



# 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.  
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Sept. 17, 2020

THURSDAY

VIA ZOOM!

## ELKO CHAPTER & WINNEMUCCA CHAPTER JOINT ZOOM MEETING

The GSN Elko Chapter will be hosting their meeting via Zoom on September 17th at 7 p.m. Speaker: Mr. Christian Thomas will be giving a talk titled, "Comparative Fluid Inclusion Geochemistry and Properties of the Buffalo Canyon and Grantsville Intrusion-Related/Epithermal System". The abstract and Zoom meeting login credentials can be found on page 6. Please contact President Justin Milliard for more information: [justin.b.milliard@gmail.com](mailto:justin.b.milliard@gmail.com)

Sept. 18, 2020

FRIDAY

VIA ZOOM!

## GSN MEMBERSHIP ZOOM MEETING

The GSN's September meeting will be held via Zoom! Drinks at your home 6:45 pm, Talk begins at 7:00 pm. Speaker is Doug Silver, Orion Resource Partners. Title: "Where do we go from here?". Please contact Laura Ruud at the GSN office if you have questions: [gsn@gsnv.org](mailto:gsn@gsnv.org). See page 3 for abstract. Zoom meeting log-in info will be emailed the week prior to the meeting.

Sept. 24, 2020

THURSDAY

VIA ZOOM!

## SO. NEVADA CHAPTER ZOOM MEETING

The GSN So. Nevada Chapter will be meeting via Zoom on Sept. 24th. Log in for social time at 6:00 pm and the talk will begin at 6:15 pm. Speaker: Dr. Simon Jowitt of UNLV, the title of his talk is: "COVID-19 and the Mining Industry; what next?". Sponsor for the meeting is PaleoWest Archaeology.

Zoom meeting secure log-in information will be emailed the week of the meeting.

Please contact Chapter President, Joshua Bonde for more information: [joshua.bonde@nvscicenter.org](mailto:joshua.bonde@nvscicenter.org). See page 7 for details.

**GSN WINNEMUCCA CHAPTER WILL PIGGY BACK WITH THE ELKO CHAPTER FOR THE SEPTEMBER ZOOM TALK!** Please contact Chapter President Chad Peters for more information: [cpeters@ridgeline minerals.com](mailto:cpeters@ridgeline minerals.com)

## GSN Membership Renewal Notice!

Renew by September 30, 2020 to continue receiving the benefits of the Geological Society of Nevada membership. Dues can be paid online at <https://www.gsnv.org/membership-dashboard/membership-levels/>.

If you have paid your dues after May 1, 2020 then you are good through September 30, 2021. If you are a LIFETIME MEMBER you never have to pay again!

**FROM THE PRESIDENT**  
**Mary Stollenwerk, GSN President 2020-2021**  
**SEPTEMBER 2020**

I want to start out being explicit in how GSN is moving forward. The EC has been meeting all pandemic and making plans – GSN is not dormant, so renew your membership! We look forward to when we can all convene in person, raise a glass, hear the talks and take part in the discussion. As explorationists, we have to be optimists, right?

- Monthly Membership Meetings will continue on the third Friday of the month, with a virtual talk at 7 pm. It is our hope that GSN members from all over Nevada and beyond will be able to participate.
- The Fall Field Trip is a GO! See page 9 to see what Vice President Patsy Moran has cooked up for us.
- The 2020 Symposium talk series will continue in September. Details to be announced.
- See update on Symposium on page 14.
- See pages 6 and 7 for updates on what the chapters in Winnemucca, Las Vegas, and Elko are doing.

Derreck and I recently slipped away for a camping trip at Lassen Volcanic National Park. We quite enjoyed the park with some hikes and dips in the lake, camp fire dinners and generally relaxing away from bandwidth. A copy of *Geology of the Lassen Country* (Hobson and Clynne, 2019) in hand, we made the stops of geological interest through and around the park. Of particular note was the active hydrothermal activity at Bumpass Hell. We resisted the urge to explore off the path and avoided the fate of Kendall Vanhook Bumpass, who not once, but twice, fell through the crust into the boiling waters, losing his leg in the late 1800's.

Geologists often observe that facets of our work are blue collar in nature, and therefore, we acquire a particular set of skills over our careers. Skills that can be helpful to people. We encountered a hapless biologist looking for someone to free his stuck camper van a few miles out on Forest Services land. Realizing we had the means at hand, we felt we had the responsibility to act. And boy, were they stuck! About 4 miles away, we found his rented Scooby Doo camper van, complete with custom groovy paint job (but no 4wd) buried past the axles in loose volcanic soil with a huge basalt boulder right in front of the front bumper. He admitted to being completely out of his element, and lamented making the wrong decision at each turn. We looked the situation over and made our first estimate of what the best course of action would be – pull from behind/push from the front. Derreck hooked him up with a tow band, and we gave it our all. Nope. Scooby-Van wasn't coming out that way. We assess other options. The wife, also a biologist, exclaimed again that she felt so "out of her element" and asked me how we were so calm. I told her "1. It isn't OUR van that is stuck, but 2. We are geologists! Together, we have over 60 years of occasionally getting vehicles unstuck. We'll try a few things, and usually the third one works". Sure enough, the "front facing, 45° diagonal drag with front wheels cranked and pushing from behind" protocol worked, and Scooby-Van emerged from the mire, miraculously missing the big rock and any major damage, and the thankful biologists went on their way, vowing to stay to the roads.





**GSN Virtual Talk: Friday, September 18, 2020**

**at 7:00 PM Pacific Time**

**(Zoom meeting details will be emailed to all members prior to the event.)**

**Speaker: Doug Silver, Orion Resource Partners**

**Title - Where do we go from here?**

Sadly we were unable to gather in Dan Kappes's backyard this year for our 18th Annual Silver Summer Series. Happily though, Doug agreed to give us his talk via Zoom for the one and only "Synthetic Silver Summer Series"!

**Abstract**

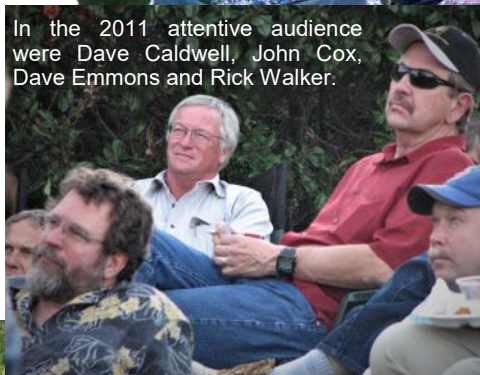
2020 will go down in history as a monumental year: Pandemic, the Presidential elections, gold prices soaring, stock market hitting new highs and massive US national debt. So what does this mean to the mining industry? Come to the Synthetic Silver Summer Series and find out!



Doug, 2011



Silver Summer Series, 2019

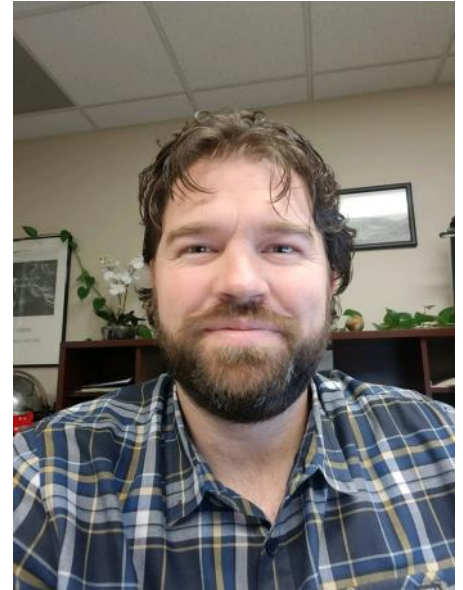


## **“FACES OF GSN”**

Christopher Blue, Geotemps/Geopros, Reno, Nevada

I'll admit, when I sat down to write this, I had writer's block for a couple days, not sure of what to say. GSN is full of people who have built careers and legacies in the mining industry. I've only been working in it for a little over four years now, so what could I tell you that you'd want to read? Well, it occurred to me that the membership of GSN has not only had careers in mining, they're passionate about it and about the field of geology. So let me tell you some about me, and what I'm passionate about.

I was born and raised here in Reno, and I've always had a love for the mountains and desert landscape around me. Whenever I've travelled somewhere with no mountains on the horizon, I've felt out of place. I grew up hiking all over the valley, hunting for crystals, swimming and fishing in the Truckee river and Pyramid lake, camping in Dog Valley, Going to Cowboy Poetry events in Elko, and visiting family and friends in Fallon. I love Northern Nevada, and as much as I've travelled to other parts of world, nothing can quite compare. The only place that has come close for me would be Alaska.



Christopher Blue, Geotemps/Geopros

At a young age I was lucky enough to go with my dad up to Prince William Sound and spend time in a fishing lodge that he would work at in the summers. While I already knew how to fish, doing so up there was an entirely different experience. I've only gotten to go up and fish there a handful of times in my life, but the natural beauty is second to none (and so is the fishing), and each trip is an experience I'll never forget.

Despite spending as much time outside as I could, I was still a pretty nerdy kid, and from as young as I can remember, I would lose myself in books. I've always had a very active imagination and reading fed into that. I'd daydream about adventures happening to me as I would walk to school or to a friend's house. My imagination and my fondness for reading eventually turned into a love of writing, and I enjoy writing short stories to this day.



Christopher and his amazing dog

As I grew older and moved through school and into college it became very apparent that math was not my strong suit, and that any degree in the sciences would require more math classes than I felt comfortable with. So I turned that love of books and stories into a study and became an English major at the University of Nevada Reno.

Throughout most of my time in college I was juggling school as well as two jobs. For my final year, I was working at the SPCA (where I'd already been working for four years), taking care of the dogs and cats and sending them to good homes (over the five years that I worked there I somehow managed to only bring home one dog and one cat). My other job at that point was a part-time administrative assistant position at SUN Technical Services, a recruiting agency that specialized in staffing for the nuclear power industry.

In 2010 I graduated with my Bachelor of Arts in English, and a few months later I left the SPCA and took a full time position with SUN Technical. I spent the next year taking on more and (cont. on pg. 5)



more duties, until eventually the head of the recruiting department offered me a promotion and an opportunity to learn the art of recruiting.

I recruited nuclear engineers and technicians of all kinds, and in doing so I learned about the plants they worked in and the processes they go through on a daily basis. Over the years an interest became a passion, and though I haven't worked in that industry now for years, I still eagerly follow it and the news of new advancements in the field.

During those years I taught myself another skill. Being sick of typical college/bachelor pad type food, I learned how to cook. The first few attempts were at least edible and each attempt after those first few got progressively better (except for an occasional mishap).

I began cooking for family and friends, and was soon hosting Thanksgiving dinners for thirty or more people, a tradition that has carried on for 12 years so far. It was for those Thanksgiving meals that I first started using a smoker (for a turkey). Since then I've become quite adept at creating my own recipes, of all kinds, from smoked duck to jambalaya and especially Alaskan salmon.

In 2018 I had another opportunity to go fishing in Alaska. This time on the Tsiu River, a small stream east of the Copper River Delta that cuts a new course every spring through miles of alluvial deposits. I was there for just over a week and brought home fifty pounds of salmon, most of which ended up on the smoker.

At that point I had been working for Geotemps / Geopros for a couple years since Sarah Lightner recruited me for an open Staffing Manager position back in 2016. Soon after starting I went to my first GSN meeting at the Elk's Lodge. A few awkward introductions later and I was ready for the next meeting. Those first few months of meeting, interviewing, and drinking with the geologists in the area and the members of GSN, I began to learn more about the land around me and the joy of exploration geology, much like I had previously learned about the nuclear industry. Since then it has become a passion of mine as well and I eagerly follow new developments.

What does most of this article have to do with geology? Well, not much to be honest. But like I've said many times before, everyone needs an English major around from time to time, even if it's just to double check your emails for grammar. And despite my relatively little time in the industry so far, and my arts degree, GSN has welcomed me into the fold and made me feel like one of the family. There is no other industry and no other place that I would rather be working and living in than right here in the mining community of Nevada with each and every one of you.



Christopher fishing in Alaska on the Tsiu River

## GSN Elko Chapter Forecast

Justin Milliard, President 2020-2021

Welcome to the fall season from the Elko Chapter of GSN

We are excited to announce that we will be hosting a virtual talk series through the fall until circumstances allow us to return to in-person meetings at the Western Folk Life Center. We hope to have our first in-person event for the November Winnemucca-Elko joint meeting. Please stay tuned as the months progress and hopefully the restrictions for public gatherings ease up.

To kick it off, Mr. Christian Thomas will be giving the first presentation in September on his MS research at the Ralph J. Roberts Center for Research in Economic Geology (CREG) at the University of Nevada, Reno.  
September 17, 2020 – 0:700 PM Pacific Time (US and Canada)

### Comparative Fluid Inclusion Geochemistry and Properties of the Buffalo Canyon and Grantsville Intrusion-Related/Epithermal System

**Abstract.** The Union district, located in northern Nye County, Nevada, hosts a variety of ore deposit types in strongly deformed and locally altered Triassic and Tertiary metasedimentary and volcanic rocks. Low-sulfidation epithermal Ag-(As-Hg) mineralization at the Grantsville Pit occurs as mm- to cm-scale brecciated zones of  $\mu\text{m}$ -mm pyrite, illite, and very fine-grained quartz. The mineralization exploits permeability in folded, brecciated, and intensely silicified carbonates of the Triassic Luning and Grantsville Formations; these units are part of the northern, upright limb of a north-west-trending overturned anticline. The open pit is capped by northwest-trending jasperoid bodies and parallel bull quartz veins. Alteration is centered around a silicified core that zones out into illite-illite/smectite-smectite over ~100 m laterally and vertically, strongly affecting Oligocene volcanics overlying the deposit. Fluid inclusions in quartz associated with the epithermal mineralization are chiefly 2-phase, coexisting liquid- and vapor-rich, and display rounded/equant to negative crystal forms, indicating formation at or above 230 °C. A Ag-Cu-Pb-Zn-F-W skarn body occurs roughly 50 m beneath the epithermal system, and jasperoid-hosted F-Ag mineralization with massive botryoidal/crystalline fluorite is found on the south side of the anticline. 4 miles to the east, the Grantsville Summit epithermal Au-Ag-Hg-Sb deposit is hosted as coarser quartz veins in variably dolomitized limestones and limestone breccias with bladed calcite, overlain by bleached Oligocene tuffs; the highest grades occur in hematite-bearing dolomites. 2-phase liquid-rich fluid inclusions are highly abundant in the epithermal quartz at Grantsville Summit, commonly following primary growth zones in quartz grains with feathery rims; similar textures and fluid inclusions are also present in comb quartz veins cutting jasperoids at Grantsville Ridge. The proximity of the Grantsville Pit epithermal system to the Oligocene Buffalo Canyon reduced intrusion-related gold (RIRG) deposit makes the Union district well suited for study of the zonation of ore deposits formed at a range of depths and distances from an Oligocene pluton, with estimates of formational temperatures and pressures from fluid inclusion microthermometry. Insights gained from this work will enhance exploration strategies for epithermal mineralization, illuminate the transition between RIRG and epithermal systems, and improve our knowledge of a little-studied potential belt of Oligocene precious metal-fluorite deposits in central Nevada.

**Keywords:** epithermal, silver, intrusion-related, Nye County, Berlin, low-sulfidation, Oligocene

Topic: Elko GSN - September Talk - Christian Thomas

Time: Sep 17, 2020 7:00 PM Pacific Time (US and Canada)

Join Zoom Meeting

<https://us02web.zoom.us/j/86917142942?pwd=dGR6b2RiS2oyT3pqTWsvZFJTSjRMUT09>

Meeting ID: 869 1714 2942

Passcode: ELKOGSN

One tap mobile

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Meeting ID: 869 1714 2942

Passcode: 5247229

<https://us02web.zoom.us/j/kdrDOiaAWT>

## **GSN SOUTHERN NEVADA CHAPTER**

Our speaker for September will be Dr. Simon Jowitt of UNLV, the title of his talk is: COVID-19 and the Mining Industry; what next?


We are planning for a Sept. 24th meeting date via ZOOM. We will send out secure log-in information the week of the meeting. We will open the meeting for socializing around 6:00 pm with the meeting beginning at 6:15 pm.

Our sponsor is PaleoWest Archaeology LLC. [www.paleowest.com](http://www.paleowest.com)

Thank you,

Josh Bonde, GSN Southern Nevada President

[paleo@lvnhm.org](mailto:paleo@lvnhm.org)



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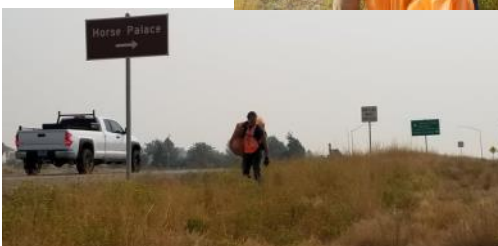
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For more information on PaleoWest and our services, visit [www.PaleoWest.com](http://www.PaleoWest.com)

## **GSN Elko Highway Cleanup a Success!**

Thanks to Laura Ruud, Zach Palmer and Beau Haag for volunteering to help President, Justin Milliard clean up the trash along Hwy 227 near Spring Creek on Friday August 14th. The Elko Chapter is committed to keeping the 2 mile stretch from mile marker 11.5 to 13.5 free of trash and it looks great after they finished!

Elko residents and visitors to Lamoille Canyon not only now have a beautified stretch of road but will soon see the GSN Elko Adopt-A-Highway signage!



Justin, Zach & Beau taste testing the full beers found along the road. They were still good, although a little warm!



## **GSN WINNEMUCCA CHAPTER**

The GSN Winnemucca Chapter will be piggy-backing with the Elko Chapter's Zoom meeting on Thursday, September 17th beginning at 7:00 PM. See page 6 for the details of the meeting and look for an email reminder in advance of the meeting.

## **NEWS FROM THE FOUNDATION**

By Cami Prenn, GSN Foundation Chair

September 2020 Newsletter

School is back in session and the Foundation awarded scholarships just in time for this fall semester. Students chosen are:

### GSN-D.D. LaPointe Scholarship

Lindey Smith, Undergraduate Student  
Arka Ojanian-Saki, Undergraduate Student  
Sara Holden, Graduate Student  
Luke Schranz, Graduate Student  
Total Awarded \$9,000

### GSN-Brian Morris Scholarship

Neal Mankins, Graduate Student  
Luke Schranz, Graduate Student  
Total Awarded \$2,000

### GSN-Great Basin Scholarship

Drew Levy, Graduate Student  
Total Awarded \$7,500

That is a whopping \$18,500 awarded directly from the GSN Foundation Scholarship accounts! Funds in each Scholarship account were donated specifically to that fund. Qualifications for each are listed on the website.

We received this note of thanks from Sara Holden:

*I am elated to hear this news!*

*Thank you so kindly for your consideration for this award. I am grateful to D.D. LaPointe and the GSN Foundation for this generous contribution toward assisting my graduate research. I plan to use these funds to pay for analyses to further my study of Li concentration within clays in the McDermitt caldera. I have always enjoyed participating in the GSN meetings, and will make it a point to attend the remote meetings until we can all finally meet in person again. I look forward to meeting D.D. LaPointe in person to thank her myself.*

*Thank you very much to D.D. LaPointe and the GSN Foundation for this generous gift-- I look forward to sharing the results of my research aided through this scholarship.*

*Appreciatively, Sara Holden*

During the GSN 2019/2020 year we also contributed \$2,000 to the GSN Endowment account at and \$2,000 to the newly formed GSN Endowment account at UNLV. The UNLV Endowment was a joint effort between GSN Foundation and UNLV to raise \$30,000 of which the GSN Foundation agreed to contribute \$2,000 each year for 6 years to establish that Endowment. UNLV, its alumni and Southern Nevada GSN chapter raised the remaining \$18,000. That scholarship will be given out for the first time this year.

We hope to see these students at future GSN events.

It's time to renew memberships and we would greatly appreciate any contributions you can make to the Foundation at this time of uncertainty. Our commitment to students coming into the profession continues. Thank you for all your support – it makes a huge impact.



**Geological Society of Nevada (GSN) Fall 2020 Field Trip**  
**Saturday October 10, 2020**  
**Berlin-Ichthyosaur State Park and Buffalo Canyon**  
**Reduced Intrusion-Related Gold Deposit**  
Patsy Moran, GSN VP & Field Trip Organizer

GSN is going to make the best of the covid-19 situation by having a truncated field trip to locations that don't require much driving. Josh Bonde (GSN Southern Nevada President) will lead the Berlin-Ichthyosaur State Park portion of the trip. After lunch, we'll head over to the nearby Buffalo Canyon Project to learn more about this Reduced Intrusion-Related Gold Deposit using a field guidebook created with the help of Dan Pace, Patrick Quillen, Christian Thomas, and others. We'll have a pre-meeting with relevant talks the evening before so we can make the most out of a quick but informative trip. Trip packets, including field guidebook, will be shipped to registered attendees by Monday October 5, 2020. **Cost will be \$50 for members and \$75 for non-members. Registration will be open on the GSN website soon! If you are paying with Check or Cash, you can use the form on page 10.**

Friday October 9, 2020, 5:45 to 7:00 pm - Pre-Meeting Information Session and Speakers (Virtual)

<u>Saturday, Oct. 10, 2020</u>	10:00 am	- Begin Arriving at Berlin-Ichthyosaur State Park
	11:00 am	- Fossil Room Open, GSN Led Tour
	12:30 pm	- Berlin Townsite Tour and Sack Lunch Provided
	2:00 pm	- Buffalo Canyon Project
	5:00 pm	- End of GSN Field Trip
		- Camping and Happy Hour

**- IMPORTANT INFORMATION -**

Camping at the State Park is available on a first-come first-served basis. GSN cannot guarantee spots will be available but every effort will be made to accommodate campers. Day-use/camping fees are included in the registration cost.

To minimize our risk of covid-19 transmission we request attendees do the following:

- Do not attend if you have known covid-19 exposure or feel sick
- Maintain social distancing of at least 6 feet apart and/or wear masks
  - Provide your own transportation
  - Do not share objects



Berlin fossil building and townsite - photos credit Famartin



**Thank you to our generous sponsors!**



# **GSN Fall 2020 Field Trip Registration Form (Checks and Cash only)**

Patsy Moran, GSN VP & Field Trip Organizer



## **Geological Society of Nevada (GSN) Fall 2020 Field Trip Saturday, October 10, 2020**



### **"Berlin-Ichthyosaur State Park and Buffalo Canyon - Reduced Intrusion-Related Gold Deposit"**

Friday October 9, 2020, 5:45 to 7:00 pm - Pre-Meeting Information Session and Speakers (Virtual)  
Saturday, Oct. 10, 2020

10:00 am	- Begin Arriving at Berlin-Ichthyosaur State Park
11:00 am	- Fossil Room Open, GSN Led Tour
12:30 pm	- Berlin Townsite Tour and Sack Lunch Provided
2:00 pm	- Buffalo Canyon Project
5:00 pm	- End of GSN Field Trip
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Do not attend if you have known covid-19 exposure or feel sick

Maintain social distancing of at least 6 feet apart and/or wear masks

Provide your own transportation

Do not share objects

### **THANK YOU TO OUR GENEROUS SPONSORS!**



Person to contact in case of Emergency:

Name: \_\_\_\_\_

Camp Buddy: \_\_\_\_\_

Phone: \_\_\_\_\_

Participant: \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

Cell # \_\_\_\_\_

Email: \_\_\_\_\_

### **REGISTRATION COST:**

**\$50 - GSN Member**

**\$75 - Non-GSN Member\***

**\$0 - GSN Student Member Helpers (limit 6)**

\*Non-members are encouraged to become members of the GSN in order to take advantage of the reduced Member Rates - Annual Dues are \$50/year.

**Payments must be made by Friday, October 2, 2020**  
**No refunds after Friday, October 2, 2020**

Total amount included with this form: \_\_\_\_\_

Payment: ☐ Check # \_\_\_\_\_ ☐ Cash ☐ ☐ ☐ ☐

We ask you to register online if using a credit card for payment. GSN has phased out the manual machine!  
<https://www.gsnv.org/field-trips/>

Return with payment to:

Geological Society of Nevada  
2175 Raggio Parkway  
Reno, NV 89512  
Phone: (775) 323-3500; Fax: (775) 323-3599; E-mail: [gsn@gsnv.org](mailto:gsn@gsnv.org)

## **GSN Membership Renewal Notice!**

**Renew by September 30, 2020** to continue receiving the benefits of the Geological Society of Nevada membership. Dues can be paid online by clicking this link and logging in to your account (see “My Account” under the Membership tab): <https://www.gsnv.org/my-account/>.

### **Tiered membership options include:**

- \$25/year for student members
- \$50/year for regular members (*online newsletter option*)
- \$70/year for regular members (*print newsletter option*)
- \$1250/one-time-payment for a LIFETIME membership (*you will have scoff-ing rights toward those that continue the “annual-renewal-hustle”*)

### **Membership benefits include:**

- Monthly membership meetings
- *To resume just as soon as this pesky pandemic is over*
- Fall and Spring field trip opportunities
- Access to the GSN Membership Directory with +1,000 contacts from throughout the mining industry
- Updates on job opportunities, education and safety courses, and other information pertaining to the mining and exploration industry of the Western Cordillera
- Networking opportunities throughout the year in Reno, Elko, Winnemucca, and So. Nevada







# GEOLOGICAL SOCIETY OF NEVADA

## 2021

2175 Raggio Parkway, Room 107, Reno, NV 89512 USA

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Offices are located at NBMG's Great Basin Science Sample & Records Library at The Desert Research Institute

Office hours: Monday through Friday, 9:00 AM - 4:00 PM. Please call or e-mail for appointment.

The Geological Society of Nevada (GSN) is a non-profit, educational organization whose principal objective is to promote the advancement of geological sciences, especially as they relate to Nevada. GSN supports the dissemination of information through meetings, field trips, publications and academic endeavors. Membership is open to geologists, geophysicists, geochemists, engineers, educators, students, prospectors or anyone else with an interest in the geological sciences and/or the goals of the GSN. The organization is based in Reno with additional Chapters in Elko, Las Vegas and Winnemucca.

The GSN Membership year begins September 1st. **Annual dues are \$50.00, Students \$25.00 or \$1,250.00 for Lifetime Membership. Dues are due in September each year at the commencement of the fall meeting schedule.** The GSN conducts a Field Trip in the Fall and one in the Spring of each year. Monthly meetings are held September through May in Reno, Elko, Winnemucca, and Las Vegas. If you would like to receive email announcements from one of the G.S.N. Chapters (Elko, Winnemucca or Southern Nevada) please check a box below.

Please help support the GSN Foundation and its scholarship funds when renewing if you can. Foundation dollars are used for the Kindergarten through 12th grade Field Trip Earth Science Grant Program, Nevada Mapping Grants, Field Camp Grants, and scholarships at the University of Nevada, Reno, and University of Nevada, Las Vegas.

### MEMBERSHIP APPLICATION

☐ Renewal ☐ New

Date: \_\_\_\_\_

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**CHECK HERE if everything is the same as before, except as indicated below.**

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- ☐ I have met the licensing requirements and want "QP" (Qualified Person) by my name in the directory.

I authorize GSN to send to me, via email: GSN event announcements, publications updates, employment opportunities, etc.

Yes ☐ No ☐

Optional Chapter Affiliation (to receive Chapter announcements directly and Chapter voting rights):

☐ Elko Chapter ☐ Southern Nevada Chapter ☐ Winnemucca Chapter

☐ \$50.00 - Regular Membership Dues 2020 - Email newsletter (International or Domestic) .....

☐ \$70.00 - Regular Membership Dues 2020 - Hardcopy newsletter via postal service (Domestic Only) .....

☐ \$25.00 - Nevada Student Membership Dues 2021 ☐ \$25.00 - Non-NV Student Membership Dues 2021 .....

☐ LIFETIME MEMBERSHIP - 25 X the Current Dues Rate (25 x \$50 in 2020 = \$1,250.00) .....

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## *Mining Activity Update*

Mike Brady, July 2020

[www.activityupdate.com](http://www.activityupdate.com)

### NEVADA

Tertiary Minerals plc. announced that based on recent metallurgical test at the MB Fluorspar Project, some improvement of previous tests were noted but it was unable to produce acid grade fluorspar concentrate. The project status is now under review. (resource = 8,900,000 tonnes @ 10.3% CaF<sub>2</sub> indicated) *Press Release:* July 20

McEwen Mining Inc. announced that recent drill results at the Gold Bar South Project include 53.34-91.44 meters @ 1.2 gpt Au (GBS079); 71.63-117.35 meters @ 0.9 gpt Au (GBS080); 128.0-149.35 meters @ 1.5 gpt Au (GBS113) and 41.15-59.44 meters @ 0.3 gpt Au (GBS114). *Press Release:* July 16

Argonaut Gold Inc. announced that based on recent studies at the Florida Canyon Mine, reserves aggregate 74,500,000 tonnes @ 0.43 gpt Au probable. (was 132,875,000 tonnes @ 0.40 gpt Au measured+indicated) *Press Release:* July 3

Nevada Select Royalty Inc. announced that it acquired an additional 1.0% NSR (to hold 2.0% NSR) on the Lincoln Hill Property from private interests for \$1,000,000 cash over 6 months. (resource = 4,211,000 tonnes @ 0.43 gpt Au, 11.8 gpt Ag measured) *Press Release:* July 21

Blackrock Gold Corp. announced that recent drill results at the Tonopah West Project include 560.83-563.88 meters @ 11.52 gpt Au, 1,046.1 gpt Ag (TW20-01) and 574.5-603.5 meters @ 5.29 gpt Au, 435.7 gpt Ag (TW20-01). *Press Release:* July 20

Corvus Gold Inc. announced that recent drill results at the Lynnda Strip Project include 263.7-460.3 meters @ 0.44 gpt Au (CH20-011). *Press Release:* July 16

Scorpio Gold Corp. announced that it acquired the Manhattan properties from Kinross Gold Corp. for \$100,000 cash and \$150,000 in shares. *Press Release:* July 20

Fremont Gold Ltd. announced that recent drill results at the Griffin Project include 15-45 meters @ 0.30 gpt Au (GF20-2) and 29.0-79.3 meters @ 1.05 gpt Au (GF20-3). (resource = 3,509,000 tonnes @ 0.89 gpt Au inferred) *Press Release:* July 21

Scorpio Gold Corp. announced that recent underground drill results at the Goldwedge Project include 25.3-32.92 meters @ 12.47 gpt Au, 176.2 gpt Ag (GWUG20-01); 4.27-6.4 meters @ 0.82 gpt Au, 26.4 gpt Ag (GWUG20-02) and 5.18-6.71 meters @ 5.11 gpt Au, 3.4 gpt Ag (GWUG20-03). (resource = 300,000 tonnes @ 10.58 gpt Au indicated) *Press Release:* July 27

### **"Hard at Work"**



Future GSN member Caylen Milliard breaking in his new GSN hat. He's helping his parents, Justin and Ajeet, with field work this summer. Great job Caylen!

You can purchase one of these cool GSN hats for \$20 by contacting Laura at the GSN office. [gsn@gsnv.org](mailto:gsn@gsnv.org)

## NEWS FROM THE GSN 2021 SYMPOSIUM

### **GSN 2020 Symposium Update: 4<sup>th</sup> Virtual Lecture a Success and Proceedings Orders Filled**

Mark Coolbaugh's presentation on the early phases of exploration at the Silicon Project near Beatty, Nevada was very well received with 152 attendees tallied for the Zoom meeting on Thursday, August 27th. An extended Q&A session capped off the evening. A new co-host for the evening and for further symposium activities, the Arizona Geologic Society, helped expand participation with a number of their members attending the meeting. Recordings of this and previous virtual lectures are available for review on the symposium website: [www.gsnsymposium.org](http://www.gsnsymposium.org). Planning for the September virtual lecture is in progress. Speaker, topic, and date to be determined. Please look for an announcement soon. In October, Tom Benson of Lithium Americas Corporation will speak on their Thacker Pass Project. In November, Kirsten Briggs of MDA/RESPEC and Greg Crouch, author of the "Bonanza King", will discuss Virginia City and the Comstock.

**Proceedings:-** The GSN 2020 Symposium proceedings on USB drives have been mailed to active registrants in the full technical program, as of June 1<sup>st</sup>. Orders for the proceedings on USB drive and in hard copy have been filled in the past week. Proceedings are now available for purchase as hard copy and USB drive. Please use the order form, on the symposium website, for purchases. <https://www.gsnsymposium.org/technical-proceedings-volumes/>

Many thanks for your continued interest in the GSN 2021 Symposium.

Eric

Eric M. Struhsacker

GSN 2021 Symposium Planning Committee Chair



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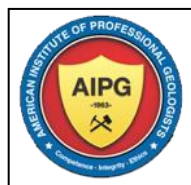
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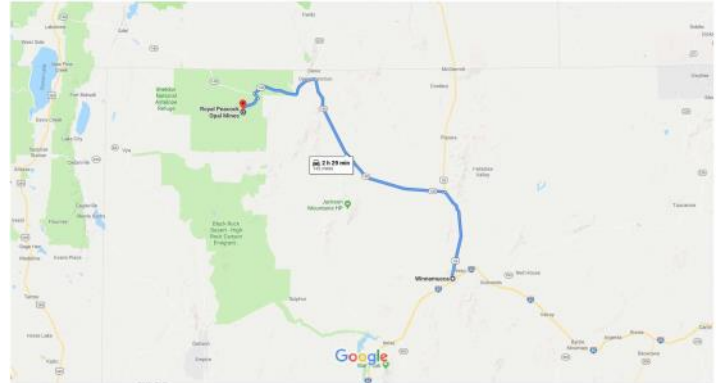


## ROCK TALK

### **NV MINERAL EXPLORATION COALITION HOLDING THIER ANNUAL GREAT BASIN RENDEZVOUS!**

The 2020 Great Basin Rendezvous is right around the corner and will be held September 11<sup>th</sup> through 13<sup>th</sup> this year. Like last year, the 2020 GBR will be hosted by NMEC at the [Royal Peacock Opal Mine](#) (see details below). With the Covid 19 pandemic, we have all aged a bit faster this year. After multiple Zoom meetings, computer blue light dizziness and cancellation of all geologic meetings and events, we need some (socially distanced) fellowship at the Royal Peacock Mine! We are anticipating a great turn out with some new faces but must limit registration to 50 people to stay within legal bounds of the state mandate on social gatherings. The meals will be delicious as always, with a Cornish game hen dinner Friday night sponsored by National Gold Mining Corp., and a prime rib dinner on Saturday night sponsored by Envirotech Drilling. Both nights' dinners with scrumptious side dishes will be prepared by our Royal Peacock camp host. Fabulous breakfasts will be once again sponsored by Falcon Drilling and EM Strategies.

The Royal Peacock Opal Mine has been owned and operated since the 1940s by a single family and offers precious black opal digging for a discounted fee to Rendezvous participants. The mine is in the beautiful Virgin Valley adjacent to the Sheldon National Wildlife Refuge, south and west of Denio and north of Winnemucca. The campground offers 60 dry camping spaces and RV/trailer spots with 30 - or 50□amp hook-ups. Quality bathroom and shower facilities are available along with a fire ring and large grassy area. This will be a wonderful weekend for explorers, drillers, assayers, environmental/permitting folks and their families!



We have been given a discount rate for digging at the opal mine. Digging in the fresh cut-face will cost \$150 and sifting through the mined tailings is \$50. Last year, the most beautiful finds came from sifting through the tailings.

Julie Wilson, owner of the mine and campground has reserved the entire camp for our group this year so we will have the mine and campground to ourselves! A registration fee of \$20 for members plus \$10 for each additional family member (same as last year) will cover the cost of a camp spot for tents or small trailers needing no electrical or water hook-up. As with last year, nonmembers will be charged \$120 (which includes a free 2020 NMEC membership) plus \$10 for each additional family member. The charge for larger trailer sites requiring 30-amp hook-up is \$40.00 per night and 50 - amp hook-up is \$45.90 per night; this will be over and above the registration fee. If you require a trailer or RV site (there's plenty available space per Julie), call her directly at 775.941.0374 to make your reservation and payment arrangements.

We are still in need of more sponsorships, including donations toward adult beverages and camp rental fees. Entertainment for Saturday night includes a slide show focusing on the history of the Virgin Valley presented by Jim Hutchings, who has presented to multiple groups in the past at Royal Peacock. If you are planning to attend and have musical talent, we encourage you to bring your instrument and jam! Please contact Warren Thompson at:

[wfthompson@frontiernet.net](mailto:wfthompson@frontiernet.net) or Catherine Lee at [catherine@emstrats.com](mailto:catherine@emstrats.com) if you are interested in helping out with any of these.

To register for and/or sponsor the event, please go to: <https://www.nvmec.org/2020-great-basin-rendezvous-royal-peacock-opal-mine>

### **Nevada State Geologist Appears in Nightingale Mountains YouTube Movie!**

In the YouTube movie, Nevada's Nightingale Mountains, Jim Faulds, the Nevada State Geologist, describes creation of the range over the past 200 million years. Carl Adams produced the movie for educational purposes and would like many people to see it. Mr. Adams thought some of our GSN members may enjoy it or find a use for it. The URL is [https://www.youtube.com/watch?](https://www.youtube.com/watch?v=ZRA9OZ_LMI0)

[v=ZRA9OZ\\_LMI0](https://www.youtube.com/watch?v=ZRA9OZ_LMI0).



### The Nevada Mineral Exploration Coalition

THIS NEWS COMES FROM THE NEVADA MINERAL EXPLORATION COALITION.

Fellow Explorers:

The recent special sessions of the Nevada Legislature made it clear that the mineral industries of Nevada are, and will continue to be, directly in the crosshairs of both the legislative and executive branches of state government. A number of legislators stated in no uncertain terms that “mining is not paying its fair share,” and vowed to see this through. Clearly, they see us as a solution to the major budget shortfall created by the Corona Virus Pandemic and their resolutions to change the state constitution and the tax rates on the mining industry are just the beginning.

There were three resolutions passed: two would tax gross proceeds at 7.75% while the third would raise the net proceeds rate from 5% to 12%. The proposals to tax gross proceeds were also targeting mining claims, although it's uncertain at this time how that would work. Clearly this would impact all of us! And if all that isn't bad enough, the resolutions would create a constitutional framework that would permit the tax to be raised with a majority vote but only lowered with a super-majority vote!

The 2021 session of the legislature will be starting in a few months and legislators are developing their bill drafts as we speak. Our lobbyist was engaged 24/7 during the special sessions and will be again during the 2021 session. Additionally, we are monitoring legislative proposals (bill draft requests) as they are submitted to alert us to any proposals that may negatively impact exploration.

We will also continue to cooperate with the NvMA in its efforts to mitigate the tax initiatives that will severely impact the operators and the exploration community which rely on what has been a mining-friendly state up until this time.

Now is the time to stand up and be counted. The NMEC needs your help in the form of membership and contributions. The work we do costs and the expansion that will be required to fight the coming battle will cost even more. We need to continue to support mining-friendly candidates, and work to educate legislators on our industry's contributions to the state.

### [JOIN, OR RENEW YOUR MEMBERSHIP ONLINE](#)

Not Want To Register Online?

[Download the Official 2021 NMEC Membership Form](#)

If you are a member, please renew your membership now and if you are not a member, please become one at the highest level you can. Most importantly, give like your business depends on it, because it does!


Sincerely,  
Dave Shaddrick, President  
Nevada Mineral Exploration Coalition



## Joseph R. Anzman July 15, 1934 to October 6, 2019

Joseph R. Anzman died October 6, 2019 at the age of 85. he was born July 15, 1934 in New York and served in the U.S. Navy from 1951 to 1954. he received a bachelor's degree in geophysics from the Colorado School of Mines in 1959. In the 1960s, Joe was employed by Bear Creek Mining, followed in the early 1970s by a position as chief geophysicist for the U.S. bureau of Reclamation at its Denver office. Working for Houston Oil and Minerals followed, after which he became a consulting geophysicist, working on projects both domestically and internationally.

You may recognize Joe's business card ad below as he ran it off and on in the GSN newsletter for at least the past 20 years!



### JOSEPH R. ANZMAN

*Exploration Geophysicist*

P.O. Box 370526  
Denver, Colorado 80237

303-519-0658  
geophjoe@gmail.com

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- domestic & foreign

## Joseph E. Worthington III June 18, 1931 - September 3, 2019

Joseph E. Worthington III passed away September 3, 2019, after a long battle with Alzheimer's disease. Joe was born in 1931, in East Orange, NJ. His parents were Joseph E. and Eleonore H. Worthington. He grew up in the area and enjoyed attending Yankee games with his father. Joe was also a Boy Scout, becoming an Eagle Scout. Attending Philmont Scout Ranch during high school was the inspiration for his interest in geology. He graduated from Williams College in 1953 with a degree in Geology and completed a MS in Economic Geology at Columbia University in 1954. Soon thereafter, Joe started with the ASARCO Mining Company. He served in the Army, from 1956 to 1958, working for the Beach Erosion Control Board as a geologist. Joe married Helen F. Weissenborn in 1959 and moved to Tucson, Arizona in the summer of 1960 to work for Bear Creek Mining Company in its exploration department. While with Bear Creek, he transferred to Salt Lake City, Utah, followed in a couple of years by a transfer to Knoxville, Tennessee. Joe and Helen had three children, in the first half of the 1960's, Bill, Sally, and Ted. In 1967, the family moved to Spokane, Washington so Joe could take a job with Cyprus Mining Company. While there, he oversaw exploration in the Northwest and eventually the entire U. S. In 1976, Joe transferred to the head office in Los Angeles, California. In 1978, he took a new job with the Caithness Corporation, back in Tucson. While still in Tucson, he worked as a consulting geologist until 1982. Joe moved to Colorado in 1982 to take a new job with Houston Minerals, which became Tenneco Minerals, placing him in charge of exploration in the U. S. and Canada. While working for Tenneco, Joe and his family moved to Evergreen, Colorado in 1983, where he lived for thirty-three years. In 1985,

he became an independent consulting geologist, again, this time working in the U. S. and abroad. In the summer of 1988, he took a position with ASARCO, still working in exploration outside the U. S. and stayed there until he retired in 1996. After his "retirement" Joe continued to work as a consulting geologist both in the U. S. and abroad until about 2010. Joe received the Ben Dickerson III Award, from the Society of Mining, Metallurgy, and Exploration for his professionalism and contributions to mining exploration in 1997. Joe published about 20 refereed articles in various geological journals. Joe's work involved a lot of traveling, but in retirement, he traveled to different parts of the world for fun, including Chile, Spain, Greece, Scotland, Mexico and New Zealand. He enjoyed visiting his children and granddaughter over the last 20 years. His children inherited his love of the outdoors and reading.

Joe was preceded in death by his parents and his wife Helen. He is survived by his three children Bill, Sally (Jake Knauss), and Ted (Kim) and his granddaughter Emma F. Worthington.

In lieu of flowers, donations in his name can be made to:

Williams College – Alumni Fund

Be sure to add: In memory of Joe Worthington '53 <https://giving.williams.edu/ways-to-give/>

or the Weissenborn Scholarship Fund at Eastern Washington State University:

EWU Foundation

Albert E. Weissenborn Geology Scholarship

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(Donors will need to put information under "Additional Information" or Comments, both at the bottom of the page and specify: Albert Weissenborn Geology Scholarship, in memory of Joe Worthington or the money goes into the general fund.)

## David C. Jonson 1929—2020

David C. Jonson died June 20, 2020 at the age of 90. Dave was born in Denver, Colorado in 1929 and received both his bachelor's degree in geological engineering and his master's degree in geology from the Colorado School of Mines. Following military service in Korea, Dave's first job as a geologist was with the Climax Molybdenum Company under Stewart Wallace working on the Climax Mine. This was succeeded by work in Midwest Oil's mineral division under Geoff Snow. After Midwest's takeover by Amoco, Dave accepted a managing position with them but he left soon after to work with Freeport Minerals' exploration group, which eventually led to a career as a consultant. During his 30 years in this role, Dave consulted for over 80 mining and exploration companies.

Donations may be sent to the Colorado School of Mines Foundation in his memory.

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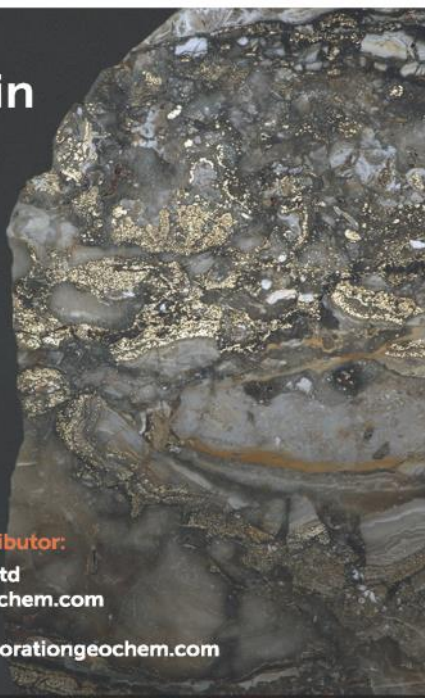
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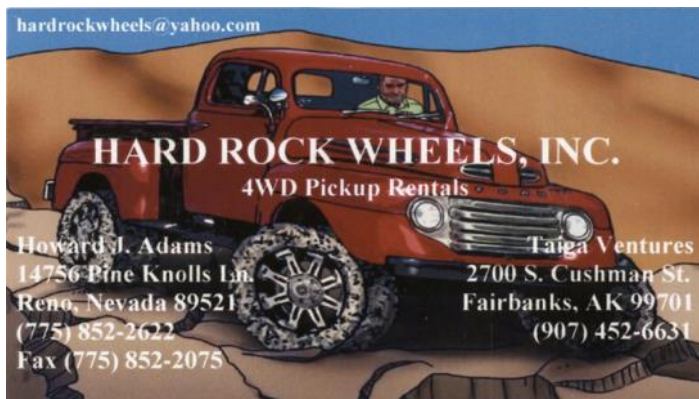
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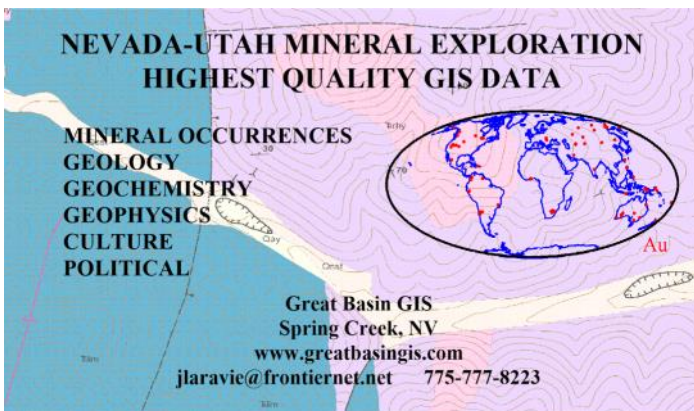
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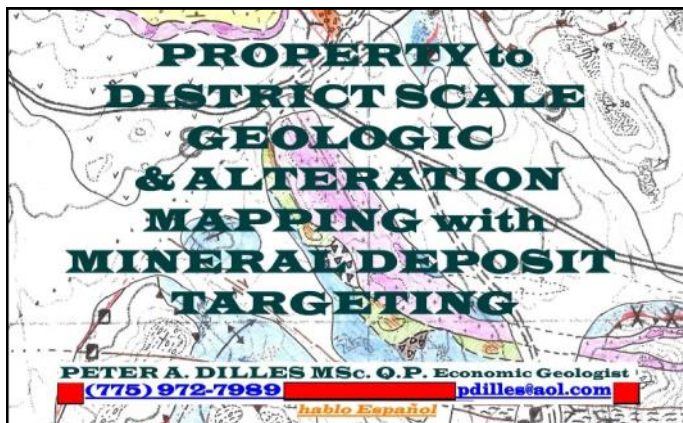
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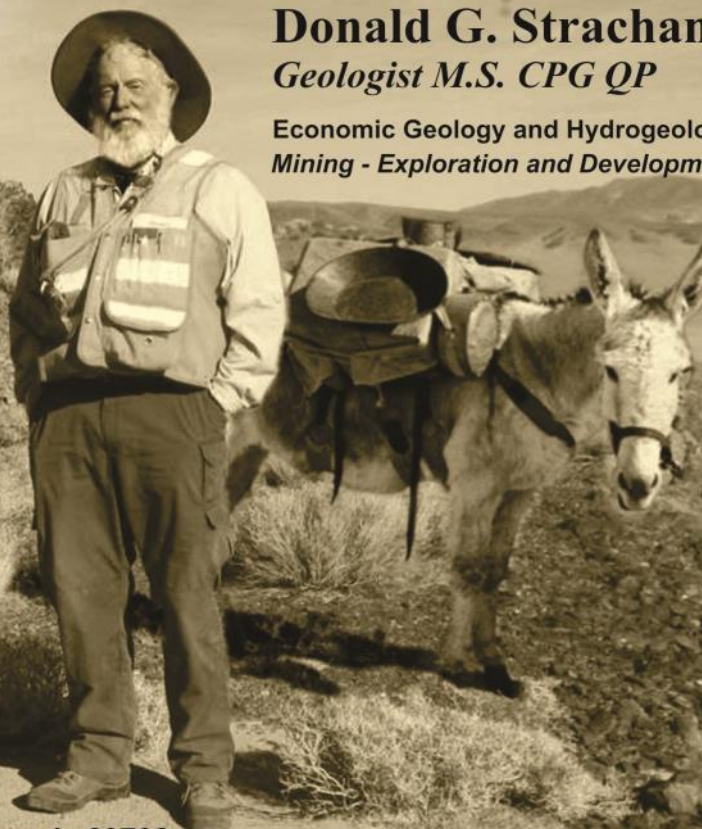
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