



GEOLOGICAL SOCIETY OF NEVADA NEWSLETTER

Geological Society of Nevada, 2175 Raggio Parkway, Reno, NV 89512
(775) 323-3500 - Hours Monday -- Friday, 10 a.m. to 4 p.m.
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FEBRUARY 2023 ISSUE, Vol. 39, No. 2

Published monthly except June and July

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FEB. 8, 2023 WEDNESDAY

GSN WINNEMUCCA CHAPTER

The GSN Winnemucca Chapter meeting will be held at the Martin Hotel, 94 W. Railroad St., Winnemucca. **Guest Speaker: Vance Spalding, Contact Gold.** Title: "Exploration Update and Discussion of Controls to Mineralization and New Discoveries and Targets at the Green Springs Project, White Pine County, Nevada". **SPONSOR: Envirotech Drilling LLC.** For more information, please contact Chapter Co-Presidents: Pat Donovan at: pdono-van20@icloud.com or Nancy Wolverson at: nancyjeanw@aol.com. Details on pg. 4.

FEB. 16, 2023 THURSDAY

GSN ELKO CHAPTER

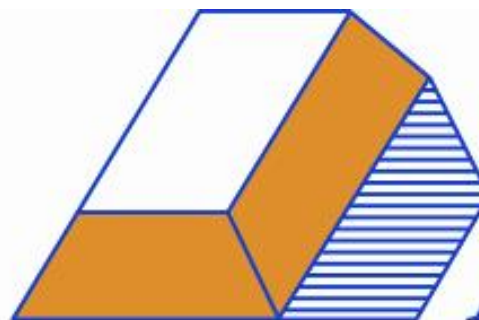
The Elko Chapter will hold their meeting at the Western Folklife Center, 501 Railroad St. Elko. **SPEAKER: Emily White, Texas A&M University.** Title: "Petrogenetic Evolution and Exhumation Histories of Jurassic-Eocene plutons in the Northern Great Basin: Impacts on Carlin- and Porphyry-Type Deposit Models". **SPONSOR: Major Drilling.** Please contact Elko President Justin Milliard: justin.b.milliard@gmail.com for more information. Details on pg. 5.

FEB. 17, 2023 FRIDAY

GSN REGULAR MEMBERSHIP MEETING

The GSN meeting will be held at the Hidden Valley Country Club. **Guest Speaker: Rich DeLong, WestLand Engineering and Environmental Services and Nevada State Assemblyman.** Topic: A freshman's impression of how the Nevada State Legislature process works. **Sponsor: Kappes, Cassidy & Associates.** Dinner cost is \$50. Please register for dinner online or RSVP at this link: [RSVP/DINNER](#) Details on pg. 3. **PLEASE RSVP BY SUNDAY, FEBRUARY 12TH AT MIDNIGHT!**

GSN FEBRUARY 2023 RENO MEETING SPONSOR



KCA
Kappes, Cassidy & Associates

FROM THE PRESIDENT
Kel Buchanan, GSN President 2022-2023
FEBRUARY 2023



Our January meeting at the temporary location of the Atlantis Hotel was well attended and well received. The remaining meetings, until our summer break, will be held at the Hidden Valley C.C. Our February meeting will feature newly elected Nevada Assemblyman (and former GSN president) Rich Delong giving us a broad-brush look of a freshman's impression of how the legislative process works.

Over the last couple of weeks, I've spent more time traveling to the UNR campus and I have trouble recalling what the new construction replaced. From the perspective of a student enrolled at UNR, the changes on the campus probably aren't as impactful, but it is striking to me. It's not just in Reno. With new research highlighting how geology is viewed by the Nevada public, and the sometimes sudden changes in rural landscapes, we are fortunate that one of the perks of being a member of GSN is participating in bi-annual field trips. As any past participant can attest, GSN field trips are top drawer, and always informative and entertaining. Our GSN VP Tony Gesualdo is currently planning an eastern Nevada-focused field trip. With some site visits at higher elevations, the trip is being scheduled for early June, as a weather-related precautionary measure. If possible, we may try to tie the May dinner meeting theme to this field trip.

Geology is making the print news locally as well. Recently, a photo of GSN EC member Melissa Boerst graced the front page of the Reno Gazette-Journal. The photo shows her pointing out the geological landscape of the Thacker Pass lithium site. Another news item referenced a \$700 million Federal loan to Ioneer, while a recent announcement mentioned Northern Nevada as the site of a new Musk battery plant. Our area is now in the spotlight for technological advancements, especially relating to valuable minerals.

Kel Buchanan

GSN wishes to thank the Reno January meeting Sponsor!



And the Winnemucca and Elko January meeting Sponsors!



GSN MEETING in RENO—FRIDAY, FEBRUARY 17, 2023

**GUEST SPEAKER: Richard DeLong, Sr. Vice President
WestLand Engineering & Environmental Services,
and newly elected Nevada State Assemblyman**

**TOPIC: A Freshman's impression of how the Nevada
State Legislature process works.**

Sponsor: Kappes, Cassiday & Associates

TIME: Drinks @ 6 pm, Dinner @ 6:30 pm, Talk @ 7:30 pm

WHERE: Hidden Valley Country Club, 3575 E. Hidden Valley Dr., Reno

DINNER COST: \$50.00

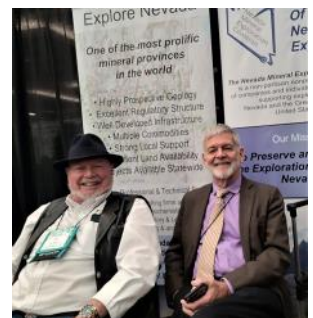
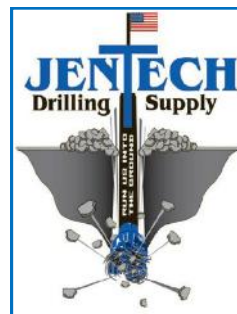
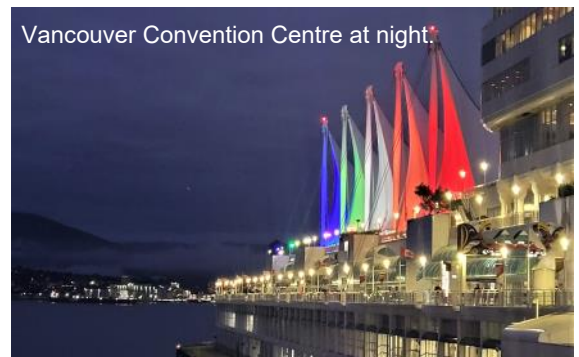
RSVP/DINNER. (PLEASE RSVP BY Sunday, February 12th!)

GSN Exhibits with NMEC and NDOM at AME Roundup in Vancouver

By Laura Ruud

The GSN flew its flag at the AME Roundup in Vancouver Jan 23-27th alongside our friends at the NV Mineral Exploration Coalition and the Nevada Division of Minerals. We didn't have a Nevada room this year and were in the Exhibit Hall for the first time! I'm happy to report that traffic was good, we made a few sales, signed up a few new members, and talked a LOT about the prospects of Nevada to interested Canadians and others. A big thanks to **Dave Shaddrick** and **Steve Green** for hauling the GSN boxes to Vancouver and setting up the booth. Also, thanks to **Mike Visher** and **Lucia Patterson** from NDOM who helped cover our booth when we took a break.

Finally I'd like to thank the following individuals who donated to GSN through their generous "picking up of Laura's expenses". Specifically **Clint Welch** and **Donnie Schoorl** from **JenTech Drilling Supply** who bought me dinner Sunday and paid for the cab ride from the airport to my hotel. Also, thanks to **Dave Shaddrick** and **Jim Matlock** who bought me dinner Tuesday evening.



Dave Shaddrick and Steve Green



GSN WINNEMUCCA CHAPTER NEWS



Meeting Date: , Wednesday, February 8, 2023

Location: The Martin Hotel, 94 W. Railroad St., Winnemucca

Meeting time: 6 pm for appetizers and beer; Talk time: 7 pm

**FOOD & BEER
SPONSOR:**

Envirotech Drilling LLC

Speaker: Vance Spalding, VP Exploration, Contact Gold

Title: “Exploration Update and Discussion of Controls to Mineralization and New Discoveries and Targets at the Green Springs Project, White Pine County, Nevada”

For more information, please contact Chapter Co-Presidents: Nancy Wolverson at: nancyjeanw@aol.com or Pat Donovan at: pdonovan20@icloud.com.

Abstract:

The Green Springs mine produced approximately 74,000 ounces of gold grading 2.31 g/t Au in the late 1980's from two small open pits (C and D pits). Three other zones of Carlin-type oxide mineralization (A, B, and E zones) were identified, but not mined, during this period. Contact Gold optioned the project from Ely Gold Royalties in 2019 and completed the acquisition in January, 2023. Centerra optioned the project in December of 2022, and is earning in on the project by spending \$10 million on exploration over 4 years, with Contact as Operator.

Gold mineralization at Green Springs is hosted in two stratigraphic horizons; at the contact between the Mississippian Joana limestone with the overlying Mississippian Chainman shale, and at the contact between the Devonian Guilmette limestone with the overlying Devonian/Mississippian Pilot shale. With the exception of the A zone, past production and drilling focused on the Mj/Mc contact, with only a few holes testing the underlying Dg/MDp contact beneath the mine trend, where anomalous gold was encountered.

In 2020, Contact Gold made two new discoveries at the Tango and X-Ray zones; 1.01 g/t Au over 13.72 meters and 0.55 g/t Au over 54.86 m in 2 holes at Tango, and 1.28 g/t Au over 39.62 m and 0.82 g/t Au over 24.38 m – 97% CN recovery. Both discoveries were made by targeting gold bearing jasperoid at the Dg/MDp contact near NW striking high angle faults. Also in 2021, a drill hole targeting a gap in historic drilling between B zone and D pit delivered an intercept of 0.7 g/t Au over 16.7 meters from the Dg/MDp contact horizon, representing the thickest and highest-grade intercept to date from that relatively untested target beneath the mine trend. A small follow up program in 2022 continued to expand these discoveries, and a 14,000-foot program is planned for 2023 now that Centerra's funding has been secured.



GSN ELKO CHAPTER NEWS



The Elko GSN Chapter is excited to have another of our scholarship recipients present at our February meeting at the Western Folk Life Center on Thursday February 16th. Emily White of Texas A&M University will be presenting on her PhD research Petrogenetic Evolution and Exhumation Histories of Jurassic–Eocene plutons in the Northern Great Basin: Impacts on Carlin- and Porphyry-Type Deposit Models. We are greatly appreciative for her coordinating her schedule to be able to present to our members in person. The event is graciously hosted by our sponsor Major Drilling.

Thursday, February, 16, 2023

Western Folklife Center, 501 Railroad St., Elko, NV

Food and Drinks @ 6 p.m., Talk to begin @ 7 p.m.

FOOD & BEER SPONSOR:

MAJOR
Drilling

Presenter: Emily White, Texas A&M University

Title: Petrogenetic Evolution and Exhumation Histories of Jurassic–Eocene plutons in the Northern Great Basin: Impacts on Carlin- and Porphyry-Type Deposit Models

Abstract:

Petrogenetic and thermochronologic study of Jurassic–Eocene retroarc plutons in the North American Cordilleran hinterland of eastern Nevada and western Utah provide key constraints on the timing and style of magmatism and upper-crustal deformation in the Sevier–Laramide orogen. Results from isolated sites across the hinterland support the general existence of high-magnitude Cretaceous and Paleogene exhumation in the hinterland, but quantitative constraints on Cretaceous–Eocene cooling histories are spatially limited. We present preliminary results from trace and rare earth element geochemistry, zircon and apatite U–Pb geochronology, and (U–Th)/He thermochronology of Jurassic–Eocene plutonic samples collected across a broad E–W transect of the Nevada–Utah hinterland. A combination of high- and low-temperature geothermometric and thermochronologic constraints provide quantitative estimates of mid- to upper-crustal unroofing in the hinterland. Preliminary geochemical results of Jurassic–Cretaceous plutons reveal: (1) broadly similar whole rock and trace element geochemistry suggesting correlative petrogenetic emplacement histories, (2) trace element variations are related to proximal porphyry- and skarn-type alteration, and (3) the degree of alumina saturation is indicative of peraluminous plutons formed through partial melting of metasedimentary rocks. New apatite U–Pb geochronology and (U–Th)/He thermochronology indicates three prominent phases of exhumation during the Late Cretaceous, Paleogene, and Miocene. The preponderance of apatite grains with Cretaceous–Paleogene (U–Th)/He cooling ages are consistent with recent hypotheses of significant early, pre-Basin-and-Range, exhumation in the North American Cordilleran hinterland.

SPONSOR'S COMPANY INFORMATION: Major Drilling

Major Drilling is one of the world's largest drilling services companies primarily serving the mining industry. We maintain field operations and offices in Canada, the United States, Mexico, South America, Africa and Australasia. Our specialized global teams provide a complete suite of drilling services for both surface and underground projects.

<https://www.majordrilling.com/>

GSN ELKO CHAPTER SCHOLARSHIP NEWS

GSN Elko Scholarship is now open for applications. Please share the flyer with any qualifying students.

Geological Society of Nevada, Elko Chapter:

SCHOLARSHIP OPPORTUNITY



WHO: This opportunity is for any graduate or undergraduate student who intends to pursue or is currently involved with a research topic related to Nevada geology or regionally related to Nevada geology.

WHAT: The successful applicant will be awarded a tuition scholarship in an amount between \$500 - \$1,500 depending on tuition needs.

WHEN: We will be awarding this tuition scholarship for the 2023-24 academic year with a submission deadline of **March 31st, 2023.**

WHERE: Any undergraduate or graduate student with a project that involves Nevada-related geology is eligible to apply for this tuition assistance. Preference will be given to economic geology associated projects within Northern Nevada, but this is not necessary.

WHY: The successful applicant upon completion of their research will be invited to give back to GSN Elko in the form of a technical presentation at one of our regularly scheduled meetings to present your research.

HOW: Please submit an application to GSN Elko Executive Committee via mail, email, or online and you will be contacted as opportunities are formalized. You can find application details at: <https://www.gsnv.org/chapters/elko/>

For more details or to send in applications:
GSN Elko Exec. Comm.
P.O. Box 2591
Elko, NV 89803-2591

Or email –
Allison Mastenbrook, Secretary
mastenbrook.am@gmail.com



NEWS FROM THE FOUNDATION

By Cami Prenn, GSN Foundation Chair

Not sure how you all feel about all the snow but I've had enough! That New Year's Eve storm changed many plans for celebrating the start of 2023. I know many of you enjoy winter snow sports and I hope you're having a great time taking advantage of this snowy winter. And I hope our reservoirs will be full.

Before we know it spring will be here and that signals the season for UNR Field Camp Scholarships. It's open to UNR students taking the 6-credit Field Camp and the application can be found on the website (gsnv.org) under the Foundation tab. The deadline for applications is March 24 and the scholarships will be awarded at the April GSN meeting. All applicants must be GSN student members.



LOWELL PROGRAM IN ECONOMIC GEOLOGY SHORT COURSE REGISTRATION OPEN!



Structural Geology for Exploration and Mine Geologists

19-28 March 2023, based in Tucson, Arizona (REGISTER BY FEB. 28th)

Jointly sponsored by Lowell Program in Economic Geology and AZ Geological Survey, Univ. of AZ

Organized by Eric Seedorff and Carson A. Richardson

Assisted by Rocío Brambila, with many co-organizers, collaborators, and advisors

Structural geology is important to the sound practice of mineral production, development, and exploration, and it has played a central role in discovery of deposits such as Kalamazoo and Ann-Mason. **The course is designed as an immersive experience**, an intensive ten-day course following the design of the long-running LPEG short courses on *Ore Deposits Mapping* and *Porphyry Deposits* that have trained >1000 participants, about 70% from industry, from >80 companies and >30 countries. **The intended customers / target audience** are the global, early- to late-career professionals who want to improve their skills in structural geology. The course is designed to accommodate **participants with a wide range of experience**, from those having little experience (e.g., an undergraduate degree in geology plus one year of industry experience *or* one year of graduate education) to those who are, or aspire to be, specialists in the structural geology of mineral deposits. **The instructors** are current and former industry, academic, and government geologists with expertise in structural geology, mineral deposits, or both, including structural geology specialists from industry, who will offer personal interaction with participants.

For more information and how to register, please contact Rocío Brambila | Program Coordinator
The Lowell Program in Economic Geology. The University of Arizona | Department of Geosciences
Phone (520) 626.4962, Email: brambila@arizona.edu; Webpage: <https://lpeg.geo.arizona.edu/>

Mining Activity Update

DECEMBER 2022, Mike Brady

LMBrady@aol.com

NEVADA

Western Exploration Inc. announced that recent drill results at the Aura Project include 14.78-89.0 meters @ 1.71 gpt Au (DGC-791); 5.94-46.33 meters @ 2.48 gpt Au (DGC-792) and 24.99-51.97 meters @ 2.12 gpt Au (DGC-793). (resource = 12,922,000 tonnes @ 0.98 gpt Au indicated) *Press Release:* December 8

I-80 Gold Corp. announced that recent drill results at the Ruby Hill Project include 591.3-597.4 meters @ 5.3 gpt Au (IRH22-30); 485.7-499.9 meters @ 14.4 gpt Au (IRH22-32); 444.6-451.6 meters @ 6.5 gpt Au (IRH22-35) and 524.7-530.4 meters @ 5.8 gpt Au (IRH22-36). *Press Release:* November 29

I-80 Gold Corp. announced that recent drill results at the Ruby Hill/Hilltop Project include 399.3-438.9 meters @ 12.3% Zn (IRH22-61). *Press Release:* December 19

Fortitude Gold Corp. announced that recent drill results at the County Line Project include 42.67-51.81 meters @ 1.24 gpt Au (CLRC-37); 12.19-25.91 meters @ 2.59 gpt Au (CLRC-41); 0-22.86 meters @ 1.34 gpt Au (CLRC-43) and 13.72-22.86 meters @ 2.02 gpt Au (CLRC-46). *Press Release:* November 29

Getchell Gold Corp. announced that based on recent drill results at the Fondaway Canyon Project, resources aggregate 11,000,000 tonnes @ 1.56 gpt Au indicated and 38,300,000 tonnes @ 1.23 gpt Au inferred. (was 2,050,000 tonnes @ 6.18 gpt Au indicated and 3,200,000 tonnes @ 6.40 gpt Au inferred) *Press Release:* December 15

Centerra Gold Inc. announced that it acquired an option to earn a 70% interest in the Green Springs Property from Contact Gold Corp. for \$1,000,000 cash and \$10,000,000 in exploration expenditures over 4 years. (resource = 754,500 tonnes @ 2.05 gpt Au inferred) *Press Release:* December 9

Allegiant Gold Ltd. announced that recent drill results at the Eastside Project include 277.06-287.73 meters @ 0.65 gpt Au (ES-280); 407.82-420.01 meters

@ 0.95 gpt Au (ES-281); 423.67-472.44 meters @ 1.0 gpt Au (ES-282) and 410.26-515.57 meters @ 0.45 gpt Au (ES-285). (resource = 34,960,000 tonnes @ 0.77 gpt Au inferred) *Press Release:* December 7

Hycroft Mining Holding Corp. announced that recent drill results at the Hycroft Project include 267-360 meters @ 0.70 gpt Au, 55.9 gpt Ag (H22R-5670); 26-61 meters @ 2.83 gpt Au, 35.6 gpt Ag (H22R-5671); 77-117 meters @ 1.40 gpt Au, 48.1 gpt Ag (H22R-5672) and 70-111 meters @ 0.58 gpt Au, 9.1 gpt Ag (H22R-5685). (reserve = 669,680,000 tonnes @ 0.34 gpt Au, 14 gpt Ag proven+probable) *Press Release:* December 20

Rex Minerals Ltd. announced that recent drill results at the Hog Ranch Project include 76.7-89.9 meters @ 0.30 gpt Au (HR22-07); 88.4-123.4 meters @ 0.30 gpt Au (HR22-08); 1.5-29.0 meters @ 0.43 gpt Au (HR22-12) and 3.0-35.1 meters @ 0.71 gpt Au (HR22-13). (resource = 35,000,000 tonnes @ 0.49 gpt Au indicated) *Press Release:* December 19

Blackrock Silver Corp. announced that recent drill results at the Silver Cloud Project include 218.85-221.9 meters @ 0.44 gpt Au (SBC22-19); 307.54-309.07 meters @ 52.62 gpt Au (SBC22-20) and 178.61-187.91 meters @ 0.40 gpt Au (SBC22-21). *Press Release:* December 7

Viva Gold Corp. announced that recent drill results at the Tonopah Project include 43-64 meters @ 0.5 gpt Au (TG2212); 41-49 meters @ 0.4 gpt Au (TG2214); 76-94 meters @ 5.0 gpt Au (TG2217) and 73-91 meters @ 4.1 gpt Au (TG2219). (resource = 16,204,000 tonnes @ 0.78 gpt Au measured+indicated) *Press Release:* December 8

Lahontan Gold Corp. announced that based on recent drill results at the Santa Fe Project, resources aggregate 21,587,000 tonnes @ 0.96 gpt Au, 7.8 gpt Ag indicated and 11,141,000 tonnes @ 0.70 gpt Au, 3.8 gpt Ag inferred oxide. Unoxidized resources aggregate 8,813,000 tonnes @ 1.27 gpt Au, 11.3 gpt Ag indicated and 5,866,000 tonnes @ 1.45 gpt Au, 4.1 gpt Ag inferred. (no previous data) *Press Release:* December 7

(This space is provided for members who have something of geologic interest to share. All content is approved by the GSN Exec. Committee.)

Wombat Mining & Exploration Co.

Tale of the Mother Lode “Gold Boulder”

The Tale begins in 2008 with the Article in the *California International Mining Journal* (CIMJ) that discusses the capabilities of various metal detectors.

The article described in detail the capabilities of the FALCON 20 system that had been available for several years.

Specifically, the FALCON 20 systems were “tuned” to a specific frequency (usually 330 nm) that had proven successful in finding gold in quartz veins.

The article was taken to heart by members of the Calaveras Gem and Mineral Society (CG&MS) FALCON Group who, then under the leadership of an experienced Metal Detectorist with over 50 years using various metal detectors, began to look for quartz “boulders” left behind from past gold placer dredge mining operations (See the excellent article in the November 17th Edition of the *Calaveras Enterprise* OR catch the EXCELLENT Calaveras Public Television\YOUTUBE INSIDE Interview with RICH LUNDIN that is currently online internationally).

These efforts over the past five years led to the discovery of over 20 “Gold Boulders” that were left behind by past mining operations for various reasons: (fine or no gold on the surface, covered with mud or just too large to transport or crush).

The common theme in these discoveries were.

A strong GOLD FALCON 20 response

When cut at the CG&MS Laboratory, most had visible gold values in excess of 1 Troy Ounce Per Ton (OPT).

Seven years ago, the Leader of the CG&MS FALCON Group came across a large boulder of white quartz that weighed 265 lbs. and sat alone in a grassy field with minor iron oxide staining. The individual was having lunch approximately 50 feet away from the boulder and noticed the glint of gold in the sun. Curious, he examined the VERY LARGE boulder with his FALCON unit.

IT BUZZED with a tone indicating either GOLD or SILVER throughout the boulder.

He, with CONSIDERABLE EFFORT, got the boulder into his truck and back to his house, where it stayed for several years.

As it was too large to transport or cut with the CG&MS Laboratory equipment, it remained uninvestigated.

Seeing it was TOO heavy to be moved around, BUT still, probably contained 5-10 Troy ounces of very fine (approx. 400 mesh) GOLD or SILVER, he made it available for sale to Wombat Mining & Exploration Co. (WME), a 32-year-old Arizona Mining & Mineral Exploration Co.

WME bought it and arranged for it to be cut by Raymond Granite, who cut it and, immediately discovered the widely disseminated fine gold and dark material that may be either the SILVER-GOLD sulphide mineral Argentite or the very rare SILVER-GOLD telluride mineral, Calaverite, both of which typically occur in the Mother Lode quartz vein deposits.

WME is going to display portions of the Gold Boulder at local and regional Gem and Mineral shows and Mineral Museums throughout the Southwest this year and, at the March CG&MS Show.

Please contact Richard Lundin for more information: Wondjinaman@gmail.com; Work: 209-586-5632

OTHER UPCOMING EVENTS

January 30-February 2, 2023: NWRA 2023 Annual Conference. To be held at the Nugget Casino Resort in Sparks, Nevada. Register by January 1, 2023, for early rates. Go to <https://www.nwra.org/2023-ac-program> for conference information and registration. For questions or more information call Tina Triplett at 775-473-5473 or e-mail NWRA at nevadawaterresources@gmail.com.

February 2, 2023: NPGS Nevada Petroleum & Geothermal Society normally meets on the 1st Thursday of each month at the Tamarac Junction, Reno, NV. Please contact Robert@Hot-Inc.net if you'd like to attend or help out by serving on the Board.

February 6, 2023: DREGS Denver Region Exploration Geologists Society, CSM, Berthoud Hall, Golden, CO. Speaker: Dr. Bill Rehrig Presentation Title: "The use of joint/vein analysis in exploration, mining, and tectonics" Social hour @ 6pm Talk @ 7pm For more information, please visit their website: <https://www.dregs.org/events>.

February 7, 2023: Arizona Geological Society normally meets on the 1st Tuesday of each month. Time - 6:30 MST. For more information please click here: <https://www.arizonageologicalsoc.org/events>

February 13, 2023: SME Northern Nevada Chapter. Circus Circus Mandalay Room, Reno, NV. **Speaker:** A.J.S. (Sam) Spearing, *Executive Director, Workforce Development & the Proposed Mining Center of Excellence, Great Basin College.* **Title:** "The proposed Mining Center of Excellence in Elko". Social 6 pm, Dinner 6:45 pm, Talk 7:30 pm. For more information visit their website: <https://nnevsmesquare.site/> or contact: NNEvSME@gmail.com

GSN 2023 Directory Pick-up Party

The **new GSN 2023 Membership Directories** will be available to pickup in Reno in the coming weeks!

SRK CONSULTING has agreed to continue their tradition of sponsoring a "Directory Pick-Up" party as soon as they come back from the printer. Keep your eyes on your emails from GSN for the details. You can help save GSN postage by picking your directory up and have a drink on **SRK CONSULTING!**

For those in Winnemucca, I hope to have some copies available for pick-up at the Feb. 8th meeting. Same for Elko on Feb. 16th and of course at the Reno meeting on Feb. 17th.

IF YOU DO NOT WANT A HARD COPY OF THE DIRECTORY, PLEASE SEND LAURA AN EMAIL: GSN@GSNV.ORG



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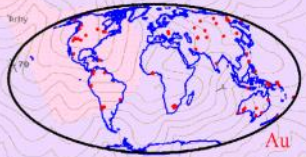
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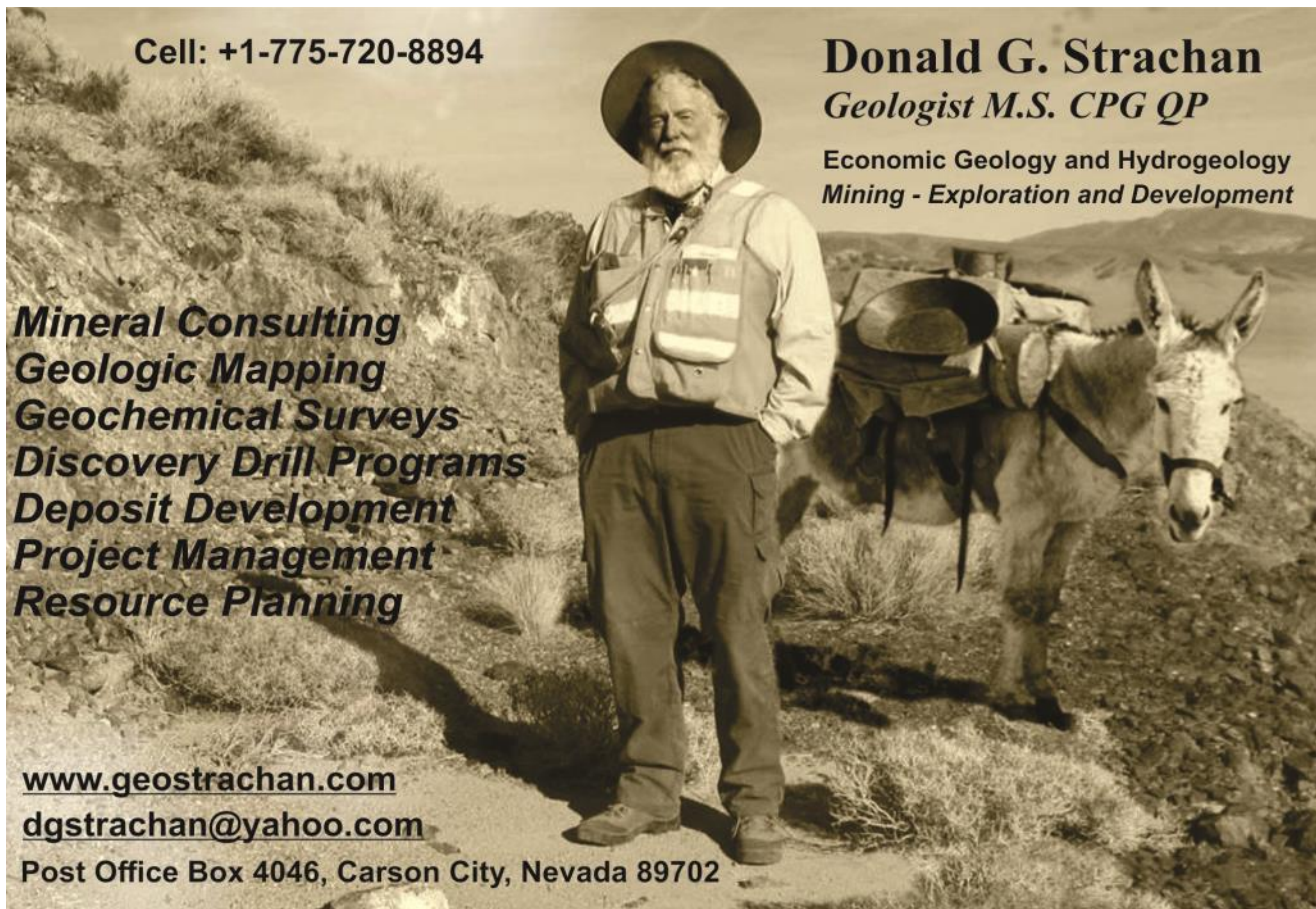
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