



GEOLOGICAL SOCIETY OF NEVADA NEWSLETTER

Geological Society of Nevada, 2175 Raggio Parkway, Room 107, Reno, NV 89512
(775) 323-3500 - Hours Monday -- Friday, 9 a.m. to 4 p.m.
Website: www.gsnv.org • E-mail: gsn@gsnv.org



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No May Meeting

GSN SO. NEVADA CHAPTER MEETING

The GSN Southern Nevada Chapter Meeting will not be hosting a meeting in May. Please see page 6 for slate of 2021-2022 chapter officers. For more information, please contact President Josh Bonde at: joshua.bonde@nvscicenter.org.

No May Meeting

GSN WINNEMUCCA CHAPTER MEETING

The Winnemucca Chapter Meeting will not be hosting a meeting in May. Please see page 6 for slate of 2021-2022 chapter officers. For questions, please contact Chapter President Chad Peters at: cpeters@ridgeline minerals.com.

MAY 20, 2021 THURSDAY Via Zoom

GSN ELKO CHAPTER MEETING

The GSN Elko Chapter meeting will be held on Thurs., May 20th at 7 p.m. **Speaker: Robbie Anderson, Gold Bull Resources. Title: "Advancing the Sandman Au Project".** Please contact Elko President Justin Milliard: justin.b.milliard@gmail.com for more information. Abstract and Zoom login info on page 7.

MAY 21, 2021 FRIDAY Via Zoom

GSN REGULAR MEMBERSHIP ZOOM MEETING

The GSN's May meeting will be held via Zoom on Friday, May 21st beginning at 6:15 pm for chatting. Talk begins at 6:30 p.m. **Guest Speaker: Dr. Poul Emsbo, USGS Denver. Title: "Sedex Hydrothermal Systems Triggered Upheavals to Marine Chemistry and Mass Extinctions: Applications for Ore Genesis Research and Mineral Exploration".**

Please contact Laura Ruud at the GSN office if you have any questions: gsn@gsnv.org. See page 3 for Zoom meeting log-in information.

A note from the GSN Symposium Technical Committee that there won't be anymore Symposium Zoom talks this year. Please visit the website if you'd like to watch any of the past talks though! www.gsnsymposium.org

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FROM THE PRESIDENT
Mary Stollenwerk, GSN President 2020-2021
MAY 2021



I first want to thank Bill Howald of Blackrock Silver for stepping in last month to give a great update on his project in Tonopah. For this month's speaker, I have conscripted my friend, Dr. Poul Emsbo, of the USGS in Denver to talk to us on his recent research on Sedex hydrothermal systems and marine chemistry. Please make plans to join in on the 21st, **as this talk will not be recorded.**

On the occasion of my last missive, I can report that GSN will survive my "pandemic presidency". With the dedication of the group, GSN succeeded in our principal objective: the advancement of geological sciences. In the face of a pandemic, GSN membership has remained strong at well over 1,200, the chapters are still alive, we stayed well under budget, scholarships were awarded, technical talks were presented, and field trips took place. We are on track for a delayed Symposium in May 2022, and are hopeful that we will begin meetings in person again by the fall. Thank you to all involved in the GSN Executive Committee, the Symposium Committee, the Foundation, the Chapters, the Board of Directors, and especially, Laura!

I don't think anyone has sent in photos of their GSN Backpacks in exotic locations lately. Here is mine ready to go snorkeling off the coast of Belize a few years ago! I wish everyone a fun, productive, and safe summer and field season.



GSN Virtual Talk: FRIDAY, MAY 21, 2021

Zoom Opens @ 6:15 PM, Talk begins @ 6:30 PM (Pacific)

(Zoom meeting details can be found below.)

Guest Speaker: Dr. Poul Emsbo, USGS Denver

Title: “Sedex Hydrothermal Systems Triggered Upheavals to Marine Chemistry and Mass Extinctions: Applications for Ore Genesis Research and Mineral Exploration”

Date/Time: May 21, 2021 at 6:15 PM Pacific Time (US and Canada)

Join Zoom Meeting:

<https://us02web.zoom.us/j/82651924031?pwd=RUxwYzBPZlpwYTNRsXY3a29lV0l1QT09>

Meeting ID: 826 5192 4031

Passcode: GSN

One tap mobile: +16699006833,,82651924031#,,, *986254# US (San Jose)

Dial by your location: +1 346 248 7799 US (Houston) or +1 669 900 6833 US (San Jose)

Meeting ID: 826 5192 4031 and Passcode: 986254

Poul Emsbo Abstract:

New USGS research reveals that the discharge of metal-rich brine that formed sedex deposits on ancient seafloors had profound effects on global ocean chemistry and biologic evolution. For example, brine expulsion caused short-duration positive excursions (“spikes”) in the global marine Sr isotope record. While these spikes are unexplained by conventional oceanic models, our chronostratigraphic correlations of major sedex events, combined with mass balance evidence and oceanographic modeling, confirm that the flux of radiogenic Sr from sedex brines during ore formation was sufficient to cause these once enigmatic $^{87}\text{Sr}/^{86}\text{Sr}$ spikes. Recognition that the timing of peak $^{87}\text{Sr}/^{86}\text{Sr}$ spikes correlates exactly with global $\delta^{13}\text{C}$ (and $\delta^{18}\text{O}$) spikes, climate change, deposition of metal-rich black shales and ironstones, metal-induced malformation (teratology) of marine organisms, and mass extinctions, establishes a causal relationship between sedex deposits and these dramatic events in earth history. The relationships among these features are not fully understood. However, our new model demonstrates that the flux of key biolimiting nutrients and metals contained in sedex brines exceeds that of the total modern riverine flux to the ocean. Presumably, these immense nutrient fluxes spurred ocean eutrophication, which, ultimately, through a series of positive feedback mechanisms, may be a previously unrecognized trigger of global ocean anoxic events (OAEs) that produced these chemical and biological perturbations. A derivative result from this integrative research is the recognition that OAEs resulted in the formation of “bathtub rim” deposits at redox boundaries along continental margins that concentrated various redox sensitive critical minerals. For example, we have identified midcontinent phosphorite deposits that contains heavy REE grades and tonnages that rival any REE deposit in the world.

The recognition that sedex-forming fluid expulsion events are recorded in the global marine isotopic, geologic, and biological records, defines a new approach to the study of, and exploration for, sedex deposits. Traditional ore genesis research, coupled with chronostratigraphic correlation and high-resolution $^{87}\text{Sr}/^{86}\text{Sr}$ isotope chemostratigraphy can be used to answer long-standing questions about geologic processes responsible for formation of these extraordinary deposits. This approach allows us to constrain, for the first time, the age, duration, and fluxes of fluids and metals vented into the ocean by these giant hydrothermal systems. Accordingly, the fact that large mineralizing events are recorded in the marine sedimentary record opens the tantalizing prospect that we have the ability to conduct effective resource assessments and define prospective basins elsewhere in the world. This innovative approach allows for identification of favorable stratigraphic ages and basins and remote evaluation of the size (and, thus, the mineral potential) of undiscovered mineral deposits. This methodology could be applied to regional basin-wide assessments, to evaluate sedimentary basin prospectivity, resource favorability of specific horizons in those basins, and to help evaluate the potential of early-stage prospects.

“FACES OF GSN”

Tom Anderson

Reno, Nevada

My earliest recollection of geology was sitting on the couch with my Father before going into 9th grade looking at a list of optional classes and one of them was geology. I had to ask my father what geology was and he told me and I signed up for the class. There was some related history before this as my Father, in all his wisdom, used to keep me out of the first week of classes after Labor Day so we could camp and hike in the Adirondack Mountains in New York State where he spent time growing up. On these trips I used to bring home interesting looking rocks that collected behind our garage.

When I entered high school at Berkshire School in western Massachusetts, I took the geology class. The highlight of the class was a field trip to southern New Hampshire where we visited an area where garnets were weathering out of the metamorphic rocks and accumulated like gravel on the unpaved roads. This observation impressed me and everyone in my family got several garnets about the size of the end of my thumb.

Following high school I entered Yale University as a chemical engineering major. I still don't know why I made that choice but, fortunately, took an introductory geology class and changed my major to geology going into my sophomore year and the rest is history. One funny story, related to the rocks behind our garage, was at some point in the first geology class, I realized that one of those rocks might be a meteorite from its weight and texture and called my Father that night to tell him. Well, he told me that he had poured some concrete steps that day and used my rock collection as the base for the concrete so I'll never know. I graduated in 1961. After my sophomore year, I worked in Milford, Utah doing geophysical surveying for sulfide deposits and staking claims for a subsidiary of Kennecott copper. As far as I know, our big discovery was a pipeline from a spring in the mountain to the former mining town of Frisco. The big discovery for me was that you could actually see outcrops in the western United States and I realized that, if I wanted to be a geologist, I needed to go west. After my senior year, I worked in Price, Utah for what is now Amoco Petroleum and we spent the summer measuring sections in the Uinta Basin and sampling the Green River Formation for pollen. The company figured that, since the pollen was distributed by wind, it could be used to correlate well samples across the lake basin.



Tom Anderson at Shark Bay, Australia

Initially, I didn't want to go to graduate school and looked for a job right after Yale but never got responses to the many letters that I wrote. Thus, applying to graduate school in the middle of that summer, I didn't get any positive responses and I went to Ohio State who had to take me because my parents lived in Columbus, Ohio. I left there after one year because they wanted me to take their summer field geology class which Yale had given me credit for because of the summer I worked in Utah. It's ironic that I have that in my background because I'm a firm believer in field geology and have spent 12 years teaching in the summer field program at the University of Nevada.

So, in the fall of 1962, I entered the University of Colorado for graduate school. I had met the Chair there the previous summer when I was working out of Denver and he told me that he couldn't give me an assistantship but could get me a part time job. One of the reasons that he took me was that the department, every summer, would bring in a well-known professor to teach a specialty class. The first summer I was in Boulder, I took a marine geology class given by a professor from Scripps Institute of Oceanography and did well which impressed the Chair and that was one of the reasons he took me into the department so late. I finished a Master's degree in 1965 with a thesis on lower Paleozoic rocks in the Mosquito Range just east of Leadville. I looked at a couple of oil company jobs at that point and chose to continue on at Colorado for a PhD. The department accepted that with the requirement that I study something completely different. Fortunately, one of my professors knew a professor at Scripps Institute of Oceanography who wanted someone to work on recent carbonate sediments that his group had collected in the Timor Sea between Australia and Timor. My fieldwork was spending a week or so in the core (continued on page 5)

T. Anderson, Face of GSN (continued from page 4)

laboratory at Scripps getting samples, which I took back to Colorado. I studied the mineralogy and geochemistry of the sediments and worked out the sediment patterns in the sea and finished in 1968.

Once again, I wanted to get a job and interviewed with a few oil companies and had two job offers. But, I was hooked on academia and applied for several teaching jobs and accepted a position at Sonoma State University in Sonoma County, California. Ironically, the young university had just approved a geology major, which included a class in sedimentology, but, at that point, they didn't have a sedimentologist. That year they had a consultant from the University of Washington visit the campus to talk about starting an oceanography program. Well, it turned out, of the two finalists for the geology position, I was the only one who had taken a marine geology class so I got the job. That one class in marine geology that I had taken to fill out a summer school schedule basically got me into graduate school and got me a job.



Tom Anderson at Siccar Point

I spent 38 years at Sonoma State University, mainly as the sedimentologist and was involved in starting a hydrology program and taught several field geology classes in addition to introductory geology, marine geology, and environmental geology. I also taught night classes at Santa Rosa Junior College for several years. There were several highlights in my career. The one I value the most was my association with many students, some of whom are now life long friends. My research there was studying turbidites along the coast west of the San Andreas Fault. Also, I studied Cambrian rocks in the Death Valley area, particularly microbial features in the Carrara Formation including a microbialite reef. At Sonoma State I participated in several field trips for students and the community. Starting in 2003, we took students to the famous Burgess Shale quarries in Yolo National Park in British Columbia where Charles Walcott discovered the famous Cambrian fossil locality with exceptional soft body preservation. Also, with a colleague, we annually took folks down the Colorado River through Grand Canyon. Another highlight, helped out by the National Science Foundation was participating in some field trips for undergraduate professors. In 1972, the trip went to Florida and the Bahamas to study the carbonates there and in 1992, studied the tectonics of the Appalachians from North Carolina to Newfoundland. Following that trip, I got a follow-up grant and took two students back to Newfoundland the following summer to study the Ordovician there and compare it to the Ordovician rocks we had studied in the Great Basin. I have also been fortunate to have studied rocks in Scotland including a field trip to the Old Red Sandstone and visited the stromatolite locality at Shark Bay in Australia.



**Tom Anderson, Walcott Quarry,
Burgess Shale**

I retired from Sonoma State in 2007 and moved to Reno for several reasons, not the least of which was that 4 of our five grandchildren live here. I knew the structural geologist in the Geology Department here, Rich Schweickert, who was directing the summer field geology class at the time. One of the projects then was at Point Reyes near Sonoma State University and he asked me to help out with that project in 2008. In our conversations prior to the class, I mentioned to Rich that I regretted never having taught stratigraphy in the Great Basin. His response was, "do I have a deal for you" and I started teaching that project in the summer field class too and have ever since. I consider that a wonderful way to end my teaching career getting to interact with many good students and see some fantastic geology. In fact, one of the locations we visited in southern Utah in the Navajo Sandstone so impressed me that, with a colleague, we led a field trip to that area from the GSA Annual Meeting in Phoenix in 2019. Also, I became an Adjunct Professor in the department and co-taught a graduate class in carbonate petrology with Gina Tempel in 2008. In the fourteen years that we have lived in Reno, I have been fortunate to be involved with GSN and NPGS and have met a lot of nice folks and learned lots of new geology. Field trips with GSN have been particularly instructive.



GSN SO. NEVADA CHAPTER



The GSN Southern Nevada Chapter is done with meetings for this year. They hope to start up again in the Fall with in-person meetings and a new venue!

Thank you to the Chapter Officers for their service for this year. Simon Jowitt, Vice President, Paul Bowen, longest serving Treasurer ever, Becky Hall, Secretary, and especially to Josh Bonde, Southern Nevada President for keeping the Chapter going with great speakers all year and financial support during this pandemic year.

SOUTHERN NEVADA CHAPTER OFFICERS WILL REMAIN THE SAME FOR 2021-2022;

JOSHUA BONDE—PRESIDENT

SIMON JOWITT—VICE PRESIDENT

PAUL BOWEN—TREASURER

BECKY HALL –SECRETARY

If you have any questions or would like to help with the Chapter next year, please contact Josh Bonde at: joshua.bonde@nvscicenter.org.



GSN WINNEMUCCA CHAPTER



The GSN Winnemucca Chapter is also done with meetings for this year. They hope to host their annual picnic in August after having to cancel it last year.

Thank you to the Chapter Officers for serving during this odd pandemic year. Gabriel Aliaga, Vice President, Andrew Smith, Treasurer, Rose Ryan, Secretary, JoAnn Newbury, Membership Chair, and special thanks to Chad Peters for stepping and volunteering last year when the Chapter was having a difficult time finding a President!

WINNEMUCCA CHAPTER OFFICERS WILL REMAIN THE SAME FOR 2021-2022:

CHAD PETERS—PRESIDENT

GABRIEL ALIAGA—VICE PRESIDENT

ANDREW SMITH—TREASURER

ROSE RYAN—SECRETARY

JOANN NEWBURY—MEMBERSHIP CHAIR

If you have any questions or would like to help with the Chapter next year, please contact Chad Peters at: cpeters@ridgeline minerals.com

GSN Elko Chapter—May 2021 Update

The Elko GSN Chapter is excited to host our final virtual speaker for the year!

At our regular scheduled date and time, **Thursday, May 20th at 7pm:**

Robbie Anderson from Gold Bull Resources is speaking on advancements of the Sandman Project.

Title: “Advancing the Sandman Au Project”

Zoom Login Info: Digital Media Chair is inviting you to a scheduled Zoom meeting.

Topic: GSN Elko May Meeting - Robbie Anderson - Sandman Deposit

Time: May 20, 2021 07:00 PM Pacific Time (US and Canada)

Join Zoom Meeting

<https://us02web.zoom.us/j/89802292173?pwd=SDVYM0s0bEUyeIZUTEJyUkpOQWxGdz09>

Meeting ID: 898 0229 2173

Passcode: Robbie

One tap mobile: +12532158782,,89802292173#,,,,*850450# US (Tacoma)

+13462487799,,89802292173#,,,,*850450# US (Houston)

Dial by your location

+1 253 215 8782 US (Tacoma)

+1 346 248 7799 US (Houston)

+1 669 900 6833 US (San Jose)

+1 301 715 8592 US (Washington DC)

+1 312 626 6799 US (Chicago)

+1 929 436 2866 US (New York)

Meeting ID: 898 0229 2173

Passcode: 850450

Find your local number: <https://us02web.zoom.us/j/89802292173?pwd=SDVYM0s0bEUyeIZUTEJyUkpOQWxGdz09>

R. Anderson, Abstract:

Gold Bull Resources Corp. recently acquired 100% interest in the Sandman Au project from Newmont in December 2020. An updated NI43-101 mineral resource estimate was completed in January of 2021 on the four known, pit-constrained Au resources for a total of 21.8 Mt at 0.7gpt—containing 494,000 oz Au. Several of the resources remain open and additional areas of mineralization have been identified within the project area. Exploration and drilling activities are currently ongoing with encouraging results.

Located ~12 miles northwest of Winnemucca, Nevada, Sandman lies along the north-northwest trending eastern margin of the Kings River Rift. This regional aeromagnetic and gravity linear high strikes south from the ~16.4 Ma McDermitt Caldera at the Idaho-Nevada Border through the previously producing Sleeper Au-Ag mine—14 miles to the north—and undeveloped Goldbanks Au deposit—30 miles to the south. These low-sulfidation, quartz-adularia epithermal deposits are contemporaneous with mid-Miocene rifting, with Ar/Ar dating of adularia at Sandman returning ages of ~16.2 to ~16.5 Ma.

Mineralization at Sandman is hosted predominantly within mid-Tertiary volcanic, volcanoclastic, and fluvial rocks and lesser basement Triassic metasedimentary rocks and late Mesozoic intrusions. The deposits with established resources include North Hill, Silica Ridge, Southeast Pediment and Abel Knoll, with additional epithermal mineralization/alteration (continued on page 8)

GSN Elko Chapter — May 2021 Update Continued

GSN Elko Chapter Abstract, R. Anderson (continued from page 7)

recognized at Adularia Hill, Rembrandt, K8 and Ten Mile.

Hosted entirely by mid-Tertiary volcanics—mineralization at Adularia Hill, North Hill, Silica Ridge, and Southeast Pediment is both structurally and stratigraphically controlled. Abel Knoll is hosted by a mid-Tertiary diatreme composed of andesite, base-met phyllites and tuffaceous wall rocks with mineralization also stratigraphically controlled in adjacent Triassic metasedimentary rocks. Au at Rembrandt is associated with structurally controlled rhyolite dikes intruding metasedimentary rocks while at Ten Mile, mid-Miocene epithermal mineralization overprints late Mesozoic mesothermal Au-Ag + base-metal mineralization that is structurally controlled and hosted predominantly by a late Mesozoic granodiorite stock and associated hornfels. Mineralization at the K8 target is hosted entirely by Mesozoic granodiorite cross cut by mafic dikes of an inferred Miocene age.

Excluding the Ten Mile deposit and K8 target, mineralization at Sandman occurs along north to north-northwest extensional structures along the margins of an Early to Middle Miocene structural graben. Intersections with older east and northeast structures and the presence of Early Miocene mafic dikes, sills and flows also played a critical role as fluid conduits. Post-mineral structural offset has affected all deposits to some degree.

Subtle topography limits outcrop exposures of mid-Tertiary rocks to capping mafic flows within the Basalt and Little Basalt Hills and more resistant quartz-adularia altered ridges occurring in the northwest of the project area. Additionally, extensive Quaternary deposits of the Crescent Dune Field cover much of the northern part of the property.

Outcrop and trench mapping combined with data from drill core and reverse circulation chip logging has led to the recognition of three (+) distinct tuff units within the Sandman stratigraphic section allowing for correlation of variable stratigraphy from deposit to deposit and providing regional context. Petrography, trace element geochemistry, and radiometric age dating has been utilized to create detailed stratigraphic columns for the project area. This work provides a detailed summary of Oligocene to Middle Miocene Tertiary rocks within an area of overall poor exposure, documents the furthest north occurrence of the regional Nine Hill Tuff, and establishes the presence of a major Oligocene-Miocene paleo-drainage. This stratigraphic context is helping to unravel the pre-, syn, and post-mineral structural context of the Sandman project area and advancing exploration targets under cover and at depth.

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The Elko GSN Chapter is happy to announce we have a unanimous “FOR” vote, confirming our full slate of officers for the June 1, 2021- May 31, 2022 year.

**President: Justin B. Milliard**

**Vice President: Luke Schranz**

**Treasurer: Aryn Hoge**

**Secretary: Allison Mastenbrook**

**Membership Chair: Andrew Belot**

Our Elko Chapter Officers and Members would like to congratulate our scholarship recipients for the 2021 year, the sixth class of recipients!

Although we only received one donation last year in a Covid-induced slump, we were able to use funds from previous years of generous donations + silent auction fund raising in addition to a matching donation from the GSN Foundation to award \$10,000 to eight recipients.

(See page 9 for Scholarship winners and more Elko info!)



## GSN Elko Chapter — May 2021 Update Continued

| 2021-2022 Scholarship Recipients | School    | Project                                                                                                                                                     |
|----------------------------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Alexander Paul Holmwood          | UNR-MS    | Temporal evolution of the Majuba Hill Cu-(Sn) deposit                                                                                                       |
| Atticus Proctor                  | UNR-MS    | Overview and Characterization of the Deep High-Grade Four-mile Gold Deposit in the Cortez District, Nevada                                                  |
| Emily Jean White                 | TX AM-PhD | Petrogenesis and Low-Temperature Thermochronology of Jurassic–Eocene Plutons in Eastern Nevada: Implications for the Formation of Carlin-Type Gold Deposits |
| Grant Cameron McKnight           | UNR-MS    | Volcanic Stratigraphy and Varietal Au-Ag-Cu-Hg-S° Deposits in the Monitor-Mogul Mining District, Alpine County, CA                                          |
| Kurt Otto Kraal                  | UNR-PhD   | Tungsten Mountain Geothermal Field                                                                                                                          |
| Neal Edward Mankins              | UNR-MS    | The Robertson Deposit: Eocene Intrusion Related Gold Deposit in the Northern Shoshone Range, Nevada                                                         |
| Sarah Rose Shapley               | UNR-MS    | The Cove Deposit and the Origin of Carlin Style Deposits (McCoy Mining District)                                                                            |
| Steve R. O'Connel                | UNR-MS    | Spatial and Temporal Relationship of Dikes and Mineralization in the Bare Mountain Mining District, Nevada                                                  |

Just a reminder of the positive impact these funds have upon emerging research projects in the Great Basin Plus the reciprocity shown by students whom have volunteered to present their findings to the GSN Membership!

Thanks to the numerous student presenters this past year who made our virtual GSN meetings a success.

**Christian Thomas, Nicholas Hillemeier, Luke Schranz, Andrew Steiner, Lucas Monroe and Anne Fulton.**

Last but certainly not the least, we are planning to kick off the year by continuing our Adopt A Highway commitment by doing a round of spring cleaning along the shoulder of NV-227.



Date: June 5<sup>th</sup>

Time: 8 to 11 am

Location: Meet at the corner parking lot of Licht Parkway and the Lamoille Highway.

40°44'19.1"N 115°37'13.0"W

40.738627, -115.620276

Thank you,

Justin Milliard, GSN Elko President

# NEWS FROM THE FOUNDATION

By Cami Prenn, GSN Foundation Chair

May is the end of the fiscal year for the Foundation so reviewing our activity for the year seems in order. Despite the shutdown of all in-person activities we managed to have a profitable year, thanks to our generous donors and Christmas Auction winners. We raised over \$25,000 and continued to fund our regular programs with the exception of the K-12 Field Trips. The three scholarships featured in last month's newsletter are separate from the rest of our budget.

To recap our expenses:

|                                        |                 |
|----------------------------------------|-----------------|
| UNR Foundation GSN Scholarship         | \$ 2,000        |
| UNLV Foundation GSN Scholarship        | \$ 2,000        |
| Support for Elko Grad Student Projects | \$ 5,000        |
| UNR Field Camp Scholarship             | \$ 2,800        |
| Brian Morris Scholarship Support       | \$ 5,000        |
| Business Costs                         | <u>\$ 1,250</u> |
|                                        | \$18,050        |

We hope to see the K-12 Field Trips start up again as schools reopen and get back to regular programs. Many students benefit from their field trip experiences when they see Earth Science up close. The Foundation is putting our funds to work in ways that allow Geology students to achieve their educations and contribute to the work force and the body of knowledge about geology in Nevada and beyond.

We hope you have a great summer and plenty of positive field experiences!



When I grow up I want to be...  
(a Geologist)



## GSN Logoed Masks For Sale Online! \$10 each + \$3 shipping

**These Stormtech Performance Face Masks have 3-layer protection with anti-bacterial filter built in. Flexible nose bridge, ultra-soft elasticized & adjustable ear loops, machine washable & reusable!**

**Online ordering available now in the GSN Store online:**

**<https://www.gsnv.org/shop/gsn-mask/>**



**Geological Society of Nevada**  
***“Vision for Discovery: Geology and Ore Deposits of the Basin and Range”***



***GSN 2022 Symposium Call for Papers***  
***And***  
***Call for Confirmation of Intent to Present Talks Accepted for 2020***

The GSN 2022 Symposium Technical Committee is engaged in updating and confirming the programs of talks and posters planned for the week of May 2<sup>nd</sup>, 2022 at the Nugget Casino Resort in Sparks, Nevada. In the two field seasons following the postponement of Symposium 2020, work has continued on projects included in the original program and new projects have emerged. The ongoing work presents opportunities for the symposium to feature presentations that are current with research and provide an outlet for studies that have concluded. Accordingly, the Technical Committee is inviting submission of updated and new abstracts for talks and posters. Also, the committee is seeking confirmation from authors of presentations, submitted for 2020, of their intent to participate in the programs for 2022. We understand that some presenters who prepared abstracts for the 2020 symposium might not be available for 2022 due to continued meeting or travel restrictions or to changing priorities. Options for virtual presentations to accommodate such authors are in review.

In 2022, final abstracts will be available in the 2022 Program with Abstracts as paper copy or digital download. Papers new for 2022 will be published in an addendum to the 2020 proceedings. At present, the committee plans to publish the addendum for digital download and, possibly, as a limited edition softbound paper volume. A schedule for release of the proceedings is under review.

*If your 2020 abstract will be acceptable for 2022, you do not have to revise. Those scheduled speakers/poster presenters who did not write a paper for 2020 are encouraged to do so for the 2022.*

*If you plan to update your 2020 paper for 2022 please be sure that it is substantially new data, material, or interpretation. Duplicated 2020 versions for 2022 will not be accepted. Please indicate the new material and discuss with us. You may rewrite your 2020 abstract to include a small or large amount of new material for 2022 for your talk &/or poster.*

**DUE DATES SUMMARIZED**

**Draft Abstract Due: AUGUST 1, 2021**

**Final Revised Abstracts Due: MARCH 1, 2022**

**Draft Manuscripts Due: OCTOBER 31, 2021**

**Final Revised Manuscripts Due: MARCH 15, 2022**

*Final revised papers in by March 15 should be available at least in digital download at the May 2022 Symposium. Those and later finalized papers should be available for purchase by late-summer 2022 as both digital downloads, USB or a soft-bound Proceedings Volume. We will be rather strict about these due dates.*

## *Mining Activity Update*

Mike Brady, MARCH 2021

[LMB Brady@aol.com](mailto:LMB Brady@aol.com)

### NEVADA

IM Exploration Inc. announced that it acquired an option to earn a 100% interest in the Toiyabe Property from Starcore International Mines Inc. for \$150,000 cash and \$4,100,000 in shares over 2 years. (resource = 4,523,000 tonnes @ 1.19 gpt Au inferred) *Press Release:* March 1

First Majestic Silver Corp. announced that it acquired the Jerritt Canyon Property from Sprott Mining for \$470,000,000 in shares. *Press Release:* March 12

Gold Bull Resources Corp. announced that recent drill results at the Sandman Project include 65.5-210.3 meters @ 1.67 gpt Au (SA01). (resource = 18,550,000 tonnes @ 0.73 gpt Au indicated) *Press Release:* March 21

Moneghetti Minerals Ltd. announced that it acquired an option to earn a 100% interest in the Ecu Property from Orogen Royalties Inc. for \$2,500,000 cash and \$5,000,000 in exploration expenditures over 6 years. *Press Release:* March 8

Corvus Gold Inc. announced that recent drill results at the Mother Lode Project include 242.93-247.5 meters @ 1.84 gpt Au (ML20-161CT) and 245.28-283.57 meters @ 2.15 gpt Au (ML20-162CT). (resource = 13,226,000 tonnes @ 1.72 gpt Au measured+indicated) *Press Release:* March 25

Golden Predator Mining Corp. announced that it offered to acquire Viva Gold Corp. through a 1.0 share Golden Predator/1.6 share Viva exchange. (resource @ Tonopah = 12,830,000 tonnes @ 0.79 gpt Au measured+indicated) *Press Release:* March 3

Contact Gold Corp. announced that recent drill results at the Green Springs Project include 75.29-97.79 meters @ 0.64 gpt Au (GSC20-03); 117.35-135.94 meters @ 0.31 gpt Au (GSC20-08) and 96.17-115.83 meters @ 1.53 gpt Au (GSC20-09). (resource = 754,500 tonnes @ 2.05 gpt Au inferred) *Press Release:* March 24

Soldera Mining Corp. announced that it terminated its interest in the Tuscarora Property of American Pacific Mining Corp. (resource = 1,186,000 tonnes @ 1.22 gpt Au inferred) *Press Release:* March 22

Blackrock Silver Corp. announced that recent drill results at the Tonopah West Project include 400.8-403.9 meters @ 4.78 gpt Au, 286 gpt Ag (TW21-054); 317.0-318.5 meters @ 1.29 gpt Au, 94.5 gpt Ag (TW21-058) and 397.8-400.8 meters @ 6.15 gpt Au, 388 gpt Ag (TW21-062). *Press Release:* March 18

New Placer Dome Gold Corp. announced that recent drill results at the Kinsley Mountain Project include 294.1-300.2 meters @ 4.83 gpt Au (KMR20-08); 283.5-295.7 meters @ 1.74 gpt Au (KMR20-09); 209.4-330.7 meters @ 3.38 gpt Au (KMR20-16) and 320.0-358.1 meters @ 2.63 gpt Au (KMR20-17). (resource = 5,529,000 tonnes @ 2.27 gpt Au indicated) *Press Release:* March 23



## **The GSN Field Trip is Full!**

**Geological Society of Nevada  
Spring 2021 Field Trip**

**Saturday and Sunday May 15-16, 2021  
Yerington Mining District**

Please contact Laura Ruud if you'd like to get your name on the waiting list. Email: [gsn@gsnv.org](mailto:gsn@gsnv.org)



**Thank you to all GSN members who voted in the election of your officers!**

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**(TERMS BEGIN June 1, 2021)**

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### **\*\*\*INFORMATION\*\*\***

**[www.gsnsymposium.org/](http://www.gsnsymposium.org/)**

**Office Manager phone: 775-433-8758**

***GSN has rescheduled the in-person meeting to Spring 2022 to assure the health and safety of our members and attendees. We appreciate your continued interest and support in the transition to the 2022 dates. There will likely be changes to the Technical Program, Field Trips and Short Courses. We have received support from those involved to accommodate changes.***



### **NEVADA LEGISLATURE TAX AMENDMENTS PROPOSED**

*In the 2020 Nevada special legislative session, two Assembly proposals (AJR1\*\*, AJR2\*\*) and one Senate proposal (SJR1\*\*) were introduced to amend the Nevada Constitution to revise provisions governing the taxation of mines, mining claims and the proceeds of minerals extracted in the state. For more information on each of these proposed amendments please click on the following link: <https://www.leg.state.nv.us/App/Opinions/81st2021/>*

**From Facebook Group: [Nevada History through Pictures, Collections and Personal Stories](#)**

An old film photo from about 1990 of the "working end" of an old and very unusual rotary-cam stamp mill, with the stamps arranged in a circle rather than the usual straight line, that stood . . . and maybe still does , . . at the north end of Virginia City. I can't seem to find one of the entire machine, but do have one of the "building" it lived/lives in.

Post & Photo credit: Karl Larson





## ROCK TALK

### A REMEMBRANCE by GSN MEMBER, TOM NIMSIC

IN 1974 AT LUNDY LAKE, A BEAR FELL FROM A TREE, THROUGH THE ROOF INTO OUR COOK TENT, BROKE INTO OUR REFRIGERATORS, ATE OUR LENTILS, AND MADE A BIIIIIG MESS! 🌈

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(Not actual bear that fell on Tom's camp! Photo credit: Mark Garfinkle, Boston Herald-2012)

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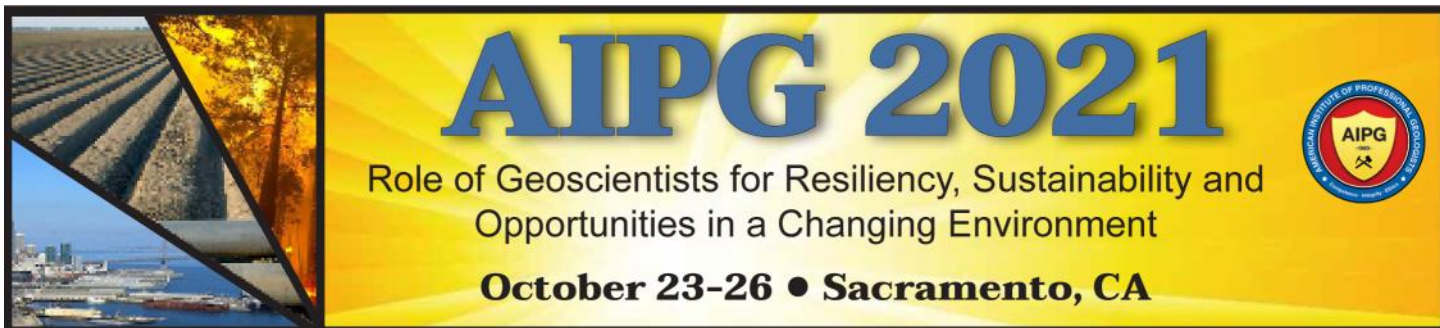
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AIPG will host its National Conference as an in-person event experience where all individuals onsite, including attendees, guests, speakers, staff, and venue personnel, remain safe and comfortable throughout our event. We are continuing to monitor the COVID-19 pandemic through federal, state, and local authorities. Website: <https://aipg.org/page/2021CANationalConference>



The GSN is proud to be a sponsor of the Tonopah Historic Mining Park's Community Summer Soiree! We will have a GSN table set up at the park and we'd love to see our members who are in the area!

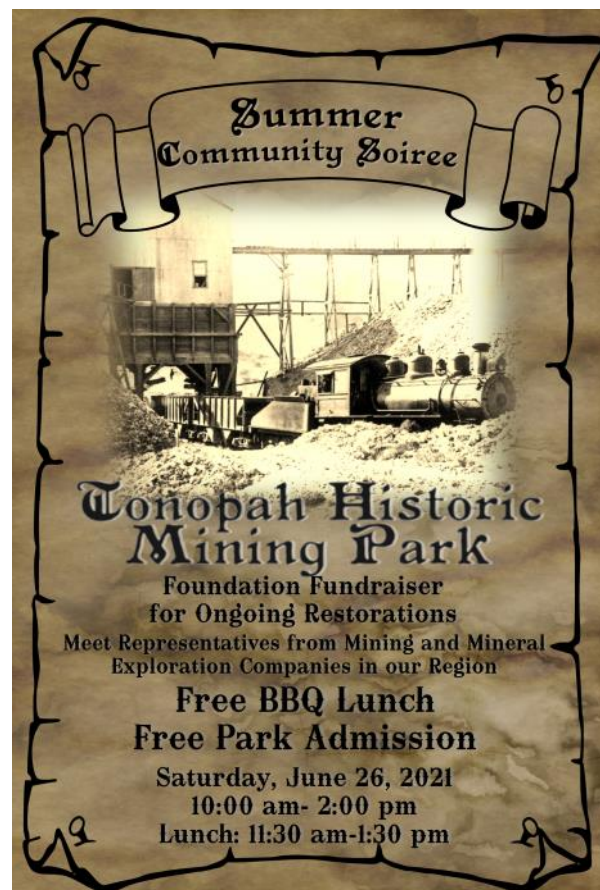
June 26, 2021 from 10:00 a.m. to 2:00 p.m.



This photo is from the archives of the Central Nevada Historical Society showing the newly constructed Tonopah Railroad Depot at Tonopah in 1904. The Tonopah Railroad, a narrow gauge railroad, operated from 1904 to 1905. It was standard gauged in 1905.

"The plans for the structure follow the latest designs of the Southern Pacific company and show a handsome building two stories high for the passenger depot and a single story for freight."

– W. W. Booth, Tonopah Weekly Bonanza, July 23, 1904





## OTHER UPCOMING EVENTS

**May 3, 2021— DREGS** This month's meeting: Virtual Meeting on Zoom.

**Speaker:** Dr. Thomas Monecke, Colorado School of Mines. **Title:** "Exploration guidelines for VMS deposits".

**Join Zoom Meeting:** <https://zoom.us/j/98034597386?pwd=YkpHZGozQjZROGY1bkR6M2cwYlFpUT09>

**Meeting ID:** 980 3459 7386

**Passcode:** 461578

**May 6, 2021—Nevada Petroleum & Geothermal Society, Reno, NV.** NPGS Meeting will take place via Zoom on Thurs., April 1st starting at 7:00 PM. **Speaker will be** Robert Selwood of Ormat, whose talk is titled: **"The Exploration History and Conceptual Model of the Gerlach Geothermal System"**. [Click here to register online](#) and reserve your seat. A \$10 donation is requested, \$5 for students. **Contact Rick Zehner for information:** [zehner@yahoocom](mailto:zehner@yahoocom)

**May 13, 2021 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. For more information email: [NNevSME@gmail.com](mailto:NNevSME@gmail.com)

**May 12-14, 2021—2021 GSA Cordilleran Section Meeting.**

[https://www.geosociety.org/GSA/Events/Section\\_Meetings/GSA/Sections/cd/2021mtg/home.aspx](https://www.geosociety.org/GSA/Events/Section_Meetings/GSA/Sections/cd/2021mtg/home.aspx)

This meeting will be held virtually to ensure everyone's health. It is being hosted by our colleagues at the University of Nevada, Reno. Meeting General Chair is Stacia Gordon, [staciag@unr.edu](mailto:staciag@unr.edu)

**May 19-20, 2021—The Northern Miner Investment Conference.** The Northern Miner is thrilled to invite you to this critical industry virtual event taking place on **May 19th and 20th**. We're preparing an insight-packed agenda that's sure to outline a valuable perspective for the times ahead. [Register for free](#) to save your spot.

**October 23-26, 2021 AIPG Annual Meeting; Role of Geoscientists for Resiliency, Sustainability and Opportunities in a Changing Environment, Sacramento, CA.**

Submit abstracts at <https://aipg.org/page/2021CACallforAbstracts>

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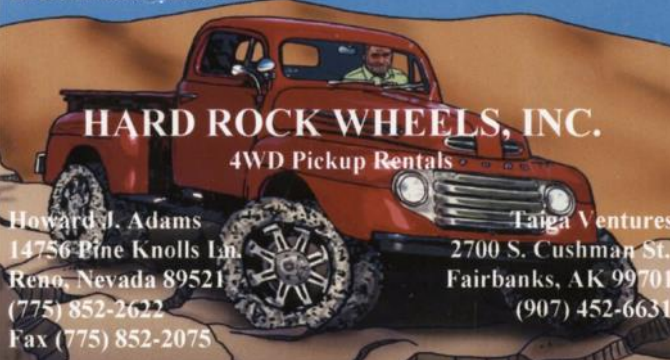




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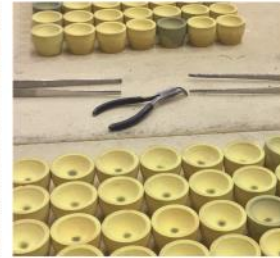
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