

GEOLOGICAL SOCIETY OF NEVADA NEWSLETTER

Geological Society of Nevada, 2175 Raggio Parkway, Room 107, Reno, NV 89512
(775) 323-3500 - Hours Tuesday -- Friday, 9 a.m. to 4 p.m. Monday by appointment.

Website: www.gsnv.org • E-mail: gsn@gsnv.org



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CALENDAR OF GSN EVENTS

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May 2, 2019
THURSDAY

SO. NEVADA CHAPTER MEMBERSHIP MEETING (1st Thursdays)

The monthly meeting will be held at the Las Vegas Natural History Museum, 900 N. Las Vegas Blvd. Pizza and beer @ 5:30 pm. Talk at 6:15 pm. **Speaker: Dr. Chris Adcock of UNLV and the LVNHM.** Title: "The Stories an Extraterrestrial Mineral Can Tell". **SPONSOR NEEDED!** Please contact Chapter President, Joshua Bonde for more information @ paleo@lvnhm.org. See pg. 6 for more information.

May 8, 2019
WEDNESDAY

WINNEMUCCA CHAPTER MEMBERSHIP MEETING (2nd Wednesdays)

The meeting will be held at the Martin Hotel, 94 W. Railroad St., Winnemucca, NV. Refreshments/appetizers at 6:00 pm; Talk at 7:00 pm. **Speaker: Zach Hibdon, Contact Gold.** Title: "Advanced Exploration on New Discoveries at Pony Creek". **FOOD & DRINKS SPONSOR: TBA.** Please contact Matt Fithian @ Matthew.Fithian@ssrmining.com for more information. Details on pg. 7.

May 16, 2019
THURSDAY

ELKO CHAPTER MEMBERSHIP MEETING (3rd Thursdays)

The monthly meeting will be held at the Western Folklife Center, 501 Railroad St., Elko, NV. Refreshments begin at 6:00 pm. Talk begins at 7:00 p.m. **Speaker: Mike Visher, NV Division of Minerals.** Topic: 2018 Nevada Mineral Production. **FOOD & DRINKS SPONSORED BY: JUST REFINERS!** For more information please contact Nate Wright @ Nathan.wright@newmont.com. Details on pg. 7.

May 17, 2019
FRIDAY

GSN REGULAR MEMBERSHIP MEETING

The location is again at Great Basin's Taps & Tanks, 1155 S. Rock Blvd. Reno, NV. Drinks @ 6:00 pm, APPETIZERS @ 6:30 pm, Talk @ 7:15 pm. Speaker, Mike Ressel, NBMG/UNR. Title: "Carlin-type Deposits As Part of the Great Basin's Eocene Metallogeny". **DRINKS SPONSORED BY: FALCON DRILLING AND HARRIS EXPLORATION DRILLING!** Appetizers only for \$15—**prepay online or pay at the door.** GSN Students are free. For more info contact Laura Ruud at gsn@gsnv.org or 775-323-3500. Details on page 3. **To PREPAY for appetizers please click on this link: <https://squareup.com/store/GSNV>.** No reservations required but avoid the line by pre-paying!

June 1-2, 2019 The Spring GSN field trip to the northern Mother Lode is FULL!

G.S.N. MAY MEETING SPONSOR



**FALCON
DRILLING**

FROM THE PRESIDENT
Richard Bedell, GSN President 2018-2019
MAY 2019

There is no other entity that provides as much fundamental data and relevant knowledge to our membership than the Nevada Bureau of Mines and Geology. Basic mapping is important to all applications and the Bureau, despite modern trends of specialization, continues to provide fundamental mapping. In addition, they provide more end user products for hazards, geothermal, petroleum, and mining. Bureau staff are also members of the UNR Faculty, and most teach and serve as thesis advisors to graduate students. As in last month's column, supporting geoscience education is a fundamental tenant of GSN.

The digital era has made these data even more useful and field transportable for all applications. If you are not a regular visitor to <https://data-nbmg.opendata.arcgis.com/>, then you need to do so with some frequency. (See page 12 for an announcement about a free workshop on the subject).

Of direct significance to GSN is that our office is housed on their campus, and a visit to Laura Ruud at our GSN office inevitably ends up exposing members to new items at NBMG. This is a very important symbiotic relationship that we can only hope continues as each organization contributes directly to the other's mission.

Importantly, many of you have heard that NBMG is part of an official *budget enhancement request* from the Nevada System of Higher Education, which is currently under consideration by the legislature and governor's office. The budget request involves several of the statewide programs at UNR, including NBMG, the Seismological Laboratory, Cooperative Extension, and the Small Business Development Center. The enhancement effectively gets NBMG back to where it was before the recession.

One of the critical aspects of this funding would include LIDAR data acquisition for parts of the state. I wish there were enough funding to include the whole state, as this microtopography can tell us a lot about buried fault systems in pediment, create a base line for subsidence, and be a very beneficial layer for geologic mapping no matter what the application.

This funding would also include about 12 new positions including a flood specialist, basin analyst, geothermal reservoir specialist, geomettallurgist, potential field geophysicist, economic geology map specialist, GIS staff positions, and research assistantships for graduate students. In other words we will have far more data being created that is relevant for our membership.

In order for this to happen, we all need to communicate to our legislators the importance of this initiative. If you do so, please mention the official request from the Nevada System of Higher Education to enhance statewide programs, of which NBMG is one important part of this broader request. We wish NBMG good luck in getting the funding that would reap great benefits for our citizens and industries throughout the state.

Richard Bedell

Current GSN President

***The G.S.N. wishes to thank
GEOTEMPS, INC.
for sponsoring the Reno
meeting in April!***



GSN MEMBERSHIP MEETING—MAY 17, 2019

SPEAKER: Mike Ressel, Nevada Bureau of Mines and Geology

TITLE: “Carlin-type Deposits As Part of the Great Basin’s Eocene Metallogeny”

Social Hour begins @ 6:00 pm; \$15 APPETIZERS @ 6:30 pm; Talk @ 7:15 pm

**LOCATION: Great Basin’s TAPS & TANKS, 1155 So. Rock Blvd., Reno, NV
(ENTRANCE ON McCARRAN BLVD.)**

APPETIZERS COST—\$15.00 PER PERSON

To Pre-pay for APPETIZERS please click here: <https://squareup.com/store/GSNV>

No reservations required but you can avoid the payment line at the door if you prepay.

For more information contact the GSN office: Email—gsn@gsnv.org or call 775-323-3500

Abstract:

Carlin-type Deposits As Part of the Great Basin’s Eocene Metallogeny

Mike Ressel, Curtis Johnson, Elizabeth Hollingsworth, Christopher Henry, and Philipp Ruprecht, Nevada Bureau of Mines and Geology and/or University of Nevada, Reno

Late Eocene (~42-34 Ma) ore deposits have contributed a majority of the Great Basin’s precious- and base-metal production through 2015, including about 6.2 Kt Au (199 Moz), 27.6 Kt Ag (887 Moz), 17.5 Mt Cu, and 0.5 Mt Mo. The production of these four metals alone from Eocene deposits would have a present-day value of over \$400 billion (USD), ~64% of which is attributable to gold, 29% to copper. Eocene ore deposits are restricted to the northern half of the Great Basin, coincident with arc magmatism and the earliest stages of Cenozoic crustal extension. Curiously, metal production from Eocene deposits is strikingly polarized, with 79% of Au production derived from mines in north-central Nevada, and 98% of Cu and 86% of Ag derived from mines in north-central Utah. Most Nevada Au production is from three major Au belts that host giant sedimentary rock-hosted Carlin-type Au deposits: Carlin, Battle Mountain-Eureka, and Getchell. Three major Utah districts produced the bulk of Cu, Mo, Au, and Ag (Oquirrh, Park City, and Tintic), with the vast majority of Cu, Mo, and Au coming from the Bingham Canyon porphyry system. In addition, Eocene deposits in northern Nevada contain more than 1.68 Kt of Au (54 Moz) and 0.67 Mt Mo in reserves, and Bingham Canyon contains reserves of about 2.72 Mt of Cu and 0.15 Mt of Mo.

Perhaps more than any other deposit type in the Great Basin, Carlin-type gold deposits are enigmatic. After more than five decades of mining more than 150 Moz of gold from Carlin-type deposits in north-central Nevada, we continue to debate what one is, resorting to terms such as Carlin-like to qualify our uncertainty. As a result, the rest of the exploration world is even more baffled by them. Uncertainty has hindered exploration beyond the Great Basin because of lack of a well-constrained exploration model that incorporates not only elements of existing descriptive models but also the syn-mineral regional geologic framework of type deposits in Nevada.

We assess findings contributing toward a global Carlin-type deposit exploration model. Key regional components of the model based on Great Basin geology are: 1) age and age progression of Carlin-type gold mineralization, 2) spatial and temporal association of Carlin-type deposits with other gold-rich deposits, and 3) the regional geologic setting of gold deposition including crustal architecture and syn-mineral tectonism and magmatism. The progressive change in Eocene ore deposits from Au- to Cu-dominant across the central to eastern parts of the northern Great Basin is extraordinary and has major exploration implications. This change in metals parallels changes in the geochemical and isotopic character of magmatism across the Eocene arc, although rocks are grossly similar in terms of their mineralogy and bulk composition. We preliminarily interpret west to east variations in Eocene igneous chemistry and styles of metallization as interrelated, with contrasting chemistries reflecting major differences in architecture and composition of the crust through which magmas traveled. (Continued on page 5)

“FACES OF GSN”

Diane Cheung-Harris

Reno, Nevada

I was born in Albuquerque, New Mexico, to Chinese immigrant parents who had fled Mao's Cultural Revolution. At the age of 10 we moved to the rolling hills of southern Illinois. To geologists it was coal country and also the southern extent of the glaciers. At that time my outdoor exposure was limited to my yard and the local city park. After observing the struggles and hardships that my parents faced and encountered, I learned that through persistence, patience, perseverance and hard work I could contribute my heritage to this melting pot known as America. As a kid my dream was to 'grow-up' as a pediatrician.

I enlisted in the United States Army (92G) immediately after high school graduation in hopes of using the Montgomery GI Bill to pay for medical school. I was stationed at Ft Eustis, Virginia. My immediate thought was, "Wow, I can work. I can be my own woman. I control my destiny." In 2003, I had a wake-up call when my boots hit the grounds of a combat zone in Kuwait in support of Operation Iraqi Freedom. I got to travel, meet all walks of life and "camp" for the first time. Traveling has spurred my curiosity and the need to explore and discover new things, cultures and ideas. I left the battlefield and focused my sights on finally getting my degree and helping others. This was the first of many adventures.

After Ft. Eustis, I returned to Southern Illinois University and then transferred to University of Illinois Urbana-Champaign to pursue a Pre-Med curriculum. I was active in neuroscience, childhood development research, and went on a medical mission to Peru. Along the way I took geology courses as an elective. During a field trip, led by Professor Michael Stewart to the Blue Ridge Mountains of North Carolina, my passion for field geology started to bloom. My fascination with geology only grew with subsequent structural geology classes and field trips with Professor Stephen Marshak. Soon, I realized that I was a few classes away from a geology degree. So, I quickly and excitedly changed my degree and eventually got a B.S. in Geology from UIUC in 2010.

Shortly after graduation, I was fortunate to obtain my first full-time geology job with Newmont Mining Corporation in 2012 at the Cu-Au-Ag Copper Basin project in Battle Mountain, Nevada. It was also the first time I discovered GSN and the wonders of Nevada geology. It was a great opportunity to be exposed to project development and RC chip logging. It was an exciting time, but unfortunately gold was bearish and I was laid-off. I soon found work with Klondex Mining to aid in logging a quarter of a million feet of historical core for the Fire Creek project in Lander County, Nevada. That work didn't last long, so I moved onto a core logging assignment with Newmont's Leeville mine in Eureka County, Nevada. My luck had run out and I was laid-off again. However, through this work I became very interested in ore deposits and decided I needed to know more about "hard rocks." So the reorganization was a fortuitous event that gave me an opportunity go back to school.

The next adventure took me to San Diego State University (SDSU) for my M.S. degree in geology (2013-2017) under Dr. David Kimbrough. My thesis focused on dating and resolving the Truckhaven Rhyolite in the Cahuilla gold-silver deposit. Additionally, I taught the geology 101 laboratory on the fundamentals of geology. Furthermore, I was a teaching associate for the geochemistry lab, which entailed setting up lab experiments and grading papers. During my MS studies, I participated in AAPG's Imperial Barrel Award Program (IBA), an annual prospective basin evaluation competition for geoscience graduate students from universities around the world. That year (2014) our team captured first place in the Pacific Section and we got to go onto the international stage. Coincidentally, during this time the price per barrel of oil plummeted and this meant that petroleum geology jobs were scarce.

So I adapted, and in 2015 I got an opportunity to work in Washington D.C. to be a Department of Energy Federal Energy Management Program-Environmental Protection Agency Scholar. I worked on initiatives for Executive Orders 13690 and 13693. This included revising guidelines for natural hazards, floodplains, seismicity and climate change adaptation and resilience. The internship highlights included a National (Continued on page 5)

Cheung-Harris “Faces of GSN” (Cont. from page 4)

Renewable Laboratory tour in Golden, CO and discussions of how the Federal government manages agencies to implement innovative energy research, design, applications, and policies across the departments.

The following summer (2016), I had the good fortune to work in the “oil patch” as an exploration petroleum geologist for Aera Energy in Bakersfield California. I worked with a talented and motivated team to evaluate and redevelop a Miocene reservoir in the San Joaquin Basin. I also had the great honor to name the prospects, which were adopted into the play evaluation.

After I received my MS from SDSU in 2017, I took a job doing ore control at Phoenix surface mine for Newmont. Currently, I manage the day-to-day duties of ore control geology. Additionally, I get to work with a cross functional team to design and execute infill RC drill holes, 3-D model, and log RC-chips.

Despite my short career in geology, I’m lucky to be able to work with and for some of the best in the business. I’m always grateful for those that have developed my skill set and encouraged me to keep on discovering. I can’t believe that I get to be a part of a profession that draws from all the other grand sciences, I get to use my imagination and infer paleo environments, and I get to synthesize a myriad of sources of information from the nanometric to the galactic. How cool is that? I have the great pleasure and honor to be a member of the GSN and serve as the Elko membership chair (2018-2019). Looking forward, I’m excited and humbled to serve as the 2019-2020 Elko president. I hope to continue to be a part of this community and explore for many more years in this extraordinary, mysterious, and exciting profession. There is yet more to discover and learn on this great blue dot of an “office”.



Ressel, M. Abstract (continued from page 3)

Thus, the range of Eocene sedimentary rock-hosted, disseminated gold deposits (SHDGs), including Carlin-type deposits, in northern Nevada defines a distinct intrusion-related gold metallogeny that contrasts with the “classic” deposits formed in many other continental arc settings, including the eastern Great Basin in Utah, which are typified by porphyry Cu and Cu-Mo, polymetallic skarns and replacements, and high- and intermediate-sulfidation epithermal Au-Ag deposits. The reduced mineralogy and geochemistry of ores and Au-dominant or Au-only character of SHDGs in northern Nevada infer overall reduced ore fluids that fundamentally differ from highly oxidized fluids indicated for porphyry-related systems. We suggest that emplacement of the Eocene arc far inboard of the plate margin and into kilometers-thick carbonaceous slope and basinal rocks of the Neoproterozoic through Paleozoic passive margin progressively modified and chemically reduced mid-crustal magmas from mafic to silicic compositions through assimilation of reduced crust.

PASSING OF PHOEBE HAUFF

Phoebe Hauff passed away April 6th at St. Anthony's hospital in Lakewood, Colorado after years of struggling with health issues. Phoebe was known for introducing short wave infrared spectroscopy to the mineral exploration and mining community. This technology in the right hands has dramatically improved our understanding of alteration systems and vectoring for ore. Phoebe was tenacious about gathering data for spectral libraries and training people all over the world.

She attended most of the GSN Symposiums and had a booth as Spectral International. If you do not know who Phoebe is, she was the large platinum blonde wearing tight leopard skin pants and big gemstone jewelry. She was quite angry when Canadian customs held her for some time because they could not believe a woman dressed like that was a scientist, let alone a geologist!

Phoebe will be missed as a true innovator and scientist. Doug Peters of Denver is working on an obituary and a remembrance ceremony for her this summer.



Richard Bedell

GSN SOUTHERN NEVADA CHAPTER MEETING

THURSDAY, MAY 2, 2019

Location: LAS VEGAS NATURAL HISTORY MUSEUM

Time: Pizza and Beer @ 5:30 p.m.; Talk begins @ 6:16 p.m.

Speaker: Dr. Chris Adcock of UNLV and the LVNHM

Title: "The Stories an Extraterrestrial Mineral Can Tell"

Food and Drinks Sponsored by: **SPONSOR NEEDED!**

GSN WINNEMUCCA CHAPTER MEETING

WEDNESDAY, MAY 8, 2019

Location: The MARTIN HOTEL, 94 Railroad St., Winnemucca, NV

Time: Appetizers & Drinks @ 6:00 p.m.; Talk begins @ 7:00 p.m.

Speaker: Zach Hibdon, Contact Gold

Topic: “Advanced Exploration on New Discoveries at Pony Creek”

Food and Drinks Sponsored by: To Be Announced

GSN ELKO CHAPTER MEETING

THURSDAY, MAY 16, 2019

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

Time: Appetizers & Drinks @ 6:00 p.m., Talk @ 7:00 p.m.

Speaker: Mike Visher, Deputy Administrator, NV Division of Minerals

Topic: 2018 Nevada Mineral Production

Food and Drinks Sponsored by: JUST REFINERS (USA), INC.



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ELKO CHAPTER
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(Terms begin June 1, 2019)

President: Diane Cheung-Harris

Vice President: Justin Milliard

Secretary: Meredith Baker

Treasurer: Terri Garside

Membership: Hayden Smith

WINNEMUCCA CHAPTER
2019-2020 OFFICERS
(Terms begin June 1, 2019)

President: Open

Vice President: Jenna Micovic

Secretary: Open

Treasurer: Andrew Smith

Membership: Open

Please volunteer to fill a position today!
**no volunteers=no meetings=no new
knowledge/no free beer**

SOUTHERN NEVADA CHAPTER
2019-2020 OFFICERS
(Terms begin June 1, 2019)

President: Open

Vice President: Open

Secretary: Open

Treasurer: Paul Bowen

Membership: Open

Please volunteer to fill a position today!
**no volunteers=no meetings=no new
knowledge/no free beer**

Directions to "Taps & Tanks", Reno

To find Taps & Tanks in Google or Apple maps just key in Great Basin Brewing Company (Taps and Tanks). The address is 1155 So. Rock Blvd #490, Reno, NV 89502 **BUT the entrance is actually on McCarran just south of Pembroke/Rock.** If you are coming from I-80 take the E. McCarran Exit, Exit 19 and go south. Taps and Tanks will be on the west side of the road about 4 miles down. If you are coming from down south it is fastest to take Exit 61 for south Virginia Street then take Longley Lane (NE) to Rock Boulevard (East) then turn south onto S. McCarran Blvd. Taps and Tanks will be on the west side of the road.

NEW TIMES!! Doors will open at 6:00 pm as usual, then \$15 APPETIZERS SERVED at 6:30 pm.

GSN EXECUTIVE COMMITTEE 2019-2020 OFFICERS
(TERMS BEGIN June 1, 2019)

President: Dennis Bryan

Vice President: Mary Stollenwerk

Secretary: Steve Weiss

Treasurer: Bob Kastelic

Membership Co-Chairs: Patty Capistrant and Kelsey Sherrard

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Bob Thomas

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Greg French

CLASS C DIRECTORS (3 year term 2017-2020)

Camille Prenn

David Shaddrick

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Dennis Bryan, Current GSN President

Richard Bedell, Immediate Past GSN President

Diane Cheung-Harris, Elko Chapter President

OPEN, Southern NV Chapter President

OPEN, Winnemucca Chapter President

GSN Student Poster Competition



Student Poster Competition Night was held at the Reno meeting on April 19th. There was a nice variety of topics among the 9 posters. Unfortunately two presenters were unable to attend due to the flu going around campus! The winners of the competition (pictured l to r above) are Sergey Konyshov, 1st Place \$300 prize; Elizabeth Hollingsworth, 2nd Place \$200 prize, and Babak Azarfard 3rd Place \$100 prize. Also pictured is Steve Weiss, GSN Secretary & Poster Competition Judge.

Thank you to all the students who participated! We always enjoy learning about your new research questions being investigated, and what creative approaches you are taking towards answering those questions.

Also thank you to the judges, Steve Weiss, Peter Vikre and Ellie Leavitt whose time and thoughtful decisions are much appreciated.

GSN ELKO SCHOLARSHIPS

Meet Your Spring Semester 2019 Scholarship Awardees! All are studying Nevada-related geology.

Dante Huff, PhD, Colorado School of Mines, Origin of Au near BM, magmatics

Selva Marroquin, PhD, Virginia Tech, Sulfur cycling at K/T boundary

Lexi Wallenberg, MSc, University of Arizona, Gregg Canyon porphyry

Jan Takavas, PhD, Colorado School of Mines, Fluids making silica veins

Kate Grosswiler, BS, Boise State, Radio isotope ammonites

Nick Hillemeier, MSc, University of Nevada, Reno, Gravel Creek low sulfur deposit

Mark Hansford, PhD, Colorado School of Mines, Fluvial fans

Justin Milliard, PhD, University of Nevada, Reno, Tectonics and rifting for Au/Ag

NEWS FROM THE FOUNDATION

The GSN Foundation is proud to announce that five Mackay students were the winners of the GSN Foundation Field Camp Grants for 2019. Each student received a cash award to help them with the costs of attending the UNR field camp this summer! The recipients this year are: Marresa Bovee, Dustin Deitch, Sage Gandolfo, Jacob Ortega and Nicholas Romano. GSN Foundation Chair, Cami Prenn, presented the awards with the help of Foundation Board members Bill Howald, Mike Ressel and Bob Thomas, Foundation Treasurer.



Pictured left to right: Cami Prenn, Sage Gandolfo, Marresa Bovee, Dustin Deitch, Bill Howald, Mike Ressel and Bob Thomas.
(Not pictured: Jacob Ortega and Nicholas Romano.)

Thank you to our generous donors in April

G.S.N. FOUNDATION

Jesse Heavin

G.S.N. Student Field Camp Fund

(This fund awards scholarships to UNR students attending Summer Field Camp to aid with tuition costs)

Jesse Heavin

G.S.N. Student Dinner Fund

Jesse Heavin



Thank you to our Winnemucca Meeting Sponsor in April!



Thank you to our Elko Meeting Sponsor in April!





The Nevada Division of Minerals & Bureau of Mines and Geology



Invite **YOU** to attend a **FREE** ½ day workshop at the GBSSRL (Gold Building)

2175 Raggio Parkway Reno, NV

Tuesday May 14, 8am – 12pm

The purpose of this workshop is to demonstrate what data is available on our websites and how to leverage built in functionality. Users will learn how to navigate the data, utilize the interactive maps, customize displays, employ widgets, view and export data. **Please bring a laptop, and if you don't have one then some will be provided.**

Presentations highlighting each open data site will be followed with attendee guided demonstrations.

RSVP to Lucia Patterson
lpatterson@minerals.nv.gov
Questions: (775) 684-7053
20 attendees MAX

Activity Update

Mike Brady, MARCH 2019

www.activityupdate.com

NEVADA

First Vanadium Corp. announced that based on recent drill results at the Carlin Project, resources aggregate 24,640,000 tonnes @ 0.61% V₂O₅ indicated and 7,190,000 tonnes @ 0.52% V₂O₅ inferred. (was 28,000,000 tonnes @ 0.51% V₂O₅ inferred) *Press Release*: February 28

Barrick Gold Corp. and Newmont Mining Corp. announced that they would combine their Nevada gold assets into a single joint-venture owned 61.5% Barrick/38.5% Newmont. Barrick will be the operator of the JV. The Fourmile, Mike and Fiberline development projects will be excluded from the JV for now. *Press Release*: March 11

Barrick Gold Corp. announced that it terminated its merger offer for Newmont Mining Corp. *Press Release*: March 11

Premier Gold Mines Ltd.(40%) announced that reserves at the South Arturo Mine aggregate 2,840,000 tonnes @ 3.01 gpt Au proven+probable. (was 2,640,000 tonnes @ 3.18 gpt Au proven+probable) *Press Release*: February 25

Gold Standard Ventures Corp. announced that

recent drill results at the Dark Star Project include 16.8-61.0 meters @ 0.44 gpt Au (DR19-35); 0-30.5 meters @ 0.40 gpt Au (DR19-49); 19.8-36.6 meters @ 0.37 gpt Au (DR19-53) and 0-32 meters @ 0.48 gpt Au (DR19-55). (resource = 15,380,000 tonnes @ 0.54 gpt Au measured+indicated) *Press Release*: March 26

Corvus Gold Inc. announced that recent drill results at the Mother Lode Project include 409.96-536.45 meters @ 1.85 gpt Au (ML19-104); 512.06-518.16 meters @ 0.68 gpt Au (ML19-105) and 0-6.1 meters @ 0.59 gpt Au (ML19-106). (resource = 13,226,000 tonnes @ 1.72 gpt Au measured+indicated) *Press Release*: March 19

Contact Gold Corp. announced that recent drill results at the Pony Creek Project include 51.82-79.25 meters @ 0.24 gpt Au (PC18-45); 67.06-100.59 meters @ 0.44 gpt Au (PC18-46) and 51.82-73.15 meters @ 0.56 gpt Au (PC18-47). *Press Release*: February 28

Renaissance Gold Inc. announced that recent drill results at the Ecrú Project include 99.06-102.72 meters @ 1.65 gpt Au (NECD01). *Press Release*: February 14

ROCK TALK

Rock Talk: Geology Art A review by Elizabeth Zbinden

Geology inspires a lot of art and creativity. Can you imagine a 6-ft wide quilt showing a thin section of granite so well-depicted that you can identify quartz, feldspar, biotite, apatite, titanite, and zircon from their shapes, interference colors, and relief? That quilt, titled "Inside Granite," is my favorite item in an exhibit now showing at the Nevada Museum of Art: *The Contact: Quilts of the Sierra Nevada* by Ann Johnston. The exhibit features fiber-art portraits of the Sierra Nevada at scales from thin section through outcrop to landscape. The artist uses quilting stitches and hand-dyed fabric to bring out beautifully detailed textures at all those scales. In addition to being beautiful, the quilts offer lessons in geology, mining, and natural history. "Competent Rock" shows an old but still sturdy adit, and the caption explains the title significance: "they could advance the drift without structural support." "Cracked and Cooked" is a fine-grained dark rock crisscrossed by a quartz vein stockwork. "Exfoliating" shows a classic Sierran Granodiorite bluff doing exactly that. Other works celebrate the beauty of the mountains, unencumbered by a geology lesson: "Souptime" features the purples and golds of shadowed and sunlit slope faces at day's end, that is, when it's time for a nice bowl of soup. There's a reason for the accurate details of geology and historic mining: Ann Johnston's family has owned a mining claim near Tioga Pass since the 19th century and her son teaches geology at Cal Poly, San Luis Obispo, California.



Inside Granite

The exhibit runs through May 19 at the Nevada Museum of Art, 160 Liberty St. in Reno. Photos don't do it justice – I hope I have inspired you to go see it in person!



Competent Rock



Souptime



Cracked and Cooked



Exfoliating

OTHER UPCOMING EVENTS

2 May 2019 Nevada Petroleum & Geothermal Society, Reno, NV monthly meeting. Cocktails at 6:30 PM, Dinner at 7:15 PM, Tamarack Junction, Reno NV 89512. **Speaker: Bill Ehni will be giving a talk titled, "Adventures in Nevada Oil and Geothermal Exploration"** . Please make reservations by Monday, April 29, 2019. Click here for details or to register online and reserve your seat. <https://npgs.123signup.com/event/details/hpkzj?mid=5044444>.

2 May 2019 DREGS (Denver Region Exploration Geologists), Speaker: Dr. William X. Chavez. Title: The Porphyry-Epithermal Environment: Vertical Exaggeration of Alteration Mineralization Zoning via Late Hydrothermal Overprint and Telescoping. Social 6 p.m., Presentation 7 p.m. at Berthoud Hall, Room 241, CO School of Mines, Golden. For more info. contact James Piper at geopros@q.com

7 May 2019 Arizona Geological Society meeting, Speaker: Mac Canby, Freeport McMoran. Title: Bootprints in Bear Country: Discovery History and Geology of the Malmyzh Cu-Au porphyry cluster, Khabarovsk krai, Russia. 6 to 9 p.m. at the Sheraton, 5151 E Grant Rd. (& Rosemont), Tucson, AZ Click on the link for more info and online registration: More information and online registration: <https://www.arizonageologicalsociety.org/event-3374870/Registration> . Dinner closes at 11 am Friday, May 3rd.

9 May 2019 AEG Great Basin Section Monthly Meeting. Sure Stay Plus Hotel by Best Western, 1981 Terminal Way, Reno NV. **Speaker: Wendy Calvin, PhD—Core Spectral Imaging.** Social Hour @ 5:30 pm, Dinner @ 6:30 pm, Presentation @ 7:00 pm. Please email Merrily Graham to RSVP at mkgraham75@gmail.com.

13 May 2019 SME Northern Nevada Section Monthly Meeting. Circus-Circus Mandalay Room, Reno NV. Speaker and Topic To Be Announced. Happy Hour @ 6 pm, Dinner @ 7 pm. Please contact Sarah Lightner for more information at 775-746-7146 or NNevSME@gmail.com

2019 NWRA Well Design, Construction & Rehab Workshop – Thursday, May 17, 2019, from 8:00 a.m. to 5:30 p.m. Location: 9920 Double R Blvd., Reno, NV 89521~This one-day seminar will provide a technical overview of well construction methods and regulatory issues associated with these methods. It is designed to enhance the knowledge of new well development techniques, advanced technology, and revised regulatory issues associated with these topics. Contact hours available/CEU approval for attendees. Go to www.nwra.org/2019well/design to register or call Tina Triplett at 775-473-5473 or nevadawaterresources@gmail.com.

2019 NWRA Well Rehabilitation & Well Maintenance Workshop – Friday, May 18, 2019, from 8:30 a.m. to 3:30 p.m. Location: 9920 Double R Blvd., Reno, NV 89521~Neil Mansuy, M.Sc., has more than 34 years of extensive, world-wide well rehabilitation experience holding a MSc. Degree from the Univ. of Regina, Regina, Saskatchewan, Canada, specializing in iron-related bacteria and causes of well plugging. He has recommended solutions to thousands of wells, aquifers and water systems with lost capacity and water quality problems including "unsafe" bacterial results. Contact hours available/CEU approval for attendees. Go to www.nwra.org/2019may-well-rehab-workshop to register or call Tina Triplett at 775-473-5473 or nevadawaterresources@gmail.com.


2019 NWRA Barrick Pipeline/Crossroads Mine Tour – Tuesday, May 21-22, 2019. Meeting place location: 3650 East Idaho Street, Elko, NV 89801~Barrick Mining Company will once again be offering a mine tour to both NWRA members and non-members. This year the tour will visit Barrick's Pipeline/Crossroads Mine. This is a great opportunity to see firsthand a world-class mining operation and one of the more interesting active gold mines in Nevada. Go to www.nwra.org/2019barrickminetour to register or call Tina Triplett at 775-473-5473 or nevadawaterresources@gmail.com.

14-17 September 2019 AIPG 56th National Conference. Geology in the Green Mountains: Scenic Beauty and Economic Engine. Burlington, Vermont. Go to www.aipg.org for more information.

7-10 October 2019 Society of Economic Geologists (SEG/Chile Explore Group) 2019 Conference: South American Metallogeny: Sierra to Craton; Santiago, Chile; Website: www.seq2019.org


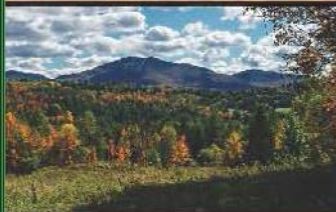
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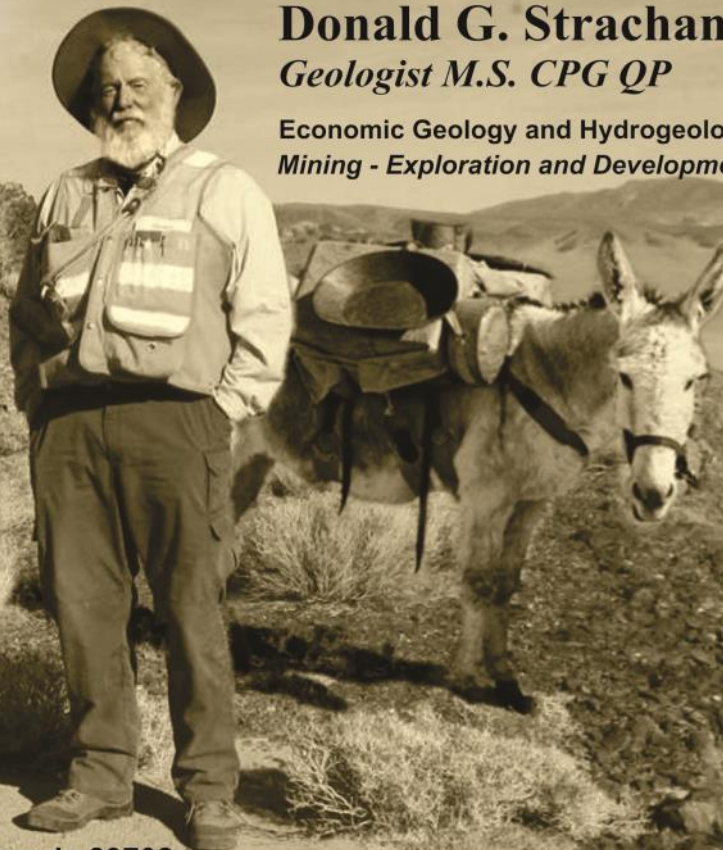
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Have a great field season and we'll get caught up on GSN happenings in the August newsletter!



L to R: Steve Weiss, Elizabeth Zbinden and Don Pietz on the Spring 2018 field trip to the Eastside Project, Monte Cristo Range, NV