McDermitt, for agate, jasper and petrified wood. I will be camping in the area from Thursday the 20th to Sunday the 23rd. Rock Hammers, buckets, picks, sledge hammer and chisels. Four wheel drive vehicle is recommended. Sunscreen and water a must. There are a couple of places for camping. There are no toilets, electric, or water at the camping area's.

Take Hwy 95 south to McDermitt, Nevada, go west on Cordero Mine road to Disaster Peak road, then follow the IGC sign's that I will have posted along the way to my camp site. We will meet there each day at 10:00 am. I will also have a map to collecting area's available for those who need one. There is a small hotel in McDermitt. I will be leaving the area on Sunday around noon. Hope to see you there.

Happy Hounding
Phillip Worley
Field Trip Coordinator

June Program:

The program for June will be an auction to support our club picnics at the July and August meetings. Please bring items for the auction and be prepared to bid generously.

Federation & Other Club News More Dates to Remember

Owyhee Gem & Mineral Society
 June 22nd—Big Egg Claim

Madras POW POW
 June 26th—June 30th
 Jefferson County Fairgrounds
 Madras, Oregon
www.allrockhoundspowwowclubofamerica.com/#!/madras-flyer

Nyssa Thunderegg Days
<http://www.nyssachamber.com/>
 July 12th & 13th, 2013
 Nyssa School Grounds,
 Nyssa, Oregon

Magic Valley Gem Club
 July 12th—14th Glass Butte & Hampton Butte

Northwest Rockhound Retreat Labor Day Week
 September 3 - 9, 2012—OMSI camp at Hancock Field Station
 about halfway between Antelope and Fossil, Oregon. This is a weeklong event of learning and sharing.

<http://www.amfed.org/nfms/NwRockHoundRetreat.asp>

Federation Show 2013 - Butte, MT - August 9-11, 2013

NFMS' 75th Anniversary Show

Presented by: Butte Mineral and Gem Club

Location: Butte Civic Center
1340 Harrison Avenue
Butte, MT 59701

Hours: Fri 9 – 5, Sat 10 – 5, Sun 10 – 5

Cost: Adults \$5, Seniors \$4, Students 10 – 17 \$3, Under 10 free
 if accompanied by an adult.

26+ Dealers with 100+ exhibits

Field trips every day, Silent Auction, Speakers

<http://www.amfed.org/nfms/FederationShow.asp>
 Show Chair:
 Pete Knudsen
 1301 West Gold Street.
 Butte, MT 59701
406.723.8524

(Chemically Induced Inclusions - from page 4)

a few weeks later. At that time, I noticed immediately that the two cabochons looked "different"; they were no longer the bright and uniform blue that they had been to begin with. A closer look precipitated an immediate and excited inspection with a magnifying glass. I could scarcely believe my eyes, for the magnifying glass confirmed what I thought I saw without it- dendrites! Nevertheless, there they were (and still are, twenty-five years later), just like some of the dendrites and moss sometimes seen in agate and chalcedony "in nature", black and permeating through the entire depth of the cabochon.

My head swam with excitement, and I had to sit down and try to comprehend what had happened and what it might portend. I had made and mounted hundreds of cabochons of snakeskin agate before, variously colored by processes described in this book, and nothing like this had ever happened. Certainly snakeskin agate has no native dendrites or other such inclusions. So what was different? Where did the dendrites come from?

Finally, the explanation dawned on me from a basic principle I had first heard of in a high school chemistry course, and again in freshman college chemistry. The principle is "electrochemical displacement".

The two historical cabochons had been made from a slabs of snakeskin agate thoroughly impregnated with a saturated solution of copper nitrate. The bracelet was gold plated, the plating probably over some form of iron. As lapidaries usually do when mounting cabochons, I had roughened the parts of the bracelet where the epoxy cement was to hold the cabochons in place. In so doing, I had scratched away the plating so that the underlying metal (probably iron) came in direct contact with the copper nitrate in the cabochons. The underlying iron displaced the copper from the copper nitrate in the agate to form free or elemental copper- in the form of dendrites in the agate. How does this phenomenon happen? I'll attempt to explain.

The principle of electrochemical displacement can be likened unto a "pecking order" in the henhouse or to RHIP (Rank Has Its Privileges) in military circles. The chemical elements, particularly the metals, differ considerably in the extent to which they are "active", that is, the extent to which they will react with water, acids, the salts of other metals and with other elements. Thus, the metals can be arranged in an "activities series" [1] in descending order of activity. The best known metals in this series in decreasing order of their comparative "activity" follow:

- Potassium
- Sodium
- Calcium
- Magnesium
- Aluminum
- Manganese
- Zinc

- Chromium
- Iron
- Cadmium
- Cobalt
- Nickel
- Lead
- Tin
- Copper
- Mercury

Potassium at the top of the list is so "active" that it will readily react violently with even cold water, liberating hydrogen from the water and creating considerable heat. On the other hand, gold at the bottom of the list is so inactive, or "inert" that not even strong acids will affect it. [2] Platinum and silver are nearly as durable and it is this durability even more than their beauty that make them "precious metals".

Of immediate concern to us relative to chemically induced inclusions is the fact that, in general, any metal in the above list can be displaced from its compounds by any other metal above it in the list, but in turn, it can any other metal below it. Thus, iron is above copper in this "pecking order" and can displace copper. And in the case of the accidentally induced dendrites described above, that is exactly what happened. The principle of electrochemical displacement can be further illustrated by the fact that a nail when dipped in a solution of copper nitrate (or other copper salt) quickly becomes copper coated or "plated". The iron in the nail displaces the copper in the copper nitrate solution. The copper goes out of the solution and is deposited as free copper plated over the exposed surface of the nail. So in the case of the historic (to me) accidental production of dendrites in the two bracelet cabochons when I scratched through the gold plating on the bracelet in order to create a roughened surface for better adhesion of the cement, I exposed the underlying metal (steel). When this base metal came in contact with copper nitrate, the copper was displaced from solution in the agate, causing the release and deposition of free, elemental copper. Fortunately, this displacement took place not merely on the surface, but penetrated deep into the interior following the porosity of the agate.

While the above theory, superficially explained here and perhaps oversimplified, seemed plausible enough to account for the mysterious formation of the dendrites, it did not answer the questions: Why had it not happened before? Then I remembered that these two particular cabochons had been made and promptly mounted from a freshly soaked (in copper nitrate solution) slab of the snakeskin agate. Thus the slab had not had a chance to dry out, and the pores still contained a solution of copper nitrate. Apparently, too, I did not get a complete surface

(Chemically Induced Inclusions - continued n page 10)

(Chemically Induced Inclusions - continued from page 9)

application of the epoxy between the cabochon and metal so that in each cabochon there was a direct contact with the copper.

My wife never did get the bracelet (not that one). She was quite willing to sacrifice it to the cause of "science", applied to the lapidary arts. I supposed at first that the base metal of the bracelet might have some particular potency as a displacent metal to form inclusions in the agate. So I dismembered the bracelet and fragmented the bezel portions into many small pieces, each one of which I hoped would make more dendrites. They did, but I soon discovered that I need not have sacrificed the bracelet. Any old form of iron would do the trick: nails, tacks, wire, paper clips, nuts and bolts, etc. And I soon learned that, as prescribed by theory, other metals besides iron above copper in the activity series would likewise induce the formation of dendrites and other inclusions.

Also by theory, other compounds of copper in solution should likewise be useful to induce the formation of inclusions. So I soaked slabs of snakeskin agate in saturated solutions of copper acetate, copper sulfate and copper chloride. The first two proved to be useless for the purpose (not sufficiently soluble?), but the chloride proved to be far superior to copper nitrate. It responds more readily, more reliably and with more attractive inclusions. Therefore, as far as copper is concerned, all further experimentation was confined to copper chloride.

The principle of electrochemical displacement suggested that other metals should be amenable to this method of inducing inclusions. To test this out, I have tried silver (nitrate), tin (chloride and sulfate), lead (chloride), nickel (nitrate and chloride), cobalt (chloride) iron (chloride), cadmium (chloride), chromium (chloride) and zinc (chloride). Slabs of snakeskin agate were soaked in solutions of salts of these metals and then small bits of metals in the activity series above those in solution in the agate were placed in contact with the slabs. To make a long story short, positive results were obtained only with silver nitrate and tin chloride.

Only magnesium and aluminum would displace silver out of silver nitrate to form inclusions of metallic silver in the agate. This had tremendous possibilities, except that the entire slabs turned progressively darker until the dendrites were completely obscured. Apparently through the agency of light, the silver nitrate in the slabs was reduced to minute silver particles by traces of organic matter in the water.

On the slabs soaked in tin chloride, only aluminum and zinc would displace the tin from solution in the slabs to form tin inclusions. Tin admittedly does not have the glamour of silver, but since the tin inclusions look like silver and since the slabs in which silver inclusions were induced turned intolerably dark, further experimentation with silver inclusions was dropped in favor of tin. In fact,

all further experimentation on chemically induced inclusions in agate have been confined to refinements, improvements and ramifications of the two process that induce copper and tin inclusions respectively. At the time of present writing, the search for such refinements, etc. is still continuing, but sufficient progress has been made in developing stable processes that it seems feasible to include them in this book. I hope it will stimulate other rockhounds to do, some experimenting of their own.

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Rockhound "CODE OF ETHICS"

I will respect both private and public property and will do no collecting on privately owned land without permission from the owner.

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 collecting areas.

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

I will leave all gates as found.

I will build fires only in designated or safe places 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 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 practice conservation and undertake to utilize fully and well the materials I have collected and will recycle my surplus for the pleasure and benefit of others.

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 collecting areas.

I will report to my club or Federation officer, Bureau of Land Management or other authorities, any deposit of petrified wood or other materials 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", I 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.

Countering the Assault on Off-Road Recreation and Motorized Access

A Primer to "Keep California Off-Road - On Trail"

By Amy Granat-CORVA Managing Director

Understanding an issue is a must, especially when faced with controversial issues such as motorized access to public lands. Analysis of the facts or investigations of the wrongful assumptions leads directly to the increased ability to plan an effective counter-attack. The following is a list of questions and answers to assist all of us as we "Counter the Assault on Off-Road Recreation and Motorized Access".

A. Understand the Challenge: The Assault on Off-Road Recreation is a campaign by extreme environmental organizations and others to negate the rights of those who use and enjoy motorized activities on public land, either for recreational pursuits or access for other purposes. Their ultimate goal: end motorized access we have historically enjoyed, and eliminate motorized recreation on public (state and federal) lands.

Elements of their campaign include:

1. Assumption (wrongly based on opinion, not fact) of damage from off-road activities.
2. Demonizing off-road activities and those who enjoy off-road activities.
3. Defamation of off-road activities and access to the extreme.

B. Prepare Yourself for the Challenge; Do Your Research: For areas that have enjoyed motorized access for many years and are now facing threats of closure, be prepared to counter criticism with actual facts. Off-road groups and motorized enthusiasts have contributed more volunteer work on-the-ground than any other organized group, including representatives of the Sierra Club, Wilderness Society, etc. Be proud of what we have accomplished; be prepared to answer criticisms with fact. Motorized access enthusiasts are true environmentalists and conservationists.

Questions to ask agencies:

1. Are other forms of recreation facing the same scrutiny?
2. Are other forms of recreation placed under the same restrictions?
3. Try to see through another's lens, and keep your own history in check.

G. Determine if Their Criticism is Valid: While decrying attempts to 'outlaw' off-road activities is good, we also want to turn an eye on our own activities and make sure that we support signage and work to keep off-road recreation and access on designated roads and trails look at some tough truths and develop programs that address those specific issues.

It is difficult at times to hear of the callous disregard some have exhibited in the pursuit to defame and demonize motorized access, but in order to differentiate the imagined from the real, we have to be willing to look

at some tough truths and develop programs that address those specific issues.

H. Engage, Engage, Engage: Often times we wait for someone else to give us permission to act – that is not necessary. As a member of CORVA you have the ability to speak as an advocate for off-road recreation. Don't miss a chance to make a difference; every off-roader should be an advocate. Through your passion and the love of your sport you can convey more than you think!

1. Reflection: As you speak, reflect what other people are saying. Especially if they have an objection to off-road recreation, it is critical to repeat their statements back in an attempt to clarify. Sometimes hearing their own criticisms from someone else's mouth will make them pause and listen to how discriminatory the statement might sound.

2. Mediate: If faced with vehement objections, try to find a middle ground, stay positive.

I. Stay Connected to News Sources and Networks: Don't ignore the news; we may not like it, but we have to deal with it. Build and strengthen relationships. Follow through and follow up.

J. Evaluate, Applaud Successes, Reward Advocates, Invest in What Works: Revisions in strategy are constant; evaluations to determine successes determine the next steps in many instances. We learn the most when we reassess. Use the magic words of 'please' and 'thank you'.

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Over the years ALAA and others have asked their members to "contact your Congressman" or "write comments" for various subjects. Some time ago someone came forward and said, "if you don't give me a sample I can copy or modify, I'm probably not going to do it because I don't want to appear stupid."

We have told you that Congress has mandated both the U.S. Forest Service and BLM to produce a travel management plan for each parcel of public land. We asked you to sit through boring meetings and try to make sense of what is being said by government employees... Below is a short primer on what to look for and how to make sense of these meetings and comment periods that follows.

Shirley Leeson, President  
American Lands Access Assn.  
president@amlands.org

### Workshop Report

June 20th

6:30pm—9:30pm

Map available in last month's "Grindings"

<http://idahogemclub.com/news/2013/May13.pdf>

**The purpose of the Idaho Gem Club is to promote mutual, educational and scientific interests and benefits of its members in mineralogy, geology, gemology, the art of lapidary and kindred arts and sciences.**

**Dues:**

.....\$17.00 per person  
 .....\$20.00 per couple  
 .....\$23.00 per family

**Subscription:**

.....\$10.00 per year

**General Meeting:**

.....3rd. Tuesday of each  
 .....Month at 7:30 p.m.

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|--------------------------------------------------------------|------|
| USTICK                                                       |      |
| Mountain View Church<br>of the Brethren<br>2823 N. Cole Road | COLE |
| NORTHVIEW                                                    |      |
| FAIRVIEW                                                     |      |



**The Whangdoodle Bird  
 (Often seen on field trips)**



**Idaho Gem Club, Inc.**

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