



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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APRIL 8, 2021
THURSDAY
Via Zoom

GSN SO. NEVADA CHAPTER MEETING

The GSN Southern Nevada Chapter Meeting will be held on Thurs., April 8th at 5:45 pm. **Speaker: Mark Hausner, Desert Research Institute.** Title: "Filling in the data gaps: using the Landsat archive and gridded climate data to assess recent ecological change". For questions, please contact President Josh Bonde at: joshua.bonde@nvscicenter.org. Abstract on pg. 6.

APRIL 14, 2021
WEDNESDAY
(TENTATIVE)
Via Zoom

GSN WINNEMUCCA CHAPTER MEETING

The Winnemucca Chapter Meeting will tentatively be hosting their virtual meeting on Wednesday, April 14th at 7:00 p.m. **Speaker and Topic to be Announced.**

For questions, please contact Chapter President Chad Peters at: cpeters@ridgeline minerals.com.

APRIL 15, 2021
THURSDAY
Via Zoom

GSN ELKO CHAPTER MEETING #1

The GSN Elko Chapter meeting will be held on Thurs., April 15th at 7 p.m. **Speaker: Lucas Monroe from Auburn University.** Title: "Using Petrographic and Geochemical Analyses to Elucidate the Genesis of Au-Ag Epithermal Deposits on Florida Mountain, Silver City District, Idaho". Please contact Elko President Justin Milliard: justin.b.milliard@gmail.com for more information. Abstract and Zoom login info on page 8.

APRIL 16, 2021
FRIDAY
Via Zoom

GSN REGULAR MEMBERSHIP ZOOM MEETING

The GSN's March meeting will be held via Zoom on Friday, April 16th beginning at 6:15 pm for chatting. Talk begins at 6:30 p.m. **Guest Speaker: Matt Leybourne, Queen's University. Topic: To Be Announced.** 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.

APRIL 22, 2021
THURSDAY
Via Zoom

GSN ELKO CHAPTER MEETING #2

The SECOND GSN Elko Chapter meeting will be held on Thurs., April 22nd at 7 p.m. **Speaker: Anne Fulton from the Colorado School of Mines. TITLE: "New insights into Carlin-type ore mineral zoning on the micron scale based on NanoSIMS analysis".** Please contact Elko President Justin Milliard: justin.b.milliard@gmail.com for more information. Abstract and Zoom login info on page 9.

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.gsn Symposium.org



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

The Monthly Membership Meetings continued into 2021 with a lively pod-caste style presentation with Stan Keith and Troy Tittlemier of MagmaChem, complete with a visit by Stan's 5 foot pet Iguana. This month, Dr. Matthew Leybourne of Queens University is planned to speak on a topic TBD.

See update on Symposium on page 11.

For Chapter activities see page 8-10 for Elko, page 7 for Winnemucca, and page 6 Southern Nevada.

Spring Field trip is a go – see page 12 for information.

It has been a year since we had to “lock down”. Those months of uncertainty last year gave way to a full year of plodding ahead. Now it is spring again, with field seasons planned and rigs turning. I had to laugh – we “Essential workers of mining and critical infrastructure” were eligible to sign up to a vaccine in Washoe County a whole 6 days ahead of “Everyone over 16”. It's almost like an April Fool's joke! Watch out for those chip trays full of crushed bricks, or that piece of kimberlite placed in your core box of upper plate, as there may be some tricksters among you today!

But I am going to go back two years for today's presidential ramblings. Derreck and I were on our way to one of our trips of a life time – a float down the Grand Canyon in a boat full of geological characters, a plethora of booze, and a veritable library of canyon references sealed in a cooler. We spent 9 days off line, but tuned in to that stratigraphic column, the great unconformity, columnar basalts, and erosion. Each night, after enjoying the culinary delights prepared by our crew, we would read excerpts of Powell's journals from his trip in 1869, or accounts from García López de Cárdenas in 1540, or the adrenaline charged descriptions from Kevin Fedarko's “The Emerald Mile”. The juxtaposition of their rough experience against our catered glamping made me wonder – how will people be enjoying this experience 200 years from now?



The Grand Canyon's Colorado River - between Glen Canyon Dam and Lees Ferry. NPS/M.Quinn

GSN Virtual Talk: FRIDAY, APRIL 21, 2021

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

(Zoom meeting details can be found below.)

**Guest Speaker: Matt Leybourne, Geochemistry Professor
Queen's University, Kingston, Ontario**

Title: To Be Announced

Date/Time: April 16, 2021 at 6:15 PM Pacific Time (US and Canada)

Join Zoom Meeting:

<https://us02web.zoom.us/j/85401256144?pwd=aUYzNzNQOUlHR0VrM0JwcmhCOGRxZz09>

Meeting ID: 854 0125 6144

Passcode: 311044

One tap mobile:

+16699006833,,85401256144#,,, *311044# US (San Jose)

Dial by your location: 1-669-900-6833 (San Jose); 1-253-215-8782 (Tacoma)

Meeting ID: 854 0125 6144

Passcode: 311044



“FACES OF GSN”

Jim Greybeck

Reno, Nevada

I grew up in the “coalfields” of Pennsylvania and Kentucky and lived in coal mining “camps” and started high school when living in Stone, KY. My first trip into a mine was at five years old and I remember the fascination of loading onto the tram and heading into the darkness at the portal. I suppose that I was destined to become a geologist as my family reminds me that even as a toddler, I carried a “lucky stone” in my pocket.

After this last year of quarantine, I’m sure that I was lucky to have the mountains as my playground and since my family enjoyed outdoor activities, hiking, camping and fishing were a part of life that I continue to enjoy. I was a Boy Scout and learned outdoor skills on my way to earning my Eagle rank during the Nixon administration. I loved maps and learned to navigate and read maps while a youngster.

I ended up graduating HS from a small town in Southern Illinois and attended SIU-Carbondale for my undergraduate degree. I started out as an engineering student but after taking Geology 101, I was hooked on rocks. In college, I found work with a tree trimming outfit and this provided some great experience with a variety of equipment and machinery. During the summers I worked as a miner in underground coal and later, in shaft construction. One tip there... if other experienced miners start to run for cover during blasting... go with them!

Though SIU-C was a “soft-rock” school I was more focused on aspects of economic geology in the world of hard rocks. The mines that were close enough, for field trips, included the iron mines in Missouri and the MVT deposits of the Viburnum Trend. Fluorite deposits are known in the region as well and I recall picking fluorite in driveway gravels while working in the tree-trimming business.

In my last couple years at SIU, I worked with the economic professor to create my own “hardrock economic” courses and this really whet my appetite for the economic geology. My last class at SIU was the Field Course, based out of Red Lodge MT at the YBRA-Princeton Field Camp. (I recently learned of other YBRA alumni in the GSN). Field work focused on mapping of stratigraphy and structure. As this was my final course, I chose to stay at the camp and work for a couple weeks to put together some travel money and then continue west from Red Lodge to look for work with mining companies in Spokane.

I loaded my backpack and arranged a ride to Billings, stuck out my thumb and camped the night on the continental divide. The next morning, at a café, I met a chap headed through Spokane so, he dropped me off 300 miles from my morning start. As it turned out, this was not a particularly good time to seek work in Spokane. One geologist packing up an office mentioned a company called Bear Creek that might be hiring, so I added this to my list of stops though I hadn’t heard the name. A long story short.. the next week I was driving back over the continental divide in a BCMC company truck.



My next assignments were mapping, sampling, drilling projects in Montana, Wyoming and eventually Nevada. My first core drilling project was at Talapoosa, where I was also introduced to the Great Basin rattler!! These are smaller than the Eastern Diamondbacks but more pesky, I thought...

Over the winter in Spokane, after my first NWMA meeting, I plotted some geochem values on a base map of the Bingham Canyon area. Apparently, the distribution of the assays for gold had never been fully assessed. I was part of the soil-sampling team that led to the discovery of Barneys Canyon and Melco. With new company direction and changed management, the scene at BCMC closed for me. Not a good time to look for work... Once again got a tip ...that Cordex might be hiring... I carried my resume to an office, upstairs from an auto glass shop...and had an interview with John Livermore. I followed up shortly (continued on page 5)

Face of GSN, Greybeck (cont. from page 4)

after with the Senior Geologist, Andy Wallace, who hired me for a mapping and sampling job near Reno, in the same rocks as Talapoosa and later assigned me to exploration drilling at the Boulder Creek project.



This was my first exposure to grid-drilling of Carlin mineralization and the many facets to be addressed on the path from project to mine. Serving as a “de facto” watchman, I was “cruising” the property near sunset and I saw a different looking outcrop in an unsampled dozer cut that turned out to be a richly-mineralized dike. These dikes seemed important at Dee... I also had a chance to hang around the test heaps and lent a hand in the nights with the test column work while learning about the leach recovery process.

I had hoped to work a couple years in the industry doing field work, then return to grad school and I chose the University of Idaho (Moscow). A lot of grad students had worked in the Nevada, so we enjoyed many great conversations from our varied adventures. Generously, Cordex employed me as I worked on my thesis at Dee Gold. I have many recollections of watching the enthusiasm that John L. had during the drilling and development and some of the unusual insights that Frank Bergwall had in the geology at Dee Gold. I attended the mine opening a month or so before I defended my thesis.

As I completed my course work at Moscow, I spoke with Andy Wallace, now manager at Cordex and he mentioned a new project that needed detailed surface and underground mapping and sampling. This project was located on the north flank of Bare Mountain, east of Beatty. One day, when mapping underground at the Daisy Mine, the miners and I were “held” at the surface during one of the last nuclear tests conducted at NTS.

The Daisy Project was named after the underground fluorite mine, discovered by the owner’s grandfather who left Cripple Creek to look for gold near the fluorite near Beatty. Good idea, a 100 years early. Previous interest at Fluorspar Canyon, at his time, was mineralization that occurred in the hanging wall of the detachment fault and had 21 drill holes in what would become the Secret Pass deposit. Initial work by Cordex also identified gold-bearing jasperoids and sanded limestones in the Cambrian sediments. By the time I left the project, there were 500 holes and three open pits that included the Mother Lode that was discovered on the adjacent claims in my Beatty tenure.

Though my focus was at Daisy, I also worked on numerous other projects for Cordex from 1985 to 1999 in the western US. Mapping, sampling, drilling.. we did that a lot in those days. After Glamis closed the Daisy project, due to metal prices, I had the chance to return to Marigold and explore for satellite zones, including Millennium. I also worked at the Rand Mine exploring on the hinterlands of the claims that Glamis held there. My tasks at Glamis were shifting to permitting and reclamation. After I completed reclamation work for the old Cordex projects, I decided it was time for a change.

So, I left the industry altogether. I was interested in the technology that was becoming even more available and how to employ it in field geology. I enrolled at Western Nevada College and earned a degree in GIS. Remarkably, after a few classes I found a job with a contractor to the phone company that included a major project involving conversion of paper maps to digital data for California and Nevada. At 40-something, I was surrounded by 20-somethings that knew their way around the computer. I had many opportunities to ponder how I could apply aspects of “electronic mapping” to field geology. (Sounds funny now, I know) I worked with a lot of good folks there and then moved on to a county job with the Health District.



At the county, I produced maps for inspectors during the early boom years of growth in Reno. I also trained in disaster preparedness and spent time collecting and distributing summary data on flood incidents from within the regional Emergency Operations Center. I learned a lot at the county, figured I would retire from government but alas....The allure of the shiny yellow metal called me back to the industry. (cont. on page 10)



GSN SO. NEVADA CHAPTER



The GSN Southern Nevada Chapter will be hosting a Zoom meeting on **Thursday, April 8, 2021** at 5:45 pm for social time and announcements; talk at 6:00 pm!

Speaker: Mark Hausner, Desert Research Institute

Title: “Filling in the data gaps: using the Landsat archive and gridded climate data to assess recent ecological change”

Abstract: Recent advances in cloud-based data storage and distributed computing now allow scientists to analyze large remote sensing data sets in ways that were not feasible in the past. An example of this capability is based on the Landsat archive, which includes near-continuous global satellite imagery dating back to 1984. With an overpass frequency of 8-16 days and spatial resolution on the order of tens of meters, the 35 year Landsat record makes it possible to construct proxies for historical conditions that were not measured when they occur. Changes from these proxy historical baselines can be observed over time, making it possible to quantitatively assess both long-term trends in remotely sensed data and responses to disturbances (e.g. fire, restoration work). This talk presents three examples of these assessments: evaluating the outcomes of stream restoration work, identifying the effects of drought mitigation strategies on frog populations, and assessing status and trends in mountain meadow ecosystems.

Bio: Mark Hausner is an Associate Research Professor of Hydrology at the Desert Research Institute in Reno. He has an undergraduate degree in civil and environmental engineering and graduate degrees in hydrologic science and hydrogeology. Mark’s research focuses on cross-disciplinary collaborations to understand and quantify relationships between physical hydrology and ecology.

Sponsor: Nevada Science Center

Thank you,

Josh Bonde, GSN Southern Nevada President

joshua.bonde@nvscicenter.org.



ZOOM LOGIN INFO:

Topic: GSN Southern Chapter Meeting - Mark Hausner

Time: Apr 8, 2021 5:45 PM Pacific Time (US and Canada)

Join Zoom Meeting:

<https://us02web.zoom.us/j/89353898303?pwd=ZHd2eloxTlFEdzA3QjNjOTFCUk2OT09>

Meeting ID: 893 5389 8303

Passcode: GSNSouth

GSN WINNEMUCCA CHAPTER



The GSN Winnemucca Chapter is tentatively hosting a virtual lecture on Wednesday, April 14th at 7:00 p.m. We'll update folks as we search for a speaker for April.

Thank you,
Chad Peters
Winnemucca Chapter President
cpeters@ridgelineminerals.com

NEWS FROM THE FOUNDATION

By Cami Prenn, GSN Foundation Chair

The beginning of Spring signals the start of the application process for GSN's scholarships. The [GSN Great Basin, GSN DD LaPointe and Brian Morris Scholarships](#) are all open for students to apply. The deadline for all three of these is May 31st for funds to be used starting with the Fall 2021 semester. All those receiving scholarships must be GSN members.

The GSN DD LaPointe Scholarship is open to both undergraduate and graduate students studying at the Mackay School of Earth Science and Engineering for a degree in earth sciences related to the minerals field. Major fields of study recognized for the scholarship are geological sciences, geological engineering, economic geology and other related majors. The main criterion for awarding the scholarship will be a demonstrated interest and commitment to the minerals industry.

The Brian Morris Scholarship is open to full-time undergraduate and graduate students studying at an accredited university for a degree in the earth sciences and a demonstrated commitment to Nevada mineral deposit exploration or research. The scholarship award money will be spent on field work or analytical costs related to the student's degree program or research; however, consideration will also be given to students needing tuition support.

The GSN Great Basin Scholarship is open to full time graduate students at UNR. The candidate's research must be directed towards fundamental geologic problems in the Great Basin. The scholarship award money will be spent on research costs including field work or analytical work and can also be used towards travel to one meeting per year if the student is giving a paper or presenting a poster on the funded research.

If you know students who could benefit from these opportunities, please encourage them to apply. Our deadline for the Field Camp Scholarships has passed and we'll be announcing the winners of those at the next GSN meeting in April.



GSN Elko Chapter—April 2021 Update

The Elko GSN Chapter is excited to host a speaker double-header in April!

First up is at our regular scheduled date and time, **Thursday, April 15th at 7pm:**

Lucas Monroe from Auburn University speaking on his MS research on the Florida Mountain deposit in the Silver City District, ID.

TITLE: “Using Petrographic and Geochemical Analyses to Elucidate the Genesis of Au-Ag Epithermal Deposits on Florida Mountain, Silver City District, Idaho”

Florida Mountain (FM) is classified as a low-sulfidation epithermal deposit and has a rich history of Au-Ag economic mining. FM is one of a trio of similar deposits in southwestern Idaho within the Northern Great Basin and along the Yellowstone hotspot track. This study used petrography and geochemistry to elucidate the genesis of FM, a deposit that has not been the subject of extensive study. Initial research focused on high-grade veins and information from historical mining to provide a geologic framework for the district. During summer 2019, 60 samples from seven lithologic units were collected from drill core and retired open pits. Samples were characterized by petrographic analysis prior to geochemical analyses. Electron microprobe analysis was used to measure trace element concentrations in sulfide minerals associated with high metal grades, and to better evaluate mineralogical textures and relationships. Important mineral phases identified include electrum, silver selenide, and pyrite, which were analyzed for their Au, Ag, Ti, Cu, S, Fe, As, and Se content. Elevated Au and Ag concentrations were measured in pyrite grains and varied across individual crystals. Laser ablation inductively coupled plasma mass spectrometry was also used to quantify lower amounts of the trace elements and confirmed variations in the concentrations of Au, Ag within individual pyrite grains (e.g., rim vs. core) correlating with different mineralogical textures and associations.

Preliminary Ar-Ar geochronology on adularia crystals from FM samples determined an age range consistent with the Yellowstone hotspot (15.352-15.95 Ma). These new data and observations provide insight into the source of fluids and metals as well as the sequence of events that resulted in the formation of the FM Au-Ag epithermal deposit.



Zoom Login Info:

Topic: GSN Elko April Meeting #1 - Lucas Monroe of Auburn University

Time: Apr 15, 2021 7:00 PM Pacific Time (US and Canada)

Join Zoom Meeting:

<https://us02web.zoom.us/j/83288959769?pwd=eXcrU2pXU2dsMGNBm1ZreVdubHlrQT09>

Meeting ID: 832 8895 9769

Passcode: Monroe

One tap mobile: +16699006833,,83288959769#,,, *413712# US (San Jose)

Dial by your location: 1-346-248-7799 (Houston); 1-669-900-6833 (San Jose)

Meeting ID: 832 8895 9769

Passcode: 413712

(See page 9 for Elko Meeting #2 information!)

GSN Elko Chapter—April 2021 Update (cont.)

Our second meeting will be on Thursday, April 22nd at 7pm and is:

Anne Fulton from the Colorado School of Mines speaking on her PhD research on Carlin-type and Carlin-like gold deposits.

TITLE: "New insights into Carlin-type ore mineral zoning on the micron scale based on NanoSIMS analysis"

Carlin-type gold deposits (CTGDs), primarily concentrated in north-central Nevada, are the source of some of Earth's largest concentrations of gold. They are characterized by "invisible" (sub-micron) gold hosted within arsenian pyrite overgrowths on precursor barren pyrite grains. The precipitation mechanisms and source(s) of Carlin gold are not fully understood, partially due to the fine scale of the overgrowths, which can range from tens of microns to nanometers in thickness. The lack of agreement within the economic geology community on CTGD formation leaves us without a well-defined genetic model for such an important deposit type. The lack of genetic model then limits the effectiveness of further exploration for similar deposits.

In this talk, I will present results from new applications of nanoscale secondary ionizing mass spectrometry (NanoSIMS) to ore-stage sulfides from multiple CTGDs in both Nevada and the Yukon Nadaleen trend. NanoSIMS differs from conventional methods in its ability to detect and quantify chemical variations on the sub-micron scale. A few previous studies have applied nanoSIMS to measure sulfur isotopes and obtain qualitative trace element images from Chinese Carlin-like deposits. However, our study is the first to apply the sulfur isotope technique to Nevada's deposits, to further refine the methods for trace element quantification via relative sensitivity factors, and to also account for possible matrix effects in varying compositions of pyrite via multi-instrument verification.

High-grade samples from deposits throughout Nevada's Carlin district (including Turquoise Ridge, Deep Star, and Marigold Red Dot) and the Yukon Nadaleen trend reveal complex, multi-stage growth patterns in ore pyrite grains with significant variations between deposits and even within the same deposit. These micron-scale zoning patterns in both trace elements and sulfur isotopes can reveal histories of changing fluid compositions, mineral surface kinetics, or changes in fluid to rock ratios and hold implications CTGD genetic model development. NanoSIMS methods allow us to see previously impossible levels of detail in ore minerals and can provide better understandings of fluid sources and metal deportment in CTGDs and other deposit types.



Topic: GSN Elko 2nd April Meeting - Anne Fulton of CSM

Time: Apr 22, 2021 07:00 PM Pacific Time (US and Canada)

Join Zoom Meeting:

<https://us02web.zoom.us/j/87339898877?pwd=TjVSMzRFcVFjOVNuOXIxTjRsc0lVZz09>

Meeting ID: 873 3989 8877

Passcode: Fulton

One tap mobile: +16699006833,,87339898877#,,,,*330854# US (San Jose)

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

Meeting ID: 873 3989 8877

Passcode: 330854

(See page 10 for MORE GSN Elko Chapter news!)

GSN Elko Chapter—April 2021 Update (cont.)

On another note, the Elko GSN Chapter is happy to announce we have a 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

If you are an Elko Chapter member and want to vote for or against the slate please visit this online survey:

<https://www.surveymonkey.com/r/XVNLPMK>

Last but certainly not the least, our 2021-2022 officer cabinet is 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. Stay posted, we will be looking to schedule a date on a Saturday or Sunday in May or Early June. This will be followed by our highly anticipated first summer barbeque in June!

Thank you,

Justin Milliard, GSN President

Face of GSN, Greybeck (cont. from page 5)

Cordex (aka Columbus Gold) had picked up the Bolo Project and brought me back from the “world of cubicles” to work as the project geologist; I was easily recruited to leave the warm, indoor environment to head out to a winter drilling project. Drilling discovered some higher-grade zones at the Bolo project. Other projects for Columbus included Weepah where I was lucky to drill a possible extension, beneath cover, that is associated with the main vein exposed in the small, historic open pit. I also helped contribute to the early drilling at Eastside.

Moving on from Eastside, I went to work for several start-up juniors on various projects, some that I had been on before. I worked with a portfolio of small holdings and generated several other prospects for advancement. I also worked with another consultant to generate new prospects and carry on a recon program to visit a broad list of potential areas of interest. A number of these remain to be more fully investigated.

Lately, my project work includes mapping and sampling... a reason why some geologists started in this career. I still find field work to be the most interesting part of exploration and when positive assays are returned, an even more rewarding duty. I like to believe that some old districts still have chances for new discovery.

When not working at geology, I enjoy being outdoors at home or on road trips. At home, this is gardening and landscaping. On road trips, I enjoy the chance to see historic sites and museums wherever the trip leads. A long-time golfer, I now watch more golf than play. I have been a long-time “Shotlink” volunteer at the local PGA tournament (Barracuda). Lately, I have volunteered for work at the historic Sutro Tunnel and helped with historic restoration and cleanup of the site. In the last year, have really been missing live music.



I feel lucky to have had a small part in Nevada’s modern mining history and to meet so many great people in the sphere of exploration geology. I think we all look forward to being able to reconvene the gatherings where we get to meet more great folks and continue to learn from them.



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 2nd, 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.

G.S.N. Field Trip!

Geological Society of Nevada (GSN) Spring 2021 Field Trip Saturday and Sunday May 15-16, 2021 Yerington Mining District

GSN is going to continue to make the best of the covid-19 situation by having a socially distant/truncated field trip in May. We will be back on the bus in no time!

The field trip starts on Saturday at the Scout Camp at Fort Churchill State Historic Park. After settling in, we will head over to the visitor center before touring the ruins of the fort and Buckland Station, a Pony Express stop, supplier for western emigrants, boarding house and home. Next, George Eliopoulos will lead a tour of the Minnesota Mine on the northwestern edge of the Yerington Mining district. The Minnesota Mine was originally developed as copper mine but became a major iron ore producer (Standard Slag) after World War II. On Sunday, Hudbay Minerals Exploration Manager Matthew Cunningham will present a core shack examination and discussion of their Ann Mason copper deposit before we head over Mickey Pass to visit the Ann Mason Project. Nevada Copper geologists will also have core available.

Friday, May 14, 2021 Early arrivers can stay at the Scout Camp at Fort Churchill State Historic Park

Saturday, May 15, 2021 10 am - Begin arriving at Scout Camp at Fort Churchill State Park to check-in

11 am - Visitor center, Fort Churchill ruins, and Buckland Station tour

Noon - Sack lunch provided

1 pm - Leave for Minnesota Mine

5 pm - Camping and happy hour at Scout Camp

Sunday, May 16, 2021 10 am - Hudbay's Ann Mason and Nevada Copper, Pumpkin Hollow Core

Noon - Ann Mason Tour, sack lunch provided

3 pm - Optional trail hike

- IMPORTANT INFORMATION -

Please arrange your own transportation

RV's are allowed at Scout Camp. There are no hookups or running water. A vault toilet is available. The camping area is first come first served but there should be ample room for our group (and others).

Please reserve your own hotel asap if you prefer not to camp. (cost not included in the field trip).

Kids are welcome!

We will follow CDC guidelines regarding covid-19

The signup form will be available on the website by Friday, April 9th. Please check under "events" at www.gsnv.org. Please contact Laura Ruud if you'd like to get your name on the list. Limit is 50 people!

Email: gsn@gsnv.org

Mining Activity Update

Mike Brady, FEBRUARY 2021

LMBrady@aol.com

NEVADA

Kinross Gold Corp. announced that recent drill results at the Round Mountain Project include 131.1-144.8 meters @ 0.5 gpt Au (D1102); 539.5-547.1 meters @ 6.6 gpt Au (D-1106); 373.4-426.7 meters @ 1.5 gpt Au (D-1107) and 562.4-563.0 meters @ 151.0 gpt Au (D-1108). (reserve = 89,168,000 tonnes @ 0.8 gpt Au proven+probable) *Press Release:* February 10

Kinross Gold Corp. announced that recent drill results at the Bald Mountain Project include 114.3-181.4 meters @ 0.4 gpt Au (B20-07); 91.4-167.6 meters @ 0.6 gpt Au (B20-08) and 128.0-210.6 meters @ 0.4 gpt Au (B20-10). (reserve = 58,647,000 tonnes @ 0.6 gpt Au proven+probable) *Press Release:* February 10

Silver One Resources Inc. announced that recent drill results at the Candelaria Project include 216.41-234.7 meters @ 0.20 gpt Au, 100 gpt Ag (SOC20-056A); 234.7-245.36 meters @ 0.27 gpt Au, 115 gpt Ag (SOC20-057); 336.8-349.0 meters @ 0.55 gpt Au, 407 gpt Ag (SOC20-059) and 358.14-367.28 meters @ 0.40 gpt Au, 295 gpt Ag (SOC20-060). (resource = 12,384,000 tonnes @ 0.1 gpt Au, 110.2 gpt Ag measured+indicated) *Press Release:* February 16

Coeur Mining Inc. announced that recent drill results at the Crown Project include 172.2-240.8 meters @ 1.71 gpt Au (CH20-014); 205.7-228.6 meters @ 1.02 gpt Au (CH20-018); 160.0-376.4 meters @ 1.02 gpt Au (CH20-021) and 376.4-413.0 meters @ 1.71 gpt Au (CH20-026). *Press Release:* February 17

West Vault Mining Inc. announced that it purchased outright a 100% interest in the Hill of Gold Property from private interests for \$250,000 cash. (resource = 1,036,000 tonnes @ 0.9 gpt Au inferred). *Press Release:* February 2

Newrange Gold Corp. announced that recent drill results at the Pamlico Project include 15.2-28.9 meters @ 4.38 gpt Au (P20-15) and 92.99-110.61 meters @ 5.52 gpt Au (P20-115). *Press Release:* February 23

Getchell Gold Corp. announced that recent drill results at the Fondaway Canyon Project include 108.1-117.9 meters @ 8.6 gpt Au (FCG20-04); 119-147 meters @ 0.6 gpt Au (FCG20-05) and 168.0-205.7 meters @ 1.5 gpt Au (FCG20-06). (resource = 2,050,000 tonnes @ 6.18 gpt Au indicated) *Press Release:* February 10

Crestview Exploration Ltd. announced that it acquired an option to earn a 100% interest in the Cimarron Property from Ely Gold Royalties Inc. for \$200,000 cash over 4 years. *Press Release:* February 24

Contact Gold Corp. announced that recent drill results at the Green Springs Project include 49.99-83.52 meters @ 2.34 gpt Au (GSC20-05); 96.93-116.74 meters @ 0.91 gpt Au (GSC20-06); 60.96-80.77 meters @ 1.5 gpt Au (GSC20-28) and 70.1-88.39 meters @ 0.38 gpt Au (GSC20-30). *Press Release:* February 23

Gold Bull Resources Corp. announced that based on recent studies at the Sandman Project, resources aggregate 18,550,000 tonnes @ 0.73 gpt Au indicated and 3,246,000 tonnes @ 0.58 gpt Au inferred. (was 1,200,000 tonnes @ 1.23 gpt Au indicated and 1,000,000 tonnes @ 1.85 gpt Au inferred) *Press Release:* February 2

Corvus Gold Inc. announced that recent drill results at the Lynnda Strip Project include 256.4-460.86 meters @ 1.36 gpt Au (ML20-171CT); 198.12-307.85 meters @ 0.47 gpt Au (ML20-181); 297.18-365.76 meters @ 1.23 gpt Au (ML20-182) and 329.18-438.91 meters @ 0.53 gpt Au (ML20-184). *Press Release:* February 11

New Placer Dome Gold Corp. announced that recent drill results at the Bolo Project include 126.49-224.03 meters @ 0.41 gpt Au (BL20-06) and 54.86-74.68 meters @ 0.81 gpt Au (BL20-10). *Press Release:* February 1

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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.



(This is reprinted from the Facebook Group “Nevada History through Pictures, Collections and Personal Stories”)

Steve Frady – Nevada History through Pictures, Collections and Personal Stories.

March 12, 2021

The Grand Prize Mine, Tuscarora, Nevada circa 1880, one of the first major producers of silver ore at Tuscarora. The huge pile of sagebrush on the right was fuel for the mine’s boiler that provided power for the hoist. The sagebrush was gleaned from the surrounding countryside, mainly by hardworking Chinese the majority of whom settled in Tuscarora after being let go from Central Pacific Railroad construction activities after railroad construction moved east. The sagebrush was cut and delivered for an average of \$2.50 per cord and transported to the mines on large flatbed wagons with the cargo piled very high. The Grand Prize Mine was part of Tuscarora’s short-lived boom between 1877-1880, with stock prices reported plummeting from \$940 per share in 1877, to .5 cents by 1881. Most of the deeper mines encountered water by then with companies unable to afford pumps to remove millions of gallons of water. A second boom took off in 1887, with the Daily Alta in California reporting on January 9, 1888 that water had been encountered in the Grand Prize winze below 300 feet, and that sinking of the shaft had stopped until pumps could be made for lowering the water level. The Grand Prize was eventually sunk to a depth of about 750-feet, with the most ore being produced prior to 1895. With ore reserves steadily decreasing, and silver prices plunging in the early 1890s, the mines closed one by one. It has been estimated that more than half of Elko County’s 19th century ore production was made at Tuscarora, with recorded production of \$9.4 million, to more enthusiastic estimates/guesses of \$40 million.

ROCK TALK

GSN Member, Mark Svoboda, took these photos of some interesting rock formations while he was out working in the wilds of Nevada. I'm guessing many of you have seen "faces" in the rocks before also! Please feel free to submit any Nevada geology photos that you find interesting and include a little bit about the geology and location if you wish!

Thank you,

Laura Ruud, gsn@gsnv.org



OTHER UPCOMING EVENTS

April 1, 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** William "Bill" Rickard, President of the Geothermal Resources Group, whose talk will revolve around recent drilling at the Utah FORGE project. Click here for event information or to register online and reserve your seat for this Zoom meeting: <https://npgs.123signup.com/event/details/ktcng?mid=5044465> A \$10 donation is requested, \$5 for students. **Contact Rick Zehner for information:** zehnerick@yahoo.com

April 1 & 2, 2021—all online. Old Geoscience Days. <https://www.geo.arizona.edu/events/9339-geodaze-2021>. This is a student run symposium.

April 8, 2021—AEG Great Basin Chapter Student Night. To sign up for this Zoom meeting, please contact an AEG officer listed below:

CHAIRPERSON: Merrily Graham, 360-606-1838, mkgraham75@gmail.com

VICE CHAIRPERSON: Kelsey Sherrard, kelsey.sherrard@terraphase.com

TREASURER: Chris Betts, chris@earthtechnv.com

SECRETARY: Kathleen Rodrigues, krodrigues@nevada.unr.edu

April 16, 2021—UNR, College of Science, Mackay Speaker Series—April 16, 2021, 3 PM, PDT "Lithium: Geochemistry and Economic Geology" with Dr. Lisa Stillings, USGS, Reno.

Register in advance for this Zoom seminar:

https://unr.zoom.us/webinar/register/WN_C4eY7vwSQd2EGsAj3jXoEw

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

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

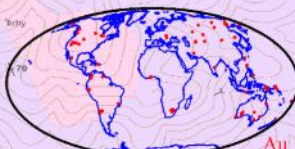
October 23-26, 2021 AIPG Annual Meeting; Role of Geoscientists for Resiliency, Sustainability and Opportunities in a Changing Environment, Sacramento, CA.

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

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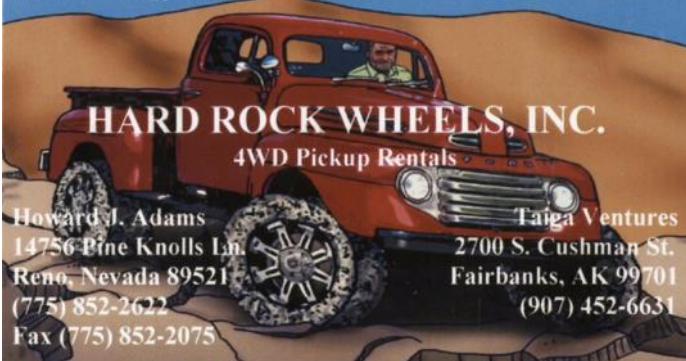
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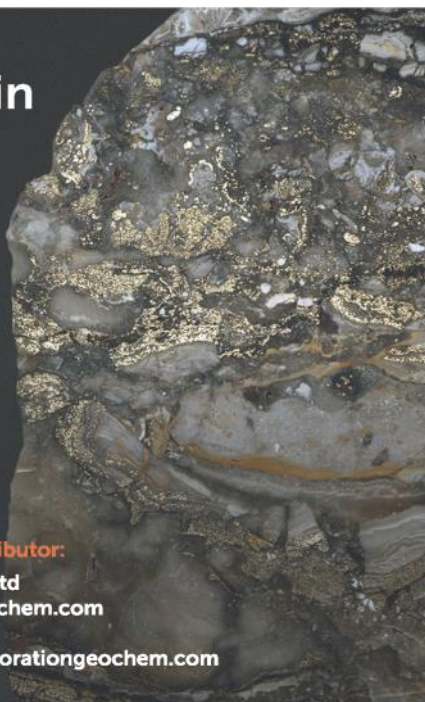
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