

# GEOLOGICAL SOCIETY OF NEVADA NEWSLETTER

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(775) 323-3500 - Hours Monday -- Friday, 9 a.m. to 4 p.m.  
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## SO. NEVADA NO MEETING IN JANUARY!

January 12, 2022  
**WEDNESDAY**  
Via ZOOM

January 20, 2022  
**THURDAY**

January 21, 2022  
**FRIDAY**

## GSN SOUTHERN NEVADA CHAPTER MEETING

The Southern Nevada Chapter will not be having a meeting in January. Please plan on attending the meeting on February 15th at the new location: The McCaw School of Mines, 57 Lynn Lane, Henderson, NV. For more information please contact Southern NV President, Joshua Bonde at: [joshua.bonde@nvscicenter.org](mailto:joshua.bonde@nvscicenter.org).

## GSN WINNEMUCCA CHAPTER MEETING

The Winnemucca Chapter will hold its meeting via Zoom. **Speaker:** Dalton McCaffrey, UNLV Grad Student. Title: "Rare Metal Granitic Pegmatites: A Review with Examples from Nevada and California". Please contact President, Chad Peters for more info: [cpeters@ridgeline minerals.com](mailto:cpeters@ridgeline minerals.com). Details on page 6.

## GSN ELKO CHAPTER MEETING

The GSN Elko Chapter will hold their in-person meeting at the Western Folklife Center, 501 Railroad St. **Speaker:** David R. Ernst, Exploration Manager for Kinross - Bald Mountain. Title: "Bald Mountain District Geology, White Pine County, Nevada". **Food & Drink Sponsor:** MAJOR DRILLING. Please contact Elko President Justin Milliard: [justin.b.milliard@gmail.com](mailto:justin.b.milliard@gmail.com) for more information. Details on pp. 7-8.

## GSN REGULAR MEMBERSHIP MEETING

The GSN regular meeting will be held in-person at the Reno Aces 250 Lounge, 250 Evans, Reno. **Speaker:** Drew Levy, Ph.D. Candidate, NBMG, UNR. Title: "New geochronologic insight into the structural and metamorphic evolution of the Basin and Range: Ruby Mountains-East Humboldt Range metamorphic core complex, Elko County, Nevada". **Sponsor:** MDA, a division of RESPEC. Please register for dinner online and send RSVPs to Laura Ruud, [gsn@gsnv.org](mailto:gsn@gsnv.org). **ONLINE RESERVATIONS CAN BE MADE on the GSN WEBSITE by clicking this link: [DINNER RESERVATIONS](#).** Dinner cost is \$35 per person. Details on page 3.

## GSN JANUARY Meeting Sponsor!



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**FROM THE PRESIDENT**  
**Patsy Moran, GSN President 2021—2022**  
**JANUARY 2022**



My intent for the January newsletter was to reflect on the happenings of 2021. Well, forget it. 2021 is in my rearview mirror and I am moving forward. In 2022, the continued strong demand for most mining commodities should keep explorers and operators busy. I am fortunate to have a healthy workload and know many others that support the mining industry are in the same position. GSN members should access our strong network to find that perfect opportunity.

GSN will remain adaptable as the most recent covid situation evolves with in-person membership meetings when appropriate and virtual attendance options. On January 21st, our speaker in Reno is Drew Levy, a GSN student member and Ph.D. candidate in the Nevada Bureau of Mines and Geology at the University of Nevada (see page 3). Drew received the 2020 Great Basin Geology Scholarship from GSN to advance his research on the Cordilleran Orogenic collapse and core complex development based on insight from the Ruby Mountains in Nevada. The next Southern Nevada Chapter meeting is February 15th at the Mine Experience at the McCaw School of Mines in Henderson, Nevada. Meeting details are forthcoming, but please add a placeholder to your calendars. It'd be great to see more members show the Southern Nevada Chapter support through in-person or virtual attendance. Additional GSN Chapter updates and meeting details are included in this newsletter.

It's a new year and a fresh start. Let's dream big in 2022!



***The G.S.N. wishes to thank ENVIROTECH DRILLING for sponsoring  
the GSN's Holiday Party on Dec. 15th!***

**Envirotech Drilling LLC**

## GSN MEMBERSHIP MEETING—JANUARY 21, 2022

**Guest Speaker: Drew Levy, Ph.D. Candidate**  
**Nevada Bureau of Mines & Geology, Univ. of NV, Reno**

**Title: “New geochronologic insight into the structural and metamorphic evolution of the Basin and Range: Ruby Mountains-East Humboldt Range metamorphic core complex, Elko County, Nevada”**

**Date: FRIDAY, JANUARY 21, 2022**

**Time: Drinks @ 6 pm, Dinner @ 6:30 pm, Talk @ 7:15 pm**

**Where: Reno Aces Ball Park, 250 Evans St.**  
**Upstairs at the 250 Lounge/Good Hops Restaurant**

**ONLINE RESERVATIONS CAN BE MADE on the GSN WEBSITE by clicking this link: [DINNER RESERVATIONS](#).**

### Abstract:

Large-magnitude regional extension in the Basin and Range of eastern Nevada initiated at 16 Ma, however high-strain rocks in the metamorphic core complexes record an earlier episode of Eocene-Oligocene ductile thinning. Thermochronologic cooling ages and the lack of thick pre-16 Ma syn-extensional basins have been used to argue against large-magnitude extension during the Eocene-Oligocene, which motivates a deeper understanding of the mechanisms that drove ductile deformation in the core complexes. The Ruby Mountains-East Humboldt Range metamorphic core complex features a 1 km-thick ductile shear zone that developed between 29-17 Ma based on the existing zircon U-Pb and  $^{40}\text{Ar}$ - $^{39}\text{Ar}$  ages of cross-cutting intrusions. Within the shear zone, deformed 40 Ma diorite and 29 Ma monzogranite intrusions are abundant, yet at the same stratigraphic levels in adjacent ranges, Eocene diorites and Oligocene monzogranites are rare. To further understand the role of these intrusions in the development of the core complex, as well as their role in the regional tectonic evolution of the Basin and Range, we conducted new geochronology of intrusive rocks and metamorphic rocks at each structural level. Zircon U-Pb geochronology yields 100-70 Ma dates from the abundant pegmatitic leucogranites across the core complex. Diorites and monzogranites yield 42-36 Ma and 34-28 Ma zircon dates, respectively. A younger generation of leucogranites crosscut Oligocene monzogranites and yield metamorphic zircon dates as young as 26 Ma. Monazite and titanite U-Th-Pb geochronology from metapelitic schists and gneiss yield a broad range of dates recording Late Jurassic-Early Cretaceous, Late Cretaceous and Eocene-Oligocene metamorphic events. Late Cretaceous and Eocene-Oligocene monazite and titanite dates overlap with zircon U-Pb dates from intrusive rocks. Trace element geochemistry from monazite and titanite record recrystallization during an episode of high temperature metasomatism at 40 Ma, followed by retrograde breakdown of garnet from 40-30 Ma. Collectively, these new analytical results and our field observations suggest the Cenozoic development of the Ruby Mountains-East Humboldt Range metamorphic core complex was initiated by the intrusion of mafic, mantle derived magmas at 40 Ma during initial slab-rollback magmatism. The intrusion of these mafic melts into a pre-existing melt network heated, remobilized, and hybridized with the Late Cretaceous leucogranites. Remobilized melts distributed heat and less dense granitic intrusions throughout the core complex. The crystallization of these melts likely released abundant fluids, which fluxed through the middle crust driving retrograde metamorphic reactions. This magmatic-metamorphic-metasomatic event led to a hot, weak, and buoyant middle crust. We argue these conditions promoted buoyant, diapiric ascent of a broad gneiss dome, which was accommodated by ductile attenuation of the overlying ductile shear zone during the Oligocene. The development of high strain mylonitic fabrics created a mechanically weak layer that localized later normal faulting during the middle Miocene. This research was supported by a generous award from the Geological Society of Nevada Great Basin Scholarship Fund.

### Drew Levy Bio:

Drew Levy is a 5<sup>th</sup> year Ph.D. Candidate at the University of Nevada, Reno studying the tectonic evolution of the Basin and Range province with Dr. Andrew Zuza. His Ph.D. research applies structural geology, metamorphic petrology and geochronology to investigate the mechanisms and timing of post-orogenic extension in northeast Nevada. Before moving to UNR, Drew completed his Geology B.S. at UCLA in 2016, where he led geology field trips across southern California and researched the neotectonics of Owens Valley. After falling in love with the Eastern Sierra, Drew decided to stay close to the mountains and join the energetic geology program at UNR in 2017 to work with Andrew Zuza and Stacia Gordon. As a Ph.D. student, he has studied Paleozoic to Holocene tectonics across the Basin and Range, with his intellectual home base located in the Ruby Mountains and East Humboldt Range of Elko County, NV.





# **“FACES OF GSN”**

## **Carli Balogh**

### **Tucson, Arizona (for now!)**

I was born in the suburbs of metro Detroit, Michigan to a family of University of Michigan graduates, specifically mostly engineers. Though I enjoyed romping around the woods with our dog, most of the time I had my nose stuck in a book. When I went off to college, following in the footsteps of my family at the U of M, I had the idea that I would be a genetics researcher, but struggles with chemistry classes had me searching for a different discipline to major in. I decided to take an intro geology class as a prerequisite, and learned about volcanoes, the 2011 Tohoku earthquake, carbonate platforms, and the fact that I could go on field trips as a geology major. I was sold on the idea of being a geologist! I was able to travel west of the Mississippi River for the first time, going to New Mexico, Texas, and to Wyoming for field camp.



**At the top of the Sweetwater Mountains in 2020**

Professor Adam Simon had recently arrived at the U of M, and he gave a talk in my mineralogy class about porphyry copper deposits. The idea of a massive volcano having copper below really blew my mind, and I showed up at his office hours saying I wanted to be an exploration geologist. Adam was kind enough to give me guidance on applying to graduate schools and put in a good word for me with Professor John Muntean at UNR. After graduating with my bachelors in 2014, I drove across the country with my dad in my little Jeep Patriot with all my belongings, heading to Reno to begin a master's degree.

Attending UNR was the best decision I've ever made. I feel extremely lucky that I was able to attend UNR and meet so many good folks in the Nevada geological community. I learned so much in the CREG program, especially

from John's ore deposits classes, made amazing lifelong friends in grad school, loved living in Reno, and liked how there is a whole community of geologists at GSN. I'll forever treasure memories of frying Thanksgiving turkey at Pyramid Lake, SEG student chapter field trips to Mexico and Arizona, and post-CREG meeting parties.

For the M.S. thesis, I worked under Dr. Peter Vikre of the USGS on a project in the Sweetwater Mountains in eastern California, mapping out the extremely altered rocks in the Patterson mining district, characterizing the epithermal deposits, and figuring out the timing of volcanism and mineralization with age dating. I did over 60 days of field work, living out of my tent in Sweetwater Canyon or an RV park on Bridgeport Reservoir, and had the time of my life! I was able to hike over some extremely beautiful areas and even soak in Travertine hot springs some nights. One of the best things I learned was how to be comfortable and confident alone in the wilderness, and I now enjoy solo backpacking as a hobby. I graduated in 2016 with a M.S. Geology degree and I am forever grateful for my time at UNR and all the folks who helped me along the way.

The first job I had in mining was at the Haile gold mine in the Carolina slate belt of South Carolina. While the culture was a bit of a shock to a damned Yankee like me, I really enjoyed the mine exploration work there and my coworkers, spending my days slinging around 4 core rigs for infill and step-out programs in the early days after Oceanagold bought the property. I learned how to core log, map pit walls, plan out drill pads and core holes, and deeply enjoyed the local cuisine including BBQ, banana pudding and sweet tea. In 2018 I started a new job at Freeport-McMoran based in Tucson, working on greenfields porphyry Cu exploration in the western US. It was a dream come true to work greenfields exploration, and I really (cont. on page 5)

Faces of GSN, Balogh (cont. from page 4)

enjoyed doing library and GIS research to identify prospective areas, as well as the recon fieldwork, drill programs, and mapping to work those areas up.

Unfortunately we all know how 2020 went. I was mapping in Safford with Francis, a geologist from the Philippines when we were all told to work from home. Luckily you can't get Covid-19 from rocks, and we finished the mapping and Francis flew home before border restrictions were enacted. Freeport shut down all greenfields exploration and most exploration staff were furloughed or took separation packages. I was lucky enough to not lose my job, and I was assigned to the mine site exploration group. After almost a year of logging on four different porphyry deposits (which was a great education) and feeling fairly burned out from the pandemic and the furloughs, I was looking for a change.



Exploring for gold in the South Carolina slate belt with coworkers including Heather Veasey, now a fellow GSN member.

In May 2021 I began working for AngloGold Ashanti at the Silicon project in Beatty. There, I've been blessed with some fantastic coworkers and the chance to see a newly discovered and growing gold system. I'm grateful for my life as a geologist and hope to move back to Reno soon. I don't know what the future holds for me, but I hope it involves seeing more interesting rocks and hidden places, meeting and working with some great folks, and finding some gold! Thanks for reading and thanks to GSN members for their support over the years. Cheers and happy hunting!



CREG students and Mike Reszel in a shovel bucket at the Bagdad Mine, Arizona on a SEG student chapter field trip





## **GSN WINNEMUCCA CHAPTER UPDATE**



The GSN Winnemucca Chapter will be hosting a virtual meeting on **Wednesday, January 12th at 6:30 pm**. The speaker will be **Dalton McCaffery, UNLV Graduate Student** and the talk is titled:

### **"Rare Metal Granitic Pegmatites: A Review with Examples from Nevada and California"**

Dalton's abstract is below and the Zoom login details will be distributed prior to the meeting in a separate email to GSN members.

Cheers,

**Chad Peters, P.Geo.**

President & CEO

Ridgeline Minerals

GSN Winnemucca Chapter President

**Please contact Chad Peters, Winnemucca President, for more info.**

**[cpeters@ridgelineminerals.com](mailto:cpeters@ridgelineminerals.com)**

#### **ABSTRACT:**

#### **"Rare Metal Granitic Pegmatites: A Review with Examples from Nevada and California"**

Granitic pegmatites have the unique ability amongst other geologic systems to concentrate rare and critical metals such as Li, Be, Cs, Ta, and REE, many of which are vital to modern technology into mineable deposits. However, even with a significant amount of research available on these systems, these systems remain poorly understood. There are two primary competing hypotheses for rare metal pegmatite petrogenesis: (1) extensive fractional crystallization of a large (pluton-scale) volume of magma and (2) low-degree direct anatexis involving a large volume of source rock. This talk will briefly overview granitic pegmatite petrogenesis, and use examples from both Nevada (i.e., the Virgin Mountains Pegmatite Field, Clark Co.) and California (i.e., the Pala Pegmatite Group, San Diego Co.) to demonstrate that either type of petrogenesis may be possible.



## **GSN Elko Chapter—January 2022 Update**

The Elko GSN Chapter is happy report that we had a very successful 2021 season that was topped off by a Christmas Party + Silent Auction. Over \$3,500 was raised for the Elko GSN Scholarship Fund! Thanks to all who attended and contributed. As for 2022, we are looking forward to kicking off the New Year with a presentation by David R. Ernst of Kinross on the Bald Mountain district geology. The event is graciously sponsored by Major Drilling.



After four months of hybrid talks with varying degrees of success in our virtual presentation component, with plenty of frustration by both our volunteer officers and virtual attendees voicing their displeasure with audio/visual quality we will be returning to 100% in person presentations in 2022. So please attend if you want to enjoy the presentation, soak up some knowledge, suds, and social merriment.

**Western Folk Life Center**

**Thursday, January 20<sup>th</sup>**

**Food and drinks @ 6 pm and talk to begin at 7 pm.**

**Title: Bald Mountain District Geology, White Pine County, Nevada**

**Presenter: David R. Ernst, Exploration Manager for Kinross - Bald Mountain**

**Abstract:**

The Bald Mountain District is located on the southeast extension of the Carlin Trend at the southern end of the Ruby Mountains in White Pine County, Nevada. The district has produced over 6 million ounces of gold and has a resource of nearly 6 million ounces of gold. The property covers over 131,000 acres and is considered the largest contiguous land position in the United States. The first claims in the district were staked in 1869 in the northern portion of the district and modern exploration for gold has been conducted for over forty-five years. Outcropping ore-bodies were discovered long ago. Current efforts focus on prospective areas covered by post-mineral volcanics and/or alluvium, areas that were neglected due to low grade drill results, and areas where poor host rocks may hide deposits in permissive stratigraphic horizons. Where possible, structural intersections at permissive host rock horizons are targeted.

Two gold mineralizing events occurred at Bald Mountain: Jurassic-age intrusive-related and Eocene-age sediment-hosted. During the Middle Jurassic Period, gold deposits formed on the margins of intrusive bodies. The Jurassic-aged Bald Mountain Stock and intrusive-related deposits occur along a broad structural zone trending northwest from the Bida deposit through Top to Redbird/Numbers. This structural zone is called the Bida Trend. Gold mineralization is concentrated on the NW and SE ends of the stock, especially at the intersection of the Bida Trend with a major structural corridor bounded by the Dynasty and West Top Faults. These deposits are hosted by several sedimentary units ranging in age from Cambrian to Mississippian. At Top, units that host the majority of the gold are the Cambrian Windfall and Ordovician Pogonip Formations, and Jurassic intrusives. The deposit dips moderately to the east to northeast and is open at depth. In general, intrusion-related deposits are deeply oxidized, and at Top, oxidation extends to over 2500 feet below the surface.

The second mineralizing event occurred in the Eocene. This younger event produced gold mineralization and deposits that are similar to the gold deposits at Carlin in that they are sediment-hosted and disseminated. Carlin type deposits occur in specific horizons at the top of the Devonian Guilmette Limestone, in the Mississippian Pilot Formation, or in Joana Limestone and the base of the Chainman Formation. The best host rocks are formations with silt/sand grains with carbonate (calcite or dolomite) cement. Where the intrusive-related deposits appear to be (continued on page 8)

overprinted by Carlin type deposits, we have hybrid deposits. There are thick parts of the stratigraphic section that make poor hosts, specifically massive sections of limestone and dolomite. In some target areas, these sections of barren rock can hide gold-bearing zones below.

Deposits occur where rocks are strongly deformed along faults and fault intersections, especially in the permissive host rock horizons. Structural intersections at permissive host rock horizons are targets for exploration. The important structural trends that control mineralization in the district are: NNE, NW, NNW, and WSW. Low-angle structures, both compressional and extensional, and folds can also be important. The structural evolution in northern Nevada is complex. Several tectonic episodes have deformed and displaced the stratigraphic units in the region and many faults have been reactivated at various times as stress regimes have changed. Post-mineral deformation was extensional. This tectonism formed the Great Basin's basin and range physiographic province that exists today and has affected the rocks and gold deposits at Bald Mountain. Some of the displacement appears to be lateral along strike-slip or oblique-slip faulting.

The two deposit types have different chemistry. Intrusive-related deposits have a trace element signature of Cu, Ag, Mo, Bi, Te (As and Sb) while the Carlin type systems have As, Sb, Hg, Tl. Intrusive-related deposits contain high grades locally and coarser gold while the Carlin systems have fine-grained gold that is more evenly disseminated. Oxidation and the refractory nature of carbon in the ores are different in the two deposit types. Carbon is not always refractory or preg robbing in the intrusive-related deposits while carbonaceous, sulfide bearing material in the Carlin type deposits is refractory. Copper can be an issue in intrusive-related deposits because it competes with gold in reaction to cyanide.

The size and grade of the two deposit types is a consideration because the intrusive-related deposits tend to be larger and higher grade. However, Vantage is a Carlin type deposit that averaged 4 gpt gold initially and produced over 1.2 million ounces of gold, so Carlin type deposits in the Bald Mountain district should not be discounted.

**Please see our speaker's and sponsor's websites for more information**

### **Kinross**

Founded in 1993, Kinross Gold is a senior gold mining company with a diverse portfolio of mines and projects in the United States, Brazil, Chile, Ghana, Mauritania, and Russia. Headquartered in Toronto, Canada, Kinross employs approximately 9,000 people worldwide. The Company is focused on delivering value through operational excellence, balance sheet strength, disciplined growth, and responsible mining.

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### **Major Drilling**

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# Thanks again to our Elko Christmas Party Sponsors!





## Pictures from the GSN Elko Chapter's Christmas Meeting at the Western Folklife Center, December 16, 2021



Kyle Larson and Warren Thompson  
both have great taste in vests!



Speaker Buster Hunsaker gave a great presentation on their Majuba Hill Copper Project!

Elko President Justin Milliard gets  
Buster all setup for the in-person  
and Zoom talk.



It turned out to be a beautiful  
drive to Elko after the snowstorm  
went through. Thanks a lot to  
JoAnn Newbury with NuLegacy  
Gold for giving me a ride!



### Geological Society of Nevada Southern Nevada Chapter News



The GSN Southern Nevada Chapter will not be having a meeting in January 2022. Please plan to join us on February 15th for an in-person meeting at our new location, the McCaw School of Mines! It is located at 57 Lynne Lane in Henderson, NV. We will also Zoom the meeting for those interested.

Questions, Contact:

Josh Bonde

[Joshua.Bonde@nvscicenter.org](mailto:Joshua.Bonde@nvscicenter.org)

Southern Nevada Chapter President



# NEWS FROM THE FOUNDATION

by Cami Prenn

We decided to do the Christmas Party fundraising event in person this year, not knowing what to expect from donors or people attending. We had about 170 people who were willing to come out and celebrate which is about 2/3 of a "normal" year. Thank you to all who attended.

Despite a smaller crowd, this was the biggest amount we've raised in the 20+ year history - ~\$31,000! The live auction was the main event and it generated over \$22,000 of the total raised. **THANK YOU ENVIROTECH DRILLING** and **STEVE NEILSEN** for your generous donations of the live auction items! And **ENVIROTECH DRILLING** was also our bar sponsor – a double whammy dose of support for the Foundation!

**PARAGON GEOCHEMICAL** deserves a hearty THANK YOU for being the drop-off point for donations. Our generous donors dropped off over 100 items in all shapes and sizes. The full list of donors appears separately but I want to make sure our members know the big impact these companies and individuals made on the GSN Foundation's coffers and our ability to fund the programs that support education in the Geological Sciences.

**Several folks deserve a heavy dose of gratitude for lending their help in putting on the event:**

**Mario Desilets  
Bob Thomas  
Nancy Wolverson  
Bob Kastelic**

**JoAnn Newbury  
Bob Felder  
Patsy Moran  
Greg French**

**Steve Green  
Marilyn Miller  
Peter O'Byrne  
Laura Ruud**

D.D. LaPointe started this event over 20 years ago and this was the first one we did without her. She was missed tremendously. So many of the programs the Foundation supports were D.D.'s idea to begin with as she was so passionate about education and geology. There are many geologists she influenced both directly and indirectly to join the profession. She served on both the WAIME and GSN Foundation Scholarship Committees which awarded many scholarships to people we all know who are now working as geologists. She left a legacy of working hard to support geology education at all levels and encouraging everyone to get outside to see geology in person. We hope to continue with the same enthusiasm she brought to the Foundation.

May we all give this year a proper send-off in whatever way feels appropriate. I had hoped a big mask-burning event could happen but it appears that will have to wait. Happy New Year!



## GSN Holiday Party Fun at the Nugget!



Pete and Jeannette Dilles



Connie Parratt, Dave Flint,  
and Nancy Wolverson



Scott Werschky and  
Auctioneer Greg French



Laura Ellis, Melissa Boerst  
and Mary Stollenwerk

# Many thanks to all of our fabulous donors:

with special thanks to our 2021 Live Auction Donors:

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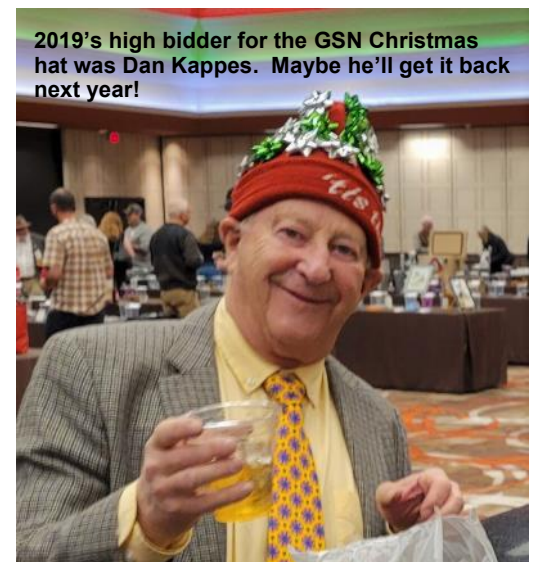
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**ONE MORE TIME!**

**Thank you for the bar sponsorship,  
the Live Auction gold specimens, & the calcite  
and to Steve Neilsen,  
thanks for the hunting rifle and scope!**



# Mining Activity Update

Mike Brady, NOVEMBER 2021

[LMBrady@aol.com](mailto:LMBrady@aol.com)

## NEVADA

Silver One Resources Inc. announced that recent drill results at the Cherokee Project include 13.56-19.85 meters @ 118 gpt Ag, 0.47% Cu (GC21-01); 46.02-50.9 meters @ 59 gpt Ag, 0.28% Cu (GC21-02); 18.8-19.7 meters @ 48.9 gpt Ag, 0.13% Cu (GC21-04) and 38.8-44.25 meters @ 80 gpt Ag, 0.40% Cu (GC21-06). *Press Release:* November 16

Scorpio Gold Corp. announced that recent drill results at the Manhattan/Goldwedge Project include 150.9-157.0 meters @ 2.03 gpt Au (MWRC21-03) and 97.6-102.2 meters @ 71.32 gpt Au (MWRC21-04). (resource = 300,000 tonnes @ 10.58 gpt Au indicated) *Press Release:* November 2

P2 Gold Inc. announced that recent drill results at the Gabbs Project include 6.1-47.24 meters @ 0.15 gpt Au, 0.20% Cu (GBR-03); 9.14-50.29 meters @ 0.15 gpt Au, 0.24% Cu (GBR-06) and 32.0-195.07 meters @ 0.56 gpt Au, 0.23% Cu (GBR-08). (resource = 37,600,000 tonnes @ 0.58 gpt Au, 0.28% Cu inferred) *Press Release:* November 9

I-80 Gold Corp. announced that recent drill results at the Granite Creek Project include 386.6-392.7 meters @ 12.8 gpt Au (IGS21-01); 391.4-398.5 meters @ 16.3 gpt Au (IGS21-03); 326.3-329.8 meters @ 16.4 gpt Au (IGS21-04) and 398.4-403.7 meters @ 16.5 gpt Au (IGS21-05). (resource = 20,460,000 tonnes @ 1.95 gpt Au measured+indicated) *Press Release:* November 16

I-80 Gold Corp. announced that it would construct a new decline and 1,000 meters of underground development at the Cove Project from which to complete 40,000 meters of underground drilling. (resource = 1,007,000 tonnes @ 10.9 gpt Au, 29.1 gpt Ag indicated) *Press Release:* November 22

Millennial Precious Metals Corp. announced that recent drill results at the Mountain View Project include 19.5-157.1 meters @ 0.21 gpt Au (MVCD-05); 16.2-26.4 meters @ 0.44 gpt Au (MVCD-06) and 118.3-393.8 meters @ 0.49 gpt Au (MVCD-15).

(resource = 20,200,000 tonnes @ 0.62 gpt Au inferred) *Press Release:* November 3

Gold Standard Ventures Corp. announced that recent drill results at the LT Project include 0-1.5 meters @ 0.41 gpt Au (LT21-01); 0-39.6 meters @ 0.76 gpt Au (LT21-02); 24.4-29.0 meters @ 1.25 gpt Au (LT21-03) and 0-1.5 meters @ 0.22 gpt Au (LT21-04). *Press Release:* November 8

Getchell Gold Corp. announced that recent drill results at the Fondaway Canyon Project include 275.5-317.3 meters @ 3.0 gpt Au (FCG21-10). (resource = 2,050,000 tonnes @ 6.18 gpt Au indicated) *Press Release:* November 17

Viva Gold Corp. announced that recent drill results at the Tonopah Project include 171-175 meters @ 0.5 gpt Au (TG2102) and 111-116 meters @ 1.2 gpt Au (TG2103). (resource = 12,830,000 tonnes @ 0.79 gpt Au measured+indicated) *Press Release:* November 11

Sitka Gold Corp. announced that recent drill results at the Alpha Project include 368.81-374.9 meters @ 0.12 gpt Au (AG21-06); 196.6-199.64 meters @ 0.41 gpt Au (AG21-07) and 333.76-349.0 meters @ 0.46 gpt Au (AG21-08). *Press Release:* November 16

## **NEW WESTERN US CLAIMS WEBSITE!**

Great News! Lucia Patterson with the Nevada Division of Minerals just launched a new website of her own for all of the western US!!! This will be a very useful tool for minerals explorers of all kinds. Click on the link below if you'd like to check it out.

<https://claims-nvdataminer.hub.arcgis.com/>

Happy New Year!

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 Author Michelle Werdann. December 13, 2021

[https://www.unr.edu/nevada-today/news/2021/aema-2021?blm\\_aid=35861](https://www.unr.edu/nevada-today/news/2021/aema-2021?blm_aid=35861)

## AEMA 2021 annual meeting sees prominent Mackay School presence

Students, faculty and alumni participated in many aspects of this year's AEMA conference  
 Science & Technology | December 13, 2021, Michelle Werdann

Last week was the 127<sup>th</sup> annual meeting for the American Exploration and Mining Association (AEMA), and the University's Mackay School of Earth Sciences and Engineering had a massive presence. From alumni to professors to students, over a dozen with ties to Mackay presented at the meeting, with four students winning awards.

Geology Master's students Alexander Holmwood, Sara Holden, Neal Mankins and Sarah Shapley presented at the junior professionals session where students presented on topics ranging from methods for concentrating lithium to determining the order of mineralization in mining deposits. The junior professionals session was chaired by alumna Norma Angelica Perez, who now works as a mining engineer for Nevada Gold Mines. Holmwood and Mankins were also winners in the student AEMA poster competition, as were Alireza Kamran and Mahdi Shahsavari from the Department of Mining and Metallurgical Engineering.



From left to right: Neal Mankins, Sara Holden, Norma Angelica Perez, Sarah Shapley and Alexander Holmwood.

Anna Huhta, the director of the Mackay School, said the conference was a wonderful way for students to engage with industry professionals in their field.



Representatives for the Mackay School at the AEMA annual meeting hang out at the school booths.

"I would say student attendance at industry conferences like AEMA are the best opportunities to network with industry representatives looking to fill open positions. With every conference Mackay students attend, we have students walking away with new employment opportunities," Huhta said.

Several of the Mackay student attendees are a part of the Ralph J. Roberts Center for Research in Economic Geology (CREG). CREG connects graduate students to industry with a collaborative team made up of the Mackay School, the Nevada mining industry and the U.S. Geological Survey. Associate Professor John Muntean is the Arthur Brant Endowed Chair in Exploration Geology in the Nevada Bureau of Mines and Geology and the director of CREG.

"These meetings are very important in that students need to take advantage of the conference by meeting highly experienced professionals and start building a professional network. The sooner they start building a professional network the better. Geologists love their work and love to share their passion for this profession with students," Muntean said.

Students from other disciplines were invited by the Mackay School to attend the meeting with a free registration, including students from chemistry, molecular microbiology and immunology, atmospheric sciences and biology. Muntean said he hopes those students were able to understand that geology and the mining industry is very multidisciplinary. "One needs to know not only rocks but chemistry, physics, economics, etc. At first needing to know so much is intimidating, but the flipside is that you're never bored doing something over and over."

Around 200 exhibitors attended the annual meeting, including mining companies, engineering consultants, government agencies, and professional associations.

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The 2020 Proceedings are still available for purchase as a 2-volume hardbound set (\$250 + shipping), USB drive (\$100 ) or digital download (\$100). These can be ordered online through the GSN Symposium Website. Here is a direct link to the order page:

**<https://www.gsnsymposium.org/technical-proceedings-volumes/>**

**The Symposium Committee is diligently working on the details for the 2022 Symposium! We expect to re-open registration on February 1, 2022.**



## OTHER UPCOMING EVENTS

**January 4, 2022: AGS—Arizona Geological Society.** Speakers: Michael F. Doe, C.G. Daniel, J.V. Jones III. Title: **"A Revised Timing of the Mazatzal Orogeny in its Type Area: New Age Constraints From Detrital Zircon"**.

Zoom window opens at 6:15 p.m. (MST) Talk begins at 6:30 p.m. (MST).

ZOOM: <https://arizona.zoom.us/j/83569941022>; PASSCODE: **AGS-2022**

**January 6, 2022: NPGS - Join the NV Petroleum & Geothermal Society** for their monthly dinner meeting at Tamarack Junction Casino, 13101 S. Virginia St, Reno, NV. This month's speaker will be James Ingrassia of Lithium Arrow LLC. The event will begin with cocktails, beer and wine at 7 PM, followed by dinner and presentation at 7:30 PM. Please [register here](#) for more details and to reserve your spot.

**January 31, 2022: NWRA—Nevada Water Resources Association—Water Rights in Nevada Workshop.** Click here to register: [WATER RIGHTS IN NV](#)

**January 31, 2022: NWRA—Nevada Water Resources Association—Excel for Hydrology Workshop.** Click here to register: [EXCEL FOR HYDROLOGY](#)

**January 31 to February 3, 2022: NWRA—Nevada Water Resources Association 2022 Annual Conference Week,** Tuscany Suites in Las Vegas, NV. Click here to register: [ANNUAL CONFERENCE](#)

**February 1, 2022: NWRA—Nevada Water Resources Association—Advance Water Rights in Nevada Workshop.** Click here to register: [ADVANCE WATER RIGHTS IN NV](#)

**February 1, 2022: NWRA—Nevada Water Resources Association—NV Well Drilling Regulations & Forms Workshop.** Click here to register: [NV WELL DRILLING REGS & FORMS](#)

**MARCH 17-26, 2022:** The Lowell Program in Economic Geology and the AGS at Univ. of Arizona announcing a NEW short course on Structural Geology for Exploration and Mine Geologist. Please contact **Rocio Brambila, Program Coordinator**, (520) 626-4962, [brambila@arizona.edu](mailto:brambila@arizona.edu)

**MAY 2-5, 2022: GEOLOGICAL SOCIETY OF NEVADA'S SYMPOSIUM 2022! Nugget Resort, Sparks/Reno Nevada.** Technical Sessions, Field Trips, Short Courses, Exhibits, Luncheons, Parties! Visit the Website for more information:

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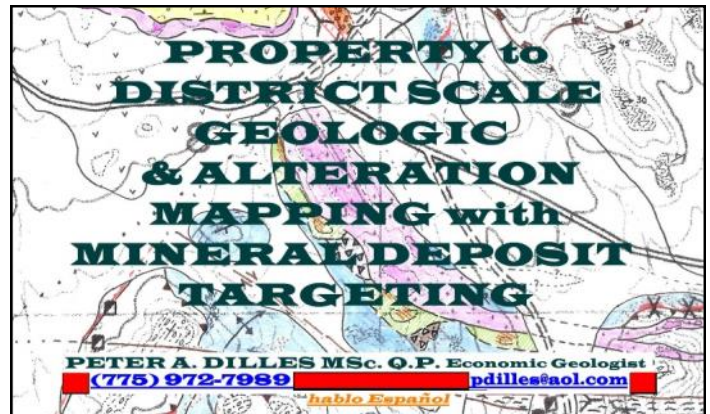


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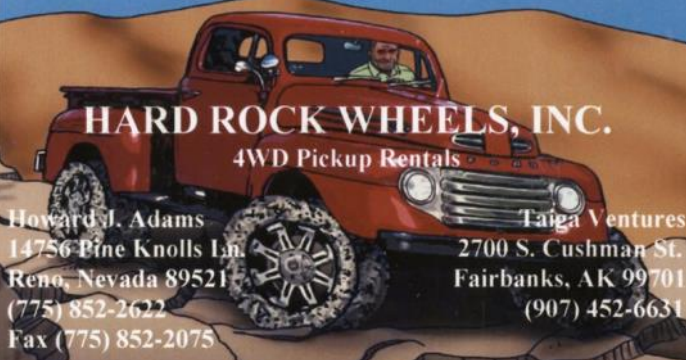
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