

GEOLOGICAL SOCIETY OF NEVADA NEWSLETTER

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



May 2014, Vol. 30, No. 5

Published monthly except June and July

CALENDAR OF GSN EVENTS

PRESIDENT

Tommy Thompson
University of NV, Reno-Mackay
thompsonstommy@aol.com

VICE PRESIDENT

Jonathan Price
Jonathan G. Price, LLC
JonathanGPrice@alumns.berkeley.edu

SECRETARY

Lori Carpenter
7Q10 Inc.
lcarpenter@7Q10.com

TREASURER

Bob Kastelic
Consulting Geologist
bob_kastelic@yahoo.com

MEMBERSHIP CHAIR

Susie Mason
smason2@earthlink.net

PUBLICATION CHAIR

Keith Fowlow
Trinity East Geoservices, LLC
Keith.Fowlow@gmail.com

OFFICE MANAGER

Laura Ruud
Geological Society of Nevada
gsn@gsnv.org

GSN BOARD OF DIRECTORS

Chairman: David Shaddrick

GSN President
Tommy Thompson, Current

Most Recent Past GSN President
Dave Emmons

Elko Chapter President
Josh Sovie

So. Nevada Chapter President
Wyatt Bain

Winnemucca Chapter President
Andy Jansen

Class A, 2012-2015
Lynne Volpi
Randy Vance

Class B, 2013-2016
David Caldwell
Greg French

Class C, 2011-2014
David Shaddrick (Chairman)
Camille Prenn

May 1, 2014
Thursday

SOUTHERN NEVADA CHAPTER MEETING

The monthly meeting will be held at 5:30 p.m. in Room 102 of the Lilly Fong Geosciences building, UNLV campus. This will be the **UNLV STUDENT RESEARCH NIGHT** featuring short talks and posters by UNLV researchers. Contact Wyatt Bain, bainw1@unlv.nevada.edu for more info. Details on page 7.

May 14, 2014
Wednesday

WINNEMUCCA CHAPTER MEETING (Every 2nd Wednesday)

The monthly meeting will be held at the Martin Hotel, Winnemucca, NV. Appetizers/drinks at 6:00 PM, Talk at 7:00 PM. **Speaker: Rue Ann Chitwood. Title: "Geochemistry and Mineralogy of Eastern Ag-rich Epithermal Veins in the Midas District, Nevada, USA". Food & Drinks Sponsored by: IDS DRILLING FLUIDS & REDCOR DRILLING.** Contact Andy Jansen at Andrew.jansen@newmont.com for more info. Abstract on page 7.

May 15, 2014
Thursday

ELKO CHAPTER MEETING (Every Third Thursday)

The monthly meeting will be held at the Western Folk Life Center, 501 Railroad Street. Refreshments at 6:00 PM, Talk at 7:00 PM. **Speaker: Katie Wickham, Mackay M.S. Candidate. Title: "Thallium Isotopes in Carlin-type Gold Deposits in Nevada". Food & Drinks Sponsored by: GOLDER ASSOCIATES.** For more information contact Josh Sovie at jsovie@barrick.com. Abstract on page 8.

May 16, 2014
Friday

GSN MEMBERSHIP MEETING (Every Third Friday)

The monthly meeting will be held at the Reno Elks Lodge, 597 Kumle, Reno. Drinks at 6:00 PM, Dinner at 7:00 PM, Talk at 8:00 PM. **Speaker: Larry Hillesland, Pershing Gold Corp. Title: "Enhancement in the interpretation of the geology and gold resource at the Relief Canyon Mine, Pershing County, Nevada" SPONSOR for the evening is: GEOTEMPS, INC.** Dinner reservations must be made by **WEDNESDAY, MAY 14TH**. Call Laura Ruud at 323-3500; Email: gsn@gsnv.org. DINNER \$25.00. Abstract on page 3.

June 14, 2014

G.S.N. ANNUAL GOLF TOURNAMENT

Lakeridge Golf Course, Reno NV. 1:30 p.m. Shotgun start. 4 person scramble. **Hosted by: B.V. INSPECTORATE and B.V. ACME LABS,** Registration form on page 10.

G.S.N. MAY MEETING SPONSOR



GEOTEMPS INC.

FROM THE PRESIDENT, APRIL 2014
Tommy Thompson, G.S.N. President 2013-2014

As this will be my last Presidential Column, I would like to summarize my experiences and thoughts through this year's term. First, the Executive Committee (EC) members, also volunteers, have made GSN operate smoothly, including changes to our website, financial reckoning, membership recruitment, field trip organization, and documentation of EC actions. The stable management of GSN's office rests in the capable hands of Laura Ruud. GSN operation, its bylaws, and guidance of decision processes come from the historical knowledge of the Board of Director's Chairman, Dave Shaddrick. Our 2015 Symposium is well-organized, and progressing to what will be a successful meeting, thanks to the team directed by Molly Hunsaker.

GSN's support of students' participation at Chapter meetings, as well as scholarships to students for their participation in field geology camps, has increased during times when Nevada State and university administrative support for these courses has decreased. Yet, we see little support or participation by the geology faculty of these same students in GSN activities! I'm personally affronted by this lack of the support by UNR faculty of GSN activities, including administrative persons in Mackay.

I want to extend my sincere gratitude and thanks to the volunteers and Laura Ruud for their time and energy in promoting GSN. We have many reasons to be proud of GSN's activities.



We must be vigilant, like our favorite bobcat, in our efforts to promote geology and mineral and energy resources in the great state of Nevada while at the same time ensuring our environment is healthy but available for multiple uses.



***Thank you to HARRIS EXPLORATION DRILLING &
ASSOCIATES INC. and FALCON DRILLING
For Hosting the April 18, 2014 Meeting!***

GSN MAY 16, 2014 Membership Meeting

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

Please call 775-323-3500, Fax 775-323-3599 or e-mail gsn@gsnv.org by 4 p.m. on WEDNESDAY, MAY 14, 2014.

Social Hour: 6:00 PM – Dinner: 7:00 PM – Speaker: 8:00 PM

\$25.00 per person. Location: Elks Lodge, 597 Kumle Lane, Reno, Nevada

Directions: across (W) from the Reno-Sparks Convention Center
(S. Virginia Street, behind the Les Schwab Tire Center)

Enhancement in the interpretation of the geology and gold resource at the Relief Canyon Mine, Pershing County, Nevada

Larry L. Hillesland², Douglas W. Prihar¹, Robert J. Casaceli³, Peter A. Dilles⁴, and Richard H. Fifarek⁵

¹*Pershing Gold Corporation, Lovelock, Nevada, USA*

²*Pershing Gold Corporation, Lakewood, Colorado, USA*

³*Consulting Geologist, Reno, Nevada, USA*

⁴*Consulting Geologist, Reno, Nevada, USA*

⁵*Southern Illinois University, Carbondale, IL, USA*

The Relief Canyon mine and property is located in northwestern Nevada (Pershing County) at the southern end of the Humboldt Range within the Basin and Range physiographic province. The Humboldt Range hosts numerous world class and large precious metal deposits and resources, including the Rochester Mine, Spring Valley deposit and the Florida Canyon Mine.

The mine produced about 131,000 ounces of gold from 1983 to 1990 by various companies. Since 1990, the mine and surrounding area have seen modest exploration as well as a failed attempt to reprocess old leach piles. Pershing Gold Corporation acquired the property in 2011 as Sage Brush Gold and consolidated the land position to include over 25,000 acres of mineral rights around mine. Since December of 2011, Pershing Gold or Sagebrush Gold has completed more than 171 development and exploration drill holes totaling more than 89,500 feet. The results of this drilling have expanded the resource from 113,000 ounces of gold in 2010 (Gustin, MDA; 2010) to 552,000 ounces of gold (Measured and Indicated) in the latest calculation (Tietz, MDA 2014). The average cost per ounce to delineate Measure and Indicated ounces is less than \$20.

Gold mineralization at the Relief Canyon Mine is hosted primarily within and/or proximal to a series of sub-parallel faults that are part of a highly deformed thrust complex. Deformation has produced folded and transposed layering, boudinage, and metamorphic assemblages typical of Lower to Upper Greenschist Facies. Additional ground preparation was produced by carbonate dissolution, and formation of collapse breccia with local cave fill sedimentation.

Gold mineralization is found in at least three distinct zones that from the structurally highest to lowest:

The Main Zone includes gold produced from the Relief Canyon Mine by Lacana and Pegasus. Mineralization is associated with quartz-illite±fluorite in multi-phase breccias along the thrust fault between the overlying Grass Valley formation and underlying thick-bedded to massive carbonates.

The Lower Zone gold mineralization displays a strong spatial association with gabbro sills and/or transposed dikes. It is hosted in, or proximal to complex tectonic breccia that shows multiple generations of reactivation and/or shearing, decalcification, local superimposed carbonate dissolution collapse breccia, and the presence of white clay (illite and/or kaolinite)-sulfide/Fe-oxides±fluorite.

Jasperoid Zone consists of dark silica (quartz) replacement of limey ductile tectonites with local stretched and boudinaged orogenic quartz veins, stretched quartz pebble conglomerate/sandstone, deformed limestone.

Gold shows a strong spatial correlation in all zones with silicification, fluorite and white clay. These zones are typically much higher in grade than the rest of the deposit with intercepts of white clay-flourite zones of up to 40 gpt Au. Independ-

(Continued on page 6)

“FACES OF GSN”

GREG T. HILL

As early as I can remember, I wanted to have a job where I could work outdoors and try to figure things out. I must have picked up a lot of rocks, because my parents bought me a rock tumbler sometime during my elementary school years. Rocks would come out rounded, smooth, and shiny, and we wore the thing out. There are early memories of the Mojave desert, Yosemite, the eastern Sierra Nevada, all places my family camped, hiked, backpacked, or skied. As I grew up in southern California, I developed a love for the outdoors and a fascination for the planet at an early age. In middle school, I remember tracing contours on 7 ½ minute USGS quads as a way to start to understand places where, along with my mom and dad and my two older brothers, we would spend some more time in the wilds during another backpacking, camping, or ski trip. I guess my analytical nature was also apparent pretty early on.



The early days with my bros. I'm the little one.



Field Camp, Colorado – 1990. This was the senior class along with Dr. Tom Prather. It can be hard to see the rocks in the snow, but you can still make a topographic map with a plane table and alidade.

A formal introduction to geology came after graduating high school, as a freshman at the University of California, Santa Barbara. Each Spring and Fall, the University's Geology department would organize geology field trips, and I found myself back in places like Owens Valley, Death Valley, and the Mojave, but now guided by seasoned and excellent geologists like professors Art Sylvester and Robert Norris. After that, there was no looking back. Despite the warnings from many that it could sometimes be difficult to make a living as a geologist, my path was set. Soon after, I would move to Colorado, be a ski bum for a couple seasons, and then enroll at Western State College to study rocks under the guidance of great professors Bruce Bartleson, Tom Prather, and Allen Stork. Upon graduation from WSC, and with a lot of turns and a couple of summer jobs under my belt, I had helped to explore for gold in Colorado and assess the precious metals potential of part of northern Minnesota.

When I arrived at New Mexico Tech for graduate school, the focus was squarely on ore deposits. Andy Campbell, Dave Norman, and Bill Chavez imparted to me their knowledge and passion for science and exploration. We took a lot of field trips and toured many mines in New Mexico, Arizona, Nevada, and Mexico. The trips were always fun and interesting, and there would usually be great stories to tell. During one trip, to an underground zinc mine in Mexico, we intersected a thick cloud of burnt explosives while riding up a spiral decline in the back of a pickup. Luckily, everyone arrived at surface unharmed. (See photo on page 5).

(Continued on page 5)



Returning to surface, quickly, after an underground mine tour in Mexico. Notice the cloud in the middle ground? That's burnt explosives. We spiraled up through the stuff for a couple minutes, choking all the way. Luckily everyone was OK.

On a trip to Nevada with Dave Norman and a bunch of graduate students, I met Jeff Volk at Barrick's Goldstrike mine. Jeff hired me as a summer intern and gave me the opportunity to help him fine tune the geologic model for the Meikle deposit as the Carlin trend's newest underground gold mine was being readied for production. Then, after finishing my Master's degree, Ron Parratt, Roy Owen, and Bob Felder decided to give me a chance and hired me as an exploration geologist for Santa Fe Pacific Gold Corp. At the time, Santa Fe was operating and exploring several mines in northern Nevada, including Twin Creeks, Lone Tree, and Mule Canyon. Trenton Canyon, Valmy, and Rosebud were all in development and pre-production.

Having the chance to work at or around these places and then go out to explore the region was my idea of fun. Well, that, and learning the art of defensive eating in rural Nevada. A lot of friends were made from the team of geologists Ron had assembled at Santa Fe. The next chapter began when Santa Fe was merged into Newmont. It was time to become a consultant. It's hard for me to believe, but that was 17 years ago.



Doing field work and spreading the word about GSN.

That was about the time I met my wife, Laura and my stepson, Trevor. "Rocks and Roses" was the tag line I used in my online posting. We were early adopters in online dating. When I returned home after a ten-day field hitch, Laura's reply was in my inbox. Trevor was seven, with an immense imagination. He loved people and loved to take things apart so he could put them back together again.

Since meeting my family, my profession has taken me throughout the Great Basin and to many other far flung places, from the Yukon, British Columbia, and Northwest Territories, to Washington, Idaho, and Arizona, New Mexico, Mexico, Brazil, Peru, Chile and others. The focus has usually been gold, but I've also been able to play a part in exploration for copper, zinc, PGE, diamonds, geothermal water, and even oil and gas. I have been fortunate to meet and work with so many interesting people over the years. My friend Bob Clark, of Activation Laboratories and then Skyline Laboratories, supplied a lot of the adventure, through which I learned a great deal about consulting and trade shows, not to mention selective extraction geochemistry.

Early on, my new friends encouraged me to join GSN, and to volunteer. I'm glad they did. In the end, my period of service to GSN brought feelings of respect for so many and netted me positions of Secretary, Vice President, President, Director, and a Symposium Publications Chair. I have benefited greatly from getting to know and working with so many of this organization's people. And, because once an officer of GSN you are

(Continued on page 6)

never really done, I would encourage anyone with an inkling to join the hardworking people of today's Executive and Symposium Committees, Foundation, and Board and to give of your time to help support this great organization.

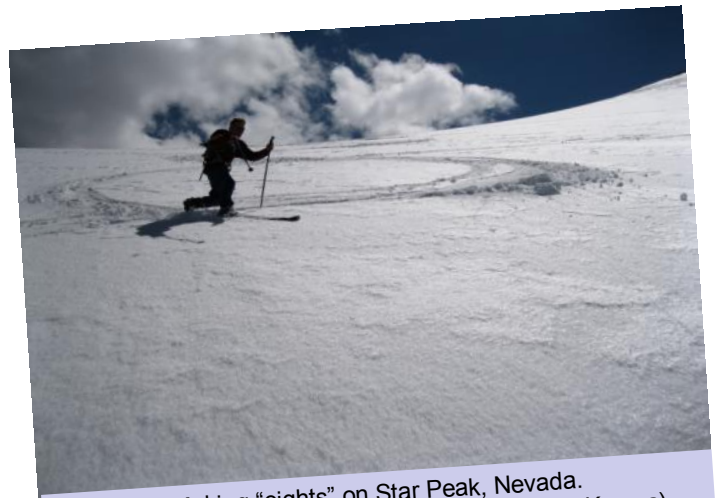


About to explore the canopy in Costa Rica with Laura and Alaina at 60 mph. Arenal volcano in background.

In 2011, Bob Felder asked me to join him in founding a new company, and Kinetic Gold Corp. was born. Kinetic is a private prospect-generator company, focused on Nevada. In spite of the current market challenges we face, it is a pleasure to explore Nevada together in search of elusive gold giants.

I am very fortunate to have a wonderful family. For the past seven years, Laura, our daughter Alaina, and I have lived in Tahoe City, California. Laura is a glass artist and spends much of her time creating beautiful things. Alaina loves science and music, and is very athletic. Helping her forge her own path through the world is a source of great joy.

All those warnings about making a living in the mineral exploration business turn out to be true, but, with the support of my family and friends, somehow we have been able to adjust and adapt, and I get to do what I love.



Making "eights" on Star Peak, Nevada. (First set of tracks and photo courtesy of Greg Kuzma)

ent resource assessments of gold mineralization at Relief Canyon have recently been completed in 2010, 2013, and 2013. Those estimates show an overall increase of more than 200 percent in precious metal content. Silver is not included but recent and historic records imply a gold-silver ratio of about 1:1 near surface. The silver concentrations generally increase with depth. All zones within the deposit are open to the east, south, and west.

BIOGRAPHY: Larry Hillesland, VP Exploration and Development., Pershing Gold Corporation

Larry has worked about 35 years in the hard rock mining and exploration as a geologist. The last twenty years have focused mostly on "brown fields" with work at Kupol (Russia), Cerro Corona (Peru), and many other gold-silver or copper deposits. Currently the VP of Exploration for Pershing Gold. Degrees from University of Idaho, BS Geology and Oregon State University, MS Geology.



G.S.N. SOUTHERN NEVADA CHAPTER MEETING



**Thursday, MAY 1, 2014, 5:30 P.M.
UNLV STUDENT RESEARCH NIGHT!**

Where: Room 102 of the Lilly Fong Geosciences building, UNLV.

This month's meeting will feature short talks and poster presentations by UNLV researchers, and an end-of-semester GSN social for students, industry, and the Las Vegas community. Talks and presentations will cover a variety of topics including economic geology, remote sensing, hydrology, and geospatial analysis. The meeting will be conducted in a casual forum format. We hope you can join us for this celebration of UNLV research! Food and refreshments will be served.



G.S.N. WINNEMUCCA CHAPTER MEETING



WEDNESDAY, MAY 14, 2014

The Martin Hotel, 94 W. Railroad Street, Winnemucca, Nevada

6:00 p.m. - Appetizers/Drinks

7:00 p.m.—Talk begins

FOOD SPONSOR: IDS DRILLING FLUIDS

DRINK SPONSOR: REDCOR DRILLING

Speaker: Rue Anne Chitwood, M.Sc. Auburn University May 2012

Title: "Geochemistry and Mineralogy of Eastern Ag-rich Epithermal Veins in the Midas District, Nevada, USA"

ABSTRACT:

Five Ag-rich epithermal veins were recently discovered in the eastern section of the Midas district in northern Nevada. Initial data collected indicated that these veins had a significantly higher quantity of silver relative to the main production veins at Midas. The focus of this study was on the geochemistry, ore petrography, and geochronology of three of the five eastern veins: Charger Hill, GP, and Ace. Geochemical ICP-MAS results indicate that Ag and Se occur strongly together suggesting that Ag-selenides are the dominant ore minerals while Au does not appear to have a significant correlation with any elements. An overall Ag:Au ratio for the eastern veins is 176:1. Longitudinal sections indicate that there is an elevation control on mineralization. In addition, mineralization preferentially occurs within the Elko Prince Formation and mafics sills. There is also no significant correlation between vein thickness and ore grade. SEM-EDAX results document most Ag-selenide minerals are an aguilarite-naumannite solid solution, and electrum, which is higher in Au than Ag at the atomic level, occurs in lower quantity relative to the main production veins. Overall, the paragenetic sequence suggests that the minerals were co-precipitated and overall mineralogy is similar to that of the Colorado Grande vein with the exception of the abundance of fluorite. The low quantity of Au appears to be the result of hydrothermal fluid transport dynamics, colloidal/nanoparticle transport, and the higher density of Au vs Ag implying that Au particles would not travel very far from the source. Based on the petrographic, SEM-EDAX, and ICP-MAS evidence found in this study, the eastern veins appear to be a distal product of the same large-scale magmatic-hydrothermal event that formed the main production veins.



G.S.N. ELKO CHAPTER MEETING



THURSDAY, MAY 15, 2014

Refreshments and appetizers @ 6:00 p.m., Talk @ 7:00 p.m.

Western Folklife Center

501 Railroad Street, Elko, Nevada

Sponsor for the evening is: GOLDER ASSOCIATES

SPEAKER: Katie Wickham

TITLE: "Thallium Isotopes in Carlin-type Gold Deposits in Nevada"

Abstract

The Carlin-type deposits of northern Nevada comprise a world-class accumulation of Au deposits with a characteristic geochemical signature of elevated Tl, As, Hg, and Sb. Three possible sources of Au in Carlin-type systems have been described: (1) leaching of Au from Paleozoic sedimentary rocks (a) +/- Mesozoic intrusive rocks by circulating meteoric fluids or (b) by metamorphic release from metalliferous diagenetic pyrite syngenetic with host rocks; (2) mobilization of Au from deeply-buried, metamorphosed Proterozoic sedimentary and Archean basement rocks and transported by deeply-circulating meteoric fluids; and (3) magmatic fluids associated with extension-related Eocene magmatism, possibly with a mantle component. Traditional geochemical and isotopic tracers have yielded ambiguous results, however, and the metal and transport fluid sources remain enigmatic.

Because there is a strong correlation between Tl and Au in these deposits, Tl may be utilized as a proxy for the origin of Au. This study describes the first-ever Tl isotope data collected for ore- and late-stage mineralization from a Carlin-type system as well as for a suite of potential source rocks. Although not pointing to an unequivocal origin for the Tl (and by proxy Au), the Tl isotope data indicate that Paleozoic sedimentary rocks are not a likely metal sources. In addition, comparison of ore- to late-stage minerals may suggest a shift in Tl isotope compositions that could be consistent with evolution of the fluid from magmatic- or metamorphic-dominated to meteoric-dominated through time.

**WINNEMUCCA CHAPTER
APRIL SPONSOR**

**ELKO CHAPTER
APRIL SPONSOR**



**Thanks to
GEOTEMPS, INC.
for sponsoring the
Winnemucca Chapter meeting in April!**



**Thanks to
SGS, INC.
for sponsoring the
Elko Chapter meeting in April!**

Thank You, Thank You, Thank You, Thank You
Thank You, Thank You, Thank You, Thank You

GSN SPRING FIELD TRIP SPONSORS:



OBITUARY



Richard "Dick" Hardyman, Ph.D. (1943—2014)

On March 24, 2014 the world lost an incredible person. Richard F. Hardyman lived most of his childhood in Storm Lake, Iowa, and then went on to pursue his degrees in geology. He obtained his B.S. from the UW, his M.S from the UMN and his Ph.D. from the UNR. He taught for several years at BSU where he was fondly referred to as "Herr Doctor Professor". He left when he was recruited by the USGS where he spent 18 years as a field geologist. Over his career, he worked in many foreign countries as well as much of Nevada and is respected for being a true artist as a mapper, applying his formidable skill to "figure out the puzzle". Dick was a talented geologist and a fierce friend. He was infamous for protracted stories and, as he often said, having no wit. He is survived by his mother; Doris Gutz, and sisters; Dorothy Mitchell and Cindy Fischer, by his three children; Jessica Corddry (Tim), Kate Woodbury (Chris) and William Hardyman, grandchildren; Jack, Ted, Jacob, Andrew, Hudson, and Kai. He is also survived by the mother of their children, Cynthia Hardyman, and his current wife, Brenda Hardyman, and their beloved pets. There will never be another person such as Hardyman. He was a truly unique individual and his absence is keenly felt by those who knew and loved him. At his request, there will be no memorial service, but those who wish to may make a donation to the Humane Society or to the UMN, Dept of Earth Sciences. We wish him a good journey on this, his final "grand adventure".

Attention GSN Golfers!!

June 14, 2014 GSN Annual Golf Tournament Hosted by B.V. Inspectorate & B.V. Acme Labs

Place: Lakeridge Golf Course
1218 Golf Club Drive
Reno, Nevada 89519

All golfers please be at the course by 1:00 pm to ensure a timely start. Shotgun Start: 1:45 p.m.
Capped at 100 Golfers. Each GSN Member may bring one Guest for Golf or Dinner.
Dinner will be served at the Lakeridge Club House as soon as all Golfers are off the course.
B.V. Inspectorate will sponsor up to 8 GSN Student Members for golf and dinner.

\$10K "Hole In One" prize for Lakeridge's 6th Hole.

The GSN Foundation would appreciate **any items** that companies would like to donate for the raffle.
The GSN Foundation will sell raffle tickets for \$5.00 each or 5 for \$20.00. Buy as many as you like.
Mulligans will also be sold for \$5.00 each or 5 for \$20.00, no more than **five** Mulligan's per person.
All Mulligan and Raffle Ticket sales will go directly to the GSN Foundation!



INSPECTORATE



Please provide the following information for each golfer and guest:
(They use the Peoria System for scoring so we don't need your Handicap)

Name: Email: Phone:

BBQ Guest Name:

Teamed With:

Name:

BBQ Guest Name:

Name:

BBQ Guest Name:

Name:

BBQ Guest Name:

\$50.00 fee includes golf and dinner.

\$20.00 fee to be paid for dinner only (those not golfing - BBQ Guest)

Amount Included with this form:

Payment Type: Check# Visa Master Card or Discover Card

Card Number: Exp. Date: 3-Digit Security Code:

THANKS TO B.V. INSPECTORATE and B.V. ACME LABS

For Hosting the GSN Annual Golf Tournament - 2014!



**Payment must be made by June 2, 2014
No refunds after June 4, 2014**

Geological Society of Nevada,
2175 Raggio Parkway #107, Reno, NV 89512
Fax to 775/323-3599, E-mail gsn@gsnv.org



Print Form

Submit by Email

GSN 2014-2015 ELECTION RESULTS

OFFICERS FOR THE 2014-2015 G.S.N. EXECUTIVE COMMITTEE:

PRESIDENT: Jonathan Price

VICE PRESIDENT: Elizabeth Zbinden

SECRETARY: Lori Carpenter

TREASURER: Bob Kastelic

MEMBERSHIP CHAIR: Susie Mason

PUBLICATIONS CHAIR: Keith Fowlow

BOARD OF DIRECTORS—Class C: Three Year Term – 2014 to 2017

Camille Prenn and David Shaddrick

NOMINATIONS FOR CHAPTERS—ELECTIONS TO BE HELD IN MAY

WINNEMUCCA CHAPTER OFFICER NOMINEES FOR 2014-2015

President: Lars Olaussen, Hycroft or Juan Contreras, Newmont or Pat Donovan, Newmont

Vice President: Juan Contreras, Newmont or Lars Olaussen, Hycroft

Secretary: Emily Sudholt, Klondex

Treasurer: Peter O'Byrne, Newmont

ELKO CHAPTER OFFICER NOMINEES FOR 2014-2015

President: Jon Powell, Newmont

Vice President: Mark Travis, Barrick

Treasurer: Jacob Hohl, Klondex OR Allie Phillips, Newmont

Secretary: Zack Williams, Klondex OR Gabe Kassos, Klondex

Membership Chair: OPEN FOR NOMINEES

SOUTHERN NEVADA CHAPTER OFFICER NOMINEES FOR 2014-2015

President: Dr. Joshua Bonde, UNLV

Vice President: Dr. Gabriel Judkins, UNLV

Secretary: Mr. Wyatt Bain, UNLV Graduate Student

Treasurer: Mr. Paul Bowen, R.P. Bowen Engineering Inc.

Please thank our outgoing members who have served the G.S.N. so well!

GSN President: Tommy Thompson

GSN Elko Chapter: Josh Sovie and Anna Perry

GSN Winnemucca Chapter: Andy Jansen, Ed Tester and Lisa Giuliani

Activity Update

Mike Brady, March 2014

www.activityupdate.com

NEVADA

South American Silver Corp. announced that it changed its name to TriMetals Mining Inc. (resource @ Gold Spring = 19,373,000 tonnes @ 0.48 gpt Au, 10.4 gpt Ag inferred) *Press Release:* March 13

Tertiary Minerals plc. announced that recent drill results at the MB Project include 62.48-86.87 meters @ 10.13% CaF₂ (13TMBRC021); 53.34-70.1 meters @ 9.58% CaF₂ (13TMBRC022); 120.4-149.35 meters @ 9.94% CaF₂ (13TMBRC023) and 85.34-105.16 meters @ 8.95% CaF₂ (13TMBRC024). *Press Release:* March 10

Choice Gold Corp., International Enesco Inc. and Full Metal Minerals Ltd. announced that they would merge on a 1.0 share Full Metal/2.0 shares Choice Gold/4.4 shares International Enesco exchange basis. (resource @ Contact = 196,100,000 tonnes @ 0.25% Cu measured+indicated) *Press Release:* March 19

Chaparral Gold Corp. announced that based on recent studies at the Converse Project, resources aggregate 363,000,000 tonnes @ 0.50 gpt Au, 3.3 gpt Ag measured+indicated and 37,000,000 tonnes @ 0.50 gpt Au, 2.9 gpt Ag inferred. (was 330,900,000 tonnes @ 0.49 gpt Au measured+indicated and 31,700,000 tonnes @ 0.44 gpt Au inferred) *Press Release:* March 18

Timberline Resources Corp. and Wolfpack Gold Corp. announced that they would merge on a yet to be determined basis. Prior to the formal merger, Timberline will spin-off its Butte Highlands Property to its shareholders and Wolfpack will spin-off its uranium assets to its shareholders. (resource @ Lookout Mountain = 26,254,000 tonnes @ 0.62 gpt Au measured+indicated) *Press Release:* March 13

Scorpio Gold Corp.(70%) announced that recent drill results at the Mineral Ridge/Bluelite Project include 12.19-13.72 meters @ 2.74 gpt Au (MR13771); 24.38-

30.48 meters @ 0.76 gpt Au (MR13772); 22.86-27.43 meters @ 1.09 gpt Au (MR13774) and 25.91-33.53 meters @ 2.76 gpt Au (MR13775). (resource = 175,400 tonnes @ 2.7 gpt Au inferred) *Press Release:* March 17

Pilot Gold Inc.(78%) announced that recent drill results at the Kinsley Mountain/Western Flank Project include 276.5-318.1 meters @ 6.85 gpt Au (PK127C); 32.6-48.2 meters @ 0.58 gpt Au (PK129C); 262.7-305.4 meters @ 10.5 gpt Au (PK131C) and 249.6-303.0 meters @ 7.53 gpt Au (PK132C). *Press Release:* March 12

Americas Bullion Royalty Corp. announced that it purchased an additional 4,580,000 shares of Silver Predator Corp. for \$275,000 to now hold a 41.46% interest (resource @ Springer = 355,000 tonnes @ 0.537% WO₃ indicated) *Press Release:* March 17

Corvus Gold Inc. announced that recent drill results at the North Bullfrog/Yellowjacket Project include 51.37-54.94 meters @ 4.19 gpt Au (NB14-380) and 85.25-90.03 meters @ 13.81 gpt Au (NB14-380). (resource = 4,000,000 tonnes @ 0.97 gpt Au, 5.1 gpt Ag indicated) *Press Release:* March 13

Barrick Gold Corp. announced that it acquired an option to earn a 60% interest in the Gold Ridge Property from Coral Gold Resources Ltd. for \$12,000,000 in exploration expenditures over 5 years. The Gold Ridge Property is the western portion of the larger Robertson Property. *Press Release:* March 5

Thank You!

Thanks to Mike Brady for supplying his Activity Update each month for the GSN Newsletter!

G.S.N. SYMPOSIUM 2015 "New Concepts and Discoveries" ANNOUNCEMENT AND CALL FOR PAPERS

MAY 14-24, 2015

Abstract Deadline—May 30, 2014

EXHIBITORS—RESERVE YOUR BOOTH SPACE NOW!

Email for Booth space: Exhibits@2015GSNsymposium.org;

Emails to submit abstracts: Munteanj@unr.edu OR msmith@pilotgold.com

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



GEOLOGICAL SOCIETY OF NEVADA 2015 SYMPOSIUM ANNOUNCEMENT and CALL FOR PAPERS

THEME: New Concepts and Discoveries
WHEN: MAY 14-24, 2015
WHERE: JOHN ASCUAGA'S NUGGET
RENO/SPARKS, NEVADA

The Geological Society of Nevada invites contributions for oral, poster, and core shack presentations covering a broad range of geological topics for its upcoming seventh symposium. The symposium's focus is New Concepts and Discoveries emphasizing both the major deposit types and the trends that have sustained the mining industry for several decades as well as other deposit types and areas that may eventually have greater influence. The focus of the meeting is to utilize case studies; descriptions of new and reinvigorated deposits and targets; framework geology; tectonics and metallogeny; and the latest deposit concepts and exploration technologies.

Oral presentations require abstracts and a written paper that will be peer-reviewed and published in the Symposium Proceedings following the meeting. Poster presentations require abstracts and written papers are encouraged. Core shack presenters are welcome to submit abstracts and written papers, but are not required to do so.

Draft abstracts up to 500 words should be submitted no later than May 30, 2014. Written papers should be 2,000 to 20,000 words and include figures and tables. Draft manuscripts are due November 30, 2014.

Information for contributors is available on-line at: <http://www.gsnv.org/2015-symposium/>. Submit abstracts via e-mail at: munteanj@unr.edu and msmith@pilotgold.com.

GSN-SEG FORUM SUNDAY, MAY 17TH, 2015

TOPIC:

Carlin-like Gold Deposits: What Can We Learn Beyond the Known Trends and Nevada

TECHNICAL PROGRAM MONDAY-THURSDAY

MAY 18TH- 21ST, 2015

Focus Topics:

- Regional Geology and Metallogeny of the Great Basin
- Exploration Technology
- Case Histories of Discoveries and Exploration Update
- Intrusion-Related Cu-Au-Mo Deposits
- Northeastern Nevada: The New Frontier
- Advances in Carlin-type Gold Deposits
- Epithermal Deposits
- Diversification: Looking Beyond Gold, Copper and Silver

Questions? Contact us at:
<http://www.gsnv.org/2015-symposium/> or email at mollymhunsaker@2015GSNsymposium.org

Meeting Co-Hosts



FIELD TRIPS

MAY 14TH-16TH AND MAY 21ST-23RD, 2015

Pre-meeting:

- Introduction of Carlin Gold Deposits
- Epithermal Deposits of Northern Nevada
- Mining for Non-Geologists: Exploration to Reclamation

Post-meeting:

- The Pequoop Trend-Nevada's Newest "Carlin" Trend
- Epithermal Deposits of Central Nevada
- Porphyry-related Deposits of Nevada
- The Famous Comstock Gold and Silver District

SHORT COURSES

MAY 14TH-16TH AND MAY 21ST-23RD, 2015

TOPICS TO BE ANNOUNCED

EXHIBITS

An active exhibit hall will provide excellent industry exposure for your company or organization. Space will go fast for this popular venue, so please reserve your booth early! Contact us at exhibits@2015GSNsymposium.org for more information.

Sponsorship Opportunities

We invite you to join GSN as we continue the tradition of excellence in presentations, field trips, and short courses. Opportunities are available for Patronage sponsorships, along with specific events. Please visit the website: www.gsnv.org/symposium or e-mail us at: dshaddock@aol.com

The Geological Society of Nevada (GSN) is a non-profit scientific society whose principal mission is to promote the advancement of the geological sciences, especially as they relate to Nevada. The Society encourages the dissemination of scientific and practical knowledge through semiformal presentations, field trips and symposia as well as by publishing the literature resulting from these activities.

BABY ANNOUNCEMENTS



This cute little guy is Jack Howe, son of Brendan and Jennifer Howe of Elko, Nevada. Jack was born on February 19, 2014 and weighed in at 7 lbs, 2 oz. Dad, Brendan works for Barrick and is the GSN Elko Chapter Treasurer.



August Edward Graf was born on April 1, 2014 to proud parents, Leann and Gabe Graf. Leann was the GSN Winnemucca Chapter President last year but she and her husband Gabe moved to Alaska last Fall as Gabe was already working up North. Mom, Dad and Baby are all doing well and send their greetings to everyone!

The **G.S.N. STUDENT POSTER NIGHT** was a huge success at the GSN meeting in Reno on April 18th. There were nine students in the competition which made for lively discussion throughout the evening.

Pictured left to right are: Kait Barber (2nd Place); Macario Rocha-Rocha; Katie Wickham (3rd Place); Ryan Anderson (1st Place), Dylan Baldwin; Ben Parrish; Joshua Smith; Tim Cramer and Tyler Hill.



Professional ANNOUNCEMENTS

Brooke Mills – Business Development Coordinator

Inspectorate, part of Bureau Veritas' Commodities Division, has announced the appointment of Brooke Mills to Business Development Coordinator. In this position, she will liaise with clients of both Inspectorate and Acme Labs, a geochemical and assaying laboratory acquired by Bureau Veritas, as the companies merge under one brand identity. She will work with clients in all phases of the analytical service, from quotations to sample receiving, sample tracking, data production and final reporting.



Brooke is a graduate of the University of Nevada with a B.S. degree in geology. She has worked in the field and has knowledge of the logistics surrounding a drill program and the requirements for a good analytical program. Brooke travels in her free time, likes fitness training and enjoys snowboarding. The team at BV Inspectorate and BV Acme welcome her to the Bureau Veritas Group.



INSPECTORATE

ROCK TALK

REPRINTED FROM SME ONLINE—APRIL 16, 2014.



12999 E. Adam Aircraft Circle
Englewood, CO 80112
303-948-4250
www.smenet.org
John Hayden
hayden@smenet.org

NEWS RELEASE

Workforce Trends in the U.S. Mining Industry: briefing paper updated *SME technical paper addresses shortage of skilled mine labor*

The Government and Public Affairs Committee of the Society for Mining, Metallurgy & Exploration Inc. (SME) has released an update of its technical briefing paper, "Workforce Trends in the U.S. Mining Industry." The United States' population is projected to increase to more than 400 million by the year 2050, a growth of more than 25 percent. As the population grows, so does the demand for maintaining and upgrading the infrastructure that supports the increased need for power, transportation, housing, clean water and sanitation. However, it is unlikely that there will be sufficient skilled labor to provide the basic raw materials needed to build this infrastructure.

"The workforce shortage is the single greatest challenge that faces the mining industry today," said SME Executive Director David L. Kanagy. "By 2029, more than half the current workforce will be retired, and the number of qualified science and engineering professionals graduating from U.S. schools will not meet the capacity required to fill these vacancies."

As reported in the briefing paper, there has been a steady decline in the number of mining and mineral engineering programs at U.S. colleges in the past two decades; down from 25 in 1982 to 14 in 2014. There has also been a corresponding decline in faculty available to teach the remaining programs. As the demand for qualified professionals outstrips the supply, finding and retaining skilled labor is likely to be a lasting problem for the mining and minerals community. In order to fill these jobs, the mining industry is often forced to turn to international schools or workers to fill the vacancies.

Federal support for U.S. mining schools is necessary to maintain qualified faculty and an educational pipeline to supply workers to meet a growing global minerals demand. SME fully supports the need for legislation, similar to the Energy and Minerals Schools Reinvestment Act of 2006, to provide the federal support needed for consistent, long-term reinvestment in our university mining engineering programs. In addition, legislation such as the Critical Minerals Policy Act of 2013 would mandate the Secretary of Labor and the National Science Foundation to conduct a four-year grant program for institutions of higher learning to implement integrated critical mineral education, training and workforce development programs. The U.S. has an obligation to preserve and foster the workforce necessary to maintain the nation's economic, energy and minerals security.

To download a copy of the briefing paper, please visit [SME Government Affairs & Public Policy](#).

***SME is a professional society (nonprofit 501(c)(3) corporation) whose more than 15,000 members represent all professions serving the minerals industry in more than 100 countries. SME members include engineers, geologists, metallurgists, educators, students and researchers. SME advances the worldwide minerals community through information exchange and professional development.

For more information, contact John Hayden, Deputy Executive Director - Public Affairs and Government Relations, (303) 948-4250 or hayden@smenet.org.

SME exists to be THE resource and advocate for the mining community.
For further details, see www.smenet.org.

Upcoming Events

1 May, Nevada Petroleum & Geothermal Society, Reno, Nevada. Speaker: *Rick Stucker, Noble Energy, Inc.* Topic: *Overview of Noble Energy's Current Drilling Program in Nevada.* Cocktails @ 6:30 PM, Dinner @ 7:00 PM. Ramada Reno Hotel; 1000 East 6th Street, Reno, NV. Contact Vicki Ehni for dinner reservations: vehni@aol.com.

6 May, Arizona Geological Society, Tucson, AZ. Speaker: John C. Lacy presents The Genesis of Mining Law . Sheraton Hotel, Oasis Room, 5151 E. Grant Rd., Tucson, AZ. Drinks @ 6 pm, Dinner @ 7 pm, Talk @ 8 pm. Reservations required by May 2nd. For more information please go to: <http://www.arizonageologicalsoc.org/>

12 May, DREGS meeting, Golden, CO. Speaker: Steven Bussey, Title: "Media Luna gold-silver-copper discovery, Guerrero State, Mexico". Colorado School of Mines, Golden, CO, Berthoud Hall Room 241. Social at 6 pm, Presentation at 7 pm. Please Visit the DREGS web site at <http://www.dregs.org> for more information.

12-17, May, Key Practical Methods in Mineral Exploration. Location: SEG Course Center | Littleton, CO, USA. Register Online: <http://www.segweb.org/>

19-21, May, JOINT MEETING - GSA Rocky Mountain Section (66th Meeting) and the GSA Cordilleran Section (110th Meeting). <http://www.geosociety.org/sections/rm/2014mtg/>

19 June, GSN ELKO CHAPTER SUMMER BBQ, Duncan Little Creek Gallery, 6:00 p.m. Sponsor: AMEC

17 July, GSN ELKO CHAPTER SUMMER BBQ, Duncan Little Creek Gallery, 6:00 p.m. Sponsor: Enviroscientists

21 August, GSN ELKO CHAPTER SUMMER BBQ, Duncan Little Creek Gallery, 6:00 p.m. Sponsor: ALS Minerals

PAID ADVERTISEMENTS

Inspectorate - Exploration & Mining



Chuck Whipple – Senior Account Manager

Mobile: +1 (775) 830-4242 | Fax: +1 (866) 830-9482

Chuck.Whipple@Inspectorate.com

Tel: +1 775 359 6311

E-Mail: quotes@inspectorate.com

Web: www.inspectorate.com/ems

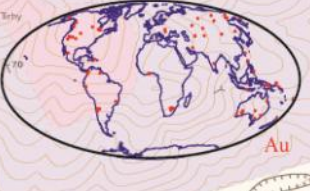


INSPECTORATE

PAID ADVERTISEMENTS


NEVADA EXPLORATION GIS DATA SETS

MINERAL OCCURRENCES
GEOLOGY
CULTURE
POLITICAL
GEOGRAPHY
GEOPHYSICS
GEOCHEMISTRY



website: www.greatbasingis.com
email: jaravic@frontiernet.net
phone: 775-777-8223

JOSEPH R. ANZMAN
Exploration Geophysicist



- consulting
- interpretation
- project management
- geophysical surveys
- domestic & foreign

P.O. Box 370526
Denver, Colorado 80237

303-519-0658
geophjoe@gmail.com

AMERICAN ASSAY
laboratories


Fire Assay, ICP-OES/MS,
XRF, LECO, Custom Prep, BLEG

Chris Ioannakis, Managing Director, Analytical Services

Corporate Office 1500 Glendale Avenue Sparks, NV USA 89431-5902 Telephone: (775) 356-0606 Fax: (775) 356-1413	Elko Office 2320 Last Chance Road Elko, NV USA 89801-4852 Telephone/Fax : (775) 738-9100
----------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------

E-mail: AALADMIN@aallabs.com
Website: www.aallabs.com

Au-Ag Ventures LLC.
Exploration Services



Hugh Smith PG, CPG
9323 N. Government Way PMB 208
Hayden, Idaho 83835
Mobile: 208.699.1384
Email: hugh2293@yahoo.com

Big Sky Geophysics

Clark Jorgensen, M.Sc.
Geophysicist

*Field Work
Processing
Interpretations*

P.O. Box 353
Bozeman, Montana 59771
USA

Phone/Fax +1 (406) 587-6330
Mobile +1 (406) 580-9718
clark@bigskygeo.com

**For more details, my background, and case studies,
visit my webpage at www.bigskygeo.com**



Carlin Trend Mining
Supplies & Service



www.carlintrendminingservices.com

369 5th St., Elko, NV 89801
(775) 778-0668, Fax: (775) 778-0687, carlintrend@frontiernet.net

Geological Consulting - Claim Staking - Soil Sampling
Geology & Drafting Supplies - AutoCad & GIS
Temporary Employees In All Fields

HARD ROCK WHEELS, INC.
4WD Pickup Rentals

Howard J. Adams
14756 Pine Knolls Lane
Reno, Nevada 89521
(775) 85202622
Fax (775) 852-2075

Taiga Ventures
2700 S. Cushman St.
Fairbanks, Alaska 99701
(907) 452-6631

hardrockwheels@yahoo.com



Serving Mining in Nevada Since 1992

General Engineering Contractor

- Drill Pads
- Road Building
- Reclamation
- Earthwork

Office: 775-753-5832
 Mobile: 775-778-1681
 Mobile: 775-934-1837
www.legarza.com

NV License #35480
 CA License #804120



Hyperspectral Mineralogy

Easy Integration of Complex Data Sets



- > Spectral imaging on core and other exploration samples
- > Routine and cost-effective analysis of high sample volumes
- > Timely interpretation of large data sets
- > Integrated visual interface in ALS CoreViewer™
- > Automated mineral identification from spectral traces

For more information, scan this QR code or visit www.alsglobal.com
 Phone: +1 775-356-5395



North American Exploration

Providing service to the Mining industry since 1964



With over 45 years of experience, we will complete any exploration project, Anytime! Anywhere!



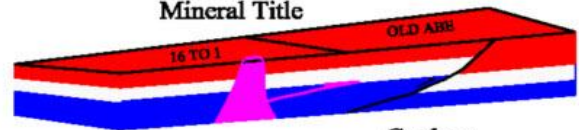
801-544-3421
 North American Exploration, Inc.
 447 North 300 West, Suite #3
 Kaysville, Utah 84037
 Email: nae@nae-xploration.com

G.I.S. Land Services

Greg Ekins M.S. R.P.L. #32306 President
 Mineral Landman - Commissioned Abstractor
 "From Courthouse Records to Final Map"

Mineral Title, Geothermal Title,
 National Instrument (NI) 43-101 Title Review,
 Due Diligence
 3D AutoCad; ArcMap and MapInfo GIS

Surface Title
 Mineral Title



Geothermal Geology

A professional firm of
 Landmen, Geologists, Draftsmen and Technicians
 Providing Abstracts of Title, Land Status and
 Exploration Geology Services
 Utilizing AutoCad - ArcMap - MapInfo - PowerPoint
www.gislandservices.com

241 Ridge St., Suite 250
 Reno, NV 89501
 Ph: 775-746-8803 Fax: 775-746-8802
 email: greg@gislandservices.com

NEW SERVICES
SONIC DRILLING SERVICES

Major Drilling are now offering Sonic Drilling Services from our Salt Lake City office for Environmental and Geotechnical services. Full size truck & track rigs along with track mounted Mini Sonic rigs are available.

Services offered:

- Mineral Exploration
- Well Abandonment & Well Development
- Instrumentation Installation
- Geotechnical Testing and Sampling
- Well Construction & Remediation Wells
- Discrete Water Sampling & Packer Testing
- Soil Probing, In-situ Chemical Injection and Grouting



Contact info:

- Jon Tedrick : cell (320) 630-3636 & jon.tedrick@majordrilling.com
- Nguyen Do: cell (801) 554-8383 & nguyen.do@majordrilling.com

GEOLOGICAL SOCIETY OF NEVADA



gsn@gsnv.org ● www.gsnv.org
Telephone (775) 323-3500
Fax (775) 323-3599
2175 Raggio Parkway, Room 107
Reno, NV 89512 USA