

# 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.  
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## CALENDAR OF GSN EVENTS

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### GSN BOARD OF DIRECTORS

**Chairman**  
David Shaddrick

**GSN President**  
Dave Emmons, Current

**Most Recent Past GSN President**  
Bill Howald

**Elko Chapter President**  
Jared Townsend

**So. Nevada Chapter President**  
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**Winnemucca Chapter President**  
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**Class B, 2010-2013**  
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**Class C, 2011-2014**  
David Shaddrick (Chairman)  
Camille Prens

- Apr. 10, 2013 Wednesday** **WINNEMUCCA CHAPTER MEETING (Every 2nd Wednesday).**  
The meeting will be held at the Martin Hotel, 94 West Railroad St. Refreshments @ 6 PM; Appetizers @ 6:30 PM, Talk @ 7:00 PM. **SPEAKER: Tyler Cluff, Schlumberger. TITLE: "Mine Hydrology: Exploration and Project Development"** (Abstract pg. 7). **Food Sponsor: IDS and Drink Sponsor: GEOTEMPS, INC.** For more information contact Leann Graf at [leann.graf@newmont.com](mailto:leann.graf@newmont.com).
- Apr. 17, 2013 Wednesday!** **GSN MEMBERSHIP MEETING (3RD WEDNESDAY—APRIL ONLY!!)**  
The monthly 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. **NOTE CHANGE!!!** **SPEAKER: Jon Powell, Newmont Mining Corp. TITLE: "Long Canyon, Nevada"** (See abstract on pg. 3). **SPONSOR: GEOTEMPS, INC.** Dinner reservations must be made by 4 P.M., Monday, April 15th. Contact Laura Ruud at (775) 323-3500 or e-mail [gsn@gsnv.org](mailto:gsn@gsnv.org) for reservations.
- Apr. 18, 2013 Thursday** **ELKO CHAPTER MEETING (Every 3rd Thursday)**  
The monthly meeting will be held at the Western Folk Life Center, 501 Railroad St. Refreshments at 6:00 PM, Talk begins at 7:00 PM. **SPEAKER and TOPIC: To Be Announced. SPONSOR: SGS MINERALS.** For more information contact Jared Townsend at [jtownsend@barrick.com](mailto:jtownsend@barrick.com).
- Apr. 19, 2013 Friday** **John S. Livermore Memorial Tribute, Davidson Math and Science Building, Auditorium, University of Nevada, Reno. 7:00 p.m. to 10:00 p.m.**  
The regularly scheduled GSN meeting will be held on Wednesday, April 17th.
- Apr. 25, 2013 Thursday** **SOUTHERN NEVADA CHAPTER (Every last Thursday of the month)**  
The monthly meeting will be held at the Lilly Fong Geoscience Bldg, Room 105, UNLV. Social @ 6:45 PM and talk @ ~ 7:15 PM. **SPEAKER and TOPIC: TBA.** For more information contact R. Paul Bowen, 702-247-7765, [paulbowen@cox.net](mailto:paulbowen@cox.net).
- May 3-5 2013 Fri—Sunday** **G.S.N. SPRING FIELD TRIP—MARIGOLD MINE AND COVE PROJECT.**  
Leaving Reno at 2 pm Friday and return to Reno at 5:30 pm Sunday. Details and sign up sheet on page 15.



## GSN APRIL MEETING SPONSOR



**GEOTEMPS** INC.

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**FROM THE PRESIDENT**  
**David Emmons, G.S.N. President 2012—2013**

Dear Members,

The speaker for the April meeting in Reno is Jon Powell with Newmont. His presentation will be on the Long Canyon gold deposit in the Pequop Mountains in northeastern Nevada. The meeting will be held on Wednesday April 17<sup>th</sup>, the change from Friday to Wednesday is to avoid a conflict with the Memorial Tribute for John Livermore on April 19<sup>th</sup>.

Thanks to Enviroscientists, Inc. for hosting the March GSN meeting in Reno. Richard DeLong and Opal Adams have been long-time supporters of GSN.

GSN is in the process of creating a new website. The new website is being designed by Brandon Gottier, the owner of BDG Web Design. Brandon currently updates and maintains the information on the website. The purpose of the new website is to add new features and enhance the quality of the website. The goal is to have the new website up and running in April.

Tommy Thompson, GSN Vice President, is finalizing the plans for the spring field trip. The dates for the trip are May 3<sup>rd</sup> through the 5<sup>th</sup>. The trip will include visits to the Cove Project hosted by Premier Gold Mines Limited and the Marigold mine hosted by Goldcorp. Presentations are planned for Friday and Saturday nights during the field trip. The trip will be based out of Winnemucca.

Dan Kappes, President of Kappes, Cassiday and Associates, has volunteered his house for another gathering in August. Unfortunately, Doug Silver is no longer available to speak at the festivity, but another speaker is being sought for the event. An announcement will be sent to the GSN members when the date and time are set.

I read an interesting editorial by George Will of the Washington Post Writers Group a few weeks ago. He had a few interesting quotes from the 1970's when the concern was the coming of a new ice age.

*"major cooling of the climate" was "considered inevitable" New York Times, May 21, 1975.*

*"extensive Northern Hemisphere glaciations" Science, December 10, 1976.*

*"the world's climatologists are agreed" that we must "prepare for the next ice age" Science Digest, February 1973.*  
*meteorologists were "almost unanimous" that cooling would "reduce agricultural productivity." Newsweek, April 28, 1975.*

Compare these "certainties" of 40 years ago with the opposite "certainties" of today. It appears to me that scientific thinking is almost as cyclical as the climate.

Signing off for now...



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# *WEDNESDAY, April 17, 2013 Membership Meeting*

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***NOTE CHANGE OF DATE—THIS MONTH ONLY!!***

**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 **4 p.m. on Monday, April 15, 2013.**  
Social Hour: 6:00 PM – Dinner: 7:00 PM – Speaker: 8:00 PM  
**\$25.00 per person.** 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)

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## **Geology and Mineralization of the Long Canyon Gold Deposit, Elko County, Nevada**

Jon Powell, Newmont Mining Corporation

The Long Canyon gold deposit is located in northeastern Elko County, NV, off of the major gold trends of northern Nevada. Mineralization is hosted in Cambro-Ordovician platform margin facies carbonate rocks. The majority of the mineralization is hosted within limestones along the upper and lower margins of the Cambrian Notch Peak dolomite. Upper zone mineralization is hosted primarily by lenticular to planar laminated limestones of the lowermost portion of the Ordovician Pogonip Group. Lower zone mineralization is hosted in lenticular laminated Notch Peak limestone, generally at the base of the Notch Peak dolomite. Minor mineralization is also hosted within the Notch Peak dolomite and Mesozoic (?) intrusive rocks. Mineralization is associated with a series of north to northeast striking faults. These faults help control the location of multigenerational breccia bodies, which in turn control the mineralization. Mineralization is associated with strong oxidation, decalcification, and argillization. All mineralization defined to date is oxide, with oxidation extending to depths of greater than 1,000 ft.

The Long Canyon deposit occurs as a series of subparallel NE trending zones that extend for a strike length of approximately 2 miles. The deposit plunges gently to the northeast, with lower zone mineralization outcropping in the southwest and both upper and lower zone mineralization plunging below barren Pogonip limestones to the northeast. The deposit is structurally complex in the south, with the Notch Peak dolomite dissected by both low angle and high angle normal faults. In the north, mineralization is generally coincident with the crest of a broad anticline.

***Thank You to ENVIROSCIENTISTS, INC.  
For Hosting the March 15, 2013 Meeting in Reno!***

# “FACES OF GSN”

## Peg O'Malley



*On the cusp of becoming Dale Evans in 1953, standing next to the dirt that would seal my professional fate.*

How fitting that I should get to follow Bob Cuffney in this GSN monthly exposé of past lives of current old dudes. Cuffney is one of the people I've enjoyed working with most over the many years in this industry because his sense of humor is easily as twisted as mine is. I, too, mourn the passing of White Knight ... may it forever live in memory as what this industry is all about, right down to the hostile takeover.

So, where to begin? My long strange trip began like many others did in this geo world ... seduced by a love of pretty minerals, fossils, dinosaurs, and getting to sound way more grown up than anyone my age had reason to expect because I could pronounce 'igneous intrusions'. Growing up next to the beach in San Diego didn't produce much opportunity to explore for any of the above, but aside from enriching the proprietor of Plummer's Minerals over on Point Loma Avenue, I did find a piece of petrified wood in some soil dumped in the yard at our apartment before it had a chance to be planted with a lawn. Additional digging in said soil yielded a geode, cementing my fate as a geologist.

After graduating from high school in 1963, studies took me to San Diego State (then a mere college, today a grand and bloated university) where I wandered aimlessly through academics for three years, dabbling in math (couldn't get past first year calculus), astronomy (ditto), biology (too messy and too much horrible death), and English (even I was smart enough to realize there was no job future here!), before landing with a thud in the geology department. Geology had everything I loved ... a chance to spend time outdoors looking at rocks and hiking, great people to hang out with who liked to drink beer, and no dress code. Like Bob Cuffney, I also learned to survey with a plane table and alidade and the calculators we used in Engineering 2 did not come with an

electrical cord, weighed 50 pounds, and their gears had to be turned with a massive crank. I think we found a patent on one of them from 1898. In 1969, I finally graduated with a Bachelor of Science degree and discovered, much to my dismay but not without having been warned, that my chosen profession offered almost no work opportunities for its female graduates in anything but micropaleontology, toiling under fluorescent lights indoors in a lab somewhere in the South, picking 'bugs' under a microscope for an oil company.

So, for lack of any other options, this is how I first became a geological draftsman. I started working initially with crow quill pens on the unforgiving surface of vellum, eventually graduating to the high tech world of the Rapidograph, the Leroy template and mylar. Yes, it was that long ago. I worked as an illustrator for almost ten years after graduation, ending my career in the academic world at the University of Washington as the department illustrator. My ex had been working on his Ph.D. at UW since we left San Diego and now it was time for him to enter the real world and get a job. We ended up going to The Evergreen State College in Olympia, Washington in 1975 where Jim was the one and only geologist on the teaching faculty. The way that TESC is organized is a bit like graduate school except tailored for undergrads. Students write their own contracts for classes, either as individuals or as a group, and then seek faculty who will take the contract and teach them what they want to learn. Since there was only one geologist, and since there were a number of people contracting to have group studies, students who were more advanced and who wanted to do individual field studies were left without anyone who could be away from the college for extended periods to take those contracts. Thus, I became an unofficial TA for the advanced students and took three of them on a field trip to the Inyo Mountains for a structure and stratigraphy individual study in the spring of 1978. I discovered that teaching was a really rewarding experience, got me out in the field again, and also got me thinking about the bigger picture.

In late spring 1978, the Geological Society of America had their Cordilleran meeting in Seattle. I wasn't registered but went anyway to visit with old friends. I was standing on the front steps of the meeting hall when one of the geology lecturers came by muttering about how they'd screwed up his name tag. Instead of "Larry", his badge announced that he was "Terry" ... an outrage requiring that he get a new one. I asked him if I could use his old badge so I could go inside instead of being relegated to hanging out on the steps and he said OK. I'd been thinking a lot about the nuclear industry and the power plant proposed to be built on the Skagit Delta, a truly magnificent and reasonably pristine environment in a state that was essentially self-sufficient in energy production through hydro. The only reason for the plant was to plug it into the grid to satisfy regional energy requirements out of state. It was starting to look like nuclear energy was going to snowball in the Pacific Northwest, right on the heels of the Seven Mile Island incident that had everyone worried. There were a lot of faults in the western U.S., many of them potentially active, that could affect the siting of nuclear facilities and it was very hard to tell how old they were in real age numbers. When I went inside at the GSA, I ran into Gary Carver, an old friend from UW who had previously attended school at UNR and studied with Dr. Burt Slemmons, a brilliant and pioneering researcher in the relatively new field of neotectonics and seismic risk evaluation. I asked Gary to introduce me and in the fall of 1978, I moved to Reno and began work on my Master's thesis on the neotectonics of Saline Valley, California as one of Burt's graduate students. And so began an amazing two years where I was privileged to get to know and work not only with Burt but also with another remarkable researcher, Jonathan O. Davis, who taught me to be brave and to think really, really big.

While working on my thesis at UNR, I was continually frustrated by my inability to accurately date anything related to fault movement. The only method available to me was to measure the slope angle of the scarp and extrapolate age from its degradation, assuming an initial angle of about 60°. Way too many variables, as you can imagine. One of the faults I'd studied in Saline Valley showed three periods of uplift. Walking up an arroyo that bisected the scarp, I noticed that there was a pronounced carbonate layer that corresponded with the nick point where the uplifted stream bed was eroding upstream. If there was a way to date that layer, one could tell

when the last movement on the fault had taken place. If there were multiple carbonate layers indicating repeated seismically-related uplifts, it would be possible to determine a recurrence interval on that particular fault. Bingo!

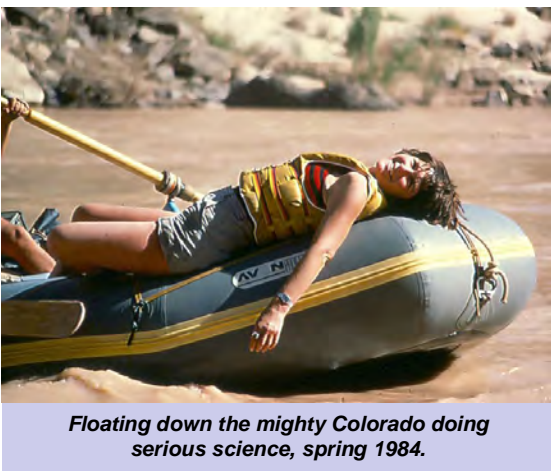
So, I started looking into ways that I could possibly date materials in these deposits and came up with Uranium-Thorium dating that could be made specific to this kind of carbonate. One of the main academic researchers in U/Th dating was at USC, which was also the academic home of a structural geologist who had made his name doing work in the desert southwest. It seemed like everything was coming together at USC, so I applied for admission and got accepted into their Ph.D. program for the fall of 1980. It was interesting and I learned a lot but I really, really hated living in Los Angeles. After a year of breathing record levels of smog, I returned to Reno and got a job with Homestake Mining, initially as a draftsman but eventually segueing into exploration. It enabled me to make some money, lasted about a year and then I got to experience my first layoff in the big industry downturn of 1982. It was during this first stint in the mining industry that I met Don MacKerrow, whom I am with to this day. Don and I were field partners on a doomed project near Lovelock in early 1982, working in an abandoned WWII mercury mine full of fine red powder that rose in clouds underfoot (I don't like to think about it). What a great underground adventure though, with huge caverns dripping with palest blue angel hair gypsum and shot with bright orange and deep red mercury mineralization. We used to have lunch, sitting in the poisonous dust in pitch blackness, telling each other creepy stories about the "man in the grey coat" who lives in caves, heard in whispered sound reminiscent of words in a lost language, and whose movements in the dark can only be imagined as the ghosts of your peripheral vision. Jonathan Davis first told me the stories about the 'grey man' from his experiences in spelunking. It makes a lot of sense and creeps you out when you're all alone in the dark.

After the layoff, I decided to see if I could resurrect my research on U/Th, skipping the Ph.D. bells and whistles. There were two labs at that time that did this kind of work, one at the USGS in Denver and the other at Lawrence Livermore Lab in California. I wrote to John Rosholt at the lab at the USGS and went there to do my project in early 1983. In a nutshell, the uranium dating method works, within limits. You can get recurrence intervals of fault activity using U/Th on carbonate rinds or U-trend ( $U^{235}/U^{238}$ ) dating of soil profiles, but there seems to be an issue with computing ages for materials that are in the 10,000 year range ... exactly the range that is of concern to those who do seismic risk evaluation for nuclear plant siting. It has to do with clays being present due to weathering in more recent soils. Thorium (the decay product) has an affinity for plating and concentrating itself on those clays while Uranium (the parent element) is extremely soluble and thus is easily transported by water moving through the soil profile. Both of these elemental characteristics potentially act in concert to produce ages older than are reasonable for some younger sediment. Still, even with these limitations, the method provides a bit more detail than what was available before. I'm sure that there has been considerable progress since then, I just haven't kept up on it.

One of the cool things I got to do because I was at the USGS was go on my first raft trip down the Colorado River with some researchers from Northern Arizona University. There are a number of paleo-landslide deposits in the Canyon and my trip companions wanted to see if they could get an age determination on them to indicate when and how many times the Colorado might have been dammed over the millennia. The trip was my first on the River, completely awesome, and I made some lifelong friends over beers at sunset.



***Faulted fanglomerates in Saline Valley, 1979***



***Floating down the mighty Colorado doing serious science, spring 1984.***

But all things have their beginnings and endings and the Midwest just wasn't a place I wanted to live for the rest of my life. Denver is not in the mountains, despite what the license plates look like. It is west Kansas. And while there is indeed skiing in Colorado, the beach is a very long way away. So, it was time for a new direction again and I pulled up stakes and moved to Santa Cruz in 1985. Tough place to find anything to rent and even tougher place to find any work, although I did get to briefly immerse myself in the winery world, assisted in the bottling of the 1980 merlot at Santa Cruz Mountain Vineyard, and got to be part of a wine tasting event one evening at the winery that has since proved to be historic. After three months of frustration looking for a job in Santa Cruz that would pay the rent, I answered an ad in the S.F. Chronicle for a receptionist job at an architectural firm in Sausalito that designed and built banks. As the guy who ran the company told me, "I don't worry about getting paid". I only worked there for a month but enjoyed it a lot and got to go to their Christmas gala at the Top of the Mark in San Francisco. Office politics there were AMAZING. I doubt that I would have lasted much longer had I decided to stay, the urge to draw cartoons would have overcome my instincts for self-preservation, but what I earned there in that month got me back on my feet and gave me enough of a

financial cushion to try something completely different. I quit the job with the architects after being offered a part-time job in a shop providing custom canvas designs (sail and boat covers, biminis and dodgers, repairs, etc.) for boats of all descriptions as well as domestic and commercial canvas (awnings, umbrellas, banners). The job became full-time after a couple of weeks and I worked there for two years in a three-woman shop in a loft space at a Sausalito boat yard. It was probably one of the more interesting things I've done both work-wise and personally and the job afforded a lot of time outside on the waterfront in a very beautiful place. (cont. pg. 6)

(O'Malley, cont. from pg. 5)

Great though it was to play around on boats, after two years it was crossroads time again. By 1986, the Bay area was transforming itself into a place where only the very rich could afford to live. My friends in Reno said to come back, that mining was picking up again, so at the dawning of 1987 I moved in with Don and our friend Terry Sampson and went back to work in exploration for the second time with Homestake Mining.

You think I'd learn. Two years later it was lay-off time yet again in the minerals industry. I took a long look at myself and decided that since I wasn't ever going to rise to the level of administrative fodder, my occupational destination would be relegated to field grunt-ism. Not that there's anything wrong with that ... but ... how long could that go on? I mean, has anyone ever seen a geriatric woman in the field, festooned with hand lenses and Bruntons, staggering under the weight of an 80-pound backpack full of rock samples? I didn't think so. It looked like it was time to resurrect my back-up skills in drafting and illustration. I started my own graphics business in late 1989, initially as a pen-and-ink enterprise but beginning the conversion to digital graphics by 1991. Terry moved out and got married and Don and I remain together.



Repairing a sail cover at Downwind Designs, Sausalito, 1986.



Summer 1988, working at 125°F near Bouse, Arizona.

My path has been anything but a straight line over the years but I'm proud to have been able to find a way to contribute as a geologist and to survive in an industry that has not always been as gender inclusive as it is today. It really makes me glad to look around the room at the GSN and see so many smart women finally being recognized and afforded the opportunity to succeed in this field of work. Around 1990, I was asked by the GSN if I would provide a cartoon for the monthly Newsletter. I used my experiences in the field and stories told to me by my friends as inspiration for the drawings for the next ten years, exploring the nuances of bureaucracy, bad bosses, attack cholla, poor field conditions, strange foreign assignments, golden parachutes, disease, lack of consideration for field workers, company politics, bat brew beer at the Owl Club, and obscure and nonsensical policy edicts coming from black boxes in the conference rooms of corporate fiefdom.

And so now here we are and, minus the usual sordid details, that's been my life as a geologist.

### 1992 GSN Cartoon – "In the field"



"MAY YOUR TRAILS BE DIM, LONESOME, STONY, NARROW, WINDING & ONLY SLIGHTLY UPHILL. MAY THE WIND BRING RAIN FOR THE SLICKROCK POTHOLES 14 MILES ON THE OTHER SIDE OF YONDER BLUE RIDGE. MAY GOD'S DOG SERENADE YOUR CAMPFIRE, MAY THE RATTLESNAKE & SCREECH OWL AMUSE YOUR REVERIE, MAY THE GREAT SUN DAZZLE YOU BY DAY AND THE GREAT BEAR WATCH OVER YOU BY NIGHT.

BEYOND THE WALL OF THE UNREAL CITY... IS THE OLD TRUE WORLD OF THE DESERTS, THE MOUNTAINS, THE FORESTS, THE ISLANDS, THE SHORES, THE OPEN PLAINS. GO THERE. BE THERE."

EDWARD ABBEY  
"BEYOND THE WALL"  
OCTOBER 1983

**G.S.N. WINNEMUCCA CHAPTER MEETING**  
**WEDNESDAY, APRIL 10, 2013**

**Location:** The Martin Hotel, 94 West Railroad St. Winnemucca, NV

**Time:** Refreshments @ 6 pm, Appetizers @ 6:30, Talk @ 7:00



**Appetizers Sponsor: IDS**



**Drinks Sponsor: GEOTEMPS INC., GEOPROS INC.**

**Speaker: Tyler Cluff, Schlumberger Water Services**

**Title: Mine Hydrology: Exploration and Project Development**

**By Tyler Cluff and Ron Parratt**

Hydrology in mining plays an important role in life of the mine through the cycles of exploration, feasibility, permitting, operations, and closure. Collecting hydrologic data from non-traditional sources such as exploration holes, geotechnical holes, and core samples quickly expand the understanding of the groundwater system at relatively low costs. Hydrologic conditions can add to unplanned operating expenditures and environmental impacts when the groundwater system is poorly understood, thus ultimately leading to higher costs in the form of additional data collection, operational delays in mining, permitting delays, and costs to third party contractors. Increasing the data resolution, data quality, and data management that characterizes the groundwater system is more cost effective over the life of mine. Characterizing the hydrologic system early during the mining cycle is important to inform regulatory agencies of potential impacts, reduce the permitting period because adequate baseline data is already in hand, and to plan for bonding.

Understanding the various aspects of mine hydrology and the associated data requirements to perform confident analyses allows mine operators to capitalize on existing data collection or operational programs. Synchronizing the collection of hydrologic data with exploration, geotechnical, or geophysical programs can cut costs while increasing confidence in predictions through synergistic use of existing practices to further hydrologic understanding. For example, mineral exploration boreholes can be instrumented to obtain hydrologic data at minimal additional cost. This leads to high resolution monitoring of water levels across fault zones, in the vicinity of future open pits, along pit walls, springs, or streams. In turn, operators receive advanced notice of potential hydrologic hazards, provide better data resources to characterize hydrologic properties, and reduce risks in engineering design.

This talk discusses hydrologic issues which can occur during various phases of the mining cycle, from greenfield exploration to closure, and identifies practices which can combine exploration, operational, and hydrologic studies. Brief explanation of hydrologic analyses will be presented to familiarize operators with key pieces of data to collect. Case studies and practical examples of successful instrumentation, data collection, and data management will be presented as ideas for synergizing future work.

***Thank you to TonaTec Exploration LLC***

***For Hosting the March 13, 2013 Meeting in Winnemucca!***

## **JOHN LIVERMORE'S TRIBUTE CELEBRATION**

**April 19, 2013 from 7—10 p.m.**

A tribute celebrating the life of GSN Honorary Member John Livermore, will be held in Reno, Nevada on Friday evening, April 19, 2013 from 7-10 pm, in the Redfield Auditorium of the Davidson Math and Science Building on the south end of the University of Nevada Campus, and just north of downtown Reno. There will be a program, then time for refreshments and fellowship. We have been assured that parking is open and free that night and should not present any problem.



This will be the only public celebration of John's life.

Here is a link to the University of Nevada's campus map:

<http://www.unr.edu/Documents/administration-finance/Parking/2012-2013%20Campus%20Parking%20Map.pdf>

### **G.S.N. ELKO CHAPTER MEETING** **THURSDAY, APRIL 18, 2013**

**Location:** Western Folklife Center, Elko Nevada

**Time:** Refreshments @ 6:00 p.m. and Talk @ 7:00 p.m.

**Sponsored by: SGS Minerals**



**Speaker: To Be Announced**

***Thank you to MIRANDA GOLD CORP.***  
***For Hosting the March 21, 2013 Meeting in Elko!***



# John “Jack” Stewart

## G.S.N. Lifetime Honorary Member

August 7, 1928 - March 1, 2013

(from David John, USGS, Menlo Park) **Jack Stewart**, an honorary lifetime GSN member, passed away on March 1st at age 84. Jack was one of the giants of Great Basin geology. I'm sure many GSN members knew him and many more know of his monumental studies of the geologic framework of Nevada, which included the 1978 Nevada state geologic map and the 1980 companion book, "Geology of Nevada", both published by the Nevada Bureau of Mines and Geology. Jack also was a co-author of the NBMG reports on the geology and mineral resources of Esmeralda and Lander counties and made major contributions in understanding Paleozoic stratigraphy, Basin and Range tectonics, and the Walker Lane, to name but a few. Jack introduced me to the geology of Nevada more than 30 years ago and his insights will be sorely missed.



I'm sure a more detailed obituary written by colleagues at the USGS and highlighting his geologic accomplishments is forthcoming, but in the interim here is an obituary published in the San Jose Mercury News.

### **John (Jack) Stewart (1928 - 2013)**

*John (Jack) Stewart August 7, 1928-March 1, 2013 Resident of Menlo Park John Harris Stewart (Jack) passed away on March 1, 2013. Jack was born on August 7, 1928 in Berkeley, California to George and Theodosia Stewart. The family, including his older sister Jill, travelled extensively as Jack's father, a noted author, conducted research for numerous books. Jack graduated from Berkeley High School in 1946, then studied at the University of New Mexico, obtaining a degree in geology in 1950, with minors in math and anthropology. In 1951 Jack began his 62 year career with the US Geological Survey. Jack obtained a doctorate in geology from Stanford in 1961. In 1962 Jack married Sally Dwight and they had two children, Ed in 1964 and William in 1966. The family spent many enjoyable summers in Nevada where Jack performed extensive field work.*

*Jack was the preeminent authority on the geology of the Great Basin and Colorado Plateau regions of Colorado, Nevada, New Mexico and Arizona. His work in Nevada led to the preparation of the first comprehensive geologic map of Nevada. Jack's findings had significant impact on strategies in the search for, and identification of, new mineral resources. For his outstanding achievements and extensive contributions to knowledge regarding the geology of western North America, he was granted the Distinguished Service Award by the Department of the Interior in 1994. Jack was respected by colleagues for his dedication to his profession. He was a scientist at heart, who loved to walk, and study the environment.*

*In 1990 Jack married Joyce Colbath, and they spent 22 years together, hiking and exploring throughout the world. Jack is survived by his wife Joyce Stewart, sister Jill Evenson, sons Ed(Tracy) and William, his step-children Mary McCurdy(Kevin), John Plungy(Cheri), Elizabeth Ramaley(Lee), Mark Plungy(Lisa), his grandchildren Samuel and Teddie Stewart, and his step- grandchildren Emilie Plungy, Helen and Brigid McCurdy, Clare, Stephen and Madeline Ramaley, and Julia and Matthew Plungy. Jack is also survived by numerous nieces and nephews. In his memory, Jack's family appreciates donations to the Truckee-Donner Land Trust.*

**Published in San Jose Mercury News/San Mateo County Times on March 14, 2013**

## OBITUARY

### *In Memory of Ruth Marillyn Slemmons April 4, 1924 - March 6, 2013*

*Ruth Marillyn Slemmons, 88, of Las Vegas, passed away on March 6, 2013 from pancreatic cancer. She is survived by her husband of 66 years, David Burton "Burt" Slemmons, GSN Honorary Lifetime Member.*

*Ruth was born in Taft, California on April 4, 1924 at 4 PM to Robert Wesley Evans and Ruth Stanton Holker Evans. She graduated from Taft High School in Taft, California, and the University of California Berkeley. While Burt earned his Ph.D., Ruth worked as a teacher and social worker.*

*Ruth and Burt moved to Reno, Nevada in 1951 when he began teaching at UNR. She raised David and Mary Anne and worked for the UNR Engineering Library. After Burt retired from teaching in 1989, they relocated to Las Vegas. Over the years, Ruth enthusiastically volunteered with PTA, women's faculty groups, WAIME, Assistance League, and Operation School Bell. She was active and held offices in PEO, Chapter F in Reno and Chapter AE in Las Vegas, and church groups.*

*She was Burt's rudder and the light of his life.*

*Ruth was "den mom" to generations of Burt's students during the many years the two of them shared at UNR and was an enthusiastic participant in their educational progress and success. Burt and Ruth could share in the satisfaction of having sent their academic 'kids' into the world not only with a firm foundation in knowledge but also with their outstanding personal example of what friendship, loyalty, decency and trust can accomplish.*

*Over the years, Ruth made and cherished many friends. She loved to travel, visiting 50 countries and six continents, making friends wherever she went.*

*Ruth is survived by her husband, David Burton "Burt" Slemmons; her son, David ,of Norman, Oklahoma; daughter, Mary Anne Slemmons (Jim Baldwin) ,of Juneau, Alaska; grandchildren, Mabry (Brendan Agnew) Slemmons, of Norman, Oklahoma, Claire Baldwin (fiancé Brian McHenry) , of Juneau, Cody Baldwin of Juneau, and Michael Slemmons of Norman, Oklahoma.*

*A memorial service was held on Friday, March 15, 2013 at the First Presbyterian Church in Las Vegas. Donations can be made in her name to :*

*Cottey College  
1000 West Austin  
Nevada, MO 64772.*



## **CALL FOR NOMINATIONS—2013/2014 CHAPTER OFFICERS**

The G.S.N. Chapters in Elko, Winnemucca and Southern Nevada are seeking nominations for officers for the coming fiscal year beginning on June 1, 2013. Please contact the President of your respective chapter if you are interested or would like to nominate someone:

Jared Townsend, Elko Chapter President: [jtownsend@barrick.com](mailto:jtownsend@barrick.com)

Leann Graf, Winnemucca Chapter President: [leann.graf@newmont.com](mailto:leann.graf@newmont.com)

Paul Bowen, Southern Nevada Chapter President: [paulbowen@cox.net](mailto:paulbowen@cox.net)

**GSN 2013-2014 BALLOT**

**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 2013-2014 and Directors for 2013-2016; 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 B three year term on the Board of Directors as presented below:

**Officers for the 2013-2014 GSN Executive Committee**

**PRESIDENT**

Tommy Thompson

**SECRETARY**

Lori Carpenter

**MEMBERSHIP CHAIR**

Susie Mason

**VICE PRESIDENT**

Jonathan Price

**TREASURER**

Robert Kastelic

**PUBLICATIONS CHAIR**

Keith Fowlow

**FOR SLATE\_\_\_\_\_**

**AGAINST SLATE\_\_\_\_\_**

\*\*\*\*\*

**GSN Board of Directors**

**Class B: Three Year Term – 2013 to 2016**

David Caldwell

Greg French

**FOR BOTH\_\_\_\_\_**

**AGAINST BOTH\_\_\_\_\_**

\*\*\*\*\*

CURRENT GSN MEMBER'S NAME:\_\_\_\_\_

(All votes must include the GSN Member's Name. Vote without a name will not be counted.)

If you are receiving this notice by mail, either mail your vote to GSN, 2175 Raggio Parkway, Reno, Nevada 89512 or fax it to (775) 323-3599. In order for the vote on this ballot to be counted the completed ballot must be received in the GSN office on or before 11:59 pm on Friday, April 19, 2013. Thank you for your participation.

# NORTHWEST MINING ASSOCIATION

Laura Skaer, Director

## March 2013 Legislative Update

The President has signed the Continuing Resolution funding the federal government through the end of fiscal year 2013 (September 30). The Continuing Resolution contains language that fixes the drafting error when Congress increased the claim maintenance fee for Association Placer Claims to \$140.00 per 20 acres or a fraction thereof. When Congress amended the claim fee statute (30 U.S.C. 28f) in the 2012 Appropriations bill, it left out the word "before" which led some to believe that if you had claims located before August 10, 1993, you were subject to assessment work and filing requirements to maintain your mining claims instead of paying a claim fee on those claims. The error was not discovered until after the 2012 Appropriations bill had been passed by both houses of Congress and signed by the President. BLM as well as most in the industry understood this was a technical drafting error. It was not intended to change substantive rights. The technical drafting error has now been corrected so the first sentence of 30 U.S. C. 28f(a)(1) now reads "The holder of each unpatented mining claim, millsite or tunnel site located pursuant to the Mining Laws of the United States on, before, or after August 10, 1993 shall pay to the Secretary of the Interior...."

The House Energy and Minerals Subcommittee of the House Natural Resources Committee held a legislative hearing on March 21 to consider seven bills including Rep. Amodei's *Critical and Strategic Minerals Production Act of 2013* (H.R. 761) the *Southeast Arizona Land Exchange and Conservation Act of 2013* (Resolution Copper Land Exchange; H.R. 687); Rep. Hecht's *Three Kids Mine Remediation and Reclamation Act* (H.R. 697); and Rep. Lamborn's *National and Strategic and Critical Minerals Policy Act of 2013* (H.R. 1063). Copies of the testimony are available on the Subcommittee's website, <http://naturalresources.house.gov/subcommittees/>. Most of the hearing consisted of sparring between Rep. Gosar (R-AZ) and Rep. Grijalva (D-AZ) over the Resolution Copper Land Exchange. Jennifer Krill, Executive Director of the anti-mining group Earthworks, testified against the above bills. During questioning by Rep. Gosar, Ms. Krill admitted that Earthworks has never supported a mining project in the United States. I'm sure that is no surprise to you. The next step for H.R. 761 is a full Committee markup followed by a Floor vote. Although no markup has been scheduled, we anticipate markup will be held in May or June with a Floor vote in early July.

On the Senate side, much focus was placed on Sen. Tom Udall's (D-NM) amendment to the Senate Budget Resolution to provide a placeholder for a royalty on hardrock

mining. The Udall amendment (483) states:

### **Deficit-Neutral Reserve Fund to Provide for Hardrock Mining Reform Amendment**

The chairman of the committee on the budget of the Senate may revise the allocations of a committee or committees, aggregates, and other appropriate levels in this resolution for one or more bills, joint resolutions, amendments, motions or conference reports related to Federal land management, which may include provisions related budget deficit reduction, establishment of a reclamation fund, imposition of a locatable mineral royalty, revenue-sharing with the states, and improvements to the permitting process, by the amounts provided in the legislation for those purposes, provided that the legislation would not increase the deficit over either the period of the total of fiscal years 2013 through 2018 or the period of the total of fiscal years 2013 through 2023.

The language with respect to Federal land management, revenue sharing with the states, and improvements in the permitting process were amendments offered by Sen. Murkowski and accepted by Sen. T. Udall. The amendment passed on a voice vote. You will note that this is a placeholder for possible Mining Law Reform legislation that would include a royalty on production from Federal public lands. It does not set a royalty, specify gross or net, or that the royalty would apply "prospective" only. We believe Sen. T. Udall will introduce a Mining Law royalty bill sometime this year.

On the House side, House Natural Resources Committee Ranking Member Ed Markey (D-MA), Rep. Raul Grijalva (D-AZ) and Rep. Rush Holt (D-NJ) have indicated they will introduce a Mining Law Reform bill with a gross royalty sometime this year. The President's budget is expected to be released on April 10, and we believe it will contain language similar to the past two budget that recommends converting seven hardrock minerals to a leasing system, imposing a gross royalty, and a reclamation fee or "dirt tax."

Next month we will focus on BLM and USFWS efforts with respect to conserving the Greater Sage-grouse and its habitat.

# ROCK TALK

## University of Nevada, Reno geologist receives national mining award

March 4, 2013

By Stephany Kirby

(Reprinted from the online "Nevada Today" UNR article, March 4, 2013.

<http://www.unr.edu/nevada-today/news/2013/jon-price-gold-medal> )



Jonathan Price, former director of the [Nevada Bureau of Mines and Geology](#) at the University of Nevada, Reno and state geologist emeritus, received a Gold Medal from the [Mining and Metallurgical Society of America](#) (MMSA) at their annual conference Feb. 25. The highest honor awarded by the society, the Gold Medal is presented to individuals who have made significant contributions to the mineral industry.

Price was awarded the prestigious Gold Medal in a ceremony at the society's meeting in Denver where he delivered an acceptance speech making comparisons to President Herbert Hoover and his own life.

"I am proud to be a part of the mining industry and to receive the award," Price said in his acceptance speech. "I'm especially delighted in part because of the connection with Herbert Hoover, one of the first members of MMSA and, along with his wife Lou, the first recipient of the Gold Medal. I have had some roundabout connections and parallels with Herbert Hoover throughout my career."

The first Gold Medal was awarded in 1914 to Hoover, who was a mining engineer before he became U.S. President, and his wife Lou Hoover, a geologist. Since then, 34 Gold Medals have been awarded.

"The Mackay School of Earth Sciences and Engineering is extremely proud of Jon Price for his winning the prestigious MMSA gold-medal award," said Russell Fields, director of the Mackay School, of which the Bureau of Mines and Geology is a public service department. "He has devoted his very successful career to developing the field of geological sciences as it relates to the economic production of minerals and I can think of no more deserving recipient of this award."

In his speech, Price mentions Hoover going to Australia after leaving Stanford and compares it to himself going to Nevada while working on his dissertation as a doctoral student at the University of California, Berkeley. He also notes Hoover going into public service the same year he won the MMSA Gold Medal and describes his own experience of going into public service, first with the Bureau of Economic Geology, the state geological survey of Texas. "The experience there, which included some interesting silver, beryllium, rare-earth and industrial mineral deposits, was the perfect background for coming back to Nevada," Price said. "Being the Nevada State Geologist for 24 years was a wonderful job; I might even say perhaps more fulfilling than Hoover's presidency."

Price retired from his position in the University of Nevada, Reno's [College of Science](#) in July and is now an

(Price, cont.) independent mining consultant. He earned his bachelors degree in geology and German at Lehigh University and worked at the Mineralogisch-Petrographisches institute at the University of Heidelberg in Germany before getting his master's and doctorate degrees in geology at the University of California, Berkeley.

The MMSA gives the Gold Medal for "conspicuous professional or public service for the advancement of the science of mining and metallurgy, or of economic geology; for the betterment of the conditions under which these industries are carried on, for the protection of mine investors, and especially for the better protection of the health and safety of workmen in the mines and metallurgical establishments."

"The leadership and vision of Jonathan Price has built one of the finest organizations in the United States," Jeff Thompson, dean of the College of Science, said about Prices's work in the Nevada Bureau of Mines and Geology. "He richly deserves the prestigious Gold Medal Award from the Mining and Metallurgical Society of America and we are very proud of his accomplishments."

*Thank you to our generous donors  
in March!*

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**Anita Brown  
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**Thank You!**

**OTHER UPCOMING EVENTS**

**4, April—DREGS meeting:** Two talks will be presented in Lakewood, CO and Golden, CO on April 4, 2013 by Dr. Ravi Anand (CSIRO), the 2013-2014 Distinguished Lecturer for the Association of Applied Geochemists.

(1) "Origin of ferruginous pisoliths in terrestrial environments-success in mineral exploration and clues to life on Mars", 11:30 am, April 4th, at the USGS, Building 25 Auditorium, Denver Federal Center, Lakewood, CO. Enter building on east side at Guard Station.

(2) "Understanding anomaly formation through transported cover: field and experimental approaches", 4 pm, April 4th, at the Van Tuyl Lecture Series, Geology Department, Berthoud Hall, room # 241, Colorado School of Mines, Golden, CO.

**4, April—NV Petroleum & Geothermal Society Monthly Dinner Meeting** – Thursday April 4, 6:30 PM, Ramada Reno Hotel, 1000 E 6th St, Reno, NV. Speaker: Don French, Billings. MT. Title: Mississippian Clastic Strata of the Great Basin: Refinement and Correlation based on Subsurface Data, New Geochemistry, and Petrography. **RSVP for the April 4<sup>th</sup> Monthly Dinner Meeting by cutting and pasting the following link:**

**[https://docs.google.com/forms/d/1gYreDyZ3b5zSUDjwMj4gO8\\_T4fc5IRthJDYvIviJfr8/viewform](https://docs.google.com/forms/d/1gYreDyZ3b5zSUDjwMj4gO8_T4fc5IRthJDYvIviJfr8/viewform)**

**8, April—UNR Geological Sciences Seminar Series** – Mondays 4:00 PM, DMS 103, University of Nevada, Reno. Chad Deering, UW Osh Kosh, "Characterizing the magmatic heat source in the central Taupo Volcanic Zone, New Zealand: New insights and discoveries" <http://crack.seismo.unr.edu/geosci/>

**8, April—SME, Northern Nevada Section.** Happy Hour 6, Dinner 6:45 & Talk at 7:30 PM. Circus-Circus Mandalay Room, Reno NV. Members: \$25, Nonmembers \$30. **Speaker: Mr. Bill Stanley**, V.P. Exploration, Atna Resources, Ltd. **Title: Pinson Underground Mine Update, Humboldt County, Nevada.** Meeting sponsor is Legend, Inc. RSVP to Diane Lightwood, 775-682-7379 or [dlightwood@unr.edu](mailto:dlightwood@unr.edu).



**Geological Society of Nevada  
Spring 2013 Field Trip Registration  
May 3rd through May 5th 2013**



**“Marigold Mine and Premier Gold Mines Cove Project”**

- Friday, May 3rd:** Depart Reno @ 2:00 p.m. from the GSN Office  
6:00 p.m.—Dinner provided at the Winnemucca Inn Conference Room.  
7:00 p.m.—Speaker, James Carver, Marigold mine.  
Overnight at Winnemucca Inn.
- Saturday, May 4th:** Breakfast on your own.  
Tour Marigold mine.  
12:00—Sack lunch provided.  
6:00 p.m.— Dinner provided at the Martin Hotel.  
7:00 p.m.—Speaker, Brian Morris, Cove Project.
- Sunday, May 6th:** Breakfast on your own.  
10:00 a.m. Tour of Cove and Premier Gold Project.  
12:00—Sack lunch provided.  
2:00 p.m.—Depart Cove and return to Reno at ~5:30 p.m.

**SPONSORSHIP OPPORTUNITES FOR THE SPRING 2013 FIELD TRIP**

**SNACKS/BEER ON THE BUS—\$400, FRIDAY DRINKS—\$500, SATURDAY LUNCH—\$450,  
SATURDAY DRINKS—\$500, SUNDAY LUNCH—\$450.**

Please call Laura at the GSN office 775-323-3500 or e-mail [gnsn@gnsnv.org](mailto:gnsn@gnsnv.org) if you would like to be a sponsor.

Each donor will be acknowledged on the field trip and in the field guidebook.

**May 3-5, 2013 Field Trip Sign Up**

Name: \_\_\_\_\_

Daytime Phone: \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

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Email: \_\_\_\_\_

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Name: \_\_\_\_\_

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Signature: \_\_\_\_\_

\*Non-members are encouraged to become members of the GSN for \$50 annual dues in order to take advantage of the reduced rate.

Payments must be made by April 19, 2013. No refunds after April 19, 2013. Fax: (775) 323-3599 or mail to GSN office:

2175 Raggio Pkwy., Reno, NV 89512 or email to [gnsn@gnsnv.org](mailto:gnsn@gnsnv.org)

# Activity Update

Mike Brady, February 2013

[www.activityupdate.com](http://www.activityupdate.com)

## NEVADA

- NuLegacy Gold Corp. announced that it terminated its interest in the Red Hill and Coal Canyon properties of Miranda Gold Corp. *Press Release:* January 28
- Altan Nevada Minerals Ltd. announced that it acquired an option to earn a 100% interest in the Radar Property from Avidian Gold US Inc. for \$100,000 cash and \$250,000 in exploration expenditures over 5 years. *Press Release:* February 5
- Meadow Bay Gold Corp. announced that based on recent drill results at the Atlanta Project, resources aggregate 15,500,000 tonnes @ 1.27 gpt Au measured+indicated and 18,500,000 tonnes @ 1.0 gpt Au inferred. (was 1,460,000 tonnes @ 1.56 gpt Au, 4.5 gpt Ag indicated and 753,700 tonnes @ 1.34 gpt Au, 7.8 gpt Ag inferred) *M.J.:* February 1
- Coronet Metals Inc. announced that it leased the 50 tpd Liberty Precious Metals Testing and Processing facility in the Amargosa Valley for undisclosed terms. The company plans to process ores from the White Caps Project at the facility. *Press Release:* February 12
- Star Gold Corp. announced that based on recent drill results at the Longstreet Project, resources aggregate 4,600,000 tonnes @ 0.65 gpt Au, 15.7 gpt Ag indicated and 753,000 tonnes @ 0.58 gpt Au, 16.8 gpt Ag inferred. (was 3,972,000 tonnes @ 0.82 gpt Au, 22.5 gpt Ag indicated and 788,100 tonnes @ 0.82 gpt Au, 22.5 gpt Ag inferred) *Press Release:* February 5
- Rye Patch Gold Corp. announced that recent drill results at the West Pediment Project include 42.7-44.2 meters @ 0.01 gpt Au, 22.4 gpt Ag (RMR-053); 164.6-167.6 meters @ 0.11 gpt Au, 0.3 gpt Ag (RMR-054); 89.9-91.4 meters @ 0.02 gpt Au, 6.1 gpt Ag (RMR-055) and 92.9-100.6 meters @ 0.01 gpt Au, 4.9 gpt Ag (RMR-057). *Press Release:* February 21
- Rye Patch Gold Corp. announced that recent drill results at the Mystic Project include 54.9-70.1 meters @ 0.01 gpt Au, 5.8 gpt Ag (RMR-058); 56.4-80.8 meters @ 0.01 gpt Au, 6.8 gpt Ag (RMR-059) and 33.5-216.4 meters @ 0.03 gpt Au, 10.3 gpt Ag (RMR-060). *Press Release:* February 21
- Gold Standard Ventures Corp. announced that recent drill results at the Railroad/North Bullion Project include 105.8-119.8 meters @ 0.89 gpt Au (RR12-13); 07.0-157.6 meters @ 0.55 gpt Au (RR12-15); 275.3-316.2 meters @ 0.79 gpt Au (RR12-18) and 354.0-361.9 meters @ 1.30 gpt Au (RR12-19). *Press Release:* February 7
- Evolving Gold Corp. announced that recent drill results at the Carlin Project include 947.6-954.6 meters @ 7.87 gpt Au (CAR-021.2). *Press Release:* February 4
- Corvus Gold Inc. announced that it purchased 5 patented claims located east of its Mayflower Property from private interests for \$160,000. (resource = 15,230,000 tonnes @ 0.37 gpt Au, 0.44 gpt Ag indicated) *Press Release:* February 21
- Allied Nevada Gold Corp. announced that recent drill results at the Hycroft Project include 165-240 meters @ 0.35 gpt Au, 32.4 gpt Ag (4437); 103-129 meters @ 0.67 gpt Au, 27.4 gpt Ag (4457); 331-571 meters @ 0.63 gpt Au, 15.3 gpt Ag (4485) and 477-626 meters @ 0.41 gpt Au, 70.3 gpt Ag (4486). (reserve = 723,600,000 tonnes @ 0.45 gpt Au, 17.1 gpt Ag proven+probable-mill) *Press Release:* January 31
- Coeur d'Alene Mines Corp. announced that reserves at the Rochester Mine aggregate 72,657,000 tonnes @ 0.56 gpt Ag, 0.14 gpt Au proven+probable. (was 14,315,000 tonnes @ 23.5 gpt Ag, 0.14 gpt Au proven+probable) *Press Release:* February 21
- Desert Star Resources Ltd. announced that it acquired an option to earn a 100% interest in the Callaghan Property from private interests for \$475,000 cash over 9 years. *Press Release:* February 22
- Nevada Iron Ltd. announced that based on recent drill results at the Buenavista Project, the East Deposit aggregates 28,800,000 tonnes @ 19.7% Fe inferred. (no previous data) *ss Release:* February 22





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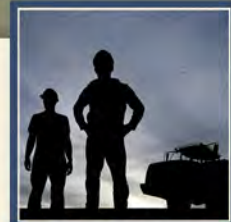
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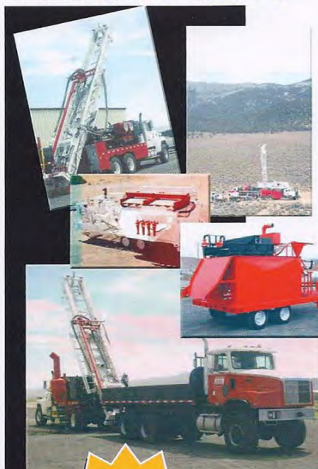


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