



GEOLOGICAL SOCIETY OF NEVADA NEWSLETTER

Geological Society of Nevada, 2175 Raggio Parkway, Room 107, Reno, NV 89512
(775) 323-3500 - Hours Tuesday -- Friday, 8 a.m. to 3 p.m. Monday by appointment.
Website: www.gsnv.org • E-mail: gsn@gsnv.org



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CALENDAR OF GSN EVENTS

**Dec. 9, 2015
WEDNESDAY**

WINNEMUCCA CHAPTER MEETING & SILENT AUCTION!

The meeting & Silent Auction will be held at the Martin Hotel, 94 W. Railroad St., Winnemucca, NV. Auction begins at 6 p.m. along with refreshments. Heavy appetizers at 6:30 p.m. and talk at 7:00 pm. **Speaker: Nancy Wolverson, Consulting Geologist.** Title: **"#1 on my Bucket List—New Zealand".** **Food & Drinks Sponsored by: IDS AND CGS MULE.** For more info please contact James Carver @ jcarver@silverstandard.com. Details and abstract on page 7.

**Dec. 10, 2015
Thursday
(Tentative!!)**

SO. NEVADA CHAPTER MEETING-Joint Holiday Party with NV Friends of Paleontology—DETAILS TBA. **Speaker:** Fabian Hardy. He will be talking about the Esmeralda County gomphothere that was dug up 1 1/2 years ago. Potluck Tentative! Please contact Josh Bonde for more information: Joshua.bonde@unlv.edu.

**Dec. 16, 2015
WEDNESDAY
CHRISTMAS
MEETING!**

GSN CHRISTMAS MEETING, SILENT AUCTION & RAFFLE!! PLEASE DONATE RAFFLE & AUCTION ITEMS TODAY!

The GSN's annual Christmas meeting and Foundation Fundraiser will be held at the Nugget Casino Resort, Sparks, Nevada. **Speaker: Dr. David Beaty, NASA-JPL.** Topic: **"Exploration Related to Life on Mars: Past and Future"** **Social Hour being Sponsored by: PERSHING GOLD.** Cost for Dinner—\$40.00. Please make reservations for dinner with Laura Ruud at: gsn@gsnv.org or 775-323-3500. You can reserve & pre-pay by using the form on page 9!!

**Dec. 17, 2015
THURSDAY**



ELKO CHAPTER MEETING & SILENT AUCTION!

The meeting & Silent Auction will be held at the Western Folklife Center, 501 Railroad St., Elko, NV. Auction begins at 6 p.m. along with refreshments. Dinner and talk at 7:00 pm. **Speaker: Franck Valli, Newmont Mining Corp.** Title: **"How does continental crust deform? How efficient is the deformation along the Karakorum strike-slip fault in the western part of the Tibetan plateau?"** **Food & Drinks Sponsored by: BOART LONGYEAR.** For more info please contact Mark Travis at: mark.william.travis@gmail.com. Details on page 7.

YOUR G.S.N. MEMBERSHIP DUES FOR 2016 ARE DUE NO LATER THAN DECEMBER 31ST! Renew now! Don't wait! Form on page 19. (Thank you to those who've already renewed for 2016!)

G.S.N. DECEMBER MEETING SPONSOR



FROM THE PRESIDENT
Elizabeth Zbinden, G.S.N. President 2015-2016
DECEMBER 2015

Happy holidays, with much to be thankful for! I'm thankful to live in a place where we are allowed to disagree with each other. Not always happy about it when I am on the receiving end of the disagreement, but thankful none the less.

This month's column brings you three BLM activities related to public lands and resources. All three have ways **for you to participate**.

1. As you may remember, in September the BLM issued a Record of Decision, putting into place an Approved Resource Management Plan Amendment (RMPA) for managing the Greater Sage Grouse. That Record of Decision is supposed to finalize the situation, but of course, since we live in a place where we are allowed to disagree with each other, there is still a lot of action. Several lawsuits have been filed in an attempt to prevent all or portions of the RMPA from being implemented. Seventy-six members of the House of Representatives including Congressmen Amodei, Heck, and Hardy, are requesting that the FY2016 spending bill which must be passed in the next few weeks include language to prevent the Department of Interior from moving forward with any parts of the RMPA that are inconsistent with the state plans for conserving the Greater Sage Grouse. Governor Sandoval is working through the Western Governors' Association and directly with Secretary Jewell to do the same thing.

But nested within the RMPA for the Greater Sage Grouse is a piece of it which is **not finalized**. This is the proposal to withdraw 10 million acres of land, of which 2.8 million acres are in Nevada, from location and entry under the United States mining law. The BLM must prepare an Environmental Impact Statement about the proposed withdrawal and the Secretary of the Interior must decide whether to accept the proposed withdrawal. **Here is where you come in**. There will be **public meetings December 14, 15, & 16** to help determine the scope of the EIS and to accept public comments. **The Nevada meetings are:**

Reno/Sparks: Dec 15, 5-7 pm, The Nugget, 1100 Nugget Avenue
Elko: Dec 16, 5-7 pm, Elko Conference Center, 724 Moren Way

Other meetings will be held in Burns and Lakeview, OR; Boise and Idaho Falls, ID; West Valley City, UT; and Malta, MT. Educate yourself, attend one of these meetings, and speak up! Submit a written comment. **Deadline for written comments** about the proposed withdrawal has been extended. It is now **January 15, 2016**.

2. Back in April, the Bi-State Distinct Population Segment (don't you love the terminology?) preceded the Greater Sage Grouse in being declared *not* in need of protection under the Endangered Species Act. It was the US Forest Service who was the lead agency in preparing a Plan and EIS for management of this bird and its habitat. The BLM is amending its Resource Management Plans for Carson City Field Office and Tonopah Field Office to bring them in line with the Forest Service document. The BLM amendment is fairly far along already but **several changes needing public comment were made as a result of protests**. To view a summary of the changes, see <http://www.gpo.gov/fdsys/pkg/FR-2015-11-13/pdf/2015-28876.pdf> and http://www.blm.gov/nv/st/en/info/newsroom/2015/november/blm_proposes_changes.html. **Deadline for comments is December 14, 2015.**

3. And now one where you can do more than just comment! The BLM has Resource Advisory Councils (RAC) for various regions, consisting of citizens from various interest groups. The RAC for Mojave and Southern Great Basin is looking for nominees to fill the remainder of an unexpired term. For the announcement, see: http://www.blm.gov/nv/st/en/info/newsroom/2015/november/ely_blm_seeks_nominees.html and to learn more about RACs, see: http://www.blm.gov/nv/st/en/res/resource_advisory/mojave-southern_grat.html. Its area includes Esmeralda, Nye, Lincoln and Clark counties. Check it out! Do you know someone who could do this? Are you someone who could do this? **Deadline for nominations is Dec 28, 2015.**

Happy holidays to all of you, safe travels if you are going somewhere, here's to a great 2016!

The Geological Society of NV
wishes to thank the
SPONSOR OF OUR NOVEMBER
MEMBERSHIP MEETING!!



GSN Wednesday, December 16, 2015 Membership Meeting

Silent Auction & Rock Raffle!

For dinner reservations, please e-mail gsn@gsnv.org or call 775-323-3500

by 4:00 p.m. on FRIDAY, DECEMBER 11, 2015!

(See page 9 for reservation & pre-payment form!)

Social Hour, Raffle and Silent Auction all begin @ 6:00 pm; Dinner @ 7:00 pm;

Live Gold Auction @ 7:45 pm; Speaker to Follow @ 8:00 pm

Location: NUGGET RESORT CASINO, SPARKS, NEVADA

DINNER COST—\$40.00 per person (You will be invoiced if you do not cancel)

Guest Speaker: Dr. David Beaty, Jet Propulsion Laboratory—NASA

Title: “Exploration Related to Life on Mars: Past and Future”

A short abstract:

For the past 20 years, mankind has carried out a concentrated period of exploration of the Red Planet, Mars. Mars is of interest for two reasons: 1). It is the planet most likely to have ever been an abode for extra-terrestrial life, and 2). It is the only plausible near-term planetary destination for future human explorers. With regard to the search for evidence of indigenous life, I will summarize our exploration strategies, what we have found, and what are likely to be our next steps. With regard to potential future human exploration, a current hot topic is how much reliance should a future crew have on in-situ resources, and which resources matter the most. The planning related to resource exploration draws on experience from the terrestrial exploration/mining industry.

Biography:

David Beaty

Chief Scientist, Mars Exploration Directorate

David Beaty is currently the Chief Scientist for the Mars Exploration Directorate at the Jet Propulsion Laboratory in Pasadena. His PhD research at Caltech involved work on samples returned by Apollos 11 and 12. After leaving Caltech in 1980, Dr. Beaty entered the minerals industry with Noranda Exploration. He worked on commercial mineral exploration projects throughout the Rocky Mountains, primarily on projects related to zinc, molybdenum, gold, silver, and copper. In 1988, Dr. Beaty switched to the oil industry, joining Chevron at their research lab in La Habra, CA.

After a time as a research geologist, he became interested in management, and moved from team leader to division manager to acting lab director. In 1999 Dr. Beaty left the industrial sector, and returned to the NASA family working on planetary robotic missions at JPL. His JPL assignments have included Project Manager (for Mars Returned Sample Handling), Mars Planetary Protection Manager, Mars Subsurface Exploration Manager, Mars Program Science Manager, and Mars Chief Scientist.

**Thank you to the WINNEMUCCA & ELKO JOINT CHAPTERS' MEETING
SPONSORS on NOVEMBER 5th in Battle Mountain, Nevada!**



“FACES OF GSN”

Faces of GSN – December 2015

Don MacKerrow, Geologist

This is the story of an independent geologic contractor, known to most in our industry as a “consultant”. You have seen me at the GSN meetings and maybe in the Pyrenees Motel parking lot in Winnemucca, but do you know me? My name is Donald MacKerrow and I have been in the Nevada geologic community since 1980. How I became a geologist and arrived in Reno is a long but not all that winding road.



Eight years old and beginning training for a future of GSN golf tournaments.

I was born and raised in Vallejo, California, a city on the east side of the San Pablo and north end of the San Francisco bays.

I grew up in a home with a view overlooking both the Bay and the Mare Island Naval Shipyard. My father was head of the metallurgy department at Mare Island, so my introduction to science came early in life. Every month “Things of Science” blue boxes arrived in the mail, little projects that Dad bought to share with my sister and me. One of these boxes was filled with rocks and mineral specimens, and so began my first experience in the world of geology.

My father encouraged sports and Mom taught me how to cook. When I was ten, Dad became fascinated with sailing, and this was the beginning of my continuing love of the sport.

Every weekend during my high school years I raced on San Francisco Bay. Dad soon expanded his interests beyond the Bay to ocean racing. We sailed the California coast from Drakes Bay to Monterey Bay and took long non-stop trips south to San Diego.

Even today, the sailing tradition continues on the dry lakes of Nevada.



My first landsailer!



Landsailing on the Black Rock in Tom Carpenter’s “speed boat”. We now have two of our own.

“The Undersea World of Jacques Cousteau” premiered on television in 1966. I was thirteen and decided then and there that I would become an oceanographer. In high school I was told by my guidance counselor I should take classes in wood and metal shop so I would have a better chance to get a job???

I immediately got a new and considerably more progressive counselor, one who supported my oceanographic aspirations. After graduation, I looked for a college that offered a curriculum in oceanography and, after spending my formative years looking at a Navy shipyard, decided to apply to the Naval Academy. I won the congressional appointment and in the fall of 1971 packed my things and moved to Annapolis, Maryland.

What a cultural shock! The American Southeast is a very different

place from the West Coast. After two years in a very strange land, I parted with the Navy. But Annapolis gave me a lasting gift. It was there that I took my first geology class and loved every minute. After returning to California, I took my second geology class at Solano Community College while I worked and looked for another school. I transferred to Humboldt State University in Northern California in 1976 to continue my oceanographic odyssey. When deciding what type of oceanography to study I discovered that geology was one of the options. Perfect! My advisor and I devised a plan to take all the geology classes that were offered. In the end, I only needed to add field techniques and field camp to graduate with a dual Bachelor’s degree in both geology and oceanography.

During my senior year at HSU I began to apply for jobs that would allow me to use my two degrees. The one I remember most was my interview with Lockheed Martin about a proposed program for the undersea mining of manganese nodules. The concept was interesting and the interviewers were very encouraging. Twenty years later I found out that they were fronting for the C.I.A. to pull a Russian submarine from the ocean bottom. The whole thing was a cover. There really was no program.

One very late night in the geology department, while typing up my oceanography research paper, I took a break and found an annual report for the Homestake Mining Company lying on a table. There was gold being poured into bars and bold, bearded men in plaid shirts and Filson vests pointing purposefully off into the distance. Gold fever struck me (cont. on pg. 5)



The young Cousteau wannabe.

(MacKerrow, cont. from pg. 6)

hard and I began a relentless campaign on Homestake to give me a job. I initially got a job in the quality control department of an exotic metals foundry. I told them they were only temporary until I got my "real" geology job. When I finally got an interview with Homestake, I packed up my car and drove to Reno, as gung ho as anyone could possibly be. I walked into the Homestake office wearing a three-piece suit and they thought I was a salesman. Dick Kern gave me the job and sent me out to look for an apartment. At one location, I opened the wrong door. An angry man inside pressed a .45 caliber gun to my forehead. I almost left Reno for good that day.

My first field job for Homestake was staking claims on the Emigrant Spring property. These were the days of 300-foot tapes and 4x4 wooden posts. During these early Homestake days I met the love of my life, Peg O'Malley, for the first time.



Always love a woman who laughs at your jokes.

Was it the time we spent together working in an adit on the Pershing Quick-silver property with only bats (and Frank Howell) for company? Or was it the lure of my cooking at the Wagon Wheel Motel (thanks, Mom!) after we all got sick in Lovelock's eateries?

The "Job for Life" I had planned with Homestake lasted until 1982 when widespread layoffs devastated the industry. I took a part time job with Lacana while looking for full time employment. I worked in their office on Relief Canyon projects before finding a field job with Freeport McMoRan, splitting my time between Arizona and Nevada. My Freeport job lasted until the layoff wave engulfed them too. It was at this point that it finally hit me; there are no lifetime jobs in the mining industry! I took a little break and volunteered at my cousin's



Staged photo opportunity at the Pershing Quicksilver Mine.

food bank in Pasadena and this got me into the 1984 Olympics as a volunteer selling beer at the Rose Bowl.

Upon returning to Reno, and to my surprise, Homestake had a need for "contractors". This was the beginning of my career as a "consultant". I logged my first core hole on the Wild Cat property for Homestake. As I was doing exploration in the Shoshone Mountains south of Battle Mountain, I got an offer to go to the Republic of Palau for Micronesian Mineral. My choice: (a) Battle Mountain in the winter snows; or (b) Palau and the warm rains of eternal summer in a South Sea Paradise. Duh!



This picture was taken in broad daylight during the heaviest rainstorm I've ever experienced.

In Palau I worked for Ross Grunwald. We were targeting vein systems previously mined during World War II by the Japanese. Jerry Rahn was logging core while I wandered the drainages, sampling heavy metal with my crew. I fulfilled one of every guy's fantasies, my own personal "Tarzan Moment", swinging over one of those streams on a vine and doing my best Tarzan yodel. Within a month my nickname was "the-American-who-looks-like-a-Palauan". I used rubber boats to go up drainages as far as possible before hiking to the headwaters. We would come across old trucks from the war and small dug out shelters with prayer cards in the jungle. Unexploded bombs and other old ordnance were reported to the small Seabee base on the island and the Seabees would come and blow them up. I experienced my second typhoon while on the islands. This was a dire situation because it cut off the supply of beer. Beer was the second highest import, just behind oil to run the power plant. Days off were time to go snorkeling and fishing. I listened while Radio Moscow declared the end of Capitalism after the stock market crash of 1987 and called home at ten dollars per minute to find out if that was true. The experience was an important investment lesson. When the job ended, I could have easily gone native in Palau but back to the States I came.

While working out of Battle Mountain, I ran into Ron Parratt at the Big Chief Motel, leading to an assessment job around the Trinity silver mine.

Later, Ron called me about another project he had going called Rabbit Creek. He was looking for people who could commit to long-term mine development. I logged miles and miles of core. On projects like this you learn what it really takes to put a mine into production.

I worked at Rabbit Creek until late 1989. That December, I volunteered to sit a drill rig for Bruce Braginton while his (cont. on pg. 6)

(MacKerrow, cont. from pg. 5)

wife was having a baby. The property was on the side of Lone Tree Hill and by the next year it became the Lone Tree Mine project.



Logging original metallurgical 4 inch core for the Lone Tre Mine, circa 1990.

In 1998 I went to work for Hecla at the Rosebud Mine. I contracted to log core and to help Kurt Allen extend the mine's life. I brought my new pet bird, Zena, out to the mine a few times. It was at Rosebud that she learned that expensive pecans were her favorite nut. Rosebud eventually closed but I reunited with Kurt in Mexico at the San Sebastian mine. I loved working in Mexico but I had to return to Reno when family in Vallejo needed me to be closer.

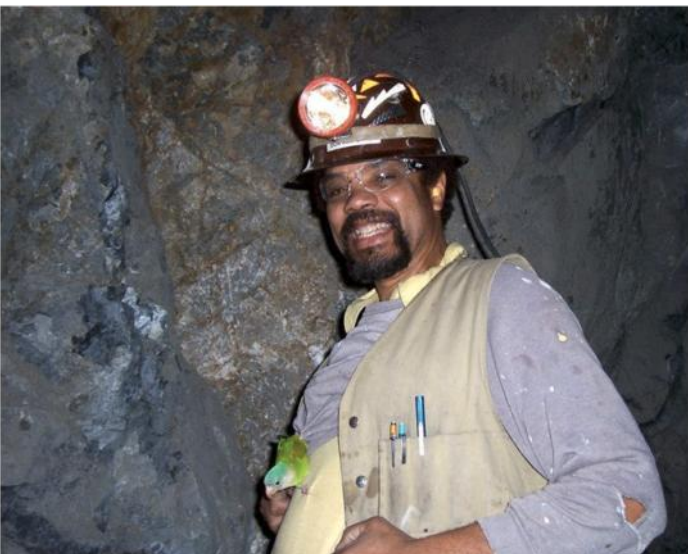
I consulted for Bill Stanley of ATNA Resources on a review of Barrick data on the Pinson property. When ATNA Resources picked up Pinson I went out to the property with Zena to work on the upcoming surface and subsurface drilling programs. This was where Zena set an underground depth record for a Gray Cheeks in a mine. She even had her own brass.

The team at Lone Tree consisted of many of the same people that had been at Rabbit Creek. In those days, you could bring pet dogs to the field with you. Not having a dog, I brought an opinionated Gray Cheeks Parakeet named Paco with me. I would string a rope and the bird would run back and forth trying to get to my shoulder. Some people would try to pick him up, usually a bad idea. Warren Thompson has a story to tell about Paco and maybe a few scars.

In 1993, Santa Fe Gold exchanged properties with Hanson Gold Fields in a coal-for-gold swap. Santa Fe needed experience at the now-named Twin Creek mine so I returned there to work on the former Chimney Creek portion of the property. Resource shape modeling, pit expansions and new discoveries were made during this time. I decided to leave Twin Creeks after Newmont bought Santa Fe Gold in 1997.



Grigore Simon, Clay Postlethwaite, Mark Whitney, Ron Kieckbusch, Kurt Rentmeister, Sherry Sowers, Charlie Tapper. Where is Vic?



Zena testing the air at Pinson.

We were successful enough that Barrick decided to buy ATNA out of the project.

Barrick was in need of a geologist to work on a new exploration program at the Turquoise Ridge mine. I had not yet worked with the Comus Formation in that location in the valley, so I said yes and went to work for Karl Marlowe. We spent the first year just trying to get equipment. With the success of some underground development drilling we were able to get more resources and, in time, people. In 2013, I was transferred to Cortez to work on the new Barrick Gold Rush project. I spent some of my time at both TR and Cortez mentoring young geologists, both employees and contractors, to help them realize there are both ups and downs in mining employment. Almost like clockwork, and after an exceptionally long boom period, it all came skidding to an end. The Gold Rush project had to pause and the contractors were let go within two months.

It took returning this last time to realize how much I had been away. It's time to be home, for more Peg time, and for more adventures together.

GSN WINNEMUCCA CHAPTER MEETING & SILENT AUCTION

WEDNESDAY, DECEMBER 9, 2015

Location: The MARTIN HOTEL, WINNEMUCCA, NV

**Time: 6:00 p.m. SILENT AUCTION and Appetizers/Drinks
7:00 p.m.—Talk begins**

SPEAKER: Nancy Wolverson, Consulting Geologist, Reno, Nevada

TITLE: “#1 on my Bucket List—New Zealand”

Food and Drinks Sponsored by: IDS and CGS MULE, LLC



Abstract:

#1 on my Bucket List—New Zealand

Since writing a report on the Taupo Volcanic Zone while attending graduate school at Mackay School of Mines, I have wanted to see these classic hydrothermal/epithermal systems. It has remained #1 on my bucket list for the past 30 years, which I have finally checked off!!!

Stuart Simmons and Tony Christie lead the SEG-Tasmania post-meeting field trip “Active and Extinct Epithermal Environments of the North Island, New Zealand” in October, 2015. This brief talk will include a quick overview of the tectonic setting of the Taupo Volcanic Zone and then a photo tour through the field trip sites, from the Waihi Mine on the north to Tongariro Park on the south. Additional photos of New Zealand and Tasmania will entertain everyone while they bid on items in the silent auction and enjoy the hosted refreshments.

GSN ELKO CHAPTER HOLIDAY PARTY & SILENT AUCTION/RAFFLE

THURSDAY, DECEMBER 17, 2015

Location: The WESTERN FOLKLIFE CENTER, ELKO, NEVADA

Time: Refreshments @ 6:00 p.m., Dinner & Talk @ 7:00 p.m.

Silent Auction & Raffle to benefit the Elko Scholarship Fund

SPEAKER: Franck Valli, Newmont Mining Corp.

TITLE: “How does continental crust deform? How efficient is the deformation along the Karakorum strike-slip fault in the western part of the Tibetan plateau?”

Food and Drinks Sponsored by: BOART LONGYEAR



DONATIONS NEEDED FOR THE GSN FOUNDATION ROCK RAFFLE & AUCTION!!

G.S.N.'S ANNUAL CHRISTMAS MEETING, ROCK RAFFLE & AUCTION

WEDNESDAY, DECEMBER 16, 2015

NUGGET CASINO RESORT, SPARKS, NEVADA

Dinner Cost - \$40.00/person (pre-pay form on page 9)

6 p.m. - Open Bar, Raffle & Silent Auction

7 p.m. - Dinner, 7:45 p.m. - Live Auction, 8 p.m. - Presentation



The Geological Society of Nevada Foundation's fundraiser "Rock Raffle and Silent Auction" will be held at the GSN's annual Christmas meeting on **WEDNESDAY, December 16, 2015**. We are seeking donations of any items suitable for the raffle or silent auction: gift baskets, attractive rock or mineral samples, gems or gemstones, jewelry, wine or other spirits, logo items, geological equipment, commemorative coins, GOLD, or any geology or mining-related items will be gratefully accepted.

Raffle proceeds support GSN Foundation's educational projects, which include grants to Nevada K-12 classes for transportation on earth science related field trips, scholarships to Nevada geology students, grants to the UNR DeLa-Mare Library, and grants for geologic mapping in Nevada.

Donors will have their names displayed on signs at the event as well as having their names listed in the January newsletter. The GSN Foundation is a 501(c)(3) public charity.

Please contact D.D. LaPointe to drop off donated items with her or to arrange pick-up of donated items in the Reno-Sparks-Carson City area. **We need to have all items in hand by Monday, December 14, 2015.** It would be great if you could let us know ASAP what you plan to donate in order to prepare labels and make bid sheets. Thank you for your support! D.D.'s cell number is 775-240-4916 and email is dlapoint@unr.edu.

You can also drop off donations with Cami Prenn at Mine Development Associates, 210 So. Rock Blvd., Reno, or with JoAnn Newbury at NuLegacy Gold, 5450 Riggins Court, Suite 1B. Reno, NV. Call JoAnn in advance at 775-224-1717 as her office hours are sporadic. You can also drop off donations with me at the GSN office or contact any other Foundation Board Member—Roger Steininger, Bob Thomas, Dan Rovig, Dieter Krewedl, Mike Ressel, Kel Buchanan.

TAX DEDUCTION!!

It is the time for gift giving and cleaning your house. GSN and the Tucson Gem and Mineral Society have given over 55,000 books to Universities in Mexico and are looking for people who want a tax deduction and a chance to clean out their offices or homes. Any and all items are welcome and will be greatly appreciated. Contact Clancy Wendt if you have anything to donate. Also, anyone who is driving to Tucson, Arizona who has room and would like to help take books to our storage shed please contact Clancy at 775-852-2513.



Nevada Geology Calendar 2016 is here!



Click here to order: <http://pubs.nbmq.unr.edu/>

You may also call the NBMG at 775-682-8766 to place an order.



GEOLOGICAL SOCIETY OF NEVADA

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Offices are located at Nevada Bureau of Mines and Geology's
Great Basin Science Sample & Records Library at The Desert Research Institute
Office hours: 8 AM - 3:00 PM, Tuesday through Friday, Monday by Appointment

Prepayment for Christmas Dinner Meeting on December 16, 2015

Prepayment for the GSN Christmas meeting must be received in the GSN office no later than **4:00 p.m. on Friday, Dec. 11, 2015!** If you mail your prepayment and it is not received by GSN three business days prior to the meeting - you will not be considered prepaid. To guarantee dinner prepayment either call: 775-323-3500, or fax this form to: 775-323-3599, or submit this form via e-mail by clicking on the button below (please confirm reservations w/the GSN office), or stop by the GSN office to drop it off.
(GSN CANNOT GUARANTEE DINNER SEATING WITHOUT ADVANCE RESERVATIONS.)

GSN Christmas Meeting & GSN Foundation Silent Auction & Raffle Nugget Casino Resort, Rose Ballroom, 1100 Nugget Avenue, Sparks, NV December 16, 2015

Social Hour, Raffle and Silent Auction: 6:00 PM - Dinner: 7:00 PM - Live Gold Auction 7:45 PM - Speaker: 8:00 PM

Cancellations must be received three days before the meeting in order for your money to be refunded!

Date: _____

E-mail Address: _____ Phone/Cell #: _____

Amount

Member NAME: _____

**DINNER TICKETS
\$40.00 Each**

Dinner Guest: _____

Dinner Guest: _____

Dinner Guest: _____

**RAFFLE TICKETS
\$1.00 Each**

Pre-Purchase G.S.N. Foundation Raffle Tickets @ \$1.00 Each:
(Raffle tickets will be picked up at the Door - filed under Member Name above) _____

TOTAL: _____

Payment: Check # _____ Cash Visa Master Card American Express Discover

Card Number: _____ Exp. Date: _____ 3 or 4 digit security code: _____

Signature (only needed on hard copies): _____

Return form with payment to:
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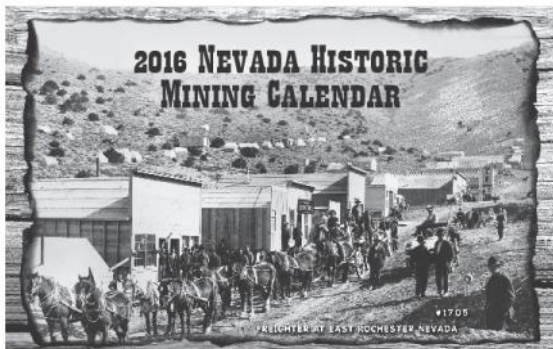
**G.S.N SYMPOSIUM 2015 COMMITTEE
PRESENTS "GIANT" CHECK TO GSN!**

Molly Hunsaker (right), Chair of the 2015 GSN Symposium, presents a giant check in the amount of \$256,516.64 to current GSN President, Elizabeth Zbinden. This amount represents the proceeds from the very successful Symposium held in May 2015! The GSN wishes to thank all of the hard-working volunteers who made this happen. This would not be a success without you!

We also wish to thank our numerous donors, sponsors, exhibitors, speakers, field trip leaders, advertisers, short course leaders, session chairs, and everyone who contributed something to this effort. Many, many, many hours were spent to make this the best Symposium ever and we appreciate each & everyone who helped out!



G.S.N President, Elizabeth Zbinden accepts a check from Molly Hunsaker, GSN's 2015 Symposium Chair at the Reno Elks Lodge on Nov. 18th.



The Northern NV SME is taking orders for the 2016 NEVADA HISTORIC MINING CALENDAR!

Calendars are \$10 Each
(\$8 if you order 10 or more!)

**ORDER NOW & THEY WILL BE READY
ON DECEMBER 11TH!**

To Place your order or if you have questions please contact:

Brooke Miller - nnewsme@gmail.com
OR
Connie Parratt - cmparratt@gmail.com

**AIPG CHRISTMAS EXPLORATION
ROUNDUP**

Thursday, December 10, Ramada Hotel
(6th & Wells)
6:00 Open Bar, 7:00 Dinner, 8:00 Program

Companies
Premier Gold, Newmont, Barrick, Nevada
Copper, NuLegacy Gold, Renaissance Gold,
Pilot Gold, Klondex

Meeting Sponsor: Boart-Longyear
\$50 AIPG/GSN Members; \$60 Others
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Mackay Students: Free
Reservations: Kel Buchanan
(summitcrk@aol.com)
775-786-4515, fax 786-4324)
by December 9, 5:00 p.m.
*Mineral Specimens from Mark Stock to be
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These 6 metals, minerals back to greenfield pricing by 2020

[Frik Els](#) | November 25, 2015 (Reprinted from Mining.com)



It's hard to find an analysis of the mining and minerals sector that offers even a glimpse of a brighter future.

A new report by consultants McKinsey & Company takes a fresh look at the industry and finds much of today's doom and gloom is misplaced.

The study suggests that the steadily deteriorating quality of accessible resources combined with the current cuts in new mine investment, will likely squeeze supply in the face of steady, albeit slow, demand growth, causing prices to rebound.

The new report titled *Is there hidden treasure in the mining industry?* uses a new model based on three insights to provide an outlook for the industry that's surprisingly upbeat:

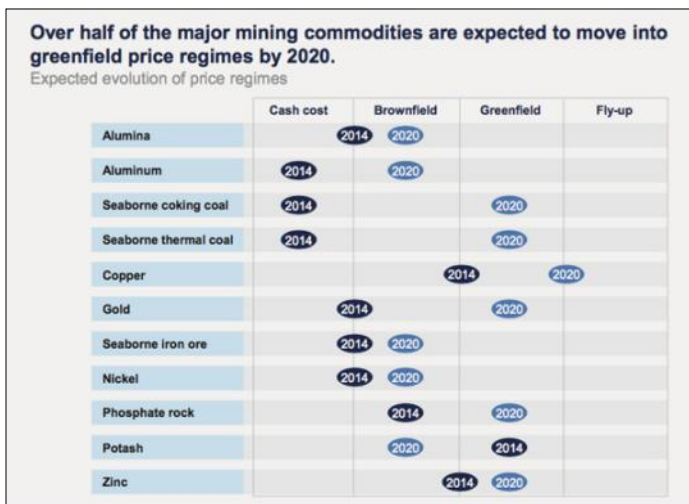
- Fundamentals** Geological shortage is likely to be a stronger determinant of future prices than demand. That's due to grade erosion (particularly in copper, gold and phosphate rock), depletion on a mine-by-mine basis combined with declining resource levels and delays in new projects which raises the likelihood of increasingly severe shortages.
- Cost inflation** Geological factors saw cost inflation for marginal copper, iron ore and potash producers rise 20% from 2000–2013. Lower diesel prices and depreciating currencies will keep external inflation low but deteriorating mining conditions (including declining ore grades, deeper shafts, higher stripping ratios and longer hauling distances) will keep overall inflation humming along at 4%–7% going forward.
- Price regimes** *Cash cost* – price levels are close to the cash cost of the marginal producer, and there is minimal incentive to invest. *Brownfield inducement pricing* – high enough to justify extending the life of existing mines. *Greenfield inducement pricing* – would justify investing in new greenfield projects. *Fly-up pricing* – demand grows so fast and capacity utilization is so tight that prices temporarily soar well above levels dictated by the cost curve.

Mapping the price regimes for each commodity over the past 20 years, as well as the price premiums associated with those regimes (that is, the commodity's price minus the cost of the marginal producer), gives a clear picture of what lies ahead say the authors and offer real countercyclical investment opportunities.

This table sums up the outlook for each commodity and shows even the most downtrodden commodities like coal, iron ore and nickel have sunny outlooks, while copper could soar.

When all drivers are considered, say the authors of the report, the analysis suggest that after a 6% annual decline between 2011 and 2014, industry-wide mining revenues could grow at around 4%–6% over the next decade.

Not the go-go days of the China-induced supercycle by any means, but a convincing argument for more bullishness for sure.



Source: McKinsey & Company

Volcanoes Share a Hotspot But Have Mysterious Differences

Reprinted from Discovery.com Jul 31, 2015 03:40 PM ET // by [Patrick J. Kiger](#)



The island of Tristan da Cunha and its volcano, seen from space.
NASA Earth Observatory

In the middle of the south Atlantic Ocean, the remote island of Tristan da Cunha — named after the Portuguese explorer who discovered it in 1506 — is best known for its active volcano, which paranormal enthusiasts claim has a mysterious human-like face in its mouth. About 250 miles away, the equally remote uninhabited island of Gough also has an active volcano.

Both volcanoes are connected to the same undersea volcanic mantle plume also known as a hotspot, a pipe-like structure that transports semi-molten rock from the Earth's interior to the sea floor. But oddly, the hot material in each of the volcanoes has a different geochemical composition, which long has puzzled scientists.

But now a team of marine scientists and volcanologists from the GEOMAR Helmholtz Centre for Ocean Research Kiel, the University of Kiel and the University of London have an explanation. Though the two volcanoes are interconnected, they're filled with material that comes from different parts of the Earth's mantle, an 1,800-mile-thick layer of extremely hot, dense, semi-solid rock that exists between the Earth's crust and its core. They've discovered that plume beneath the two volcanoes, which formed some 132 million years ago as the supercontinent Gondwana broke up, drew material in the early phase of its existence from another geologic structure called a Large Low Shear Velocity Province, or LLSVP, which lies roughly 1,550 miles below the Earth's surface. (From the U.S. Geological Survey, here's [an explanation of the Earth's interior structure.](#))

"In its early stages, the plume only appears to have sucked in material from the LLSVP," GEOMAR Professor Kaj Hoernle, the study's lead author, explained in an [article on the GEOMAR website](#). "But over the course of time the LLSVP material at the NW side of the margin was exhausted and material from outside the LLSVP was drawn into the base of the plume."

Since then, the plume has contained two types of compositionally distinct mantle, leading to the formation of parallel but compositionally distinct plume subtracks. The Gough volcano contains material similar to the LLSVP, while the Tristan volcano seems to draw from material from outside it that was pulled into the plume later on.

OBITUARIES

William Buford Henderson, Jr.—04/06/1941 - 04/10/2015



William Buford Henderson, Jr., peacefully returned home to his Heavenly Father on Friday, April 10, 2015 in Auburn, Calif. He was a leader, a pioneer and a loving and beloved husband, father, grandfather, friend and mentor to many. He was a remarkable man who touched the lives of all those he met.

Bill was born to Buford and Marion Henderson April 6, 1941 in Rockwood, Tenn. He graduated from Judson High School in Longview, Texas and earned a degree in chemistry from North Texas State University. His career included work and entrepreneurship in engineering, chemistry and mineral exploration.

Bill is survived by his loving wife Janice Henderson, his son and daughter-in-law Daniel and Kelly Henderson and grandchildren Austin and Keith of Lincoln; son and daughter-in-law Randall and Amy Henderson and grandchildren Brandon, Dana and Gabrielle and great-grandchildren Alexander and Madison of Whitney, Texas; son and daughter-in-law Zachary and Talia Henderson and grandchildren William and Kyndel of Meadow Vista; daughter and son-in-law Whitney Henderson and Stephen DeLong and grandchildren Wyatt and Ruby of Minneapolis; nephew and niece Charles and Terri Denton and their families; and cousin John Kalleen and his family. Bill's parents and sister Mary Jo Denton preceded him in death.

Bill was known for his big heart, easy smile, and the laughter that accompanied him everywhere he went. He was a dedicated family man, a father figure to many, and his generosity and joyful spirit touched everyone he met. He was famous for his sharp and curious mind, his attention to detail and the excellence with which he did everything he put his mind to. He was passionate about science, the arts, politics, economics, history and shared his remarkable knowledge and insight with those around him. He lived his life with passion, excitement, curiosity, and joy and his unwavering Faith continues to be a source of strength to his family and friends. We should all be so lucky to love and be loved as he was. Our family gives thanks for the many blessings and prayers received in the past weeks and months.

A funeral service was held on Thursday, April 16, 2015 at the chapel of The Church of Jesus Christ of Latter-Day Saints on Bell Road in Auburn. In lieu of flowers, donations are requested to Sutter Auburn Faith Hospital Foundation in Bill's memory.

OTHER UPCOMING EVENTS

1 DECEMBER - 4 DECEMBER. American Exploration and Mining Association Meeting, Spokane, WA USA (formerly Northwest Mining Association). Website: www.miningamerica.org.

1 DECEMBER Arizona Geological Society, Tucson AZ. Speaker: Peter Smith Presents The Latest News from Mars. Sheraton, 5151 E Grant Rd. (& Rosemont), Tucson AZ 85712. Sheraton, 5151 E Grant Rd. (& Rosemont), Tucson AZ 85712. Begins @ 6 pm. For more information go to: www.arizonageologicalsoc.org.

4 DECEMBER Nevada Petroleum & Geothermal Society, Reno, Nevada. Annual Christmas Party. 6:30 PM, Ramada Reno Hotel; 1000 East 6th St., Reno NV 89512. Please RSVP by Tuesday, December 1, 2015. Donations needed for door prizes and raffle. Bring a wrapped gift for exchange. Please make reservations by using the following link: <https://docs.google.com/forms/d/1Ot34V0KLGbxy5bGLuddbJBh3qZXAi87MukSnhXrMBbw/viewform>

5 DECEMBER, DREGS, Denver Regional Exploration Geologists' Society Annual Christmas Party. Begins at 6:30 pm at the Calvary Episcopal Church, Downtown Golden, CO (1320 Arapahoe St. -across from the Armory Building). Gourmet pot-luck dinner with savory meat, fish dishes and fermented beverages provided by DREGS. Please bring a side dish or dessert to share. RSVP to Craig at cfhgeo@attglobal.net or 303-842-9452. \$15 at the door.

5 DECEMBER Northern Nevada Section of SME: Annual Holiday Party. Circus-Circus Mandalay Ballroom, Reno NV. Happy Hour @ 6 pm, Dinner followed by Live Auction starting at 7 pm. Dinner Cost \$70 per person. RSVP by November 25 to Brooke Miller NNevSME@gmail.com.

Activity Update

Mike Brady, October 2015

www.activityupdate.com

NEVADA

Corvus Gold Inc. announced that recent drill results at the North Bullfrog/Yellowjacket East Project include 112.78-323.08 meters @ 0.47 gpt Au (NB15-267). (resource = 15,230,000 tonnes @ 0.37 gpt Au indicated) *Press Release:* October 15

The Interior Department announced that it would not classify the greater sage grouse as an endangered species due to “unprecedented efforts by dozens of partners”. At nearly the same time, the Bureau of Land Management exhibited 15 separate land-use plans that, if successful would prohibit or severely limit activity on 60,000,000 acres of government lands that are considered prime sage grouse habitat. *W.S.J.:* September 28

McEwen Mining Inc. announced that based on a recently completed feasibility study of the Gold Bar Project, reserves aggregate 11,908,000 tonnes @ 1.16 gpt Au proven+probable. (resource = 19,500,000 tonnes @ 0.95 gpt Au measured+indicated) *Press Release:* October 21

Premier Gold Mines Ltd.(40%) announced that recent drill results at the South Arturo/NE Button Hill Project include 305.76-327.6 meters @ 9.19 gpt Au (BD15-031); 263.9-296.7 meters @ 25.71 gpt Au (BD15-051); 240.97-294.84 meters @ 7.54 gpt Au (BD15-053) and 294.84-314.86 meters @ 7.99 gpt Au (BD15-054). (reserve = 1,141,000 tonnes @ 4.4 gpt Au probable) *Press Release:* October 19

NuLegacy Gold Corp.(70%) announced that recent drill results at the Iceberg Project include 68.6-120.4 meters @ 1.26 gpt Au (RHB-64); 70.1-80.8 meters @ 1.64 gpt Au (RHB-66); 144.8-161.6 meters @ 1.33 gpt Au (RHB-67) and 128.1-161.6 meters @ 2.46 gpt Au (RHB-68). *Press Release:* September 30

Scorpio Gold Corp.(70%) announced that recent drill results at the Mineral Ridge/NW Brodie Project include 51.82-54.86 meters @ 3.81 gpt Au (MR151623); 53.34-56.39 meters @ 0.50 gpt Au (MR151631); 33.53-36.58 meters @ 0.79 gpt Au (MR151633) and 86.87-97.54 meters @ 0.59 gpt Au (MR151636). *Press Release:* October 26

Nevada Zinc Corp. announced that it acquired a 100% interest in the Mountain View Property adjacent to its Lone Mountain Project from private interests for undisclosed terms. *Press Release:* September 30

Meadow Bay Gold Corp. announced that recent drill results at the Atlanta Project include 211.84-294.13 meters @ 2.03 gpt Au, 11.0 gpt Ag (DHR115-LRC01). *Press Release:* October 27

Sunrise Resources plc. announced that recent drill results at the Bay State Project include 70.71-71.21 meters @ 566 gpt Ag (15SRDD01); 164.13-164.33 meters @ 1,460 gpt Ag (15SRDD02) and 185.32-186.72 meters @ 503 gpt Ag (15SRDD03). *Press Release:* October 22

Falcon Gold Corp. announced that it terminated its interest in the New York Canyon Property of Canyon Copper Corp. (resource @ Longshot Ridge = 14,700,000 tonnes @ 0.43% Cu indicated) *Press Release:* October 19

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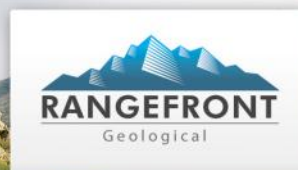
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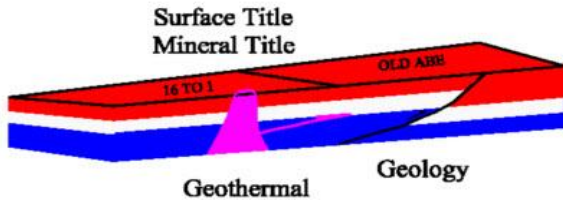
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Offices are located at NBMG's Great Basin Science Sample & Records Library at The Desert Research Institute
 Walk-in Office hours: Tuesday through Friday, 8:00 AM - 3:00 PM. Mondays - Call or email for appointment.

The Geological Society of Nevada (GSN) is a non-profit, educational organization whose principal objective is to promote the advancement of geological sciences, especially as they relate to Nevada. GSN supports the dissemination of information through meetings, field trips, publications and academic endeavors. Membership is open to geologists, geophysicists, geochemists, engineers, educators, students, prospectors or anyone else with an interest in the geological sciences and/or the goals of the GSN. The organization is based in Reno with additional Chapters in Elko, Las Vegas and Winnemucca.

The GSN Fiscal Year begins June 1st. **Annual dues are \$50.00, Students \$25.00 or Lifetime Membership \$1,250.00.** Dues are due prior to December 31st each year. The GSN conducts a Field Trip in the Fall and one in the Spring of each year. Monthly meetings are held September through May in Reno, Elko, Winnemucca, and Las Vegas. If you would like to receive email announcements from one of the G.S.N. Chapters (Elko, Winnemucca or Southern Nevada) please check a box below.

Please help support the GSN Foundation, the Student Dinner Fund, or Student Field Trip Fund when renewing. Foundation dollars are used for the Kindergarten through 12th grade Field Trip Earth Science Grant Program, Nevada Mapping Grants, Field Camp Grants, and scholarships at the University of Nevada, Reno, Great Basin College and University of Nevada, Las Vegas.

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