GEOLOGICAL SOCIETY OF NEVADA
NEWSLETTER

Geological Society of Nevada, 2175 Raggio Parkway, Room 107, Reno, NV 89512
(775) 323-3500 - Hours Monday -- Friday, 8 a.m. to 4 p.m.
Website: www.gsnv.org • E-mail: gsn@gsnv.org

November 2012, Vol. 28, No. 9 **Published monthly except June and July**

CALENDAR OF GSN EVENTS

Nov. 15, 2012
Thursday

JOINT MEETING OF ELKO & WINNEMUCCA CHAPTERS IN BATTLE MOUNTAIN
The 2nd Annual joint meeting of the GSN Elko & Winnemucca Chapters will be held at the HideAway Steakhouse in Battle Mountain. Drinks and Appetizers @ 6:00 PM, Talk @ 7:00 PM. Speaker: Alejandro Ly, Barrick Gold. Title "Perseverance Leads to a Carlin-style Gold Discovery in Nevada: Goldrush". Co-Sponsors for the evening are **Barrick Gold Corp. & Newmont Mining Corp.** For more information contact Leann Graf: leann.graf@newmont.com or Jared Townsend: jtownsend@barrick.com.
(See Abstract on page 6.) Details coming soon regarding bus/van transportation from Winnemucca & Elko!

Nov. 16, 2012
Friday

GSN MEMBERSHIP MEETING (*Every 3rd Friday of the month*)
The monthly meeting will be held at the Reno Elks Lodge, 597 Kumle Lane, Reno. Drinks at 6:00 PM, Dinner at 7:00 PM, Talk at 8:00 PM. Speaker: David Boden, TMCC. Title: "Geothermal Energy—the Mining of Heat". **Sponsor for the evening is: TonaTec Exploration, LLC.** Dinner reservations must be made by NOON Thurs., Nov. 15th. Call Laura Ruud at (775) 323-3500; or email: gsn@gsnv.org. $25/each. Note new price! (Abstract on page 3.)

Nov. 29, 2012
Thursday

SOUTHERN NEVADA CHAPTER (*Every last Thursday of the month)*
Speaker TBA. For more info. contact R. Paul Bowen, 702-247-7765.

Dec. 19, 2012
Wednesday

GSN CHRISTMAS MEETING, ROCK RAFFLE & SILENT AUCTION
The Christmas meeting will be held at the Reno Elks Lodge, 597 Kumle Lane, Reno, NV. Drinks at 6:00 PM, dinner at 7:00 PM, and talk at 8:00 PM. Our Speaker is **Dean Heitt, Newmont Mining. Topic: History of the Carlin Trend.** Co-Sponsors for the evening will be **CGS, Inc., Miranda Gold and Skyline Labs.**

It's Time to Renew Your Dues for 2013!!
Don't be left out of the 2013 Directory.

Online: www.gsnv.org/membershipform.php or see form on page 12.

GSN NOVEMBER MEETING SPONSOR

FROM THE PRESIDENT

David Emmons, G.S.N. President 2012—2013

Dear GSN Members,

Welcome to November, this year is going faster than I ever imagined. I hope everyone had a good field season this year as things wind down in the fall. The GSN 2012-2013 year is well underway. The GSN Fall Field Trip was a success and sold out. Thanks to Tommy Thompson and the others involved in planning the trip and compiling the guidebook. The speaker for the October meeting was Lori Carpenter, Hydrologist with 7Q10, Inc. She gave an interesting and informative presentation on hydrology and ground water in Nevada. She finished up with some comments on the sage grouse issue in the western United States. The speaker for November is Dave Boden.

The conference season is nearly upon us. The NWMA meeting this December is in Spokane and GSN will have a booth at the convention. Also, GSN will have a booth at the PDAC in Toronto in 2013. If you attend, please make sure to stop by the booth and find out what is new with GSN. Also, contact Laura Ruud if you would like to volunteer for some "booth time." The PDAC is one of the largest minerals events and is a great opportunity for GSN to get in front of thousands of geologists and others involved in mineral exploration.

Another reminder that now is the time to renew your GSN membership. The renewals are due by Dec. 31st to insure that your information is in the GSN directory. GSN currently has over 1,300 members and the EC has set a goal of 1,400 members for 2012-2013.

The 2015 GSN symposium is in the early planning stages. Please contact Eric Ruud if you would like to volunteer.

Those of you that started your careers in the 1970's may remember the old square Ford Bronco in the photo at the end of this column.

And now the geology quote for November:

"There is no thrill like the thrill of discovery; no life like the life of a mining camp in the days of its youth. Nevada had known them in full and overflowing measure. The salt of the sea in the blood of a sailor is but a weak and insipid condiment compared with the solution of cyanide, sage and silicate in the blood of the prospector."
— C.B. Glasscock

Signing off for now – see you at the November 19th meeting.

GSN November 16, 2012 Membership Meeting

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

GSN CANNOT GUARANTEE DINNER SEATING WITHOUT ADVANCE RESERVATIONS.
Please call 775-323-3500, Fax 775-323-3599 or e-mail gsn@gsnv.org by **NOON on Thursday, November 15, 2012.**
Social Hour: 6:00 PM – Dinner: 7:00 PM – Speaker: 8:00 PM
$25.00 per person. NOTE NEW PRICE!!
Location: Elks Lodge, 597 Kumle Lane, Reno, NV
Directions: across (W) from the Reno-Sparks Convention Center
(S. Virginia Street, behind the Les Schwab Tire Center)

Geothermal Energy—the Mining of Heat

Dave R. Boden
Truckee Meadows Community College

Geothermal energy is the harnessing of earth's heat, and similar to the mining of minerals, for the benefit of society. Indeed, active geothermal systems are modern analogs of many types of mineral deposits, but where grade is measured by temperature and the tonnage by volume of the reservoir. In some cases, active geothermal systems and economic mineral deposits are superimposed, such as the very large Ladolam Gold Mine (~200 million tons at ~0.1 opt Au) on Lihir Island in New Guinea, or here in the Great Basin where hot fluids are encountered in the mining of geologically young mineral deposits at Florida Canyon and at Sulfur (Hycroft mine). About 75% of the mining operation's power needs at Ladolam come from a 56-MW onsite geothermal power plant, saving an estimated $40M a year in fuel costs.

Geothermal energy has three main uses: (1) electrical power production, (2) direct use, and (3) ground-source heat pumps. Geothermal energy used for power production can be subdivided into high-enthalpy resources (generally >150°C) and low-enthalpy resources (~100°C to ~150°C). Direct use generally reflects fluids <100°C and is most commonly used in the heating and cooling of buildings, but is also used in aquaculture, deicing of streets and sidewalks, fruit and vegetable drying, and of course at select spas and resorts. As of 2010, the thermal load of the Peppermill Hotel here in Reno is fully supplied by a geothermal well tapping fluid at 80°C, saving about $2.2M per year in natural gas costs. Heat pumps have the widest application and basically make use of the earth as a thermal bank for withdrawing or depositing heat.

According to the U. S. Energy Information Administration, renewable energy makes up about 9% of our energy portfolio with geothermal contributing only about 5% of renewable energy sector. Despite this current modest figure, geothermal could be poised for rapid growth depending in part on the prices of fossil fuels (natural gas is especially cheap now due to a robust supply and technological advances in extraction) and national will for developing low-polluting, alternative sources of energy. Much of that potential growth will occur in Nevada due to a very favorable geologic setting (see below) and where, according to a recent report by the Geothermal Energy Association, nearly 60 projects are in various stages of development that could account for an additional 2000 MW to the current ~500 MW of installed geothermal power capacity. Indeed, geothermal accounts for about 7.5% of the power generated in Nevada, which has the highest per capita usage of geothermal power in the country.

There are two types of geothermal systems, vapor dominated and liquid dominated. Vapor-dominated systems are characterized by super-heated steam and are geologically rare, but nonetheless constitute two of the most productive geothermal systems on the planet—the Geysers in northern California and Larderello in northern Italy. These are the gems of the geothermal power because virtually all the steam piped from the ground goes to the power plant to drive the turbine-generator. Formation of vapor-dominated reservoirs requires unique geothermal conditions in which there is a potent heat source to boil hydrothermal fluids and a sufficiently sealed reservoir to allow below hydrostatic pressure and slow inflow so that incoming liquid can be boiled without flooding the reservoir. For that reason, most geothermal systems are liquid dominated because the pressure exceeds the boiling-with-depth curve. In high enthalpy, liquid-dominated systems, the fluid begins flashing to steam as it rises in the well and the steam portion is separated and goes to the turbine-generator in the power plant. The remaining brine is re-injected or reused (see below). Because of this partitioning of steam and brine, only about 30% of the fluid's thermal mass is used then in power production if brine is re-injected directly after separation. For low enthalpy systems, the geothermal fluid is not flashed but used to heat a secondary or binary working fluid that has a low boiling point. The vapor of this working fluid is then used to drive a turbine-generator. These are called binary power plants and are the most common plants built in Nevada during the last 10 years. In some cases, flash plants are combined with binary plants (called bottoming units in this case) to extract as much heat (energy) as possible from the fluid before re-injecting.

(continued on page 7)

"FACES OF GSN"

Tom Burkhart

VP of Exploration, Argonaut Gold Inc.


Cris and I in the high Sierras

I used to not know how to spell geologist and now I are one. Back in 1973, before I decided to be a geologist, I was working as a helicopter mechanic for the Forest Service and traveling around to forest fires. I had just got out of the Army and I was living in Placerville, California and taking a few classes at the local community college. The school was affectionately known as UBR (University Behind Raley's). There was a Professor there named George Wheeldon who was teaching Geology. I took George's 101 Geology class and quickly realized how much I appreciated knowing about the geologic world around me. I can't remember what I used to think about my surroundings before I took this class. It seems normal now as I go about my business to constantly size up my geologic surroundings – what does it all mean? I remember the first George Wheeldon field trip was down to the Mono Lake – Mammoth area of California. We all climbed up into the Sierras above Convict Lake to visit an Ordovician roof pendent that was host to Graptolite fossils. The idea that this formation was deposited in an ancient sea 450 million years ago and was now sitting on top of a granite mountain was way too much for me to comprehend. I mean "how did that happen". I suddenly realized that I was missing out. So much to learn and so little time! George's enthusiasm for geology and the earth sciences was contagious and I knew that geology was my future. George, (who is also a member of GSN) if you are reading this I owe you a big thanks (again).

I decided to say good bye to my career in aircraft mechanics and set my sights on rocks. At the time I had no real idea what a geologist did to pay the bills but I didn't much care. I could pack everything I owned in the back of my 1965 Chevy pickup so wasn't too concerned about making responsible decisions. After taking as much general education and electives that UBR had to offer, I set out for the Mackay School of Mines. While in Placerville between deciding to be a geologist and actually heading for Reno, I got married to Cris. And the biggest thanks of all go to her. We have been married for nearly 40 years now and she has put up with a lot from me and my geologic adventures. She went to Reno with me and her efforts and support made it possible for me to graduate in 1979 as a real geologist. While attending UNR I spent two summers working for Homestake traveling around Nevada mapping and sampling gold districts. This is when I started to see how a person might actually earn a paycheck doing this geology stuff. How about that? Spend your life looking for gold and getting paid for it. With Homestake I had the good fortune to work with some real top-notch "old-school" geologists that taught me the basics and I think put me on the right track. It was these summer jobs that convinced me that I made the proper decision to follow the geology trail.


Me and Pancho

My first job out of school was with Gulf Mineral Resources who sent me to Montana to work on a moly porphyry system called Bald Butte. Gulf gave me a Dodge pickup and expense account and sent me to Big Sky Country. How good is that? My time working on this porphyry deposit and studying others pretty much turned me into a "magmatist". The importance of intrusive systems to mineralization cannot be overstated and the more mineral systems I see the more I believe it.

While with Gulf I also worked in central Nevada and had the good fortune to be part of the Hill Top discovery located in the Northern Shoshone Range. During this time I also learned to really loathe the Upper Plate, but this is another story. When I went to work for Gulf I figured I would stay with them for 30 years and retire. Well five years later Gulf didn't even exist and I was confronted by a new reality. This geology business isn't all that secure.

After Gulf I soon obtained a job with a recently formed company called Pegasus Gold who had started an open-pit, heap leach operation at Zortman-Landusky in Montana right when the gold price jumped to over $800. The money was rolling in and they were in a serious property acquisition mode. Pegasus pioneered heap-leaching of low grade gold deposits and when I hired on they had just acquired Florida Canyon. I was the first project geologist for Pegasus there and put in the first holes for the Company. Homestake and Asarco had already drilled parts of the system but during their time the gold grades were considered too low to be economic. We were the first to see this as a potential

El Castillo Mine - the hole behind me hit 57 meters of 1.5 g/t Au starting from surface

mine. I ran the exploration program until we had drilled out a resource of around 250,000 ounces which was the point when the Company made a production decision. Although I stayed involved with the project when it went into development, I moved into generative exploration as a Senior Geologist. Over the next 15 years that I spent with Pegasus I moved around to multiple locations including Argentina where I relocated with Cris and two kids. This was a fantastic adventure and the Company did well with the acquisition and testing of numerous prospects. Several of these properties are still active with various companies some 15 years later. One property in particular is looking to be a world class mine. Unfortunately, our Argentina Exploration program was cut short when the Company, having invested heavily in the Mount Todd gold operation in Australia, went bankrupt. It was a perfect storm of falling gold prices, increasing production costs and lower than expected recoveries (among other things). Pegasus was a great company filled with quality professionals and it was sad to see it all end.

After Pegasus I went to work for a well established Vancouver-based Canadian Junior called the Northair Group. Most of my time with them was in Peru where I was looking for outcropping ore bodies. Yes they are still out there. The Company picked up and tested multiple land positions and two of the projects we drilled continue to have economic potential. Soon after drilling one project it was invaded by illegal miners and we had to pretty much escape with our lives. I hear that there is now an extensive open pit where we drilled our first holes. The Company still has the land but the social problems are only getting worse. On the other project, Bre-X related fall-out made it impossible to raise money and this combined with a tough underlying deal caused us to walk away. Work by another company years later expanded the property potential to over two million ounces. Turns out the metallurgy here was so bad that this group also gave it the adios. Peru was an interesting adventure and I learned much. The country certainly has potential for discovery and I might end up there again one day. While with Northair I also experienced a real taste of working in northern Canada and also even had a few Nevada projects. I greatly enjoyed my 11 years working for the Northair Group and learned much about how things work in the Junior market and am grateful for my many Canadian friendships.

This is what it's all about!

OK Clancy - tell me where this is?

I left the Northair group in early 2010 to join my current employer, Argonaut Gold. Argonaut is a new company and mostly Mexico focused. The Company currently has two operating gold mines with another future operation in the permitting phase. With Argonaut it was apparent that the best place to look for gold was at a gold mine and programs under my direction nearly doubled the Company's measured and indicated gold resources over a two year period. I must say that working for an aggressive group with gold production to fund exploration is a wonderful thing. The Company continues to seek out new projects both in Mexico and elsewhere and I am still having a great time being a geologist. I should also add that I have been a member of GSN for over 30 years and proud of it.

G.S.N. WINNEMUCCA & ELKO CHAPTERS
JOINT MEETING
THURSDAY, NOVEMBER 15, 2012

Location: The Hide-Away Steak House, Battle Mountain, Nevada
Time: Drinks and Appetizers @ 6:00 p.m. and Talk @ 7:00 p.m.
(TRANSPORATION WILL BE PROVIDED FROM ELKO & WINNEMUCCA—DETAILS SOON!)

BARRICK

Co-Sponsored by: BARRICK and NEWMONT

NEWMONT

Presenter: Alejandro L. Ly

Barrick Gold Corporation, HC 66 Box 1250, Crescent Valley, Nevada 89821, United States

Title: "Perseverance Leads to a Carlin-style Gold Discovery in Nevada Goldrush"

Abstract

The two major discoveries recently announced by Barrick in the Cortez Mining District, Red Hill and Gold Rush together form a single potentially world-class gold deposit. The discoveries are situated ~ 6.5 km southeast of the active Cortez Hills gold mine on the Battle Mountain -Eureka mineral trend.

Deposit Geology

Red Hill and Gold Rush are hosted in Devonian carbonate shelf/slope facies rocks deposited on the Paleozoic passive continental margin of the Western U.S. The carbonate sequence was overthrust by deep-marine siliciclastics rocks during the late Devonian\Carboniferous Antler Orogeny, and the resultant low-angle structural geometries were further modified by Mesozoic compression and Tertiary extensional tectonism. Red Hill mineralization is localized along the axial crest of a large NW-trending antiform developed in the hanging wall(s) of one or more large low-angle structures and extends along the oversteepened eastern limb of the antiform. Gold Rush mineralization is also associated with fault-bend folding but extends along western as well as eastern limbs. Both Red Hill and Gold Rush are also associated with intermediate to mafic dikes, presumably of Mesozoic age that utilized low-angle structures as conduits.

The deposit is marked by a 15 – 40m thick horizon of silica-sulfide breccia developed in Middle Devonian Wenban Formation limestone and extending for over 6 km of strike length northwest to southeast. Zones of extensive argillization and decarbonitization are also prevalent, particularly at Gold Rush and eastern Red Hill. The principal ore mineral appears to be arsenian pyrite, similar to other Carlin-style mineralization in Nevada.

Exploration History

1968 – 1988 - Homestake Mining Co. followed by the Cortez Joint Venture conducted shallow drilling which intercepted near-surface, low-grade partially oxidized mineralization. The program was dropped due to metallurgical challenges.
2001 - 2004 - Cortez returned to the area, remapping and reinterpreting the geology. Early drilling at Red Hill intercepted low grade mineralization at depth, followed by a significant intercept of high – grade refractory mineralization in late 2004. Competing priorities (i.e. the discovery at Cortez Hills) resulted in project dormancy after 2004.
2006 – Present - Barrick reinitiated exploration activity after its 2006 merger with Placer Dome. Drilling at Red Hill in 2006 – 07 confirmed the initial Cortez intercepts and led to grid drilling in 2008 to define a resource. In 2009, further geologic modeling and stepout drilling led to the discovery of Gold Rush ~ 3 km south of Red Hill, which was announced in September 2011. Drilling in 2010-11 indicated that the two discoveries were part of a single mineralized system open in multiple directions, which was confirmed in late 2011. Strong alteration has been noted in drill holes sited 1 km north and 2 km south of the current resource area. An additional 142,000 m of drilling is planned at Red Hill and Gold Rush in 2012 to determine the full extent of the mineralized system and further expand the resource base.

Thanks to RUEN DRILLING, INCORPORATED

For Hosting the October 19, 2012 Meeting in Reno!

(Boden Abstract: cont. from page 3)

Geothermal systems are also classified on the basis of their geologic environments. One type is where heat is derived from magma, and the other type is where heat is due to an elevated geothermal gradient from thinned (extended) and faulted crust (amagmatic or extensional type). Magmatic geothermal systems are the most common type worldwide and are typically associated with arc volcanism or divergent boundaries. The magmatic type can be both vapor- or liquid-dominated systems. Magmatic systems can also be associated with the silicic phase of bimodal volcanism associated with crustal extension, such as at Coso in southeastern California, Long Valley north of Bishop, California, or at Steamboat here in Reno. In the extensional type, water circulates through hot rocks at relatively shallow depths, facilitated by numerous normal faults. This type typifies most of the developed geothermal systems in Nevada, such as Dixie Valley (flash plant) and Salt Wells (binary plant). Jim Faulds of the Nevada Bureau of Mines and Geology and University of Nevada, Reno and his students have studied the structural environments of many known geothermal systems in Nevada and have identified several structural criteria to look for when assessing the promise of geothermal exploration targets.

Truckee Meadows Community College has responded to the perceived need for growing employment in the geothermal sector by developing the Geothermal Plant Operators Program—a 34-credit course sequence that trains the student in the operation of a geothermal power plant and leads to a certificate of achievement. The course sequence was developed from input of an advisory board made up of technical people in the geothermal industry with the idea that upon completion the student would be very marketable and hirable without much further training. Courses include geothermal plants, turbines, and generators, fundamentals of electricity, fluids, piping, valves, and pumps, and process controls. We also have professional engineers in this program who want to familiarize themselves with the workings of a geothermal power plant as part of their professional training to work in the geothermal industry. We are also in the process of developing a two-year degree in Clean Energy Technologies with a geothermal emphasis that will include, in addition to courses from the certificate of achievement, courses in physical geology and the geology of geothermal energy resources.

GSN December 19th Meeting SILENT AUCTION & RAFFLE ITEMS NEEDED!!

The annual GSN Christmas meeting and GSN Foundation fundraiser Rock Raffle and Silent Auction is just around the corner—Wednesday, December 19! We hope we can count on you, the GSN members, to donate items for this event as you have in the past. Mineral specimens and gold samples are most desirable and other popular items include gift baskets and gift certificates; logo-swag; artwork; hand-crafted items; wine and other spirits; jewelry; commemorative coins, etc.

Any items that you wish to donate can be dropped off at the NuLegacy Gold Office (5450 Riggins Ct. Suite 1B), the GSN Office, or with D.D. LaPointe, NBMG & Keck Museum, or call D.D. at (775) 240-4916 to arrange pick-up of donated items in the Reno-Sparks-Carson City area. Thank you for continuing to make this a successful event for the GSN Foundation!

We need to have all items in hand before Friday, December 14, 2012 in order to prepare labels and make bid sheets. Donors will have their names displayed on signs at the event as well as having their names listed in the January newsletter.

OBITUARY

Tom Cordova

Born: Sept. 29, 1932
Passed Away: Oct. 24, 2012

Tom Cordova, 80, of Reno, Nevada, passed away peacefully on Wednesday, October 24, 2012, at his home. He was surrounded by his loving family during his final days and hours.

Tom was born in Twin Falls, Idaho, and grew up in Contact, Nevada, and Battle Mountain, Nevada. He graduated from Battle Mountain High School in 1950, and was an Aviation Technician in the Navy from 1951 to 1955 during the Korean Conflict. His interest in aviation led to a life-long passion for being a private pilot and owning various Cessna airplanes.

Tom was a graduate of the University of Nevada, Reno, where he completed a B.S. and M.S. in Geological Engineering at UNR's Mackay School of Mines. In 1970, Tom founded Earth Science Consultants Associated (ESCA), a geotechnical engineering firm that he owned and operated until his passing. A love for geology also led to Tom's passion for collecting rare minerals.

Besides his life partner Patricia Adams, he is survived by his children, Jeff Cordova, Angela Cordova, and Jon Cordova, along with nine grandchildren. The family would like to express its sincere gratitude to Laurie Decker for providing quality care to Tom during his last days. Her effort, dedication, and love are deeply appreciated. Burial will be at Mountain View Cemetery at the convenience of the family.

A memorial service will be held honoring Tom on Friday, November 2nd, at 2:00 PM, at Walton's Sierra Chapel, located at 875 West Second Street, in Reno, Nevada.

Condolence messages can be expressed in the Book of Memories at the website http://www.waltonsfuneralhomes.com/.

(**Published in Reno Gazette-Journal from October 28 to October 31, 2012)**

NEVADA

Miranda Gold Corp. announced that recent drill results at the Angel Wing Project include 225.6-286.5 meters @ 0.61 gpt Au (AW12-06); 248.4-275.8 meters @ 0.65 gpt Au (AW12-08) and 94.5 -99.1 meters @ 0.55 gpt Au (AW12-09). *Press Release:* August 30

Argonaut Gold Inc. announced that it acquired an option to purchase a 100% interest in the Wind Mountain Property from Bravada Gold Corp. for $7,500,000 in exploration expenditures over 3 years following by a purchase of $30.00/ounce for the gold contained in the measured+indicated resource category. (resource = 53,824,000 tonnes @ 0.34 gpt Au indicated) *Press Release:* September 18

Tertiary Minerals plc. announced that it acquired an option to earn a 100% interest in the MB Property from private interests for undisclosed terms. (resource = 110,000,000 tonnes @ 10.0% fluorite inferred) *Press Release:* September 3

Solitario Exploration and Royalty Corp. announced that based on recent drill results at the Mt. Hamilton Project, the Seligman Deposit aggregates 6,960,000 tonnes @ 0.76 gpt Au, 3.3 gpt Ag indicated and 3,770,000 tonnes @ 0.71 gpt Au, 4.9 gpt Ag inferred. (was 8,218,000 tonnes @ 1.77 gpt Au, 13 gpt Ag inferred) *Press Release:* September 10

Paramount Gold and Silver Corp. announced that recent drill results at the Sleeper/South Extension Project include 143.26-175.26 meters @ 0.14 gpt Au, 2.2 gpt Ag (PGC12-018) and 141.73-163.07 meters @ 0.19 gpt Au, 2.0 gpt Ag (PGC12-020). *Press Release:* September 25

West Kirkland Mining Inc. announced that recent drill results at the TUG/12 Mile Project include 67.06-77.72 meters @ 0.34 gpt Au (12M12-01); 0-12.19 meters @ 0.31 gpt Au (12M12-02); 0-22.86 meters @ 0.35 gpt Au (12M12-03) and 7.62-25.91 meters @ 0.44 gpt Au (12M12-04). (resource @ TUG = 27,110,000 tonnes @ 0.49 gpt Au, 15.8 gpt Ag inferred) *Press Release:* September 26

Timberline Resources Corp. announced that recent drill results at the Lookout Mountain Project include 5.5-16.9 meters @ 0.34 gpt Au (BHSE-140C); 56.7-60.4 meters @ 0.63 gpt Au (BHSE -145C); 0-11 meters @ 0.65 gpt Au (BHSE-147C) and 50.9-61.9 meters @ 0.64 gpt Au (BHSE-148C). (resource = 18,838,000 tonnes @ 0.65 gpt Au measured+indicated) *Press Release:* September 26

Scorpio Gold Corp. announced that recent drill results at the Mineral Ridge/Mary LC Zone Project include 10.67-13.72 meters @ 1.7 gpt Au (MR12437); 24.39-25.91 meters @ 1.82 gpt Au (MR12438); 22.97-28.96 meters @ 1.10 gpt Au (MR12439) and 35.06-41.16 meters @ 0.53 gpt Au (MR12440). (resource @ Mineral Ridge = 4,230,000 tonnes @ 1.47 gpt Au indicated) *Press Release:* September 11

Rye Patch Gold Corp. announced that based on recent drill results at the Lincoln Hill Project, resources aggregate 3,847,000 tonnes @ 0.43 gpt Au, 12.2 gpt Ag measured; 22,555,000 tonnes @ 0.39 gpt Au, 11.2 gpt Ag indicated and 14,187,000 tonnes @ 0.36 gpt Au, 13.5 gpt Ag inferred. (was 17,215,000 tonnes @ 0.68 gpt Au, 17 gpt Ag inferred) *Press Release:* September 17

Pilot Gold Inc.(51%) announced that recent drill results at the Kinsley Mountain Project include 179.8-182.9 meters @ 0.80 gpt Au (PK058); 237.7-239.3 meters @ 0.27 gpt Au (PK059); 155.4 -157.0 meters @ 0.24 gpt Au (PK060) and 143.3-157.0 meters @ 6.03 gpt Au (PK061). (resource = 1,795,000 tonnes @ 1.13 gpt Au inferred) *Press Release:* September 5

Nevada Copper Corp. announced that based on recent drill results at the Pumpkin Hollow Project, resources within the Western Deposit aggregates 485,840,000 tonnes @ 0.45% Cu, 0.03 gpt Au measured+indicated and 125,600,000 tonnes @ 0.31% Cu, 0.03 gpt Au inferred. *Press Release:* September 7

Klondex Mines Ltd. announced that recent underground drill results at the Fire Creek Project include 224.9-235.3 meters @ 4.81 gpt Au (FC12-07S); 182.9-188.2 meters @ 3.73 gpt Au (FC12-09S); 238.7-242.6 meters @ 1,113.16 gpt Au (FC12-11S) and 190.4-201.2 meters @ 3.20 gpt Au (FC12-17S). (resource = 5,176,000 tonnes @ 9.9 gpt Au indicated) *Press Release:* September 13

International Enexco Ltd. announced that recent drill results at the Contact Copper Project include 28.3-37.5 meters @ 0.15% Cu (EN-171); 104.2-131.7 meters @ 0.40% Cu (EN-172); 55.5-66.1 meters @ 0.12% Cu (EN-173) and 63.1-69.2 meters @ 0.19% Cu (EN-174). (resource = 122,900,000 tonnes @ 0.26% Cu measured+indicated) *Press Release:* September 10

Evolving Gold Corp. announced that recent drill results at the Carlin Project include 900.8-918.0 meters @ 9.85 gpt Au (CAR-016-1.1) and 1,153.1-1,178.4 meters @ 0.73 gpt Au (CAR-019). *Press Release:* September 4

EMC Metals Corp. announced that based on a recently completed prefeasibility study of the Springer Project, resources aggregate 322,700 tonnes @ 0.537% WO3 indicated and 1,757,800 tonnes @ 0.493% WO3 inferred. (was 249,000 tonnes @ 0.619% WO3 indicated and 997,000 tonnes @ 0.562% WO3 inferred) *Press Release:* September 20

Corvus Gold Inc. announced that recent drill results at the North Bullfrog/Mayflower Project include 22.9-39.6 meters @ 0.31 gpt Au (NB12-155); 73.2-94.5 meters @ 0.53 gpt Au (NB12-156); 67.1-77.7 meters @ 0.56 gpt Au (NB12-157) and 10.7-56.4 meters @ 0.63 gpt Au (NB12-160). (resource = 15,230,000 tonnes @ 0.37 gpt Au, 0.4 gpt Ag indicated) *Press Release:* September 13

Max Resource Corp. announced that recent drill results at the Majuba Hill Project include 12.2-344.5 meters @ 0.13% Cu, 12 gpt Ag (MM-21). *Press Release:* September 11

GSN Fall Fieldtrip Wrap Up – 5-7 October 2012

Tommy Thompson

We departed Friday afternoon, headed to Winnemucca in a caravan of 4WD vehicles, and checked in at the Winnemucca Inn, followed by a social hour and dinner at Ormachea's Restaurant. After dinner, fieldtrip leader Tommy Thompson gave a powerpoint presentation on the next day's fieldtrip to the Buckskin epithermal system. We had 42 participants registered for the fieldtrip from Reno, Winnemucca and several other towns.

We departed Saturday at 8:00am for Buckskin Mountain in a caravan of 13 4WD vehicles, driving to the summit where we began our look at the Buckskin dome complex and the related hydrothermal alteration. The group spread out to see hydrothermal breccias localized along a north-trending fault, the vesicular latest rhyolite dome intrusive phase, and traversed down to the northeast over a cinnabar-bearing sinter and collapse breccias-lahar sequence. We continued the traverse from the top of Buckskin Mountain down to the Hatch tunnel level of the productive Bell vein, a drop of nearly 1,000 feet. Enroute we saw the Bell vein outcrop with chalcedony-stibnite in prospect pits. The Bell vein, located in 1906, produced approximately 24,000 oz of gold and 300,000 oz of silver through 1941 with ore treatment below the Hatch adit. We concluded the day by driving back to Winnemucca via the Hinkey Summit and through Paradise Valley.

Group orientation near the top of Buckskin Mountain before beginning the traverse.

Saturday evening the social and dinner were held at The Martin Hotel in Winnemucca. Drawings for prizes of various GSN items were held, and some folks managed to party into the night in spite of the long day's traverse at Buckskin Mountain.

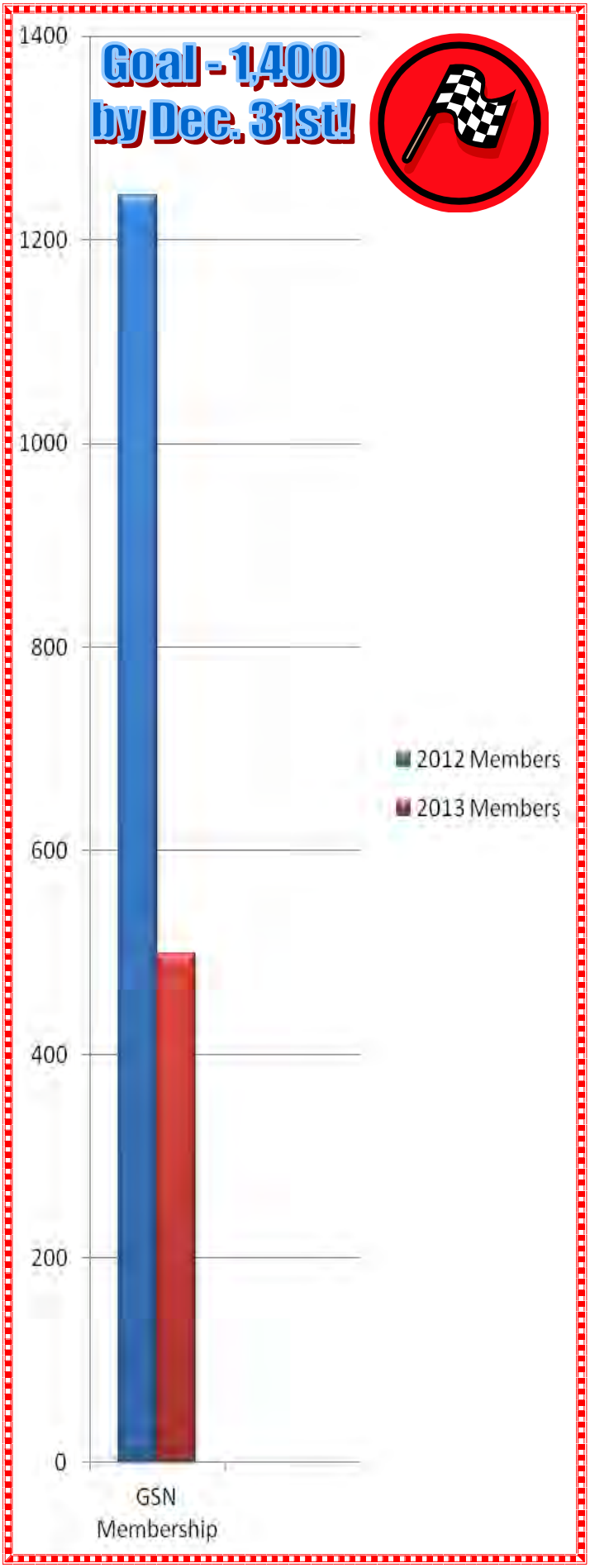
Dennis Bryan giving Western Lithium Corporation's geology setting.

Sunday morning we drove to Western Lithium Corporation's core shed where Dennis Bryan and staff gave a presentation on their McDermitt caldera moat sediment-hosted lithium deposits. We drove to the site at the southern end of the McDermitt caldera at Thacker Pass to see lithium-bearing material cut from a trench and finished that visit with our lunch. From Western Lithium's property we drove west down to Kings River Valley and continued north along the eastern edge of the valley to our turn-off to the Moonlight uranium mine site. The mine is located along a marginal fault zone to the McDermitt caldera where uranium minerals, pyrite, smoky quartz, fluorite, and clays cement the hanging-wall breccias. No production records are known to exist for the Moonlight mine.

Group picture at the Moonlight uranium mine.

The tour concluded at approximately 2:00pm with the group caravan returning to Winnemucca and Reno. This style of fieldtrip was a departure from the big bus trips and where some participants agreed to drive their personal 4WD vehicles due to steep and rough roads that provided access to our site visits. We thank all those drivers who made this type of trip possible.

We owe a big thank you to our sponsors for the evening dinners (National EWP & Boart Longyear), social hours (ALS Geochemistry and Environscientists, Inc.), lunches (American Drilling Corporation and Desert Ventures, Inc.), and for drinks & snacks on the trip (American Assay Laboratories).



Upcoming Events

1 November, NV Petroleum & Geothermal Society.
Speakers: Lisa Shevenell & Rick Zehner
Topic: Geothermal Activity in Nevada, A Summary
6:30 PM, Ramada Reno Hotel; 1000 East 6th Street, Reno, NV 89512

4–7 November, 2012 GSA Annual Meeting & Exposition, Charlotte, North Carolina, USA. Information: Geological Society of America Meetings, 303-357-1000, www.meetings@geosociety.org.

12 November, Northern NV Section of SME. Circus-Circus Mandalay Room, Reno, NV. RSVP by Noon, WED, Nov. 7th.to Diane Lightwood, 775-682-7379 or dlightwood@unr.edu. Social 6, Dinner 6:45 ,Talk 7:30 pm
Speaker: Dr. Hamid Maleki, 2012 Henry Krumb Lecturer.
Topic: "The Importance of Geological and Geotechnical Monitoring for Improving Stability in Deep Two-Seam Longwall Layouts"

13 November, AZ Geological Society, Sheraton Hotel, Tucson, AZ. Speaker Virginia McLemore, NMBGMR. http://www.arizonageologicalsoc.org/ for info.

16-17 November, The 2012 San Francisco Hard Assets Investment Conference. To register and for more information: http://www.hardassetssf.com/

2-7 December, NWMA Annual Convention, Spokane, WA. Register at http://www.nwma.org/convention.asp Please visit us at the GSN Booth #517!

4–7 December, NGWA Groundwater Expo and Annual Meeting; Las Vegas, Nevada, USA. To register: http://groundwaterexpo.com/

11 December, AIPG Nevada Section Exploration Roundup, Reno, Nevada. Contact Kel Buchanan at 775 786-4515 or summitcrk@aol.com

NBMG/GSN "2014 Nevada Geology Calendar Photo Contest !!!

The NBMG and the GSN are holding a Nevada Geology Photo Contest for the NBMG 2014 Geology Calendar. Here are some simple guidelines.

1. Deadline for entries is March 31, 2013.

2. Photos need to be taken in Nevada. A location description and/or GPS coordinates should accompany submissions along with description.

3. High quality, high resolution photo files of at least 300 dpi are required for quality printing.

4. E-mail submissions to gsn@gsnv.org

MORE DETAILS TO COME NEXT MONTH!

Thank you to our generous donors in October

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Your GSN 2013 Dues are due by December 31, 2012! Renew online: http://www.gsnv.org/membershipform.php
or fill out the Renewal form below and send it to the GSN office.

GEOLOGICAL SOCIETY OF NEVADA 2013

2175 Raggio Parkway, Room 107, Reno, NV 89512 USA
Phone (775) 323-3500 • Fax (775) 323-3599 • gsn@gsnv.org • www.gsnv.org
Offices are located at NBMG's Great Basin Science Sample & Records Library at The Desert Research Institute
Office hours: 8 AM - 4:00 PM, Monday through Friday

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 membership year begins on January 1. Annual dues of $50.00 ($25.00 for full time students) are due prior to December 31. The GSN conducts a Field Trip in the Fall and one in the Spring of each year. Monthly meetings are held in Reno, Winnemucca, and Las Vegas (Southern Nevada Chapter) September through May. The Elko Chapter holds meetings January through December.

Please help support the GSN Foundation when renewing. Foundation dollars are used for the Kindergarten through 12th grade Field Trip Grant Program, Nevada Mapping Grants and University of Nevada scholarships.

MEMBERSHIP APPLICATION ☐ Renewal ☐ New Date: _____

Name: _____ Position/Title: _____

☐ **Everything is the same as before, except as indicated below.**

Consultant: ☐ Company Name: _____
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☐ I would like to have an asterisk by my name in the directory indicating I am available for consulting.
☐ I have met the licensing requirements and want "QP" (Qualified Person) by my name in the directory.

I authorize GSN to send to me, via email: GSN announcements, publications updates, employment opportunities, etc.
Yes ☐ No ☐

Optional Chapter Affiliation (to be eligible for chapter voting and emails from those Chapter Officers)
☐ Elko Chapter ☐ Southern Nevada Chapter ☐ Winnemucca Chapter

☐ Regular Membership Dues 2013 - Email newsletter $50.00 **(International & Domestic)** ☐ Honorary _____
☐ Regular Membership Dues 2013 - Hardcopy newsletter via postal service $70.00 **(Domestic Only)** ☐ Honorary _____
☐ Student Membership Dues 2013 - email newsletter only $25.00 (Nevada students are sponsored by Geotemps, Inc.) _____

Donations:.....
.....
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2175 Raggio Parkway #107, Reno, NV 89512
Fax to 775/323-3599. E-mail gsn@gsnv.org

WHERE IN NEVADA??

NOVEMBER CONTEST

1. Where is it ?
2. What is it ?
3. How was it formed ?

Send your entries to Laura Ruud no later than Thursday, November 15, 2012. All entries must be accompanied by your own suggested mystery geology photo taken somewhere in Nevada. The winning entry will be selected at random from among all the correct entries who also submitted a photo and a fabulous prize will be awarded.

Answer to October's "Where in Nevada ?" contest:

Ken Coleman was the winning entrant for the October contest (right). He correctly identified the Mystery Photo. "The picture is the Big Springs mine, in the Independence Mountains north of Elko. Big Springs is a Carlin type gold system hosted in dolomitic siltstones. Quartz and sooty sulfides are common."
Ken has submitted the photo below for October's contest:

Don't forget that you MUST submit your own "Where in Nevada" photo along with your answers to be eligible!!

Thank you to SKYLINE LABS for sponsoring the Elko Chapter Meeting in October!!

Thank you to SGS, INC. for sponsoring the Winnemucca Chapter Meeting in October!

WHEN YOU NEED TO BE SURE SGS

ROCK TALK

Italian scientists jailed for 'false assurances' before earthquake

(submitted by Paul Klipfel)

Manslaughter convictions handed down after people of L'Aquila received reassurances prior to earthquake that killed 300 (guardian.co.uk, Monday 22 October 2012 14.27 EDT)

The 2009 earthquake in Aquila was of 6.2 magnitude and left tens of thousands homeless. Photograph: Giampiero Sposito/ Reuters (right).

An Italian judge sent shockwaves through the scientific world on Monday when he sentenced seven of the country's leading experts on natural disasters to six years each for giving false assurances before the earthquake that hit the city of L'Aquila in 2009.

More than 300 people died after a 6.3-magnitude tremor hit the central Abruzzo region. The earthquake wrecked L'Aquila's historic centre, injured more than 1,000 people and left tens of thousands homeless.

The seven defendants, who belonged to the National Commission for the Forecast and Prevention of Major Risks, were accused of offering an unjustifiably optimistic assessment to the local population a week before the disaster. By then, the area had been hit by some 400 tremors over a period of four months and a local researcher had warned of the risk of a major earthquake, largely on the basis of abnormal radon emissions.

But after an extraordinary meeting of the commission in L'Aquila, one of the experts told a press conference that the situation was "normal" and even "favourable" because potentially destructive energy was being released through the tremors. The prosecution, which brought charges of multiple manslaughter, maintained that lives could have been saved had people not been persuaded by the assurances to remain in the area.

The sentences handed out by judge Marco Billi were higher than those demanded by the prosecution, which had asked for the accused to be given four years each. The judge also imposed lifetime bans from holding public office and ordered the defendants to pay compensation of €7.8m (£6.4m).

Marcello Petrelli, a lawyer for one of the experts, called the outcome of the trial "astounding and incomprehensible". In Italy, convictions are not considered definitive until after an appeal, so it is unlikely that any of the defendants will go to jail immediately.

But the sentences are expected to cause uproar among scientists worldwide. Several international bodies had warned that a guilty verdict could deter scientists from advising governments in future.

Enzo Boschi, the former president of Italy's National Institute for Geophysics and Volcanology, said he was "dejected and in despair". He said he had been convinced that he would be acquitted, "because I have never reassured anyone. I defy anyone to find in writing or speech, on television or elsewhere a reassurance by me concerning the Aquila earthquake."

Luciano Maiani, the incumbent president of the Major Risks Commission, said the verdict marked "the death of the services provided to the state by professors and professionals. It is impossible to supply the state with advice in a professional and composed way under this crazy judicial and media pressure. This does not happen in any other country in the world."

Giampaolo Giuliani, the researcher who became the "Cassandra" of the disaster after his warnings were ignored, said he had expected lighter sentences."I do not derive any pleasure [from the outcome]", Giuliani said. "No conviction can repay us for what happened."

Gold Heists: Thieves Steal Historic Gold; Incidents in Siskiyou and Mariposa Counties

(submitted by Mike Kroencke)

Gold is a robber's best friend in both Siskiyou and Mariposa, as both Counties have experienced the theft of historic gold in two separate heists separated by a few months. You may recall that back in February two thieves made off with $600,000 in gold from a display case at the Siskiyou County Courthouse during the middle of the night, and in a far more brazen heist, authorities and residents in Mariposa County have been left stunned after $2 million in gold and precious gems were stolen in the middle of the day from the California State Mining and Mineral Museum. Notably, this museum was slated for closure since it is part of the state parks system, but the discovery of $54 million in unaccounted state park funds changed the facility's fate. However, it hasn't exactly caught a break in light of the recent theft.

That being said, the thieves weren't able to steal the museum's most valuable gold: a 14-pound gold piece known as the "Fricot Nugget." It appears the weight of the nugget put the thieves off, as it appears they initially tried to take it.

It's unclear whether the two heists are related. Siskiyou County Sheriff Jon Lopey stated, "There are similarities and some dissimilarities. […] At this time, it appears that the physical description of the suspects in Mariposa don't match."

While the gold certainly has monetary value, to the local communities the pieces represent "irreplaceable history" and historic roots related to the Gold Rush. Let's hope the thieves don't give the state any ideas about how to plug its massive budget deficits by pillaging the state's museums for historic gold.

http://www.californiacountynews.org/2012/10/gold-heists-thieves-steal-historic-gold-incidents-in-siskiyou-and-mariposa-counties.html

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