


Grindings

Idaho Gem Club, Inc.

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

VOL 71 NO 11

November 2011



President's Message

Fall is here and November is the month to elect Board Members. The nominees' biographies are included in this newsletter. Read through the biographies so you can brush up and elect the best to serve your club and interests.

The program for November and December's meetings will be an auction. This month's auction will typically rough specimens, and December's will be finished items. Get to work and start gathering and remember to bring your items to the next meeting. The proceeds help all of us by offsetting individual cost at the annual banquet.

All the information and details about the banquet will be in next month's newsletter.

Reminders that dues are due...keep working on tumbling rocks and sewing grab bags. Chairmen should be getting sign up sheets prepared. Also those of you working on your "Project of the Year" or thinking about it, you still have time.

We had a nice turnout for the last field trip of the year. We had a total of 39 people who went and everyone had a good time. Red thunder egg beds will see us again next year. I am already looking forward to next years adventures out in the field.

I sure can tell that school is back in session as I have been extremely busy going out to schools educating children about rocks and fossils. I have been out to nine schools so far and even going out to Fruitland, Nampa, Caldwell and Kuna. I love every minute of educating these kids and to see them light up and show interest in this great hobby of ours.

Have a wonderful [Thanksgiving](#)

Brent Stewart
President



BOARD OF DIRECTORS

Brent Stewart
President
863-9336

Willa Renken
1st Vice President
362-3941

Jason Madsen
2nd Vice President
378-4666

Phil Neuhoff
939-4508

Ed Moser
340-8060

Rick Corbett
383-9930

Deana Ashton
794-5628

Dan Phillips
585-3019

Jim Clinton
283-8891



RECORDING SECRETARY

Ben Nunez
853-6710

TREASURER

Kathy Griffin
467-9286

NFMS DIRECTOR

Charles McCreath
344-5085

EDITOR

Tony Griffin
467-9286

highdesert2003@q.com

CLUB WEB SITE

www.idahogemclub.com

**MINUTES OF THE IDAHO GEM CLUB
GENERAL MEETING
September 20, 2011**

Brent Stewart called the meeting to order at 7:30 p.m..

Pledge of Allegiance name not listed

Introduce guests: Joining us this week was Valerie, Kyle, Mike, Larry, Craig, Don, Jason, & Stan

Door Prizes: names not listed

Youth Prize: books – call chuck & Shirley

Building fund prize: name not listed

Minutes accepted as written in the “Grindings”: Motion by Ed Moser, 2nd by Brent Stewart

Introduce new membership: Joyce Carlson, Hauns Snyder, Walt Woodall, Pat Hobbs, & Chris Mangrum

Secretary's report: New newsletter from Hells Canyon, Montana Yellowstone, and Owyhee Gem & mineral clubs!

Treasurer's report: Discussed balance & disbursements of gem club funds

Federation report: May 10th through the 13th in Reno there will be a 2 day class on geologic judging!

Field trip: The next fieldtrip will be out to Succor Creek! Get ready for some beautiful red thunder eggs! We will be meeting at the Ion truck stop at 8AM! This will be on Saturday the 22nd if the weather permits

Librarian: Aaron will be heading to Afghanistan to work on helicopters so he will no longer be able to give the Librarian report until his return!

Workshop: None this month

New Business: An auction will take place in our November and December meetings! Also we will be electing officers in the next month!

Ed Moser received an award from Federation recognizing his work with the Juniors!

*Respectfully submitted,
Ben Nunez*

**MINUTES OF THE IDAHO GEM CLUB
Board Meeting
October 4, 2011**

Brent Stewart called meeting to order at 7:35 p.m.

Board members present: Phil Neuhoff, Willa Renken, Brent Stewart, Rick Corbett, Jason Madsen;

Officers present: Chuck McCreath, Kathy Griffin, and Ben Nunez

Guests: Doug Renken, Shirley McCreath

Motion to accept minutes as published in Grindings by Willa Renken, 2nd by Dan Philips

Secretary's Report: New Owyhee Gem Club newsletter!
Treasurer's Report: Discussed recent check deposits, balance and disbursements of the Idaho Gem Club funds. Rock and Gem magazine subscription was renewed!

Discussed donations to the Church of the Brethren for area in which to hold our meetings.

Federation Report: Applications for the judges training can be obtained from Charles McCreath or on www.amfed.org! Anyone who is interested in going can find more information online!

Committee Reports:

Field Trip: No planned field trip in November due to the horrendous weather!

Juniors: Juniors, don't forget your folders for the next meeting

Workshop: No workshop this month due to hectic scheduling! We will be having a workshop on the 17th and 18th of December from 9am- 5pm each day.

Banquet: Discussed the venue for the upcoming annual banquet, January 17th is the planned date, but is subject to change!

Auction: Slabs and Rough material will be the majority at this month's auction. The December auction will be featuring finished pieces. Both will be held after the General meeting on the third Tuesday of each month!

Old Business: Project of the year: at the December general meeting, bring something you have been working on during the year that is geologically related, and submit it for judging! The winner receives a plaque and a case displaying their work at the gem show!

Membership applications: Joyce Carlson, Hauns Snyder, Stanley Gunn, Craig Kaumans, Kim Kichol. Motion to accept new members by Brent Stewart, 2nd by Willa Renken

Adjourn Meeting 8:45 p.m.

*Respectfully submitted,
Ben Nunez*

WARNING

The Rules for fieldtrips and collecting are changing on public lands

By Doug True
Inter-Regional Field Trip Chair

Actually these rules are for any organized group using our public lands. The rules are open for interpretation, but most districts are saying that if there is a planned trip by two or more people and the schedule of your trip is published or posted, you must apply for a recreation permit.

You must find the local district you are going to collect in, determine if it is run by the BLM or USFS and then request a recreation permit form 2930-1,. In the application you will have to furnish maps (topographical, a written plan of your function, area you are camping and what you are collecting, and the estimated number of attendees. You will also be required to show a certificate of insurance naming the BLM or USFS as insured. In some cases they may require you to supply Porta Potties.

In your report you should indicate the specific areas where you plan on collecting and indicate if you will be digging or surface collecting. You have a much better chance of getting a permit if you plan on surface collecting. If you're digging, the selected area will be scrutinized by a number of different departments: Archeological, Paleontology, Endangered plants, etc, etc.

After a revue of your proposal, all or part of your request might be turned down. You need to work with the recreation officer and plan your trip together as this gives you a better chance of being successful.

In talking with different BLM districts their numbers seem to vary as to what constitutes a group. There will also be a processing fee of around \$100 dollars. If you are planning a trip to public lands, please check to see if your group trip is good to go.

Via AFMS Newsletter 5/11

October Field Trip Recap

We had a nice turnout for the last field trip of the year. We had a total of 39 people who went and everyone had a good time. Red thunder egg beds will see us again next year. I am already looking forward to next years adventures out in the field.

Brent Stewart—field trip leader for this outing!

November Field Trip

No planned field trip this month—our next field trip will be in March or April; depending on weather and off road conditions.

Workshop Update
No workshop in November

Annual Open House Two Day Workshop
December 17th & 18th
9am to 5pm



Save Stamps For Cancer Research
Cut at least 1/4 inch margin around the stamps. You can turn them into Chuck McCreath at our next meeting. THANK YOU!

Jewelry Tips

Some of your members who do jewelry might be interested in a video tutorial I came across about how to make a tube setting. It's at

<http://design.kcjewelbox.com/2011/10/12/tool-time-tuesday---tube-setting-tutorial.aspx>

- Brad

HOMEMADE WAX TOOLS

Save your used X-Acto or scalpel blades for utility work on the bench. They're wonderful for delicate wax work. Use a cutoff blade or a grinding wheel to shape the blades to what you need. For instance, you can carve away excess metal on the spine to make yourself some narrow carving knives that do a great job of detailing small areas of your waxes.

RING SIZE VARIATIONS

The numerical sizes marked on ring gauges and ring mandrels are often not the same across different manufacturers. If you're using a ring gauge to measure a customer, be sure to compare the markings on the gauge with the markings on the mandrel you use to make the ring. They may not be the same.

Also, you may have to adjust a little for the width of the ring shank. If you're making a wide shank ring, the ring generally has to be a little bit larger in diameter than the ring gauge size in order to get a comfortable fit.

Acknowledgement to be included with each publication:

More BenchTips by Brad Smith are at

groups.yahoo.com/group/BenchTips/

or

facebook.com/BenchTips

Welcome New Members

**Joyce Carlson
Mia & Hannah
5445 N. Pierce Parkway #201
284-5379
Boise Idaho 83714**

**Stanley Gunn,
4511 Chinden Blvd.
Garden City, Idaho, 83714
381-0328**

**Craig Kaumans
4800 W. Wylie Ln.
Boise, Idaho 83703
994-8642**

**Kim & Sara Kichol
Aaron
1418 Colorado Ave. South
Boise, Idaho 83706
503-409-5321**

**Hauns Snyder
2500S. Hilton
Boise, Idaho 83705
968-6066**

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



Biographies of Potential Board Members for a three year term.

Phil Neuhoff

I joined the Idaho Gem Club in 2008 after I moved to Eagle from Florida. I was born in Iowa, and after studying geology at the University of Iowa I moved to California for graduate school at Stanford University. Our family moved to Florida in 2001 where I was a geology professor at the University of Florida for seven years. I currently work as a geologist in the mining and geothermal energy industries. My wife Christy and I have two children, Jackson (11) and Sarah (8) who love going on field trips and participating in Rocky Rattlers.

I am running for my second term on the board because I really value the camaraderie and dedication to the Earth sciences hobby of the members of the club. While on the board I served as second vice president and am currently the scholarship chairman as well as being involved in the license plate program. I hope to continue working with and through the club to support educational opportunities for students of all ages.

Phillip Worley

Hello, my name is Phillip Worley and I am applying for a Board Member position for the Idaho Gem and Mineral Club.

My wife and I have been active members of the club for the past three years, during which we have attended all but a couple of club meetings, and many of the club's field trips. We have helped with the set-up and tear down, and storage of the clubs annual rock and mineral show. We have helped with the grab bag and wheel of fortune table's.

We have also attended many of the clubs workshops, of which I have volunteered as an instructor for the safe use of the clubs capping machines, and instruction of making cabochons.

My wife and I are both from Indiana. We have lived in Boise for the last 15 years. I retired from the U.S. Navy after serving 24 years. I now work for a golf course and (rockhound till I drop) as my wife would say.

I believe that I would bring fresh and exciting new idea's to the clubs already steadfast programs. I look forward to serving you, and help in making good decisions for our club in the future. Thank You

Ben Nunez

Hello! My name is Ben Nunez, current secretary of the gem club, and Geoscience student at BSU. I am interested in many aspects of Geoscience but the field that interests me the most is Paleontology. To take that a step further, I am extremely interested in trilobites! Trilobites are an extinct group of marine arthropods that come in a plethora of shapes and sizes. I've been digging these fossils for over 2 years, in which time I have become completely fascinated with their excavation, as well as their preparation. I am a novice trilobite preparator and hope to gain some sort of mastery through practice once my prep lab is completed in the coming weeks. This nomination to be a board member is greatly appreciated, and I extend my gratitude to all parties making this possible!

Nominations will also be taken from the general membership at our meeting on November 15th.

Dues are Now Past Due!

See page 6 for details

HAPPY



BIRTHDAY

November

11/1 Peggy Dean
 11/5 Hauns Snyder
 11/6 Tom Menten
 11/6 Jaden Wanner
 11/7 Peggy Blickfeldt
 11/7 Christopher Brewer
 11/7 Larry McConnell
 11/8 Caryn Scanlon
 11/10 Valicity Koen
 11/10 Emily Cook
 11/11 Jim Kirschbaum
 11/11 John Munson
 11/12 Glenn Westendorf
 11/14 Robert Burns
 11/15 Joe Betz
 11/18 Phyllis Mitchell
 11/19 Steve Ostrander
 11/20 Anna Picano
 11/21 Gary Hanes
 11/22 Christa Wakefield
 11/22 Ricky Renkamp
 11/23 Marge Conley
 11/24 Gary Smith
 11/26 Phil Neuhoff
 11/26 Rick Denton
 11/28 Amanda Loewen
 11/28 Robert Hoffman
 11/28 Tom Shearer
 11/28 Mary Munson
 11/29 Jack Lavoie

November Birthstones

Faceted - Topaz or Citrine
 Cabochon — Amber

DECEMBER

12/3 Tom Duke
 12/3 Cheryl Lawson
 12/4 Shannon T. Tharp
 12/4 Jack Trevithick
 12/4 Tenya Madsen
 12/8 Lillie Rogers
 12/9 John Sandmeyer
 12/10 Joan Alvey
 12/10 Cheryl Link
 12/10 Laura Carrico
 12/11 Michael George
 12/12 Easton Soule
 Anderson
 12/13 Don Metzger
 12/14 Harold Holloway
 12/15 Rochell Shearer
 12/16 Kerri Chipman
 12/17 David Alderton
 12/18 Dan Phillips
 12/18 Michael Snyder
 12/19 Robert Burns
 12/19 Doug Renken
 12/20 Boston Becker
 12/21 Dee Hanes
 12/23 Joe Nielson
 12/23 Christi Hogle
 12/25 Thomas Langford
 12/26 Wesley Capps
 12/27 Brian Gimmel
 12/28 Carmen Becker
 12/28 Nolan Crowe
 12/30 Tony Griffin

December Birthstones

Faceted - Blue Zircon
 Cabochon - Turquoise

DUES ARE NOW Past DUE.**Rates are as follows:****\$12.00 per person****\$15.00 per couple****\$17.50 per family****Dues are due by October 31 each year .****Please pay at the next meeting or send them to****Kathy Griffin, Treasurer****P.O. box 8443****Boise, ID 83707-2443****Dates To Remember****GENERAL MEETING**

3rd. Tuesday of every month

November 15th, 2011

BOARD MEETING:

1st. Tuesday of every month

December 6th, 2011

Church of the Brethren

2823 N. Cole Road, Boise, Idaho

Meeting Starts at 7:30 pm.

Workshop Update

No workshop in November

Annual Open House Two Day Workshop

December 17th & 18th

9am to 5pm

November**Refreshment Committee****Chair: Dana Robinson 343-0487****Linda Phillips 585-3019****Dan Phillips 585-3019****Bill Carey 435-282-0052****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.

December**Refreshment Committee****Chair: Bill Carey [435-282-0052](tel:435-282-0052),****Jackie Yandle [375-2215](tel:375-2215),****John Skene [859-2102](tel:859-2102),****Carrie Rinnaird [888-7410](tel:888-7410)**

**ATTENTION ROCKHOUNDS!
TIMES HAVE CHANGED.
BLM/FOREST SERVICE RULES FOR
COLLECTING HAVE CHANGED.**

**YOU MUST CONTACT EACH LOCAL LAND
AGENCY HAVING JURISDICTION OVER THE
SITE OF WHICH YOU WISH TO COLLECT.**

**GENERALLY NO MORE THAN
25 LBS. AND ONE ROCK MAY BE IN YOUR
POSSESSION. YOU ARE PERSONALLY
RESPONSIBLE TO KNOW THE RULES.**

**YOU MUST NEVER ASSUME TO KNOW WHAT
IS ALLOWED.
CHECK FIRST!**

Via Magic Valley Gem News 11/11

Just How Did Idaho's Geological Formations Form?

OAKLEY • On Oct. 21, College of Southern Idaho professor Shawn Willsey addressed a crowd of students at City of Rocks. This is one of the most geologically interesting areas in the United States, Willsey said.

“This may be the premiere attraction in all of southern Idaho,” he said, pointing to the soaring granite formations in the distance. “But I might be biased.”

Snake River Canyon, Craters of the Moon, Balanced Rock — they’re all landmarks that help set south-central Idaho apart. But what’s the geology behind them? The Times-News talked with Willsey to get a brief geological overview of five of the area’s most famous features.

Having a beginner’s understanding of geology has helped Willsey’s students appreciate Magic Valley’s features. Scott Bolen of Filer can’t help but note the rocks as he travels through the area.

“It drives my wife crazy,” Bolen said as he took a break from examining crystals in the rocks.

Classmate Jake Semons agreed. “I definitely notice it more,” he said. “My wife tells me to shut up sometimes.”

You don’t need to take a course on geology to appreciate the basics. Here is a quick take on what makes Magic Valley’s rocks so special:

City of Rocks

What you’re looking at: Some of the oldest granite in North America. To see other rocks this old in the west, you’ll have to go to the bottom of the Grand Canyon, Willsey said.

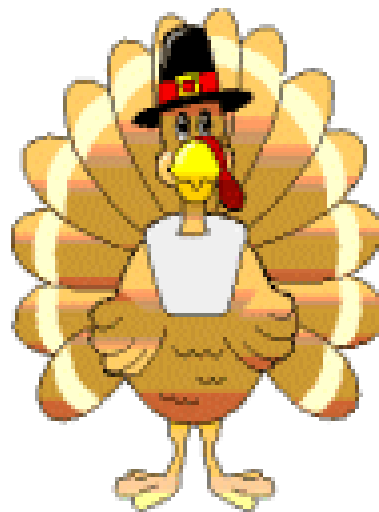
How old is it? The oldest rocks are 2.5 billion years old, Willsey said. Other spires come from a separate magma chamber that formed about 27 million years ago.

(continued on page 11)

**How to slab a good large rock.
When cutting Tiger-eye or other good
rock, use the following method:**

- 1. Put the rock in your vice, cut as much of it as you can without moving it.**
- 2. Remove from vice, wash and let dry well.**
- 3. Glue to a 2X4 or larger size board; do not use anything smaller.**
- 4. Glue with Elmer’s glue, let dry 24 hours.**
- 5. Using a 2X4 to 2X10, you will find it easy to hold**
- 6. If you end up with a slab on the wood, take it to the table saw, leaving 1/8” of wood on the slab.**
- 7. Soak the slab for a few days, and it will come off the wood.**

**From Yellowstone Deposit, 2011 Via
Gems from the Red woods, 2011 & Roc
Toc, 1999; Via Magic Valley Gem News
11/11**



YESTER YEAR

December 1966

The IGC's coming show was discussed and they decided see is any of the other club's had cases that could be borrowed.

It was suggested that the club have it's annual dinner and program at a restaurant instead of having potluck, but that was quickly voted down.

Don Forbes was voted President for 1967-Pat Conley-Vice President.

The club gave Art Cook a case front, lights, and wiring as he had donated the use of his shop to make 28 fronts and they felt he shouldn't have to pay for one.

After a short discussion it was decided the Star Garnet should be the Idaho State Gem Stone. The Secretary was instructed to write the Legislature conveying the clubs wishes.

Quincey and Tej Howell became new members of the club.

Another work session was planned to make the shallow cases. It would also be at Cooks lumber store on a Sunday as that was the day he could close.

The North Idaho Gem Club wrote that they would also recommend the Star Garnet be the official Gem stone.

The February field trip is to Haystack Butte and plans were made to make a trip to the North Idaho's Garnet Digs at Emerald Creek some time in June.

In Loving Memory
Patsy Bethel

UNDER AFRICA'S GREAT RIFT VALLEY

A giant underground reservoir of molten rock has been discovered under the deserts of Ethiopia by British geologists. A recent surge in volcanic activity and earthquakes plus the appearance of giant cracks in the rocky surface reinforces the suggestion that the tectonic plates in the area are pulling apart, gradually, to create a new ocean, the London Sunday Times said. The colossal underground lake of magma, some 3,000 cubic kilometers of molten rock, lies up to 32km below the earth's surface at Afar. The reservoir is under such pressure that it has forced tongues of molten rock up towards the surface, producing the eruptions and earthquakes.

Afar lies in east Africa's Great Rift Valley at a point where three tectonic plates are pulling apart from each other. Much of Afar is already below sea level but is protected from flooding by a barrier of low hills in Eritrea.

Geologists believe the protective barrier will be overcome in about one million years, allowing the Red Sea to inundate the whole area. Professor Whaler, who presented her preliminary results to the UK's Royal Society last week, said, "Over geological time parts of southern Ethiopia and Somalia will split off and form a new island that moves out into the Indian Ocean."

Ref: <http://www.heraldsun.com.au/news/breaking7news/geologists7map7birth7of7new7ocean7in7afar7in7east7africas7great7rift7valley/story7e6frf7jx71226156809110>

Minerals by Physical

Hardness, Streak, Luster; Density;
and Cleavage & Fracture

and Optical Properties Tables

Refractive Index; and Color

<http://webmineral.com/determin.shtml>

You will need an internet connection
to view these files

Basin and Range Province



The Basin and Range province has a characteristic topography that is familiar to anyone who is lucky enough to venture across it. Steep climbs up elongate mountain ranges alternate with long treks across flat, dry deserts, over and over and over again! This basic topographic pattern extends from eastern California to central Utah, and from southern Idaho into the state of Sonora in Mexico. What forces created this distinctive topography? The answer lies deep beneath the Earth's surface...

Serious stretching

Aerial view of linear valleys and mountain ranges that characterize the Basin and Range Province. Photo by Marli Miller



Within the Basin and Range Province, the Earth's **crust** (and upper **mantle**) has been stretched up to 100% of its original width. The entire region has been subjected to extension that thinned and cracked the crust as it was pulled apart, creating large **faults**. Along these roughly north-south-trending faults mountains were uplifted and valleys down-dropped, producing the distinctive alternating pattern of linear mountain ranges and valleys of the Basin and Range province.

Although there are other types of faults in the Basin and Range province, the extension and crustal stretching that have shaped the present landscape produce mostly **normal faults**. The upthrown side of these faults form mountains that rise abruptly and steeply, and the down-dropped side creates low valleys. The fault plane, along which the two sides of the fault move, extends deep in the crust, usually an angle of 60 degrees. In places, the relief or vertical difference between the two sides is as much as 10,000 feet.



(Picture of) Hanaupah fault scarp, Death Valley National Park. This fault cuts like a knife across this alluvial fan, uplifting

the mountain range relative to the valley floor. Many thousands of small uplifts and downdrops along faults like this are needed to create the basins and ranges characteristic of this province. Photo by ©Marli Miller

As the rocky ranges rise, they are immediately subject to weathering and erosion. The exposed bedrock is attacked by water, ice, wind and other erosional agents. Rock particles are stripped away and wash down the mountain sides, often covering young faults until they rupture again. Sediment collects in the adjacent valleys, in some places burying the bedrock under thousands of feet of rock debris.

<http://www.nature.nps.gov/geology/usgsnps/province/basinrange.html>

A Tapestry of Time and Terrain: Basin & Range

Centered on the state of Nevada and extending from southern Oregon to western Texas, the Basin and Range Province is an immense region of alternating, north-south-



trending, faulted mountains and flat valley floors. It has no counterpart elsewhere in the U.S. The province was created about 20 million years ago as the Earth's crust stretched, thinned, and then broke into some 400 mountain blocks that partly rotated from their originally horizontal positions. These mountains of late Precambrian and Paleozoic rock continue to erode and fill the intervening valleys with fresh sediment.

<http://nationalatlas.gov/tapestry/features/22basinrange.html>



Rocky Rattlers


Juniors need to bring their folders to the meeting this month

Making Your Own Tools

How to make pry bars and spreaders. Take old car springs and cut them to length (usually a foot or so) making sure you don't get them too hot (so they don't lose their temper), and then make your points or any shape you want the ends to be. They sure split limestone real good! Very cheap to make and it really works.

From groups.msn.com/lostfossils





Sunshine Lady

Arlene Bailey is the club sunshine lady. Her job is to send some cheer to members who are ill or just need some cheering up. But she needs your help in doing this job. If you know of someone who has been recently ill let her know so she can send them a card. Her phone number is 562-8030. Thank you in advance for your help.

Federation & Other Clubs News

READING THE NORTHWEST NEWSLETTER ON THE INTERNET

The economy is hard on all of us and trying to be a bit "greener" so we are attempting to put together a way to save some of the costs of postage and printing for the Northwest Newsletter. If you would like to read your Northwest Newsletter on the web here is what you can do.

First, notify Tom Burchard, Circulation Chairperson (Roxhund@aol.com) that you do not wish to have the Northwest Newsletter mailed to you via the US Postal Service. Then you have two options:

1) Go and check on the internet usually yourself sometime after the 20th of the month to see if the Northwest Newsletter has been placed on the NFMS web site. (<http://www.amfed.org/nfms/newslet2.htm>)

2) Contact Tony Griffin (467-9286 or highdesert2003@q.com). Tony will collect the email addresses of those in their club who wish to be notified of the posting on the internet. As soon as the NFMS webmaster has received and posted the Northwest Newsletter on the website he will notify your contact person, Tony who will then email you to let you know it has been posted so you can go and read it or as an option can download it.

Rock & Tool Sale

Dick Davey

814 Stillwell Dr.

Eagle, Idaho

Small blast furnace and tools for soft metals
or glass

Pumpkin obsidian

Variety of regular obsidian

Petrified wood

Variety of jaspers & agates from the Owyhee's

(continued from page 7)

How did it form? There are multiple formations at City of Rocks. One of the most famous, Twin Sisters, is a perfect example of the unique geology of the area — and the massive time span over which it formed.

At first glance, the two rounded rocks that protrude from the ground look similar. But take a closer look: The sister rock to the south is more ragged and fractured, and is darker in color than the north rock.

That's because the south sister is 2.5 billion years old, while the younger one is 28 million years old — nearly 100 times younger than her "twin." The theory behind the formation: The second rock protruded from that 27 million-year-old magma chamber, pushing the older sister up as it rose from the ground.

Balanced Rock

What you're looking at: When most people think of Balanced Rock, they think of the area's namesake: The Africa-shaped formation is certainly unique, but the columns in the surrounding area are neat in their own right.

The formations are made from rhyolite, a silica-rich volcanic rock formed from slow-moving, viscous lava.

How old is it? About eight million years old.

How did it form? The columns formed as a result of cooling. "Basically, when hot volcanic rock cools and contracts, it develops these vertical cracks in it," Willsey said. Rhyolite cracks in a 120 angle, giving them the angular appearance.

As for Balanced Rock, it's not a product of wind erosion like most people assume, Willsey said.

"Wind is pretty wimpy," he said. In order to effectively erode rock, it has to carry sediment. Instead, the biggest factor was frost getting into cracks and fracturing off pieces of rock.

Malad Gorge

What you're looking at: A deep, narrow passage carved into basalt rock, with the Malad River at the bottom.

How old is it?: That's a point of contention, but one theory is that floods cut into the gorge 15,000 years ago, Willsey said. The source of the flood's water is in question, but it's clear a swollen river cut the canyon at one point.

How did it form? The floods that most likely formed the gorge weren't the same as the Bonneville Flood from Bonneville Lake, Willsey said. Instead, the rush of water came from glaciers that let off water.

The Malad River was much stronger back then — strong enough to rip large boulders out of the canyon walls and carry them downstream.

"There's no way the river in modern times could move something that big," Willsey said. Still, the river's sediment continues to erode the canyon. The waterfall near the bridge will eventually retreat and be under the freeway, Willsey said.

Snake River Canyon

What you're looking at: Two types of volcanic rock make up the Snake River Canyon near Twin Falls: Rhyolite from explosive volcanic eruptions, dating back to when Magic Valley was located over the Yellowstone volcano, and basalt from slower-moving lava.

Mind you, this only applies to the canyon near Centennial Park and Shoshone Falls. "It's very different if you go upstream or downstream," Willsey said.

(continued at top of next column)

How old is it? The rhyolite is eight to 10 million years old, while the basalt is less than a million years old.

How did it form? The canyon existed before the Bonneville Flood 14,500 years ago, but was much more shallow, Willsey said. But when Lake Bonneville, a large freshwater lake, started spilling over, the extra water headed down the Portneuf and Snake rivers. The huge rush of water filled the canyon to the brim, then excavated it even deeper.

Other factors have affected the Snake River's route. Every new volcanic eruption and lava flow has changed the river's course.

"The poor Snake River is kind of like the whooping boy for all these volcanoes," Willsey said.

Craters of the Moon:

What you're looking at: The youngest lava field in the lower 48. Craters of the Moon formed from slow-moving lava, much like you see in Hawaii.

"It's a tourist-friendly kind of eruption," Willsey said. And the monument is also tourist-friendly. Throughout the area, you'll see signs that explain the geology and science behind the black rocks.

How old is it? The volcanic activity happened over the course of 15,000 and 2,000 years ago.

How did it form? It depends on the feature you see. The lava tubes formed when large rivers of lava cooled at the surface, insulating the interior and allowing it to continue flowing.

The cinder cones — cone-shaped hills — formed in areas where magma had more gas in it. The volcano threw out tiny pieces of lava and formed the hill.

Read more: http://magicvalley.com/lifestyles/recreation/just-how-did-idaho-s-geological-formations-form/article_64f03632-05c3-11e1-9f1b-001cc4c03286.html#ixzz1cqkCa57c

**Owyhee Gem & Mineral Society
Field Trip
See you in March or April
Weather dependent!
<http://www.owyheerocks.com/>**

From the Editor

The deadline for articles is the board meeting, if it needs to be typed. If the article is sent via e-mail the deadline is the Saturday after the board meeting.

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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:

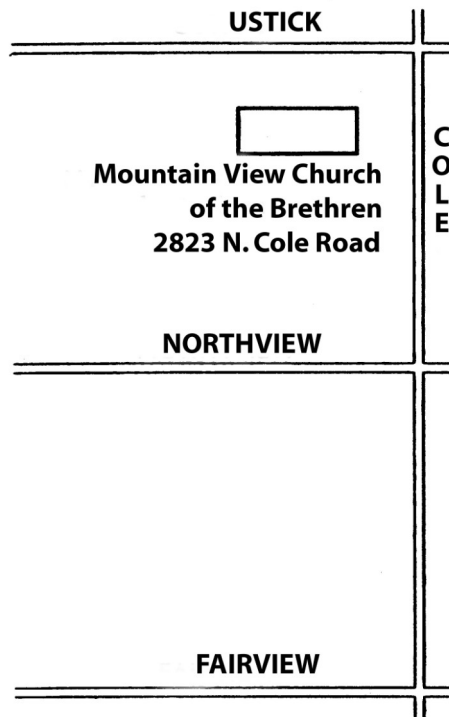
- \$12.00 per person
- \$15.00 per couple
- \$17.50 per family

Subscription:

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General Meeting:

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



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



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