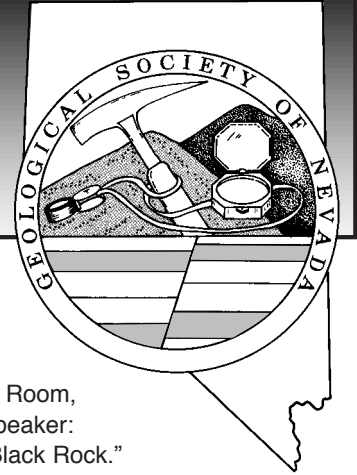


GSN NEWSLETTER



December 2002, Vol. 16, No. 10

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CALENDAR OF EVENTS

Dec 5th
Thursday

WINNEMUCCA CHAPTER MEETING: Humboldt Room, Red Lion Hotel and Casino, Winnemucca, NV. Speaker: David Valentine, "Brimstone on the Edge of the Black Rock." Refreshments start at 6:30 pm and the meeting starts at 7:00 pm. Contact Sheila Bunch, 775/623-0202, sbunch@lambdacom.com.

Dec 18th
WEDNESDAY

GSN CHRISTMAS MEETING: Reno Elks Lodge, Reno, NV. Speaker: Steve Castor, Nevada Bureau of Mines and Geology, "Minerals of Nevada." Social 6 pm, dinner 7 pm (\$20), talk 8 pm. Contact Shannon Fitzpatrick for dinner reservations, 775/323-3500, gsn@mines.unr.edu.

Dec 19th
Thursday

ELKO CHAPTER MEETING: Western Folklife Center, Elko, NV. Speaker: Greg B. Arehart, UNR, "Mineral Deposits and Exploration in Mali." Food and beverages at 6:30 pm and talk at 7 pm. Contact Marcus Johnston for more information, 775/778-4036.

SOUTHERN NEVADA CHAPTER MEETING: Room 102, Lily Fong Geoscience Building, UNLV, Las Vegas, NV. Contact Jean Cline, 702/895-1091 for information.

GSN Newsletter is published monthly except June and July
Geological Society of Nevada, PO Box 12021, Reno, NV 89510-2021 USA, 775/323-3500

Calendar of Student Posters

December 18, 2002, GSN Meeting

Joanna L. Lipske

"Advanced Argillic and Sericitic Alteration in the Buckskin Range, Nevada: A Product of Ascending Magmatic Fluids from the Yerington Porphyry Copper System"

Rich Briggs and Steven G. Wesnousky

"Significant Accommodation of NW-Directed Right Lateral Shear Across the Northern Walker Lane, Nevada by the Pyramid Lake Fault Zone"

Clara Balasko and Richard A. Schultz

"Formation of Duplex Structures in Mode II Deformation Bands"

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News and Announcements

FROM THE PRESIDENT

Bob Thomas, GSN President 2002-2003

Hello to everyone and here's wishing all a happy and safe holiday season. The November dinner meeting was well attended, and we had a great talk by **Jon Carlson** of BHP Billiton Diamonds entitled "The Ekati Diamond Mine™-Canada's New Shining Star." Jon provided a thorough treatment of the exploration, development, mining, geology and economics of this world-class deposit that has given the Canadian mining industry a shot in the arm. Well done, Jon. Thanks also to the generosity of **CGS, Inc.**, and **Nevada Contact Inc.** for sponsoring the social hour.

The speakers for the remainder of the year are being slowly rounded up, and it is looking like we now have a full slate. I'll refrain from providing the specifics, however, as a couple are listed as "probable" and I don't want to put those folks on the spot. I can say that we have diversity, ranging from last month's talk on diamonds through to ones on geothermal resources, industrial minerals, and even pegmatites. Before the traditionalists reading this start revolting, we also have gold deposit talks lined up as well. So please stay tuned as these subjects unfold.

Most of you know by now that **Shannon Fitzpatrick** has joined us as new Office Manager, and appears to be off and running due in no small measure to the help of outgoing Office Manager **Laura Ruud**. Thank you Laura, and welcome to our group, Shannon!

Please note that the December Christmas meeting is scheduled for Wednesday, December 18th. The meeting will be highlighted by a presentation on Nevada Minerals by **Steve Castor** and **Greg Ferdock**. In keeping with GSN's Christmas tradition, the talk will be of interest to even non-geologists and will feature a number of the beautiful photographs of the mineral specimens featured in the book Steve and Greg have been busy compiling. Adding to the festivities will be the annual GSN Foundation "Rock Raffle" fundraiser with proceeds going to the GSN educational projects. For details on donating items, please contact D.D. LaPointe at 784-6691 ext 134 or email dlapoint@unr.edu.

While on the subject of the GSN Foundation, see Joe Kizis' note in this newsletter on a great opportunity for matching donations. It's a deal no one should be able to resist.

Finally, don't forget the next organizational meeting for the **GSN Symposium 2005**, to be held Wednesday, December 18, from noon to 1:30 pm at the University Inn on the west side of the UNR Campus. There are still many areas where we could use help, and new volunteers are most welcome. Hope to see you there and at the Christmas meeting the same night.

OUT WITH THE OLD (LAURA) AND IN WITH THE NEW (SHANNON)

Our Laura Ruud has moved on to the Nevada Bureau of Mines and Geology, where reportedly she is happy and doing well at her new "home." Shannon Fitzpatrick is Laura's replacement and she is quickly becoming comfortable in filling her shoes. Please make Shannon feel welcome with a phone call or an email when you get a chance if you haven't already. It is a challenge for anyone new at GSN to be able to learn everything about this organization in two weeks time so please be patient as Shannon gets to know you and the workings of GSN.

The GSN Foundation wishes to thank the following donors for adding a donation to their membership renewals this month. Your generosity is very much appreciated!

"Donor" Level

Ann & Tom Carpenter, Reno, NV
Curt Dechert, Reno, NV
Tom Irwin and D.D. LaPointe, Reno, NV
Debbie & Eric Struhsacker, Reno, NV



Merry Christmas!

**Thanks to CGS, Inc. and Nevada Contact Inc.
for hosting the November meeting.**

GSN December 18, 2002 Membership Meeting

Date: Wednesday, December 18, 2002
Time: Social-6:00, Dinner-7:00 (\$20.00), Meeting-8:00
Reservations: 775/323-3500; fax 323-3599,
e-mail gsn@mines.unr.edu
Deadline: Reserve by noon Monday, December 16

Location: Elks Lodge, 597 Kumle Lane, Reno, NV
Directions: Across (W) from the Reno-Sparks Convention Center (S Virginia St), behind the Les Schwab Tire Center
Speakers/topic: Steve Castor, NBMG, UNR.
See abstract below.

MINERALS OF NEVADA

Steve Castor, Nevada Bureau of Mines and Geology
Greg Ferdock, Sierra Nevada Gem Finders

Nevada is a mining state and minerals are, and have been, extremely important in the state's commerce and history. The state currently leads all other states in the production of gold, silver, mercury, barite, lithium, magnesite, and some specialty clays. In recent years, mineralogical research in Nevada has flourished due to the state's gold mining boom. In addition, Nevada is well known as a source of world-class mineral collectibles such as barite and calcite from the Meikle Gold Mine; orpiment, galkhaite, and realgar from the Potosi district, gold from the Round Mountain Mine, stibnite from the Manhattan district, and opal from Virgin Valley. Despite these facts, no publication has been produced that deals comprehensively with the minerals that occur in Nevada. By contrast, seven editions of Minerals of California were published between 1914 and 1983, and three editions of Mineralogy of Arizona were published between 1977 and 1995. Our new book, Minerals of Nevada, is intended to remedy this deficiency.

The largest and most important part of Minerals of Nevada will be a catalog of mineral localities. In this catalog, occurrences of all mineral species that have been found in the state will be listed and described briefly. The catalog will be arranged by species name in alphabetical order. Under each species heading, localities will be grouped by county. As of this writing, 841 mineral species have been reported to occur in Nevada. Some, such as the new mineral goldquar-ryite, are represented by a single occurrence in the catalog. However, lists of localities for some minerals, such as barite, gold, quartz, and stibnite, will take up several pages. An exhaustive bibliography will enable readers to track down more detailed information about the occurrences.

In addition to the catalog, Minerals of Nevada will contain introductory articles on the importance and history of Nevada's minerals and mining, Nevada's geologic history, Nevada type minerals (36 mineral species first described from the state), important types of mineral deposits and specific collecting areas in the state, and Nevada mete-orites. A 1:1,000,000-scale map showing mining districts and sites that are important mineral localities will be included. The book will also contain 32 pages of color photographs of Nevada mineral specimens, most by the well known mineral photographer Jeff Scovil and by micro-mount photographer Sugar White.

In addition to the authors, others who contributed to introductory chapters were Forrest Cureton, Dave Davis, Martin Jensen, Jack Kepper, Scott Kleine, Keith Papke, Chris Rose, Dick Thomssen, and Joe Tingley. Fred Breit, Lee Hsu, D.D.

continued



Stibnite, 6.7 cm high, Betze-Post Mine, Lynn district, Eureka County, G. Ferdock collection, J. Scovil photo.

ABSTRACT continued

LaPointe, and John Schilling contributed to research for the catalog. Although not officially contributors, mineral collectors and geologists including Neil Prenn, Steve Pullman, Jim McGlasson, Bob Walstrom, Walt Lombardo, Mark Coolbaugh, and Don Hudson provided helpful information on mineral occurrences

Minerals of Nevada is intended mainly as a reference source. It is designed for use by collectors, mineralogists, earth science researchers, exploration geologists, prospectors, and interested laymen. The book is slated for publication in August 2003 by the University of Nevada Press and the Nevada Bureau of Mines and Geology.



Rhodochrosite (orange) and Barite (white), spheroids to 5 mm, Lone Tree Mine, Buffalo Mountain district, Humboldt County, S. White collection and photo.

AIPG NEVADA SECTION

13th Annual Exploration Roundup Dinner and Symposium

Tuesday, December 17th, 2002

Please join the AIPG Nevada Section, as they hold their 13th annual Exploration Roundup Dinner and Symposium at Eldorado Hotel and Casino. Confirmed and invited speakers are from the following companies:

| | | | |
|---|----------------------------------|---------------------------------|---|
| Agnico-Eagle Mark Abrams | Apollo Gold Dick Nanna | Barrick Ed Cope | Coeur d' Alene Dieter Krewedl |
| Nevada Sunrise Bill Henderson | Newcrest Bob Barker | Newmont Jeff Chambers | Vista Gold Warren Bates |

Please make your reservations as early as possible so that we can have an accurate count

| | |
|---------------|--|
| Time: | 6:15 P.M. Cocktails (hosted by Eklund Drilling) |
| | 7:00 P.M. Dinner |
| | 8:00 P.M. Program |
| Place: | Eldorado Hotel and Casino Corner, 3 rd and Sierra, Reno, NV Parking entrance, Sierra Street, free with validation |
| Cost: | \$35.00 for AIPG and GSN Members and Spouses (cash or checks only) \$40.00 – Others |

Door Prize: Courtesy of Mark Stock, Global Hydrogeologic Services, Inc.

Reservations: Contact Kel Buchanan @ 786-4515, fax 786-4324 or summitcrk@aol.com.

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GSN members, Marilyn Miller and Pat Mohn (shown here on the GSN Spring Field Trip in June, 2002) were married August 17, 2002. Congratulations to the happy couple from everyone at GSN!

DONATIONS NEEDED FOR THE 3RD ANNUAL FOUNDATION ROCK RAFFLE!

The Geological Society of Nevada Foundation will be having a Rock Raffle fundraiser at the GSN annual Christmas meeting, December 18th, 2002. We are seeking donations of any items suitable for raffle: attractive rocks, fossils, or mineral samples, wine or other spirits, logo items, geological equipment or publications, commemorative coins, books, cakes, gift baskets, or any geology or mining-related items will be gratefully accepted.

The raffle proceeds will be applied to the GSN Foundation's unrestricted fund to benefit GSN's educational projects which include grants to Nevada K-12 classes for transportation on earth science related field trips, scholarships to UNR and UNLV geology students, grants to the UNR DeLaMare Library, and grants for geologic mapping in NV.

Please send donated items to D.D. LaPointe at the following address to arrive before Dec. 17th, or drop them off at NBMG, or call to arrange pick-up of donated items if you are in the Reno-Sparks-Carson City area. Please let me know if you would like a receipt for the value of your tax-deductible donated items.

Thank you! D.D. LaPointe, GSN Educational Committee Co-Chair and GSN Foundation Trustee, NBMG/MS178, Room 314, Scrugham Engineering/Mines Bldg, UNR, Reno, NV, 784-6691, ext 134.

GSN FOUNDATION

Joseph Anthony Kizis, Jr., Chairman of the Board

FREE MONEY

... for the GSN Foundation. That's right, the GSN will match \$1 for every \$1 donated by a GSN member to the Foundation, subject to some restrictions. Why? Two reasons: the GSN Executive Committee wants to contribute a portion of the profits from the 2000 GSN Symposium to the Foundation, and the Foundation needs lots of donors to comply with IRS regulations. Don't worry, the majority of the Symposium's profits will remain in the GSN to insure that the GSN remains financially strong.

Here are the specifics. The GSN will contribute \$1 to the GSN Foundation Endowment Fund for every \$1, up to \$250 maximum per member, contributed by a GSN member to any of the Foundation's funds. Most members contribute to the Unrestricted Fund, but contributions can be made to the Endowment Fund, the K-12 Field Trip Fund, the NBMG Mapping Grant Fund, UNR Scholarship Fund, UNLV Scholarship Fund, the De La Mare Library Fund or the Operating Expense Fund. The GSN will match a total of \$5,000 for the fiscal year, which started June 1, and only cash donations will be matched.

Many thanks to those of you who have already contributed during this fiscal year. Good news... your contributions will be matched as well!

The GSN Foundation is a 501(c)(3) public charity that sponsors several programs advancing the Earth sciences, primarily in Nevada. These programs are the K-12 Earth science field trip grants, scholarships for students at UNR and UNLV, grants for basic geologic mapping in Nevada, and donations to UNR's Earth science library. The Foundation is run entirely by volunteers. Donations can be sent to the GSN office, P. O. Box 12021, Reno, NV 89510. Please specify if you would like your donation to be applied to a specific fund, otherwise it will be applied to the Unrestricted Fund.



2002/2003 Directory Gold Pages Advertising Rates

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| Business card size (3 1/2 x 2") | \$ 50.00 |
| Quarter page (3 1/2 x 4 3/4") | 150.00 |
| Half page (5 x 7") horizontal | 200.00 |
| Half page (7 x 5") vertical | 200.00 |
| Full page inside gold pages | 400.00 |

Camera-ready ads must be received by no later than December 13, 2002 to be published in the Directory. Call the GSN office at 775/323-3500 or email gsn@mines.unr.edu.

UP-COMING EVENTS

Dec 2nd-6th - Northwest Mining Association 108th Annual Meeting, Doubletree Hotel, City Center, Spokane, WA. Tel: 509/624-1158. Fax: 509/623-1241. Stop by our Booth #3 and say Hi! Email: nwma@nwma.org or www.nwma.org.

Dec 5th, Thursday - WINNEMUCCA CHAPTER MEETING: Humboldt Room, Red Lion Hotel & Casino, Winnemucca, NV. Speaker: David Valentine, "Brimstone on the Edge of the Black Rock." Sheila Bunch, 775/623-0202, sbunch@lambdacom.com.

Dec 17th, Tuesday - AIPG 13th Annual Exploration Roundup, Eldorado Hotel and Casino, Reno, NV. Cocktails at 6:15pm, dinner at 7:00 pm, and Program at 8:00 pm. \$35 for AIPG & GSN Members and spouses. \$40.00 for others. Call Kel Buchanan at 775/786-4515 summitcfk@aol.com.

Dec 18th, Wednesday - GSN CHRISTMAS MEETING: Reno Elks Lodge, Reno, NV. Speaker: Steve Castor, Topic: "Minerals of Nevada." For dinner reservations call GSN at 775/323-3500.

Dec 19th, Thursday - ELKO CHAPTER MEETING: Western Folklife Center. Speaker: Greg B. Arehart, UNR, "Mineral Deposits and Exploration in Mali." Contact Marcus Johnston for more information, 775/778-4036.

Dec 20th, Friday - Northern NV Section of SME, Annual Christmas Dinner and Dance: Prospector's Club, Harrah's Hotel and Casino, Reno, NV. Cocktails starting approximately 6:30 pm. Contact Roger Steinger at 775/323-7775.

2003

Jan 27th-30th - Cordilleran Round-up 2003. Westin Bayshore Hotel, Vancouver, B.C. www.chamberofmines.bc.ca, 604/689-5271.

Feb 24-26 - SME Annual Meeting, Cincinnati, Ohio. 800/763-3132, meetings@smenet.org, www.smenet.org

MINERAL DEPOSITS AND EXPLORATION IN MALI

Greg B. Arehart, University of Nevada, Reno
(Elko Chapter December speaker)

Mali has a long and rich history of gold mining. Although most of the historical production is from placers and paleoplacers, several primary gold sources have been discovered and exploited in recent years. These include mesothermal gold systems such as Syama and Kalana, and the "Carlin-type?" system at Sadiola. An overview of the geology of Mali and exploration for mineral resources in the southern part of the country will be presented, along with some cultural photos of the country.

The bedrock geology of southernmost Mali is dominated by the Birimian craton (2.2 Ga), which comprises greenstone belt rocks with interspersed granitoids. Western Mali comprises late Precambrian sedimentary packages, and northeastern Mali is made up of Paleozoic basinal rocks accreted to the Birimian craton, or recent cover (desert sands). Much of Mali has been deeply weathered; the relief is very low and is covered by lateritic soils at present. Because there has been little movement of the African craton, these laterites are among some of the oldest in the world, dating back as far as the Paleocene.

Historical (traditional) mineral production has come from placers in the Niger River and its tributaries, and includes primarily gold but also some diamonds. In addition, small local operations (by today's scale) are exploiting paleoplacers underlying the laterites. In the past couple of decades, there has been increased exploration for and development of the bedrock resources, although exploration for these resources can be very difficult in areas of extensive laterite development.

STATE OF THE FOUNDATION

Cami Prenn, GSN Treasurer

An update on the Foundation's coffers seems in order as we're receiving generous donations from our members as they renew their memberships. And since we'll soon have the opportunity to "win" fabulous treasures at the Foundation's Christmas raffle and auction, this should provide an incentive to bid early and bid often.

The Foundation has eight separate "accounts" for destinations for the funds contributed: the Endowment Fund, the K-12 Field Trip Fund, the NBMG Mapping Grant Fund, the De La Mare Library Fund, UNR Scholarship Fund, the UNLV Scholarship Fund, the Operating Expense Fund, and the Unrestricted Fund. Currently the Funds hold these amounts:

| | |
|---------------------|--------------------|
| Endowment Fund | \$15,517.67 |
| Operating Expenses | 213.63 |
| NBMG Mapping Grants | 300.00 |
| K-12 Field Trips | 365.00 |
| Unrestricted Funds | 4,223.77 |
| | <u>\$20,620.07</u> |

Thanks go to everyone who has sent a donation, including IGT who contributed \$2,500. Please come to the Christmas meeting and plan to scarf up those raffle tickets and help the Foundation continue its mission of furthering the geological sciences through its programs.



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