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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Jonathan G. Price, LLC Jprice@unr.edu

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Independent Geologist and Geochemist E_Zbinden@geology.reno.nv.us

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7Q10 Inc.

lcarpenter@7Q10.com

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Consulting Geologist bob_kastelic@yahoo.com

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CALENDAR OF GSN EVENTS

Apr. 2, 2015 Thursday

SO. NEVADA CHAPTER—(1st Thursday of the Month)

The So. NV Chapter meeting being held at the Las Vegas Natural History Museum, 900 Las Vegas Blvd. North, 5:30 p.m. Speaker: Paul Bowen, R.P. Bowen Engineering Inc. Title: "When Things Go Wrong in an Exploration Program, What Do You Do?". Food & Drinks Sponsor: R.P. Bowen Engineering Inc. Please contact Josh Bonde for more information Joshua.bonde@unly.edu. Details pg. 7.

Wednesday NOTE

CHANGE!!!

Apr. 15, 2015 WINNEMUCCA CHAPTER MEETING (this month only—3rd Wednesday)

The meeting will bAPRILe held at the Martin Hotel, 94 W. Railroad St. Drinks at 6 pm, Appetizers at 6:30 pm, Talk at 7:00 pm. Speaker: Andy Wallace, Cordex. Title: ""Early" Days of Exploration in the Winnemucca Region, Humboldt County, Nevada, from 1969-1995, and a look to the future." Food & Drinks Sponsor: GEOTEMPS INC.. Please contact Pat Donovan at pat.donovan@newmont.com for more information. See page 8 for details.

Thursday

Apr. 16, 2015 ELKO CHAPTER MEETING (3rd Thursday of the Month)

The meeting will be held at the Western Folklife Center, 501 Railroad St., Elko, NV. Refreshments & Appetizers at 6 pm, Talk at 7 pm. Speaker: Mark Bradley, Barrick Gold. Topic: The Discovery of Gold Rush. Food & Drinks Sponsored by: GEOTEMPS INC.. Please contact Jon Powell at jon.powell@newmont.com for more information. See page 8 for details.

Friday

Apr. 17, 2015 GSN Regular Membership Meeting (3rd Friday of the Month)

The GSN's monthly meeting & dinner will be held at the Reno Elks Lodge, 597 Kumle Ln, Reno, NV. Drinks at 6 pm, Dinner at 7 pm, Talk at 7:45 pm (NOTE NEW TIME). UNR-MACKAY STUDENT NIGHT. Various speakers, poster presenters and topics. Drinks Sponsored by: GEOTEMPS, INC.. Please make dinner reservations with Laura Ruud at the GSN Office, 775-323-3500 or gsn@gsnv.org. Dinner cost: \$25 each. See a list of speakers, posters & topics on page 3.

May 14-23, 2015

GSN 2015 SYMPOSIUM—"NEW CONCEPTS & DISCOVERIES"

Register online now for this don't-miss "once every 5 years" Technical Conference put on by volunteers of the GSN. REGISTRATION NOW!!

http://gsnv.org/2015-symposium/. REGISTRATION FORM ON PAGE 9-10.

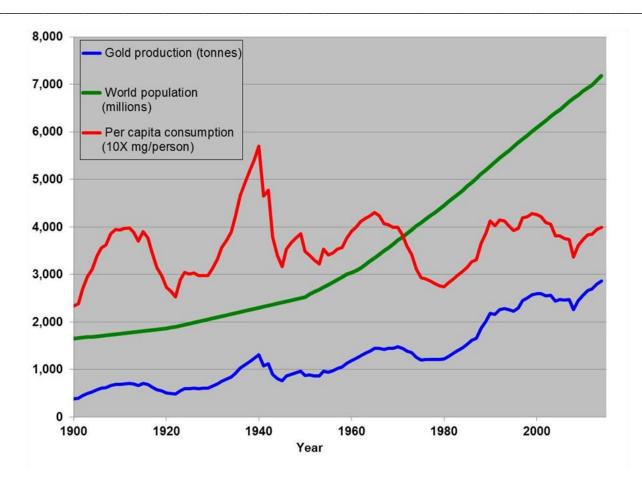
G.S.N. APRIL 2015 MEETING SPONSOR





FROM THE PRESIDENT, APRIL 2015 "Gold continues its rise, and Nevada is at the forefront" Jon Price, G.S.N. President 2014-2015

Annual global gold production reached another all-time high in 2014, according to data from the U.S. Geological Survey's *Mineral Commodity Summaries 2015*. Total production in 2014 was 2,860 tonnes (metric tons). Given that cumulative production from the Carlin trend is approximately 2,500 tonnes, the production trends imply that exploration geos need to find, and miners need to mine, the equivalent of one new Carlin trend each year. As illustrated in the graph below, production (the blue line) in 2014 was 7.4 times that in 1900, and per capita consumption (the red line) increased by a factor of 1.7 over the same period. Historical consumption has fluctuated, however, having reached its all-time high around the beginning of World War II. Global demand has risen in recent years largely because of rising population (the green line).



Global gold production, world population, and approximate per capita consumption (production divided by population), 1900 to 2014. Data are from the U.S. Geological Survey, former U.S. Bureau of Mines, and Central Intelligence Agency.

Nevada continues to be *the place* for gold exploration and mining in the United States, with over 70% of U.S. production in recent years coming from Nevada. The upcoming GSN 2015 Symposium – *New Concepts and Discoveries* – will show us why Nevada continues to be at the forefront. Molly Hunsacker has spearheaded the dedicated volunteers on the Symposium Planning Committee to bring you a superb array of pre- and post-meeting field trips and short courses and an outstanding technical program (starting Monday morning, May 18, and ending at noon on Thursday, Many 21). Pre-meeting field trips are designed to allow participants to attend the Society of Economic Geologists Forum on Carlin-like gold deposits on Sunday, May 17. (Cont. on page 6)

THANK YOU TO ENVIROSCIENTISTS, INC. for sponsoring the MARCH 20TH MEETING!

GSN April 17, 2015 Membership Meeting

Reservations Are Required - Please Cancel if You Are Unable to Attend

Please e-mail gsn@gsnv.org or call 775-323-3500 by 4 p.m. on WEDNESDAY, April 15, 2015.

Social Hour begins @ 6:00 pm; Dinner @ 7:00 pm; Speaker @ 7:45 pm (NOTE EARLIER TIME!)

Location: Reno Elks Lodge, 597 Kumle Lane, Reno, Nevada (off of Virginia, across from the Convention Center)

DINNER COST—\$25.00 per person. (You will be invoiced if you don't cancel your reservation)



STUDENT POSTER & PRESENTATION NIGHT MACKAY SCHOOL OF EARTH SCIENCES & ENGINEERING



April's GSN meeting highlights research of some of the graduate students in the Department of Geological Sciences and Engineering at the University of Nevada, Reno. Each student will have a poster on display and will be available for discussion during the happy hour starting at 6:00. After dinner, starting about 7:35 p.m., many of the students will give short (3-minute) PowerPoint presentations summarizing their work. The order of speakers will be:

- **Carli Balogh**, Tertiary Stratigraphy, Alteration Zones, and Precious Metal Deposits in the Patterson Mining District, Sweetwater Mountains, and Comparison to the Bodie Hills, California-Nevada
- **Justin B. Milliard**, Regional controls on epithermal system formation within an intracontinental rift setting, northern Nevada rift, North-Central Nevada, USA
- **Kyle Basler-Reeder**, Joint Optimization of Vertical Component Gravity and Seismic P-wave First Arrivals by Simulated Annealing
- **Tyler Hill**, Time-Space Relationships between Sediment-hosted Gold Mineralization and Intrusion-Related Polymetallic Mineralization at Kinsley Mountain, Nevada
- Sergey A. Konyshev, Geochemistry and Petrography of the Beartrack Mine, Lemhi County, Idaho
- Steve Howell, Spatial and Temporal Evolution of Hydrothermal Fluids of the Round Mountain Gold Deposit
- Tracy Anderson, Supergene Silver Enrichment at the Rochester Mine in Pershing County, Nevada

In addition, the following students will be presenting posters only:

- **Ajeet K Milliard**, A preview of Igneous Rocks in the Pequop Mountains, Nevada and Implications on Carlin-Type Gold Mineralization
- **Patrick Quillen**, Time-Space Relationships between Magmatism, Hydrothermal Alteration and Mineralization in the Berlin and Buffaly Canyon Areas of the Union District, Nevada
- **Elizabeth Benge**, Pilot Study using Elemental Geochemistry as a Means of Discriminating Chert Stratigraphy in the Roberts Mountains Allochthon, Nevada
- **Ryan B. Anderson**, New apatite and zircon (U-Th)/He constraints on the timing of thrust-related exhumation in the southern Bolivian (21°S) Andes

The posters will be judged, and prizes will be awarded (\$100 for 1st, \$75 for 2nd, \$50 for third).

"FACES OF GSN" Mia (Cowgill) O'Neal

On a sunny afternoon in the summer of 1999, I sat by myself beside a small stream high in the Sierra Nevada Mountain Range. Around me in the duff were laid my water bottle, a sleeping bag and sleeping pad, a tarp for shelter and a few bikkie crackers. I was 16 days into a 21 day Outward Bound course, halfway through the mandatory three day



solo. As I listened to the muttering of the creek over my shoulder, I reflected on the previous two weeks I had spent mountaineering with a group of eight strangers with whom I had quickly become closer than I could have previously imagined. Never before in my life had I had an experience so physically and emotionally demanding. The wilderness course turned out to be one of the best experiences of my life and it motivated me to embark on outdoor adventures the next three summers in Colorado, Georgia and Washington.

I grew up in Mokelumne Hill, California, a gold rush town in the foothills of the Sierra Nevadas, the same town where my mother had attended elementary school in a one room school house some thirty years before.

When I was growing up we had a bigger school, but it still had fewer than a hundred students, the population of the entire town being only about 500 at this time. It was, coincidentally, enough to meet my future husband. I would have never thought then that that dorky, curly haired boy would end up being the person with whom I would one day wish to spend the rest of my life. After we spent a year together in Ms. Streamfellow's fourth/ fifth grade combination class, however, he moved on to another school and it would be eleven years before we would meet again.

When my two sisters and I were growing up, the family budget was always pretty tight so camping and backpacking were the natural choices for vacations. We camped on the northern California coast and Yosemite, but the most memorable vacation we took when I was little was a trip to La Paz, Mexico. The five of us loaded up into the '79 Ford F150 pickup with a cab-over camper on the back and began our road trip. For the next month we explored the beaches and hiked in the mountains of southern Baja. The evenings were spent around the campfire on the beach singing Van Morrison's "Moondance" as my dad played his old beat-up guitar.



It was my junior year in high school that I figured out I wanted to be a geologist. That year my high school offered a science course in which the first semester was astronomy and the second semester was geology. I took the class because I was interested in the astronomy portion, but ended up falling in love with geology and the Earth's processes. At that point I had completed two Outward Bound courses, one in California and the other in Colorado and I couldn't get enough of the outdoors. I was surprised by the realization that people actually practiced geology as a career and could be outdoors in the wilderness as part of their job.

When I was applying to colleges I had two criteria: it must have a geology department, and it must be far enough away from Mokelumne Hill that I would not be tempted to come home on the weekends. My grandfather suggested that I apply to Millsaps College, in Jackson, Mississippi. He had worked as a civil rights attorney in Jackson in 1964 and recalled having enjoyed interacting with the staff and students at Millsaps. With a tiny geology department made up of three professors, Millsaps met my two criteria so I applied and ended up attending the following fall. Getting my geology degree at Millsaps was a wonderful experience. The classes were small and I was able to get to know my professors

outside of the classroom, even babysitting occasionally for Dr. Harris' two daughters.



The summer after my sophomore year I accompanied one of my geology professors, Dr. Stan Galicki, to Mexico. Millsaps had an archaeological project in Yucatan, and we went down to do some soil sampling on the property. Access on the property was limited so we spent hours bumping around in a Jeep on roads that looked like they had not been used for years. Stan took me to a Mexican market, and to the Mayan Ruins at Chichen Itza and by the end of the trip I wasn't ready to leave Mexico. The culture was so interesting that I decided I had to return. Upon returning to the states, I signed up for a semester abroad. (Cont. on pg. 5)

.(Face of GSN, O'Neal—cont. from pg. 4)

Ciudad de Guanajuato in the state of Guanajuato, Mexico is where I ended up spending the first semester of my senior year. Unfortunately my Spanish language skills were not good enough to attend any geology courses at the Universidad de Guanajuato, but I did manage to tour many of the old Silver mines upon whose wealth the city was built. I spent my days learning Spanish at the university's language school and the evenings were all about Salsa dancing!

During my final semester at Millsaps I lived with one of my music professors, Dr. Nash Noble, and her *many* dogs. Nash is a generous woman who takes in dogs and students. While I lived with Nash, one other student was staying with her. The dog population in the house, however, was a different story. Canine occupancy generally fluctuated between 7 and 10, reaching a peak of 12 when a pregnant dog she took in had a litter of puppies. Each morning around 5 am, I would get a wakeup call from a bunch of howling dogs, ready to take their daily trip to the cemetery. A few times I accompanied Nash on these early morning jaunts. When we arrived at our destination, it was fun to watch all of the dogs piling out of her car like a bunch of clowns. The dogs ranged in size and number of legs. No matter what conditions the dogs may have had (deaf, blind, three-legged, sores that wouldn't heal) it didn't matter when they got to run in the tall grass of the cemetery.

After graduation I had no idea what I wanted to do with my geology degree. Unlike many geologists I have met during my career so far, my BS was not in economic geology and at this time I knew practically nothing about the industry of mineral exploration and mining. After hanging around my parents' house for a few weeks I was desperate to find a job. I applied to be a tour guide at Sutter Gold Mine, a small underground mine about 25 minutes away from my home in Mokelumne Hill. By pure luck, the tour manager, seeing that I had a degree in geology, passed my application to Mark Payne, a geologist who was running a two rig core program in the mine. It was such a relief when Mark called and offered me a job at Sutter. I started out cutting core and eventually worked my way up to logging. The spring after I was hired, Mark took a few of the young folks out to do a little prospecting and showed us how to map an adit. I could not believe they were paying me to be outside exploring.



Sutter is also where I became reacquainted with the man who is now my husband. I was sitting at the lunch table on one of my first days on the job when two guys who looked to be about my age walked in. One of them looked vaguely familiar. He had curly brown hair, a round face... It was Danny from the fourth grade! He had changed a lot since then. He was no longer the dorky kid that I remembered, but had changed to a kind, if not slightly awkward, adult. After a few months of working together Danny and I started going on adventures together after work. He showed me around the back roads of Amador County. We explored old head frames and hydraulic workings, almost always accompanied by a couple of Coors Light tall boys.

After a year and a half at Sutter, the drill program was wrapping up and work was getting slow. Luckily Sutter had just entered into a joint venture on the Santa Teresa project in Baja California with Premier Gold Mines. Having spent time in Mexico and Central America, I was a natural candidate to help set up the new project. We found an old Tortillaría to serve as the core shed and logging facility. The little town of Ojos Negros was in an agricultural area that grew mostly onions. At harvest time the town would fill with transient farm workers and new folks in town would stop by the core shed many times each day wanting to buy some fresh tortillas. They would often appear slightly confused as they peered in through the barred window to see only cinder block core logging tables and stacks of core boxes.



Geraldton crew, Northern Ontario, 2008

While the Santa Teresa project finished up their drilling program I started working at Premier's Hardrock project in Northern Ontario. Hardrock was a much faster paced project than I was accustomed to but after a while our team became a well-oiled machine, peaking at 11 drill rigs. Occasionally I would log over a kilometer of core in a single day. Despite the busy schedule we still found time to adopt myriad animals in the time I worked in Geraldton. There was the litter of bunnies that grew from tiny puff balls to full sized rabbits, the duck who would wander in from Lake Kenogamisis, and an assortment of cats and dogs. One of the cats, we called him Fat Billy, was a lazy tomcat that hung around intermittently. Upon his return after a six week disappearance (he was probably lost in the bush) we had to re-name him Skinny William due to the drastic change in his stature. (Cont. on pg. 6)

(Face of GSN, O'Neal—cont. from page 5)

After three and a half years working in Northern Ontario, I was ready to be a little closer to home. My commute from California to Geraldton, Ontario usually took around 24 hours so the 7.5 hour drive to Premier's Elko office was much easier. At this time, we were working on the Saddle Project, south of Carlin. The Premier office later moved to Battle Mountain upon the company's acquisition of interest in the Cove Mine. After I'd been commuting back and forth between Nevada and California for two years, Danny and I decided that it was time to make the move. Danny got a job with IDS and a few months later we bought a house in Spring Creek. As I approach the end of the first year living in Northern Nevada I have begun to settle in to our new home. Though there are not as many trees out here as can be found back home in California, I have really come to appreciate the naked beauty offered by Nevada's landscape.



President's Message (Cont. from pg. 2)

John Muntean and Moira Smith, with the help of session organizers, have put together an exciting series of technical sessions, ranging from the newest concepts about the geology and metallogeny of the Great Basin to the detailed descriptions of several recently discovered deposits.

Bill Pennell is leading the editorial and publication efforts hopefully to release the peer-reviewed articles for the symposium volume on CD at the time of the meeting – a first for GSN symposia. The exhibit hall, core shacks, and poster presentations, along with keynote luncheons and evening receptions provide many opportunities for networking and discovering opportunities. The GSN 2015 Symposium promises to continue the fine tradition of being *the meeting* to attend, if you are interested in mineral exploration or in the geology of Nevada.

Upcoming GSN highlights in Reno include:

GSN 2015 Symposium, May 14-24, including short courses and field trips.

Friday, June 12 (starting at 4:00 p.m.) – BBQ at Rancho San Rafael – with a reinstitution of

the traditional exploration games of the rock-hammer toss and the gold-pan toss.

Saturday, June 13 – the GSN Golf Tournament (watch for details from Laura)

Mid-summer – GSN night at an Aces game

Late August – the Silver Series lecture and pot-luck dinner

Please note that the GSN membership year begins with our fiscal year, starting June 1. Therefore, pay your dues as soon as possible for the 2015-2016 GSN year, and see the January newsletter for the reasons why signing up for life membership makes sense for nearly everyone.

Membership Directory Correction

Sincere apologies to GSN Members Mark
Slatten and David Fitch for forgetting to list them
as QPs!! I'm very sorry for this error!

The Geological Society of Nevada Wishes to Thank the individuals who volunteered to help out with the GSN Booth at PDAC!

Christopher Dail
Eugene Schmidt
Steve Green
Dave Shaddrick
Elizabeth Zbinden
Chris Ioannakis
Brenna Keegan
Clancy Wendt
James Bell

THANK YOU TO THE ELKO CHAPTER MARCH MEETING SPONSOR



THANK YOU TO THE WINNEMUCCA MARCH MEETING CO-SPONSORS





Make the Right Decision.

GSN SOUTHERN NEVADA CHAPTER MEETING

THURSDAY, APRIL 2, 2015

Location: The Las Vegas Natural History Museum, 900 Las Vegas Blvd. North

<u>Time:</u> Drinks and Pizza—5:30 p.m., Talk to follow

Speaker: Paul Bowen, R.P. Bowen Engineering Inc.

Title: "When Things Go Wrong in an Exploration Program, What Do You Do?"

SPONSOR: PAUL BOWEN ENGINEERING INC.

Abstract:

Even though a program may garner success by great assays over a substantial zone and to a substantial depth; unless the data is pulled together properly and in a clear and understandable manner, decisions can be delayed and opportunities can be missed.

R.P. Bowen Engineering Inc.

R. P. "Paul" Bowen

Minerals Exploration Management

6598 West Mesa Vista Ave. Las Vegas, NV 89118-1817 E-Mail: paulbowen@cox.net Phone: (702) 247-7765 Fax: (702) 876-0237 Cell: (702) 290-1255

Boom times, when financing is high often sees data coming in faster than it can be assessed. Good help is hard to come by as jobs are plentiful and senior personnel are scarce. Boom and Bust or as they used to say in the old days "Bonanza and Borrasca" are things that still happen today.

This is one company's way of handling this type of situation. While it eventually worked out in the end there were delays in planning due to the lack of information not being available in a meaningful manner to planners, management and specialized consulting firms even though the data was available somewhere in the system. Getting qualified personnel on board was also a problem that was critical in final planning.

UNLV 10th Annual GeoSymposium April 10th and 11th

GeoSymposium is a student-run event designed to provide graduate and undergraduate students from the UNLV Department of Geoscience with a valuable opportunity to present their research in a professional and supportive environment in which they can receive feedback from industry, government, and academic experts.



The symposium will be held on Friday, April 10, at UNLV in the auditorium of the Science and Engineering Building (SEB). Throughout the day, graduate and undergraduate students will present their research through oral and poster presentations, followed by an afternoon award ceremony recognizing them for their research and academic achievements. The day will also include keynote addresses from both Pat Mulroy (Senior Fellow for Climate Adaptation and Environmental Policy at UNLV's Brookings Mountain West), and Tim Garfield (Chief Research Geoscientist at ExxonMobil). On Saturday, April 11, students will host a field trip to Lake Mead National Recreation Area. To celebrate our 10th Anniversary, there will also be a sightseeing cruise on the lake featuring a guest speaker and catered brunch.

Thanks to the continued generosity of our sponsors and supporters it has been possible to continue running this event without a registration fee for the last 10 years making the experience more meaningful for both students and professionals.

For more information please visit our website at: http://geoscience.unlv.edu/GeoSymposium/index.html

Please contact the GeoSymposium Coordinator with any additional questions: Melisa Bishop bishom1@unlv.nevada.edu

ALL G.S.N. MEMBERS ARE ENCOURAGED TO ATTEND IF YOU ARE IN THE LAS VEGAS AREA!!

GSN WINNEMUCCA CHAPTER MEETING

WEDNESDAY, APRIL 15, 2015 (note 3rd Wednesday this month only!!!)

Location: The MARTIN HOTEL, WINNEMUCCA, NV

<u>Time:</u> Drinks @ 6:00 p.m.; Appetizers @ 6:30 p.m.; Talk @ 7:00 p.m.

Speaker: Andy Wallace, Cordex Exploration

<u>Title</u>: "'Early' Days of Exploration in the Winnemucca Region, Humboldt County, Nevada, from 1969-1995, and a look to the future."

The talk will focus on the early exploration work of Cordex and others out of Winnemucca, and include brief discussions on the Pinson, Preble, Kramer Hill, Florida Canyon, Standard, North Standard, Sulfur, McDermitt Uranium, Dee, Marigold, and Stonehouse/Lone Tree discoveries. A few ideas will be advanced for future exploration work in the area, including the necessity for much more "greenfield" exploration than is taking place currently.

Food & Drinks Sponsored by:



GSN ELKO CHAPTER MEETING

THURSDAY, APRIL 16, 2015

Location: The WESTERN FOLKLIFE CENTER, 501 Railroad St., Elko, NV

Time: Refreshments/Appetizers @ 6:00 p.m., Talk @ 7:00 p.m.

Speaker: Mark Bradley, Barrick Gold Corp.

Topic: The Discovery of Gold Rush

Food and Drinks Sponsored by:





REGISTRATION FORM

Geological Society of Nevada 2015 Symposium "New Concepts and Discoveries"



May 14-23, 2015

J.A. Nugget Hotel, Sparks, Nevada

Exhibits and Technical Sessions May 18-21. Registration & Information: http://www.gsnv.org/2015-symposium.

Please call Molly Hunsaker at 775-340-0289, or e-mail Andrea Rascati, office manager at: info@2015qsnsymposium.org.

Registrants for field trips and short courses must register in one of the four categories below, unless otherwise noted by price designation. All Technical Session Registrants will receive a **CD Version of the symposium volumes**.

*Cancellation fees apply. Please see registration website for more information. Early (Registration must be received by February 28, 2015) Member \$325/Non-member \$375 \$ <u>N/A</u> \$_____ Regular (between March 1 and April 30, 2015) \$375 Member/\$425 Non-member On-Site/Late (after April 30, 2015) \$425 Member/\$475 Non-member **One-Day Technical Session Pass** \$212.50 **Student** (must be able to show proof of student status) **\$150** Exhibits-Only 4-Day Pass (may not attend technical sessions, no Symposium CD) \$75 Spouse Pass (may not attend technical sessions, no Symposium CD) \$20/day Pre-Meeting Field Trips and Short Courses (limited number of spaces) Field Trip 1-Introduction to Carlin Gold Deposits Nevada (May 14-16) \$400 Field Trip 2-Epithermal Deposits of Northern Nevada, (May 14-16) \$450 Field Trip 3-Mining for the Non-Geologists: Exploration to Reclamation (May 14-16) \$375* *Not required to register for the Symposium Technical Program Field Trip 4-Epithermal Deposits of Central Nevada (May 14-16) \$450 **Short Course 1**-*Ore Reserve Estimates in the Real World* (May 15-17) Registrant \$675, Non-Registrant \$850, Student \$150 **Short Course 2**-*Modern Drilling Systems: The Hardware* (May 13-14) Registrant and Non-Registrant \$195, Student \$25 **Short Course 3**-*Modern Drilling Fluids: The Software* (May 15-16) Registrant \$450, Non-Registrant \$550, Student \$100 **Short Course 4**-*Great Basin and Cordillera Mining Geophysics* (May 16) Registrant \$225, Non-Registrant \$350, Student \$50 **Short Course 7**-Analytical Methods in Geochemistry (May 17) Registrant \$225, Non-Registrant \$350, Student \$50 **Short Course 10** - *Geochemical Data Analysis using ioGAS* (May 16) Registrant \$200, Non-Registrant \$250, Student \$50 SUNDAY, MAY 17, 2015 - G.S.N. and Society of Economic Geologists Forum Topic: "Carlin-Like Gold Deposits: What Can We Learn Beyond the Known Trends and Nevada?" Symposium Registration not required, but encouraged; Cost \$195.00, Students \$100 **Keynote Luncheons:** Monday, May 18th - Chuck Thorman, Keynote Speaker Cost \$35.00 Tuesday, May 19th-Andreas Audétat, Keynote Speaker Cost \$35.00 Wednesday, May 20th-Brent Cook, Keynote Speaker Cost \$35.00



REGISTRATION FORM (continued) Geological Society of Nevada 2015 Symposium May 14th-23rd, 2015



Post-Meeting Field Trips and Short Courses (limited number of spaces):

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Field Trip 6-Porphyry-Related	d Deposits of Nevada (M	lay 21-23) \$425		\$		
Short Course 6-Epithermal L	Deposits: Characteristics	and Processes (May 21-	23) in combination with			
Field Trip 7*-The Famous Co	omstock Gold and Silver	District (May 23)				
Registrant \$575 , Non	n-Registrant \$700 , Stude	ent \$125		\$		
*Will be open to field trip participation only (May 23) in April, 2015. Field Trip Only Cost \$100						
Short Course 8 - Geometallu	ırgy: Applied Metallurgy	for Geologists (May 21-2	22)			
Registrant \$450 , Non	n-Registrant \$550 , Stude	ent \$100		\$		
Short Course 9 - Leapfrog M	lodeling for Exploration a	and Development (May 2	21-22)	\$		
Short Course 11- Paper to E	Electrons: Practical GIS fo	or Geoscientists (May 22)			
Registrant \$225 , Non	n-Registrant \$350 , Stude	ent \$ 50		\$		
<u>Technical Proceedings Volumes:</u>						
GSN 2015 Proceedings CD	Volume \$100* (Shippin	ng included)				
*Free with full symposium registration						
GSN 2015 Proceedings Hard Bound Volume Pre-Order Price \$200 (To be picked up in Reno)						
*If you do not pick up your proceeding	ngs at symposium you will be b	billed for shipping before you w	vill receive your volume			
GSN 2015 Proceedings <i>Hard Bound Volume</i> Pre-Order Price \$220 (Mailed to a U.S Address)						
Mail this volume to US address	s:					
DRINK TICKETS:	\$6.00 each			\$		
GSN MEMBERSHIP DUES:	\$50.00 year			\$		
			TOTAL DUE:	\$		
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To pay by credit card please go to http://www.gsnv.org/2015-symposium to find the registration link. (Please fill out a separate form for your spouse.) Please enclose check/money order, made payable to "GSN Symposium 2015" and mail to GSN 2175 Raggio Pkwy., Reno, NV 89512. Please, no mail submissions after May 8th, 2015.

Hotel rooms at J.A. Nugget Hotel (<u>www.janugget.com</u>), please call 1-800-648-1177 and use the code **"GGSN"** to get the group reservation rate.

ATTENTION GSN GOLFERS!!



MINERALS

The GSN's Annual Golf Tournament will be held on Saturday, June 13, 2015. We are pleased to have Bureau Veritas Minerals (formerly Inspectorate & Acme Labs) as the main sponsor for the 6th year in a row! "Shotgun Start" will be at 8:00 a.m. (tentative) at the Washoe Golf Course, Reno, NV.



Registration forms will be available in the May newsletter and will also be sent by email sometime in April.

Members can sign up alone or as a two-, three-, or foursome. Each GSN Member is allowed ONE guest. The Registration fee will include 18 holes of golf, dinner, and drink coupons. The GSN Foundation will be selling Mulligan's for \$5 each with a limit of four per person. The Foundation will also be selling raffle ticket for \$5.00 each or 5 for \$20.00. We always have great prizes donated for the raffle! All proceeds raised will benefit the GSN Foundation. Please join us for a great time and we thank you in advance for supporting the GSN Foundation.



WE ARE IN NEED OF RAFFLE PRIZES (or cash donations) for the Foundation's Golf Tourney Raffle. PLEASE CONTACT Eric Ruud at eric.ruud@bureauveritas.com or Cami Prenn at cami@mda.com to donate!











NOTES FROM THE GSN FOUNDATION

Goldcorp, Inc. has joined the Foundation for another year in supporting UNR Field Course scholarship grants. Goldcorp's \$5,000 donation, coupled with Foundation funds, allows us to assist 17 geology/geological engineering majors to attend this required course. Thank you Goldcorp, and the GSN membership, for contributing to the Foundation so that we can maintain field course scholarships as one of our keystone programs.

Over the last 15 years the Foundation has been able to support several important programs. A summary of the totals for the most significant programs are as follows-

K-12 Field Trips- \$142,385

UNR Scholarships- \$29,000

UNR Field Camp Scholarships-\$51,000

UNLV Scholarships-\$9,000

Great Basin College Scholarships-\$5,000

NBMG Mapping Program \$19,000

These are the major programs. We have also contributed to the DeLaMare library, UNR Yerington porphyry mapping course, Stanford ore mineral collection cataloging, and several others. The support of our members and friends has made this possible. Thank you.

Roger C. Steininger Chair, GSN Foundation

Thank you to our generous donors in March

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Greg Taylor

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STUDENT FIELD TRIP FUND

Kenneth Dresang Pablo Garcia del Real Russell Myers Greg Taylor

G.S.N. SYMPOSIUM 2015 SHORT COURSES!!

The Symposium Short Courses Committee has lined up an amazing slate of courses available pre – and post-Symposium. Check your mail for the new REGISTRATION BOOKLET that includes all of the descriptions and prices!!

Or check out the website:

http://www.gsnv.org/2015-symposium

				2015 GSN Sym	2015 GSN Symposium Schedule				
May 14th-May 16th	May 17th	Mav	May 18th	Mav	May 19th	Ma	May 20th	May 21st	May 21st-May 23rd
Thursday-Saturday	Sunday	Mo	Monday	Tues	Tuesday	Wed	Wednesday	Thursday	Thursday-Saturday
Pre-meeting field trips:	7:00 AM-7:00 PM	VA 00:7	7:00 AM-7:00 PM	MA 00:7	7:00 AM-6:30 PM	7:00 AI	7:00 AM-6:00 PM	7:00 AM-12:00 PM	Post-meeting field trips:
Please refer to the descriptions	Registration	Regis	Registration	Regist	Registration	Regi	Registration	Registration	Please refer to the descriptions
on the following pages.	Pavilion Foyer	Pavilio	Pavilion Foyer	Pavilion	Pavilion Foyer	Pavili	Pavilion Foyer	Pavilion Foyer	on the following pages.
May 14th-May 16th					Morning Coffee				May 21st-23rd
 Introduction to Carlin Gold 					7:30 AM - 8:30 AM				 The Pequop Trend- Nevada's
Deposits	Exhibit Hall Open	Exhibit	Exhibit Hall Open	H TIPIT T	Exhibit Hall Open	Exhibit	Exhibit Hall Open		Newest "Carlin" Trend
 Epithermal Deposits of 	5:00 - 7:00 PM	9:30 AM	9:30 AM - 6:30 PM	9:30 AM - 6:30 PM	- 6:30 PM	9:30 AM	9:30 AM - 5:00 PM		 Porphyry-related Deposits
Northern Nevada	7:00 AM - 5:00 PM					- 00:5	5:00 - 7:00 PM	7:00 AM - 12:00 PM	of Nevada
 Mining for Non-Geologists 	Exhibitor Setup					Exhibitor	Exhibitor Takedown	Exhibitor Takedown	May 23rd
Exploration to Reclamation	8:00 AM - 6:00 PM	8:00 AM	8:00 AM - 11:50 AM	- WY 05:8	8:30 AM - 11:50 AM	8:30 AM	8:30 AM - 11:50 AM	8:30 AM - 11:50 AM	 The Famous Comstock Gold
 Epithermal Deposits of 	SEG Forum	Rose A	Rose A/B Room	Rose A/	Rose A/B Room	Rose A	Rose A/B Room	Rose A/B Room	& Silver District
Central Nevada		The Haywood Se	The Haywood Securities Session on			The Newmo	The Newmont Session on		
Pre-meeting short courses:	Ponderosa/	Great Basin Geolo	Great Basin Geology and Metallogeny	Back from the Bush:	Back from the Bush: Exploration Update	Advances in Carlir	Advances in Carlin-type Gold Deposits	Epithermal Deposits	Post-meeting short courses:
Please refer to the descriptions	Bonanza Room	Keynote:	Keynote: Harry Cook	Keynote: Na	Keynote: Nancy Richter	Keynote:	Keynote: David Rhys	Keynote: David John	Please refer to the descriptions
on the following pages.		,			,				on the following pages.
May 13-14th	Carlin-Like Gold								May 21st - May 22nd
Modern Drilling Systems:	Deposits: What			10:1	10:15 AM- 10:30 AM Coffee Break	reak			Geometallurgy: Applied
The Hardware	Can We Learn	12:00 PM	12:00 PM - 1:00 PM	MQ 00-21	12:00 PM - 1:00 PM	12:00 PA	12:00 PM - 1:00 PM		Metallurey for Geologists
May 15-16th	Revond the Known	Inucheon: Chuck	Lincheon: Chuck Thorman Speaker	Inncheon: Andrea	uncheon: Andreas Audetat Speaker	Inncheon: Bre	uncheon: Brent Cook Speaker		*I Panfror Modeline for
Modern Drilling Fluids:	Trends and	Chou	chournom	Show	Showroom	od)	chowrnom		Exploration and Develonment
The Coffeen	Monde								The same of the sa
The Software	Nevada:			Sponsored by: Persning Gold	Persning Cold	Sponsored by: Mine L	Sponsored by: Mine Development Associates		May 21st - May 23rd
May 15-17th									• Epithermal Deposits:
Ore Reserve Estimates			l			l			Characteristics and
in the Real World		Concurrent	Concurrent	Concurrent	Concurrent	Concurrent	Concurrent		Processes
May 16th		Session A	Session B	Session A	Session B	Session A	Session B		
 Great Basin and Western 		Rose AB	Ponderosa AB	Rose AB	Ponderosa AB	Rose AB	Ponderosa AB		
Cordillera Mining		1:30 PM - 5:00 PM	1:30 PM - 5:00 PM	1:30 PM - 5:00 PM	1:30 PM - 5:00 PM	1:30 PM - 5:00 PM	1:30 PM - 5:00 PM		
Geophysics			The Haywood Securities			Diversify! Beyond the	The Newmont Session		
 Geochemical Data Analysis 			Session on Great Basin			Big 3	On Advances in Carlin-		
using ioGAS		Exploration Technology	Geology and	Intrusion Related	Northeastern Nevada:		type Gold Deposits		
 Paper to Electrons: Practical 			Metallogeny	Deposits	The New Frontier	Metallogeny of the	(continued)		
GIS for Geoscientists			(continued)	,		Humboldt Range			
May 17th				3:00 PM- 3:30	3:00 PM- 3:30 PM Coffee Break				
Geochemical Analytic			Bar Opens	Bar Opens at 3:30 pm					
Methods			•		Exhibit Hall Reception				
	Ice Breaker	Exhibit Ha	Exhibit Hall Reception	4:00	4:00 - 6:30	Closing	Closing Reception		
	5:00 PM - 7:00 PM	4:00	4:00 - 6:30			6:00 PM	6:00 PM - 8:30 PM		
	Exhibit Hall			Alumn 6:30 PM	Alumni Event 6:30 PM - 8:30 PM	Kestaura	Kestaurante Orozko		
				Pool Side	Pool Side Terrace				

*********** **GSN 2015-2016 BALLOT**

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This Ballot will also be attached as a separate file to your email so you can submit online!

In accordance with Article V, Section 4 of the GSN Constitution and Article II of the GSN By-Laws, the GSN Executive 🖈 Committee and the GSN Board of Directors are recommending the slate of candidates listed below to serve as Officers 🌣 for 2015-2016 and Directors for 2015-2018; these positions become effective on June 1st.

The entire GSN membership has the right to vote separately on approving the elected positions to the GSN Executive Committee and the Class A three year term on the Board of Directors as presented below:

Officers for the 2015-2016 GSN Executive Committee

<u>PRESIDENT</u>	SECRETARY	MEMBERSHIP CHAIR	
Elizabeth Zbinden Steve Weiss Bob Felder		Bob Felder	
VICE PRESIDENT TREASURER PUBLICATIONS CHAIR			
Alan Coyner Robert Kastelic Dave Boden			
FOR SLA	ATE AGAIN	NST SLATE	
**********	GSN Board of Direct	**************************************	
<u>Cla</u>	ss A: Three Year Term –	2015 to 2018	
	Lynne Volpi		
	John Watson		
FOR BC	OTH AGAII	NST BOTH	
***********	******************	*************	
CURRENT GSN MEMBER'S NAME	:		
(All votes must include the GSN Mer	mber's Name. Vote without a name	e will not be counted.)	
	n order for the vote on this ballot	to: GSN, 2175 Raggio Parkway, Reno, Nevada to be counted the completed ballot must be re- 15. Thank you for your participation.	

Activity Update

Mike Brady, FEBRUARY 2015 www.activityupdate.com

NEVADA

Coeur Mining Inc. announced that it recorded a 4th quarter write-down of \$1,022,000,000 of its assets due to the lower metal prices. *Press Release:* February 18

Coeur Mining Inc. announced that reserves at the Rochester Mine aggregate 132,031,000 tonnes @ 18.8 gpt Ag, 0.14 gpt Au proven+probable. (was 72,657,000 tonnes @ 19.1 gpt Ag, 0.14 gpt Au proven+probable) *Press Release:* February 18

Renaissance Gold Inc. announced that recent drill results at the 4th of July Project include 60.9-91.9 meters @ 13.45 gpt Ag, 0.02 gpt Au (FOJDH-1) and 87.2-90.5 meters @ 0.13 gpt Au (FOJDH-3). *Press Release:* February 17

Montrose Gold Ltd. announced that it purchased a 100% interest in the Rosebud Property from Harvest Gold Corp. for \$300,000. *Press Release:* February 12

Tertiary Minerals plc. announced that recent drill results at the MB Project include 97.54-117.35 meters @ 10.23% CaF2 (14TMBRC030); 48.77-131.07 meters @ 11.31% CaF2 (14TMBRC032) and 91.44-224.03 meters @ 12.90% CaF2 (14TMBRC033). (resource = 8,900,000 tonnes @ 10.3% CaF2 indicated) *Press Release*: February 11

Veris Gold Corp. announced that the Supreme Court of British Columbia extended the deadline for a potential sale of the company's assets to March 31, 2015 since no qualified bid has been received to date. (underground reserve @ Jerritt Canyon = 5,696,000 tonnes @ 5.7 gpt Auproven+probable) *Press Release*: February 23

West Kirkland Mining Inc. announced that recent drill results at the Three Hills Project include 106.68-123.44 meters @ 1.24 gpt Au (TH14R-07); 131.06-138.68 meters @ 0.54 gpt Au (TH14R-08) and 108.2-121.91 meters @ 0.42 gpt Au (TH14R-10). (resource = 7,731,000 tonnes @ 0.61 gpt Au measured+indicated) *Press Release:* January 27

Pershing Gold Corp. announced that recent drill results at the Relief Canyon Project include 114.8-128.6 meters @ 7.86 gpt Au (RC15-265A); 16.2-28.3 meters @ 0.76 gpt Au (RC15-266); 51.8-79.2 meters @ 0.38 gpt Au (RC15-267) and 121.3-149.3 meters @ 1.74 gpt Au (RC15-269). (resource = 24,270,000 tonnes @ 0.68 gpt Au measured+indicated) *Press Release:* February 11

Laurion Mineral Exploration Inc. announced that it terminated the participating rights to the Bell Mountain Property of Lincoln Mining Corp. due to a breach of contract. (resource = 9,761,000 tonnes @ 0.51 gpt Au, 18 gpt Ag measured+indicated) *Press Release:* February 4

Klondex Mines Ltd. announced that based on recent studies at the Fire Creek Mine, reserves aggregate 168,900 tonnes @ 43.85 gpt Au, 31.6 gpt Ag proven+probable. (was 206,400 tonnes @ 44.7 gpt Au measured+indicated) *Press Release:* February 23

Klondex Mines Ltd. announced that based on recent studies at the Midas Mine, reserves aggregate 220,000 tonnes @ 12.90 gpt Au, 372.9 gpt Ag proven+probable. (was 1,117,000 tonnes @ 12.9 gpt Au, 207.7 gpt Ag measured+indicated) *Press Release:* February 23

Goldspike Exploration Inc. announced that recent drill results at the Lone Mountain Project include 138.68-164.59 meters @ 5.21% Zn, 0.22% Pb (LM14-12); 109.73-169.16 meters @ 7.32% Zn, 0.64% Pb (LM14-13); 120.4-213.36 meters @ 3.47% Zn, 1.33% Pb (LM14-14) and 92.96-99.06 meters @ 1.32% Zn, 2.92% Pb (LM14-15). *Press Release:* February 19

Boss Power Corp. announced that it acquired an option to earn a 100% interest in the Bell Mountain Property from Laurion Mineral Exploration Inc. for \$200,000 cash now and future, yet to be determined terms. (resource = 9,761,000 tonnes @ 0.51 gpt Au, 18 gpt Ag measured+indicated) *Press Release:* February 25

ROCK TALK



THESE ARTICLES REPRINTED WITH PERMISSION FROM THE AEMA'S MARCH 2015 BULLETIN



http://www.miningamerica.org/

President's Budget Hits Mining

In early February The President released his proposed FY16 budget. As in his previous budget proposals, the hardrock mining industry would be subjected to a royalty of not less than 5% of gross proceeds, increases for annual claim maintenance fees, and a new mineral leasing process.

The proposed Bureau of Land Management budget also eliminates the fee exemption for miners holding 10 or fewer mining claims. The budget is largely viewed as symbolic with very little chance of adoption by the current congress.

Grajivala Introduces Mining Law Reform

House Natural Resources Ranking Member Raul M. Grijalva (D-Ariz.) introduced the "*Hardrock Mining Reform and Reclamation Act of 2015*". The legislation is largely viewed as having very little chance of having a hearing. let alone passage in the GOP controlled committee.

The Legislation

Rep. Grijalva's proposal is nearly identical to the DeFazio Mining Law bill (H.R. 5060) introduced last Congress. The legislation would:

- Impose an 8 percent gross royalty on production from future hardrock mines on public lands and a 4 percent gross royalty on currently operating mines;
- Raise the annual claims maintenance fee to \$200 per claim;
- Provide the secretary of the Interior overly-broad discretion to disapprove mining projects that are in compliance with all relevant laws and regulations ("mine veto");
- Eliminate patenting without providing for security of title and tenure needed to attract investment capital for mining projects;
- Mandate establishment of new, duplicative environmental standards;
- Require the secretary of the Interior to grant withdrawal petitions submitted by states, political subdivisions and Indian tribes unless the petition is not in the national interest; and

Impose a reclamation fee of seven cents per ton of displaced material on mines located on federal, state, tribal or private lands to be paid no later than 60 days after the end of each year.

Sage Grouse Update

In December, Congress passed the FY2015 CRomnibus funding all federal agencies except the Department of Homeland Security. Included in the CRomnibus was a rider prohibiting the Secretary of the Interior from writing or issuing an ESA rule for the Greater Sage-grouse, the Columbia Basin Distinct Population Segment, the Bi-State Distinct Population Segment or the Gunnison Sage-grouse. Subsequently, Sec. Jewell made it clear she was interpreting this rider to only prohibit the publication of a rule in the Federal Register and that she intended to proceed with making a determination by the arbitrary court-imposed September 30, 2015 deadline. She has repeatedly said that Fish and Wildlife Service is under a court order.

Sen. Corey Gardner (R-CO) is working with other co-sponsors of last year's Gardner/Enzi bill that would provide time for the state plans to be implemented, demonstrate effectiveness and provide the necessary track record to support a "not warranted" decision. We expect the legislation to be introduced within the next few weeks.

FWS Demands Protection of 16.5 million acres

In early February, congressional staff and E&E obtained a copy of an October 27, 2014 **memo** with maps from FWS Director Dan Ashe to BLM Director Neil Kornze and USFS Chief Tom Tidwell advising BLM and USFS to impose the (CONT. ON PG. 16)

(AEMA ARTICLES—CONT. FROM PG. 15)

most stringent protections on 16.5 million acres of priority sage-grouse habitat. The memo described the 16.5 million acres which are contained within the 75 million acres of Priority Areas of Conservation (PACS) as "strongholds." Director Ashe stated that protection of "strongholds" will be a factor in the listing decision. Wyoming Governor Matt Mead wrote this <u>letter</u> in response to the memo expressing concern that additional protections in Wyoming will upset the balance achieved in Wyoming's core strategy approach to sage-grouse conservation.

If BLM were to incorporate the protections advised by FWS Director Ashe, it would be the equivalent of a mineral withdrawal.

Jewell Issues Secretarial Order on Wildfire

Secretary of the Interior Sally Jewell issued a <u>Secretarial Order</u> aiming to curb rangeland fire in the Great Basin and reduce threats to imperiled species including greater sage grouse. The five-page order prescribes policies for preventing and suppressing rangeland fires and for restoring landscapes that do burn. It seeks to bolster sage grouse as well as the 350 other species that dwell amid the sagebrush steppe, including popular game species like elk and pronghorn.

The order comes as invasive species, namely cheatgrass and medusahead rye, have led to larger and more frequent wildfires in states including Idaho, Utah, Nevada, Oregon and California. Sage grouse face a panoply of threats across their 11-state Western range -- including oil and gas development, transmission lines, roads and even ravens -- but a top threat in these Great Basin states is wildfire and invasive cheatgrass.

OTHER UPCOMING EVENTS

<u>April 2, 2015</u>—NV Petroleum & Geothermal Society *Meeting. Speaker* & Topic to be Announced. Ramada Reno Hotel, 1000 E. 6th Street, Reno, NV. Cocktail Reception 6:30, Skyline Bar, 14th Floor. Dinner 7 pm, Talk at 8 pm. NPS Members \$20; Non-members \$23; Students—\$10. RSVP by Mar. 31st with the following link: https://docs.google.com/forms/d/1tT4BySayTuvkhsJzZ1wdFjHXGmPIRRgiR8lgoPuCDjA/viewform

<u>April 11, 2015</u>—SME Northern Nevada Section. Happy Hour @ 6pm, Dinner @ 6:45 pm; Talk @ 7:30 pm. Circus-Circus Mandalay Room, Reno, Nevada. **Speaker & Topic to be Announced.** Members-\$30; Nonmembers \$35; Students free. Please make reservations by Wednesday, April 8. RSVP to Brooke Miller: NNevSME@gmail.com.

<u>April 20-24, 2015</u>—27th International Applied Geochemistry Symposium, Location: Tucson, AZ. Website: www.27iags.com

<u>May 31-June 3, 2015</u>—2015 AAPG Annual Convention & Exhibition, Colorado Convention Center, Denver, CO. http://ace.aapg.org/2015

<u>June 12, 2015</u>—GEOLOGICAL SOCIETY OF NEVADA MEMBERSHIP PICNIC hosted by the GSN's Board of Directors. Rancho San Rafael Park, Pagoda Pavillion, Reno, NV. Jon Price is resurrecting the traditional games of "rock hammer throw" and "gold pan toss". Prizes will be awarded! Please RSVP to the GSN office, gsn@gsnv.org.

<u>June 13, 2015</u>—GSN's Annual Golf Tournament, Washoe Golf Course, Reno, Nevada. Tentative Shotgun start @ 8:00 a.m.. BBQ to follow. Many fabulous raffle prizes will be available to benefit the GSN FOUNDATION. Registration form will be in the May newsletter and emailed to the members April.

IT'S ALMOST HERE!!!!

14-23 MAY 2015, GSN SYMPOSIUM 2015: NEW CONCEPTS AND DISCOVERIES

Being held at J.A. Nugget, Sparks, Nevada. Pre— and Post-Field Trips, Short Courses, Exhibits, Technical Program and GSN-SEG Forum. For more information please contact Molly Hunsaker, mollymhunsaker@2015GSNsymposium.org or Andrea Rascati at info@2015gsnsymposium.org.

REGISTER NOW for the Technical Session, SEG Forum, Field Trips, Short Courses and Exhibits online at: www.gsnv.org/2015-symposium. REGISTRATION IS OPEN & EXHIBITS & FIELD TRIPS ARE FILLING FAST!!

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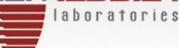
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Telephone/Fax: (775) 738-9100

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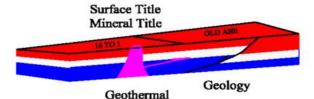


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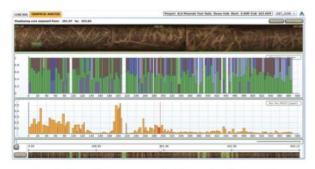






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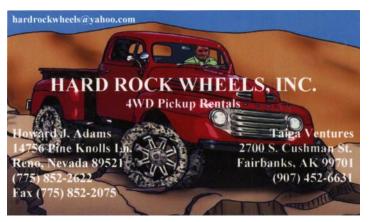


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