

# GEOLOGICAL SOCIETY OF NEVADA NEWSLETTER

Geological Society of Nevada, 2175 Raggio Parkway, Room 107, Reno, NV 89512  
(775) 323-3500 - Hours Tuesday -- Friday, 9 a.m. to 4 p.m. Monday by appointment.

Website: [www.gsnv.org](http://www.gsnv.org) • E-mail: [gsn@gsnv.org](mailto:gsn@gsnv.org)



October 2019, Vol. 35, No. 8

Published monthly except June and July

## CALENDAR OF GSN EVENTS

### PRESIDENT

Dennis Bryan

Consultant

[dpbryan@sbcglobal.net](mailto:dpbryan@sbcglobal.net)

### VICE PRESIDENT

Mary Stollenwerk

ALS Minerals

[Mary.Stollenwerk@alsglobal.com](mailto:Mary.Stollenwerk@alsglobal.com)

### SECRETARY

Steven Weiss

Consultant, Geologist

[siraweiss@outlook.com](mailto:siraweiss@outlook.com)

### TREASURER

Bob Kastelic

McEwen Mining

[bob\\_kastelic@yahoo.com](mailto:bob_kastelic@yahoo.com)

### MEMBERSHIP CO-CHAIRS

Patty Capistrant, Renaissance Gold

[plcapistrant@gmail.com](mailto:plcapistrant@gmail.com)

Kelsey Sherrard, Terraphase Engineering

[Krsherrard@gmail.com](mailto:Krsherrard@gmail.com)

### PUBLICATION CO-CHAIRS

Ruth Carraher, C&M Consultants

[racarraher@gmail.com](mailto:racarraher@gmail.com)

Shannon Gill, Kinross Gold

[shannon.gill@kinross.com](mailto:shannon.gill@kinross.com)

### GSN EXECUTIVE MANAGER

Laura Ruud

[gsn@gsnv.org](mailto:gsn@gsnv.org)

### GSN BOARD OF DIRECTORS

Chairman

Robert Thomas

Current GSN President

Dennis Bryan

Most Recent Past GSN President

Richard Bedell

Elko Chapter President

Diane Cheung-Harris

So. Nevada Chapter President

Joshua Bonde

Winnemucca Chapter President

Robbie Anderson

Class A, 2018-2021

Robert Thomas-CHAIR

John Watson

Class B, 2019-2022

David Caldwell

Greg French

Class C, 2017-2020

David Shaddrick

Camille Prenn

Oct. 9, 2019  
WEDNESDAY

### WINNEMUCCA CHAPTER MONTHLY MEETING (2nd Wednesdays)

The monthly meeting will be held at The Martin Hotel, 94 W. Railroad St., Winnemucca. **Speaker: Sergey Konyshev, UNR PhD Student. Title: "Metasedimentary Rock-hosted Au-Sb-W-Hg system within the Stibnite Roof Pendant, Yellow Pine Mining District, ID". Food & Drinks Sponsored by: IMDEX.** For more information, please contact Robbie Anderson at [robbie.agau@gmail.com](mailto:robbie.agau@gmail.com). Details on page 6.

Oct. 11-13, 2019  
FRI to SUN

**GSN FALL 2019 FIELD TRIP** to the Pan Mine, Gold Rock, and Mt. Hamilton! Click here to **REGISTER NOW:** <https://www.gsnv.org/field-trips/>. Details and check registration form on page 9. Only 10SEATS LEFT!

Oct. 17, 2019  
THURSDAY

### SO. NEVADA CHAPTER MONTHLY MEETING (1st Thursdays normally)

The monthly meeting will be held at the Las Vegas Natural History Museum, 900 N. Las Vegas Blvd. Pizza & Beer @ 5:30 p.m., Talk @ 6:15 p.m. **Speaker: Dean Heitt. Title: Before the Gold: the Early Mining History of the Carlin Trend 1874-1961. Food & Drinks Sponsored by: SOUTHERN NEVADA CONSERVANCY!** For more info please contact Joshua Bonde at [paleo@lvnhm.org](mailto:paleo@lvnhm.org). Details on page 7.

Oct. 17, 2019  
THURSDAY

### ELKO CHAPTER MONTHLY MEETING (3rd Thursdays)

The monthly meeting will be held at the Western Folklife Center, 501 Railroad St., Elko. Refreshments begin @ 6:00 p.m. Talk @ 7:00 p.m. **Speaker: Scott Briscoe, Nevada Gold Mines. Topic: The importance of field data in geological modeling. Food & Drinks Sponsored by: IMDEX.** For more information please contact Diane Cheung-Harris at: [dianecheung@gmail.com](mailto:dianecheung@gmail.com). Details on page 8.

Oct. 18, 2019  
FRIDAY

**GSN MEMBERSHIP MEETING (3rd Fridays)** will be held at Great Basin's Taps & Tanks, 1155 S. Rock Blvd. Reno, NV. Drinks @ 6:00 pm, DINNER @ 6:30 pm, Talk @ 7:30 pm. **Speaker, Bernard Rowe and John Reynolds, Ioneer Ltd. Title: The Rhyolite Ridge Project, Nevada: an example of a stratiform lithium-boron deposit of exhalative origin? Drinks Sponsored by: RUEN DRILLING.** DINNER THIS MONTH! \$30. CLICK HERE TO PREPAY: <https://www.gsnv.org/dinner-reservations/>. Details and abstract on pg. 3.

## OCTOBER SPONSOR



**RUEN  
DRILLING**  
[www.ruendrilling.com](http://www.ruendrilling.com)

**MESSAGE FROM YOUR PRESIDENT**  
**Dennis Bryan, GSN President 2019-2020**  
**OCTOBER 2019**



Well it should be obvious to all by now that Fall season has arrived, snow and all. To many of us autumn is our favorite time of year. The days are pleasant, with no more sizzling heat, the nights cool and the foliage is starting to turn. The summer field season may be winding down for some, while others are trying to get that last hole drilled before the snow flies. I'm trying to figure out where to spend a couple months this coming winter where the climate is more conducive to relaxation and spending some time in the sun. Anyone for El Centro?

On the local level, how about the Reno City Council giving daylight to that Daybreak housing project on the old Butler Ranch in southeast Reno. The Council OK'd the controversial project after previously denying it, partly because of its location on a recognized flood plain. Being threatened with a \$30 M lawsuit may have had something to do with revisiting their initial decision as well. Anyway, the developer came back with a modified plan and the Council voted it in. We don't want to get into politics, for sure, but I just hope they had some "experts" on all sides that addressed mitigating potential flooding in that area. Maybe they should have reached out to the GSN for input from some of our members who might know a little about such things. Then there is the recent flooding in Lemmon Valley. Homes were evidently allowed to be built on a lake bed..... but then that's a story for another time.

What is upcoming for GSN members in October? Our meeting this month, on Friday, October 18<sup>th</sup> will give us an in-depth introduction to what Ioneer Ltd. is doing with their Rhyolite Ridge project down near Silver Peak. It's a lithium - boron deposit with mineralization occurring stratigraphically bound in Miocene lacustrine sediments, not a brine. Presentation will be by Bernard Rowe and John Reynolds. Their abstract is located elsewhere in this newsletter. This should be an interesting talk highlighting the relatively new demand for previously known mineral resources in Nevada.

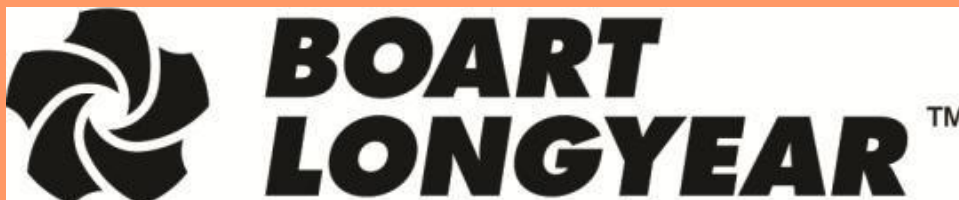
And don't forget about **Earth Science Week**. The Nevada Bureau of Mines and Geology will be hosting their annual field trip for the general public to sites of local geologic interest on October 12. The title of the field trip this year is "**Lode and Behold! Geology and Natural Resources of the Truckee Meadows and Virginia City**". It really helps to have some geology professionals along on the trips to help answer people's questions. For more details go to the NBM&G website.

For those of you who may be interested, the Nevada Mineral Exploration Coalition (NMEC) is having their annual meeting on November 12<sup>th</sup> & 13<sup>th</sup> at the Atlantis Casino Resort. It should be an excellent meeting for all you "exploration" types that want to keep current on public lands issues, regulations and political wind directions that may effect your future here in Nevada. Rumor has it there may also be a panel discussion on how, when, where and if exploration data should be archived in Nevada. Just a discussion, no recommendations, the pros and cons, and they are welcoming everyone's input on the subject. Could turn out to be a lively exchange of ideas. Go to the NMEC website for details.

Thanks, and looking forward to seeing you at the October meeting on the 18<sup>th</sup>.

Dennis

***The G.S.N. wishes to thank BOART LONGYEAR***  
***for sponsoring the September 20, 2019 Meeting in Reno!***



# GSN MONTHLY MEETING, OCTOBER 18, 2019



**Speakers: Bernard Rowe and John Reynolds, Ioneer Ltd**

**Title: The Rhyolite Ridge Project, Nevada: an example of a stratiform lithium-boron deposit of exhalative origin?**

**Date: Friday, October 18, 2019**

**Time: Drinks @ 6:00 pm, DINNER @ 6:30 pm, Talk @ 7:30**

**Where: TAPS & TANKS, Reno, Nevada**

**Dinner Cost is \$30/person. Reservations required. Please click here to Prepay.**

**<https://www.gsnv.org/dinner-reservations/>.**



## **The Rhyolite Ridge Project, Nevada: an example of a stratiform lithium-boron deposit of exhalative origin?**

**Bernard Rowe and John Reynolds, Ioneer Ltd**

The Rhyolite Ridge project is being developed to produce lithium and boron products from an intermontane valley in the Silver Peak Range, 15 miles west of Clayton Valley, Nevada. The mineralization occurs stratigraphically bound in late Miocene lacustrine beds peripheral to the Silver Peak caldera, preserved in a N-S trending syncline extending over an area of about 4 square miles. It is one of only 2 known large Li-B deposits globally. A pre-feasibility study completed in 2018 demonstrated that the two elements can be economically extracted.

The lacustrine beds lie within the Cave Spring formation and overlie the 6.0Ma Rhyolite Ridge tuff and Argente Canyon volcanics. The lacustrine section is up to 1500 feet thick and is composed of 3 members, divided by marker beds of "gritstone" comprised of airfall debris with abundant pumice lapilli. The middle member, bounded top and bottom by such distinctive gritstones, is nearly 200 feet thick, is dominantly marl, and bears anomalous lithium in its upper half. About 60 feet of this section contains high concentrations of the sodium borosilicate, searlesite (>1% B), as well as lithium (about 1500-2400ppm Li), comprising the ore zone. The marl is laminated, very fine grained, and composed of intimately mingled searlesite, carbonate, K-spar, illite and smectite. The grade and thickness of this middle member are laterally uniform and continuous over a distance of at least 2 miles north to south.

The Cave Spring strata comprise an exceptional section of lake beds developed in a rapidly subsiding volcanic basin north of the caldera. Springs likely fed the early lake and evaporation drove the alkaline chemistry, causing widespread silica dissolution and settling of siliceous ooze on the lake bottom. The ore horizon represents moderately shallow, quiet water deposition, minimal clastic influx, local permissible biotic activity, authigenic crystal growth, minor alteration and dominant chemical precipitation. Virtually all boron resides in searlesite while lithium is contained in mixed layer illite-smectite which is very acid soluble. Zonation as evidenced by anomalous levels of several elements (Ca, Na, Mg, Li, B, Sr, Rb, Cs, and even certain metals) forms distinctive patterns attesting to stratigraphic control on precipitation. The subaqueous stratiform characteristics suggest an exhalative origin likely sourced from proximal springs.

The searlesite zone is capped by about 40 feet of smectite-rich marl with relatively high lithium values (commonly 2000-3000 ppm) and low boron content. It is planned that these overlying (hectorite?) beds will be stockpiled rather than being treated for lithium extraction at present.

Mining will target a resource of 170 million tons ore estimated to contain >1.4 million tons Li carbonate and 13.6 million tons boric acid. The searlesite ore will be coarsely crushed (~1 inch) and leached with sulfuric acid in a vat. The process is not hampered by slimes, plugging or packing as leached material remains permeable and free-draining. The resultant pregnant leach solution (PLS) contains >90% of both Li and B and will be treated by a series of crystallization and evaporation steps to produce lithium carbonate and boric acid on site. The project is currently at feasibility stage. The operation is expected to annually produce 22k tons lithium carbonate and 190k tons boric acid, with >30 year mine life, and hence will become a significant US producer of both products.

# **“FACES OF GSN”**

## **Forrest Hopson**

### **Reno, Nevada**

I was born in Baltimore, Maryland. When I was 6 my family and I moved to beautiful Santa Barbara, California where I grew up. Like most of us in geology I did a lot of hiking and camping, activities that I enjoy today. My father, Clifford Hopson, PhD and professor emeritus at UC Santa Barbara (UCSB), inspired my appreciation for geology. I spent the summers of my youth on ‘family field camps’ at Mount Rainier, Mount St. Helens, Lake Chelan, and Coast Ranges where my dad was doing his geologic research. Spirit Lake Campground was a family favorite, and I summited Mount St. Helens five times prior to the 1980 eruption. I grew up surrounded by eminent UCSB “rock stars” including Professors John Crowell (San Andreas Fault), Richard “Dick” Fisher (volcanology), and George Tilton (geochronology pioneer). I later became acquainted with Professors Richard “Rick” Sibson (quartz veins) and Tanya Atwater (plate tectonics) when they became members of the UCSB geology faculty.

My college career began at Santa Barbara City College (SBCC). I was inspired by the geology faculty at SBCC with lively classroom lectures and field trips to Death Valley, Eastern Sierra Nevada, and the Santa Barbara Backcountry. From SBCC I headed south to L.A. to enroll at Cal State Northridge (CSUN), known for its emphasis on field geology. I graduated in 1984 with a BA in Earth Science and a minor in Geology.

After graduation from CSUN it was off to the oil patch to work as a geological draftsman for Union Pacific Resources Corporation (UPRC) in the Los Angeles Harbor area for several years. While working at UPRC, I enrolled at Cal State Los Angeles (CSULA) to pursue my MSc in Geology. I was fortunate to have Professor Perry Ehlig guide my thesis research, documenting the offsets of granitic basement rocks along the left-lateral Pinto Mountain Fault (just north of Joshua Tree National Park) and discuss its role in regional tectonics. This project was timely because it was near the site of the June 1992 Landers Earthquake (Mw 7.3) and there was a lot of interest in that area. My graduate course work included three graduate seminars at UCSB, including Tanya Atwater’s plate tectonics seminar. My graduate research included two projects with Professor Edward Keller (UCSB) mapping and doing paleomagnetic work on two fault propagation folds in the Pleistocene Santa Barbara Fold Belt. I graduated with an MSc from CSULA in 1996.

My first geology jobs were with the U.S. Forest Service during the summers of 1980 and 1981 as a geotechnical assistant. I was assigned to road construction projects between Mount St. Helens and the Columbia River in Gifford Pinchot National Forest, Washington. About two weeks prior to starting the first assignment, Mount St. Helens had erupted catastrophically (May 18, 1980) so this was an exciting place to be! Moreover, I witnessed two of several eruptions that followed the May 1980 eruption that summer.

My first positions after graduate school were geotechnical engineering projects near San Jose, Santa Barbara, and Ventura and Los Angeles Counties. In those jobs I had a variety of assignments that included doing soil compaction testing with a nuclear gauge, being a soil laboratory technician, and staff geologist mapping cut slopes and conducting water percolation tests.

I relocated to Reno in January 2001. I began work with Seismowatch reporting earthquake data for the Reno Gazette (Continued on page 5)



**Watching Mount St. Helens erupt,  
August 7, 1980.**

Forrest Hopson (Continued from page 4)

Journal and several newspapers in California. In 2002 geology jobs were scarce so I shifted to substitute teaching for the Washoe County School District and adjunct teaching at the community college level. I was a physical geology instructor at Truckee Meadows Community College (2002 Fall semester) and physical geography instructor at Western Nevada College (2003 Winter semester).

My mining career began in 2004 working as an environmental technician at Apollo Gold's (later Jipangu's) Florida Canyon Mine. I continue to seek temporary contract assignments. Past assignments have included logging core for gold mining companies including Pogo, Hollister, Round Mountain, and Fire Creek Mines. These assignments included sites in California, Nevada, Arizona, and Alaska. My experience includes project geologist on two uranium projects: chasing roll fronts with a scintillometer in the Powder River Basin, WY, and logging drill core on the Aurora Project in the northern part of the McDermitt Caldera, OR.



Looking for uranium—scanning rotary mud drill cuttings with scintillometer, Powder River Basin, WY, March 2010.

Some of my work has been as an independent researcher. I have published several geologic meeting abstracts and research papers in both peer-reviewed and non-peer-reviewed publications. In 1990, *Geology* published a paper Karl Ramseyer (University of Berne) and I wrote about our cathodoluminescence work on myrmekite. Our work helped to confirm the notion that myrmekite results from the replacement of K-feldspar by plagioclase and quartz during late-stage magmatic crystallization. In 1991, *Environmental Geology* published my paper on the impact of volcanism in the Mammoth Lakes area on nearby water resources. When it became better understood what kind of eruption might occur in that area, I revised the paper and republished it in the *Engineering Geology of Northern California* volume co-published by the California Division of Mines and Geology and Association of Engineering Geologists. *California Geology* published my paper on the Quaternary geology and neotectonics of the Pinto Mountain Fault in 1998. Jack Hillhouse, Keith Howard (both USGS) and I analyzed the orientations of the regional Jurassic Independence Dike Swarm. We concluded that our paper could serve as a useful, if imperfect guide for determining tectonic rotations in the Sierra Nevada, Eastern California, and Mojave Desert where paleomagnetic data do not exist. Our paper appeared in Geological Society of America Special Paper 438, in 2008. My articles on the geology of Lassen Volcanic National Park (2011) and Lake Tahoe (2012) were published by *Earth Magazine*. My latest published works were books. This past spring Backcountry Press published Mike Clynne's (USGS) and my book, *Geology of the Lassen Country—the Geologic Story of Lassen Volcanic National Park and Vicinity*. I contributed three chapters to the 7<sup>th</sup> edition of *Geology of National Parks* textbook (Kendall-Hunt Publishing Company, 2019): Lassen Volcanic (with Mike Clynne), Crater Lake, and Joshua Tree (with Dee Trent, Citrus College) National Parks.



Logging core at Pogo Mine, Alaska. June 2017.

So it has been an interesting career. I am fortunate to have worked on a wide variety of projects in a field I love and pursue geology writing on the side.

# **GSN WINNEMUCCA CHAPTER MEETING**

**WEDNESDAY, OCTOBER 9, 2019**

**Speaker: Sergey Konyshev**

**Title: Metasedimentary Rock-hosted Au-Sb-W-Hg system within the Stibnite Roof Pendant, Yellow Pine Mining District, ID**

**Location: The Martin Hotel, 94 Railroad St., Winnemucca, Nevada**

**Time: Drinks at 6:00 p.m., Appetizers at 6:30 p.m., Talk at 7:00 p.m.**

**Food and Drinks Sponsored by:**



## **Abstract:**

**Sergey Konyshev, PhD Student, UNR**

The Yellow Pine Mining District near Stibnite Idaho has been a focus of mining and exploration for over 100 years. Midas Gold Inc. acquired a major land package in the district in 2009 and began an extensive exploration and drilling program. Historically, most of the metals have been extracted from Idaho batholith-hosted deposits; however, numerous prospects are hosted in metasedimentary roof pendants. The roof pendant-hosted Au-Sb-W-Hg mineralization is manifested in part as four sets of texturally, mineralogically, and temporally diverse veins: early, deep veins related to the last emplacement stages of the Cretaceous Idaho batholith, least-understood main-stage veins most critical to Au mineralization (likely late Cretaceous); epithermal veins formed during the Eocene Challis volcanic activity in central Idaho; and shallowest, gray silica micro-breccias that cross-cut aforementioned veins and appear to be barren of precious metals. These last stage veins potentially have a relation with tungsten and antimony mineralization. Earlier hypogene fluids ascended via pre-existing major faults, locally altering feldspar and biotite, sulfidizing biotite, fluidizing breccias and forming disseminations proximal to the fault zones. Overprinting epithermal and late stage veins took advantage of minor structures— joints, fractures, cracks and rheological contrasts between lithological units and the Au mineralization is hosted almost entirely in the veins.



# **GSN SOUTHERN NEVADA CHAPTER MEETING**

**THURSDAY, OCTOBER 17, 2019**

**Speaker: Dean G. Heitt, Geologist and Author**

**Title: “Before the Gold: the Early Mining History of the Carlin Trend 1874-1961”**

**Location: Las Vegas Natural History Museum  
900 No. Las Vegas Blvd., Las Vegas, NV**

**Time: Pizza & Beer at 5:30 p.m., Talk at 6:15 p.m.**

**Food and Drinks Sponsored by:**



## **ABSTRACT:**

### **Before the Gold: the Early Mining History of the Carlin Trend 1874-1961 Dean G. Heitt**

Before the Carlin Trend was known as one of the largest gold producing camps in the world, the area was made up of several smaller historic mining districts. The first recorded claim, The Blue Wing, was staked in 1874 approximately 1.5 miles east of the Carlin Mine. The book ***Before the Gold*** details the early prospects, mines and people that were active in the area prior to discovery of the Carlin mine by Newmont Mining in 1962.

The Richmond District, in and around the Cretaceous age Richmond Stock, was the first to be prospected in 1877. Prospects were generally for silver, lead, and minor zinc, but had little reported production. Several shallow shafts were dug but no production is reported. The early 1900s saw renewed interest in the district.

The Schroeder district was established in 1883 also exploiting primarily silver-lead-zinc mantos and a few copper deposits. The district was renamed the Maggie Creek district in 1905 with a focus on the Copper King deposit. The first gold deposit would not be found until the 1930s. The jasperoid containing the gold would become the discovery for the Gold Quarry deposit which would also be the first deposit on the trend to have confirmed microscopic gold. The district produced copper, silver, lead, zinc, barite and minor gold.

In 1907 the discovery of placer gold by Joe Lynn kicked off the largest rush to the area. Placer gold was primarily mined from Lynn and Sheep Creeks with lesser production from Simon and Rodeo Creeks. As miners fanned out through the Lynn District, as it was to be named, they quickly discovered the source of the placers for Lynn and Sheep creek and established the Big Six Mine. The Big Six would become the largest underground mine in the area and would produce gold until at least the early 1940's. Additionally the district would produce silver, lead, zinc, copper, barite and world class turquoise from the Number 8 mine. The Blue Star mine, on the site of the Number 8 mine, would produce 800 ounces of gold in 1959 and 1960 from a Carlin Type deposit by Bob Morris and his partners. It was Morris who enticed Newmont to look over the deposit and eventually led to the discovery of the Carlin Mine in 1962.

The Bootstrap district lies at the north end of the main portion of the Carlin Trend. Originally prospected for antimony in 1914 it was restaked in 1949 as a possible gold mine. Between 1956 and 1959 Bootstrap produced 7,104 ounces of gold from several small open pits. This was the first mine in the area to use cyanide leaching to recover the gold and the first open pit to produce from a Carlin Type deposit on the Carlin Trend. Marion Fischer and his partners helped put the area on the mining map.

Between 1874 and 1961 total production for all the districts was 18,581 ounces of gold, 12,928 ounces of silver, 135,481 pounds of lead 10,145 pounds of zinc and 874,242 pounds of copper. Unknown quantities of barite and antimony were also produced. Turquoise production is estimated at \$1.4M.

## **GSN ELKO CHAPTER MEETING**

**THURSDAY, OCTOBER 17, 2019**

**Speaker: Scott Briscoe, Chief Geologist, Nevada Gold Mines**

**Topic: The importance of field data in geological modeling**

**Location: Western Folklife Center, 501 Railroad St., Elko, NV**

**Time: Drinks at 6:00 p.m., Appetizers at 6:30 p.m., Talk at 7:00 p.m.**

**Food and Drinks Sponsored by:**



---

# **NEWS FROM THE GSN FOUNDATION**

By Cami Prenn, GSN Foundation Chair

I personally don't spend a lot of time in the field but I did just visit the Grand Teton National Park and Yellowstone and I saw a LOT of geology! That young Teton Mountain Range is certainly one of the most scenic vistas in the west and the various displays of geology throughout Yellowstone are impressive even to those of us who don't fully understand what we're seeing. The North Rim of the Grand Canyon of Yellowstone had such a varied display of thermal activity and other geologic features that it could easily be the poster for all of Yellowstone! The only thing that would have summed up all the features of the Park would have been bison and elk at the top of the Canyon and a moose in the river!

When you witness the crowds of ordinary folks visiting those iconic places it's encouraging to know that people wonder about how the landscape was shaped and appreciate the unseen and complicated forces at work. Educating people about Geology is one of the GSN Foundation's missions, especially through our K-12 Field Trip Grants. That program ramps up every fall when school is back in session and teachers are planning their year. If you know a teacher, please mention to them that this program is available to any class that visits a locality with an Earth Science focus. Teachers learn about our program at the Teacher Workshops that Nevada Mining Association holds each year and we have many repeat teachers that take their classes on a Geology related field trip every year.

Christmas will be coming before you know it, although it's a little more believable after the snowstorm we had Saturday. This year we'll have a memorable party with our very popular Silent Auction and Raffle and our speaker is Gregory Crouch, author of The Bonanza King, the story of John Mackay! Greg is a very entertaining speaker and knows his subject very well – please plan to attend on December 18<sup>th</sup>. And it's not too early to plan your donations for the Silent Auction and Raffle. Please let me or D.D. LaPointe know if you have something to donate, or drop it by the MDA office. Our most popular items are liquor, jewelry, mineral specimens, mining artifacts, gift baskets, gift cards – the kinds of things you'd like to find under your own Christmas tree!

Thank you for your generous donations. The Foundation's programs are dependent on our donors and we appreciate your support of the programs that help grow the interest and appreciation of geology in Nevada as well as develop our future workforce!

# Gold Mineralization Crowded Along the Loneliest Highway in America: Visits to the Pan Mine, Gold Rock, Mt. Hamilton and The Ruby Hill Overlook

Mary Stollenwerk, GSN VP & Field Trip Organizer

In this compact area along Highway 50 hosts a multitude of deposits in varying stages of development. The vans will leave Friday at noon, traveling to Eureka, Nevada. Saturday, we will visit the Pan Mine as well as the Gold Rock site (AKA Easy Junior) with Paul Noland and his team at Fiore Gold. The Pan Mine has been in production only since October, 2017, so it is one of Nevada's newest producers. We will also get to see the rocks and core of their expansion to Gold Rock where they are currently drilling in advance of a PEA (Preliminary Economic Assessment). On Sunday, Christine Hohl and Brian May of Elko Mining Group will give us a tour of the Mt. Hamilton area in the White Pine Range. Mt Hamilton is a past producer of gold and copper in skarn mineralization. As we make our way back to Reno, Elko Mining Group we will be able to give us an overview of the Ruby Hill Pit and geology. Our evening dinners



## Geological Society of Nevada (GSN) Fall 2019 Field Trip Friday, Saturday & Sunday, October 11-13, 2019



### "Mineralization Crowded Along the Loneliest Highway in America: Visits to the an Mine, Gold Rock, Mt. Hamilton and The Ruby Hill Overlook"

Friday, October 11, 2019:  
(TENTATIVE SCHEDULE)

1:00 p.m. - Bus departs from GSN office for Eureka, Nevada  
6:00 p.m. - Drinks, Dinner and Speaker at Owl Club, Eureka, NV  
Overnight at Sundown Lodge or Eureka Gold Country Inn

Saturday, October 12, 2019:  
(TENTATIVE SCHEDULE)

6:30-7:30 a.m. - Breakfast Buffet at the Owl Club (included with registration)  
8:00 a.m. - Bus departs Eureka, NV for Pan Mine  
12:00 Noon - Sack Lunch provided  
6:00 p.m. - Drinks, Dinner and Speaker at the Owl Club, Eureka, NV  
Overnight at Sundown Lodge or Eureka Gold Country

Sunday, October 13, 2019:  
(TENTATIVE SCHEDULE)

6:30-7:30 a.m. - Breakfast Buffet at the Owl Club (included with registration)  
8:00 a.m. - Bus departs Eureka, NV for Mt. Hamilton  
12:00 Noon - Sack Lunch provided  
2:00 p.m. - Bus heads back to Reno

**ALL PARTICIPANTS WILL NEED PPE - Steel-toed boots, hard hat, safety glasses, orange/lime safety vest.**

### THANK YOU TO OUR GENEROUS SPONSORS!



Lodging: ☐ Single ☐ Double ☐ No Room

☒ Couple

Roommate: \_\_\_\_\_

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

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

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

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

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

Person to contact in case of Emergency: \_\_\_\_\_

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

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

#### GSN MEMBER REGISTRATION COST:

\$340 - Single Room at Sundown Lodge (2 nights)  
\$395 - Single Room at Gold Country Inn (2 nights)  
\$285 - Double Room at Gold Country Inn (2 nights)  
\$550 - Couples (1 bed at Gold Country Inn (2 nights)  
\$155 - No Room needed in Eureka, NV  
\$0 - GSN Student Member Helpers (limit 6)

#### \*NON-MEMBER REGISTRATION COST:

Add \$50 to the rates above

\*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 4, 2019**  
**No refunds after Friday, October 4, 2019**

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

Payment: ☐ Check # \_\_\_\_\_ ☐ Cash ☐ Visa ☐ Master Card ☐ Discover ☐ American Express

We strongly encourage you to register online if using a credit card for payment. GSN is phasing out the manual machine!

**[CLICK HERE TO REGISTER ONLINE NOW!](#)**

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

*Thank you to our generous Foundation donors in September*

**G.S.N. FOUNDATION (unrestricted)**

Robert Ahl  
Ken Ainsworth  
Fred Barnard  
Shane Behanish  
Keith Bettles  
David Boden  
Kel Buchanan  
James Carver  
W.T. Cohan  
William Durbin  
Gary Edmondo  
David Fanning  
Diane Phillips Ferree  
David Garbrecht  
Jim Greybeck  
Dave Groves  
Jim Helgeson  
Dennis Hill  
Richard Hipsley  
Paul Hohbach  
Dustin Holcomb  
John Hoskins  
Frank Howell  
Liang Chi Hsu  
Bert Jeffries  
Don Jennings  
Joseph Kizis  
Venkata Kopalle  
Fleetwood Koutz  
Dieter Krewedl  
Greg Kuzman  
Brien Laird  
Joseph Laravie  
John Lucas  
Toby Mancuso  
Larry Martin  
Bob McCusker  
Marilyn Miller  
Randall Moore  
Peg O'Malley  
Jay Olcott  
John Oldow  
John Pierson  
Joe Polovina  
Sandra Powers  
Ken Raabe  
Angelica Rodriguez  
Dan Rovig  
Shea Clark Smith  
Debra Struhsacker  
John D. Taylor  
Brion Theriault  
Robert Thomas

**G.S.N. FOUNDATION (unrestricted)**

Scott Tregaskis  
Donald Wagstaff  
William Wahl  
Alan Wallace  
Mike Ward  
Steven Weiss  
Thomas Westervelt  
Terry White  
Holly Wilson  
Jeremy Wire  
Alan Wright  
Pamela Zohar

**GS.N. STUDENT FIELD CAMP FUND**

Harold Backer  
Fred Breit  
Kel Buchanan  
Perry Durning  
Joseph Laravie  
Maureen Leshendok  
Rich Loring  
Marilyn Miller  
Jay Olcott  
Nancy Richter  
Dan Rovig

**BRIAN MORRIS MEMORIAL SCHOLARSHIP**

Kel Buchanan  
William Burstow  
Debra Struhsacker

**GS.N. / D.D. LAPOINTE SCHOLARSHIP**

Kel Buchanan  
Perry Durning  
Maureen Leshendok  
Marilyn Miller  
Dan Rovig  
Debra Struhsacker  
Tommy Thompson  
Pamela Zohar

## NEVADA

Fremont Gold Ltd. announced that it sold its interest in the Gold Canyon Property to McEwen Mining Inc. for 300,000 shares of McEwen valued at \$732,000. (resource = 2,090,000 tonnes @ 1.36 gpt Au inferred) *Press Release:* August 16

Kinross Gold Corp. announced the start-up of the Vantage Mine at the Bald Mountain Complex. (reserve @ Bald Mountain = 95,216,000 tonnes @ 0.60 gpt Au proven+probable) *Press Release:* July 31

Fiore Gold Ltd. announced that recent drill results at the Gold Rock Project include 149.4-204.2 meters @ 0.85 gpt Au (GR19-01); 146.3-173.7 meters @ 1.46 gpt Au (GR19-02); 144.8-160.0 meters @ 0.70 gpt Au (GR19-04) and 114.3-143.3 meters @ 0.63 gpt Au (GR19-06). (resource = 9,006,000 tonnes @ 0.82 gpt Au indicated) *Press Release:* August 12

SSR Mining Inc. announced that recent drill results at the Marigold/Red Dote Project include 319.0-372.3 meters @ 5.02 gpt Au (MRA6790); 75.0-94.8 meters @ 1.03 gpt Au (MRA6915) and 213.0-260.2 meters @ 1.70 gpt Au (MRA6929). (reserve @ Marigold = 205,100,000 tonnes @ 0.46 gpt Au proven+probable) *Press Release:* July 30

McEwen Mining Inc. announced that recent drill results at the Gold Bar South Project include 18.3-39.6 meters @ 2.45 gpt Au (GB365); 0-38.1 meters @ 1.67 gpt Au (GB367); 21.3-53.2 meters @ 2.47 gpt Au (GB378) and 15.2-70.1 meters @ 2.13 gpt Au (GB389). *Press Release:* August 20

Momentum Minerals Ltd. announced that it acquired an option to earn a 100% interest in the Turquoise Canyon Property from First Mining Gold Corp. for \$500,000 cash and 10% of its outstanding shares over 4 years. *Press Release:* August 21

Hecla Mining Co. announced that recent drill results at the Fire Creek Project include 171.32-172.5

meters @ 10.24 gpt Au (FCU-1083); 164.23-169.93 meters @ 4.09 gpt Au (FCU-1087); 70.71-72.02 meters @ 8.87 gpt Au (FCU-1104A) and 53.03-56.14 meters @ 8.87 gpt Au (FCU-1105). (reserve = 319,000 tonnes @ 24.27 gpt Au, 23.4 gpt Ag proven+probable) *Press Release:* August 6

Hecla Mining Co. announced that recent drill results at the Hollister Project include 52.0-52.42 meters @ 4.44 gpt Au, 1.0 gpt Ag (HUC-077); 35.05-36.57 meters @ 0.34 gpt Au, 6,703.0 gpt Ag (HUC-078); 61.2-62.51 meters @ 12.97 gpt Au, 92.1 gpt Ag (HUC-083) and 28.65-28.96 meters @ 9.21 gpt Au, 17.1 gpt Ag (HUC-098A). (resource = 389,600 tonnes @ 16.6 gpt Au, 86.9 gpt Ag measured+indicated) *Press Release:* August 6

General Moly Inc. announced that AMER International Group (China) is in default by failing to provide \$10,000,000 in funding as stipulated in a previous agreement. General Moly will therefore be required to investigate other options including the possibility of seeking bankruptcy protection. (reserve @ Mt. Hope = 367,400,000 tonnes @ 0.08% Mo proven+probable) *Press Release:* July 31

Corvus Gold Inc. announced that recent drill results at the North Bullfrog Project include 115.82-140.21 meters @ 1.21 gpt Au (NB19-455); 60.96-76.2 meters @ 0.49 gpt Au (NB19-456); 146.3-182.88 meters @ 0.11 gpt Au (NB19-457) and 111.25-115.82 meters @ 0.70 gpt Au (NB19-459). (resource = 29,463,000 tonnes @ 1.5 gpt Au inferred) *Press Release:* August 6

Contact Gold Corp. announced that recent drill results at the Pony Creek Project include 38.1-74.68 meters @ 0.41 gpt Au (PC19-07); 108.21-147.83 meters @ 0.70 gpt Au (PC19-08) and 50.29-100.58 meters @ 0.37 gpt Au (PC19-09). *Press Release:* August 15

## 1st Annual Brian Morris Memorial Trap Shoot Fundraiser—Big Success!

Laura Ruud

The 1st Annual Brian Morris Memorial Trap Shoot Fundraiser had a great turnout for its inaugural event. The final numbers aren't in just yet but we estimate that about \$15,000 was raised for the GSN Foundation's Brian Morris Scholarship Fund. 26 teams of two shooters gathered at the Winnemucca Trap Club for the clay pigeon shooting event. Many were showing off their shooting skills while other shooters noted that they attended to "just have some fun"! I believe the top 3 teams were members of the Trap Club! This crowd was so generous that every shooter who won a cash prize donated their winnings back into the Brian Fund! A huge thank you needs to go to all of the companies and individuals who donated cash, supplies, silent auction and live auction prizes for the event. The GSN also thanks the organizers of the event who worked hard to make this event a reality: Chad Peters, John Marma and Steve Cochrane. I know there are others who helped so thanks to everyone who helped!



## Membership Dues for 2020FY are Now Past Due!

GSN members, this is a reminder that your yearly membership renewals were due on **September 30th** for the 2020 fiscal year. Membership dues are \$50. Student Dues are \$25. You can also become a lifetime member and never have to worry about dues renewals again for just \$1,250.

Please click the link to pay your dues online with a credit card: [2020 MEMBERSHIP RENEWAL](#). You can also still mail a check to 2175 Raggio Pkwy., Reno NV 89512 to renew.

**[PLEASE CLICK HERE TO RENEW WITH A CREDIT CARD](#)**

*Thank you to our Elko Chapter  
September Meeting Sponsor!*



*Thank you to our Winnemucca  
Chapter September Sponsor!*



## Nevada Bureau of Mines & Geology Map Quads and GSN

Going way back in time, the GSN and the GSN Foundation have supported the Nevada Bureau of Mines & Geology (NBMG) and its mapping program with grants that go toward final cartography after maps have been compiled by various contributors. We've traced GSN's funding back to 1991 and we're still helping to get those quads published!

The most recent maps to be published are Humboldt Peak, Kelly Creek (2 plates), and the East Range. Since 1991 GSN has funded 28 maps at their final stage of cartography thanks to GSN donors. We've worked with NBMG staff to assess which maps would be of most interest to GSN members and get them published. These can be accessed and purchased at the NBMG website [www.nbmgs.unr.edu](http://www.nbmgs.unr.edu).

And did you know that NBMG will pay for good geologic maps of 7.5-minute quads in Nevada?

*The NBMG offers a \$2,500 reward for good geologic maps of 7.5-minute quadrangles in Nevada. The maps will be published by NBMG. The program is intended to encourage the completion of geologic maps that are nearly finished rather than to start new ones. Anyone--graduate students, professors, consulting geologists, mining company geologists, and other geologists--may apply and are encouraged to do so.*

*Proposals should be brief and include a description of the general geology and geologic problems in the quadrangle; a promised date at which the geologic map, cross sections, and brief summary report will be completed in draft form for review (preferably within ~1 year); a resume (including dates on which degrees were granted; a list of proposer's five most relevant publications or company/consulting reports, and employment history); and two letters of reference.*

*Proposals will be reviewed and evaluated as to whether the individual appears to be capable of producing a good geologic map (including both bedrock and Quaternary features), whether the individual is likely to produce the map in the allocated time, and the significance of the geologic/geographic area.*

*Proposals can be submitted at any time to:*

*Chris Henry  
Nevada Bureau of Mines and Geology  
Mail Stop 178  
University of Nevada, Reno  
Reno, Nevada 89557-0088*

*Proposals will be evaluated when they are submitted. Funding comes from the Nevada Bureau of Mines and Geology, and the number of quadrangles that can be funded at any time depends upon our overall budget.*

*The stipend will be distributed as follows:  
\$500 initially to help defray field expenses,  
\$500 upon receipt of three copies of a colored draft map for review, and  
\$1500 upon acceptance for publication by NBMG.*

## OTHER UPCOMING EVENTS

**3 October 2019:** the NPGS meeting will be held at the Tamarack Junction, 13101 S. Virginia St., Reno, NV. **Paul Thomsen (VP Of Business Development For Ormat Technologies)** will be giving a talk titled **"The Increasing Value of Geothermal in the West, Get your pickaxes ready"**. Click on this link for more info or to sign up for dinner: <https://npgs.123signup.com/event/details/rcypx?mid=5044444>.

**7 October 2019:** **Denver Region Exploration Geologists' Society (DREGS)**, Social hour: 6:00 to 7:00 p.m. Presentation: 7:00 p.m. Location - Colorado Schools of Mines, Berthoud Hall Room 241, Golden, CO. Please click on the link for more information: <http://www.dregs.org/>

**7-10 October 2019 Society of Economic Geologists (SEG/Chile Explore Group) 2019 Conference: South American Metallogeny: Sierra to Craton;** Santiago, Chile; Website: [www.seg2019.org](http://www.seg2019.org)

**8 October 2019:** **Arizona Geological Society**, Kent J. McGrew presents In-Situ Recovery Basics. Sheraton, 5151 E Grant Rd. (& Rosemont), Tucson AZ 85701. Please click on the link for more information and to RSVP: <https://www.arizonageologicalsoc.org/event-3438743>

**12 October 2019: NBMG Earth Science Week Public Field Trip—Lode and Behold! Geology and Natural Resources of the Truckee Meadows and Virginia City.** You are invited to join us on Saturday, October 12 as geoscientists from Nevada Bureau of Mines and Geology explain the geology of the Truckee Meadows and Virginia City areas—in celebration of Earth Science Week 2019 and the importance of earth sciences to the people of the state of Nevada.  
<http://www.nbmge.unr.edu/ScienceEducation/EarthScienceWeek/index.html>

**12-15 November 2019** Nevada Mineral Exploration Coalition Annual Meeting at the Atlantis Hotel and Casino, Reno, NV. Visit their website for more information: [www.nvmec.org](http://www.nvmec.org)

**14-25 May 2020 GEOLOGICAL SOCIETY OF NEVADA'S SYMPOSIUM 2020! Nugget Resort, Sparks/Reno Nevada.** Technical Sessions, Field Trips, Short Courses, Exhibits, Luncheons, Parties! Visit the Website for more information: [WWW.GSNSYMPOSIUM.ORG](http://WWW.GSNSYMPOSIUM.ORG)



**GSN'S 2020 SYMPOSIUM**

**VISION FOR DISCOVERY:**

**Geology and Ore Deposits of the Basin  
and Range**

**May 14—25, 2020**

**Nugget Casino Resort, Reno/  
Sparks, Nevada**

For more information please visit the  
website:

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



KEEP THIS COUPON 44204

COME CELEBRATE THE  
**GRAND  
OPENING**  
— OF THE BRAND NEW —  
**MAPTEK OFFICE  
IN ELKO, NV**

THURSDAY, OCTOBER 3RD, 2019  
AT 5:00 PM  
1028 Idaho Street, Suite 110  
Elko, Nevada 89801  
(775) 557-6600  
RSVP AT [GO.MAPTEK.COM/ELKO](http://GO.MAPTEK.COM/ELKO)



**GeoSequel**® Drill Hole, Blast Hole &  
Sample Management Program

### QUIT CHASING DATA!

One Location • Easy-to-Access • User friendly  
Searchable • Accurate



**TerraSource**  
SOFTWARE

www.TerraSourceSoftware.com  
info@TerraSourceSoftware.com  
775.856.2913



**NEVADA GOLDSTRIKE, INC.**

**John D. Wood**

**Mineral Industry Discovery Specialist**

Nevada Goldstrike, Inc.  
7405 Shadow Lane  
Sparks, NV 89434  
Cell: 775-440-9070  
E-mail: j-mwood@gbis.com

Mineral Exploration, Reserve Development, Project Evaluation  
Exploration and Discovery Training  
AIPG Certified Professional Geologist CPG-10580



**AOREAS**

Certified  
Reference  
Materials

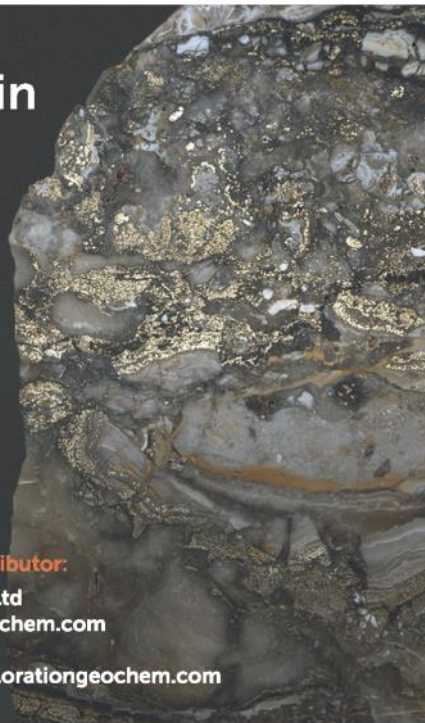
### New Carlin Au ore CRMs:

- 0.10 oz/t
- 0.15 oz/t
- 0.20 oz/t

Sourced from  
Newmont's  
Leeville Mine,  
Nevada

**North American Distributor:**

Analytical Solutions Ltd  
www.explorationgeochem.com  
Tel: (+416) 462 9124  
Email: info@mail.explorationgeochem.com



PROVIDING ACCURATE, DEPENDABLE AND DOCUMENTED RESULTS!

### GEOLOGICAL SERVICES CONTRACTING AND CONSULTING



#### FIELD CREW SERVICES

Claim Staking  
Soil Sampling

#### TECHNICAL SERVICES

Geology Consulting  
Project Management

#### CONTRACT LABOR

Contract Geologists  
Contract Geotechnicians



SERVING THE RENO, ELKO AND SALT LAKE CITY AREAS!

### TRUCK RENTALS EASY. EFFICIENT. DEPENDABLE.



#### EXPLORATION PROJECT AND MINE SITE READY

OFF-ROAD TIRES  
\*INCLUDING SPARE

4WD

TOOL BOX

FIRE EXTINGUISHER

**CALL 775.753.6605 FOR A FREE ESTIMATE ON YOUR NEXT PROJECT.**

**WWW.RANGEFRONT.COM**



**BUREAU  
VERITAS**

MINERALS



## Bureau Veritas Minerals

Analytical Laboratory Services for the Exploration & Mining Industries

- Assaying and Geochemical Analysis
- Metallurgy and Mineralogy
- Spectral Services
- Mine Site Laboratories
- Environmental Services

+1 800 990 2263  
bvmininfo@ca.bureauveritas.com  
www.bureauveritas.com/um

ELKO +1 775 777 1438  
FAIRBANKS +1 775 303 8896  
JUNEAU +1 907 750 1734  
RENO +1 775 359 6311

**ELY**  
GOLD  
ROYALTIES

Developing **GOLD** Assets in  
North America

TSX-V: ELY  
OTC: ELYGF

- LARGE NEVADA PROPERTY PORTFOLIO
- DRILL READY PROJECTS - FOR SALE or OPTION
- PROPERTIES PURCHASED
- ROYALTIES PURCHASED - PRODUCING or NOT

Trey Wasser - President & CEO  
(972) 803-3087 - office  
(940) 368-8337 - mobile  
trey@elygoldinc.com

Jerry Baughman - President, NSR  
office - (775) 853-1913  
mobile - (702) 592-6992  
jbaughman@elygoldinc.com

1020 S. Rock Blvd Suite E Reno, NV 89502

For Company & Property information go to:

**www.elygoldinc.com**



**Carlin Trend Mining  
Supplies & Service**

369 - 5<sup>th</sup> Street, Elko, Nevada 89801  
775.778.0668 www.carlin-trend.com

Claim Staking - Soil Sampling - Land Research  
Core Cutting - Mine Hazard Fencing - Reclamation  
Project Management - Geological Consulting  
Geology & Drafting Supplies - AutoCad & GIS

Temporary Employees in All Fields  
Sister store located in Superior, Arizona  
Copper Triangle Mining Services 520-689-5200

## Big Sky Geophysics

Clark Jorgensen, M.Sc.  
Geophysicist

*Field Work  
Processing  
Interpretations*

P.O. Box 353  
Bozeman, Montana 59771  
USA

Phone/Fax +1 (406) 587-6330  
Mobile +1 (406) 580-9718  
clark@bigskygeo.com

**For more details, my background, and case studies,  
Visit my webpage at [www.bigskygeo.com](http://www.bigskygeo.com)**



*Serving Mining in Nevada Since 1992*

**General Engineering Contractor**

**Drill Pads  
Road Building  
Reclamation  
Earthwork**

Office: 775-753-5832

Mobile: 775-934-1837

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

NV License #84449

## JBA WORKS, INC.

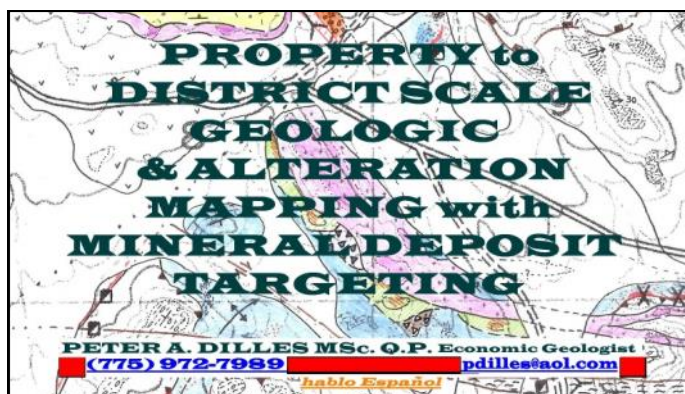
**Jo Beth Allen**  
Geologist

**Professional Map & Data Graphics**

GIS / CAD Drafting  
Technical Presentations & Graphic Design

Phone: 775-303-6818

[JoBethAllen@sbcglobal.net](mailto:JoBethAllen@sbcglobal.net)



**JUST REFINERS (USA), INC.**

540 & 620 Greg St. - Sparks, Nevada 89431

Telephone: (775) 331-1663 / Facsimile: (775) 331-1799

Website: [www.justrefiners.com](http://www.justrefiners.com)

**Since 1993**



Please contact us if you have material not listed here.

**JRI – Specializing in processing of spent carbon and borax slag!**

### Products JRI Processes

Borax Slag  
Spent Carbon  
Carbon Fines  
Graphite Crucibles  
Furnace Linings  
Baghouse Dust  
Mill/ Mine Concentrates  
Gold and Silver Matte  
Gold Scrap  
Electrolytic Mesh  
Spent Cathode Steel Wool  
Alluvial Gold  
Dore Gold Silver Bullion  
Dental Scrap – Au, Pt, Pd  
**JEWELRY SCRAP**  
**SILVER SCRAP**  
**PLATINUM GROUP METALS**

Contacts: Bobby Boekhoud: [bobby.justrefiners@gmail.com](mailto:bobby.justrefiners@gmail.com) / Carmen Arbizo: [carmen.justrefiners@gmail.com](mailto:carmen.justrefiners@gmail.com)

Drift Exploration Drilling, Inc., 6120 Pedroli Lane, Winnemucca, Nevada

FORAGE  
**ORBIT GARANT**  
DRILLING



For more information please contact Garth Patterson @ 403-601-4374 or [Garth.patterson@orbitgarant.com](mailto:Garth.patterson@orbitgarant.com)

## TOM CARPENTER

### CONSULTING GEOPHYSICIST

5445 Goldenrod Drive  
Reno NV 89511  
(o) 775.849.9707  
(e) [tcarpenter@gbis.com](mailto:tcarpenter@gbis.com)



Right Solutions · Right Partner  
[www.alsglobal.com](http://www.alsglobal.com)

## ALS & TERRACORE INTERNATIONAL

- › Providing a one-stop shop for core services, spectral imaging and geochemistry.
- › Core Image Spectrometer™ available in ALS laboratories around the world.
- › Our facilities offer core cutting, core photography and full geochemical services.
- › Hyperspectral data interpreted via high-speed, semi-automated computer algorithms, constrained by style of mineralization or deposit type

Contact us to discuss solutions:

✉ [clientservicesusa@alsglobal.com](mailto:clientservicesusa@alsglobal.com)  
 🌐 [alsglobal.com/minerals](http://alsglobal.com/minerals)



## NORTH AMERICAN EXPLORATION

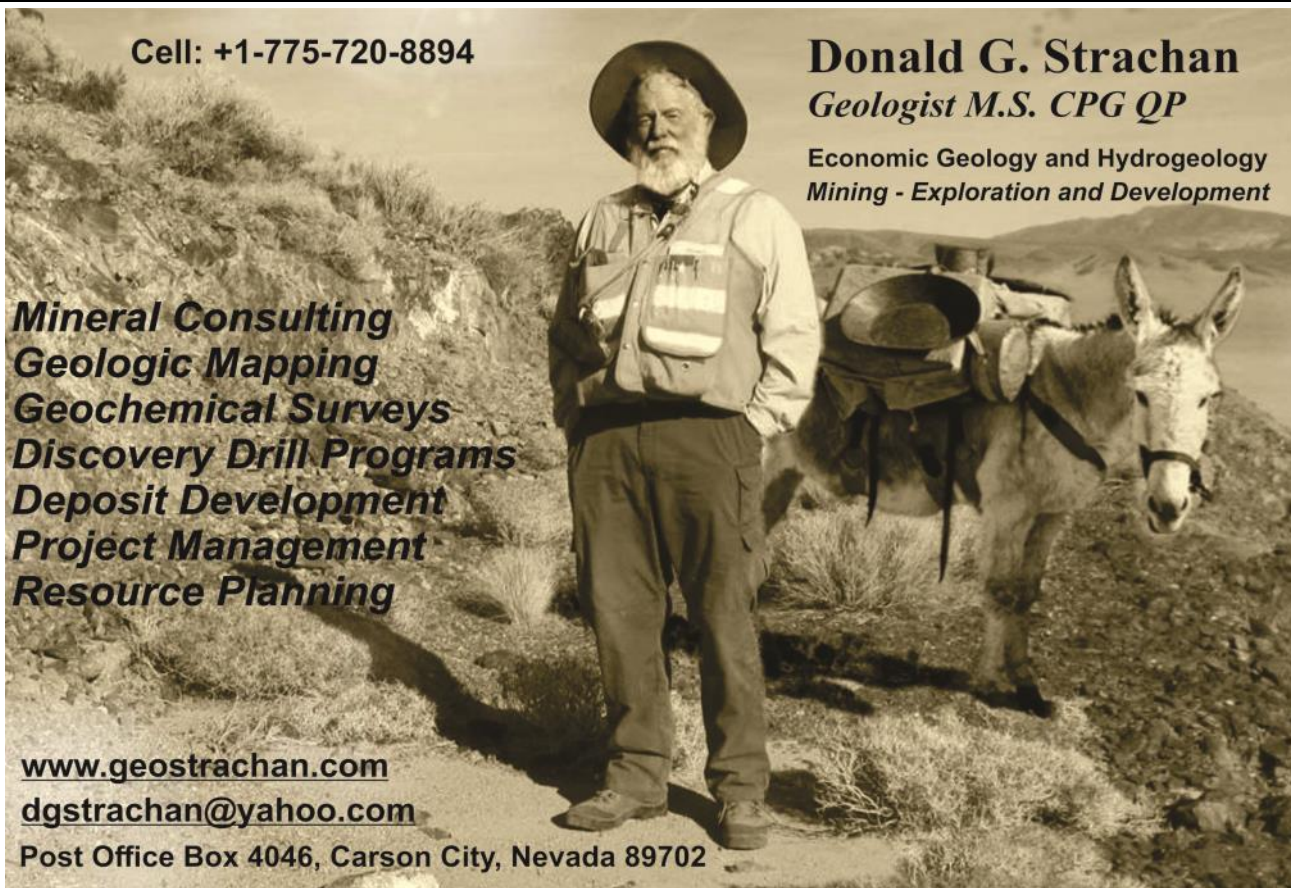
GEOLOGY • CLAIM STAKING • GEOCHEM SAMPLING • LANDWORK



**DAVID MORRIS**  
PRESIDENT • GEOLOGIST

895 N. MARSHALL WAY, SUITE A  
LAYTON, UT 84041

801.546.6453  
[DMORRIS@NAE-EXPLORATION.COM](mailto:DMORRIS@NAE-EXPLORATION.COM)



Cell: +1-775-720-8894

**Donald G. Strachan**  
*Geologist M.S. CPG QP*

Economic Geology and Hydrogeology  
 Mining - Exploration and Development

**Mineral Consulting**  
**Geologic Mapping**  
**Geochemical Surveys**  
**Discovery Drill Programs**  
**Deposit Development**  
**Project Management**  
**Resource Planning**

[www.geostrachan.com](http://www.geostrachan.com)  
[dgstrachan@yahoo.com](mailto:dgstrachan@yahoo.com)  
 Post Office Box 4046, Carson City, Nevada 89702

**AMERICAN ASSAY**  
 laboratories

Fire Assay, ICP-OES/MS,  
 XRF, LECO, Custom Prep, BLEB

Chris Ioannakis, Managing Director, Analytical Services

<b>Corporate Office</b>	<b>Elko Office</b>
1500 Glendale Avenue	2320 Last Chance Road
Sparks, NV USA 89431-5902	Elko, NV USA 89801-4852
Telephone: (775) 356-0606	Telephone/Fax : (775) 738-9100
Fax: (775) 356-1413	

E-mail: AALADMIN@aallabs.com  
 Website: www.aallabs.com

## GSN NEWSLETTER AD PRICES

**Business Card—\$50/month**

**Quarter Page—\$150/month**

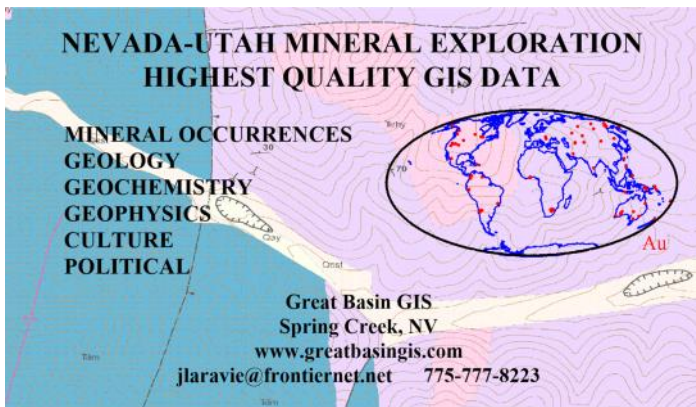
**Half Page—\$300/month**

**Full Page—\$450/month**

**10% Discount for ordering 10 months!**

**NEVADA-UTAH MINERAL EXPLORATION**  
**HIGHEST QUALITY GIS DATA**

MINERAL OCCURRENCES  
 GEOLOGY  
 GEOCHEMISTRY  
 GEOPHYSICS  
 CULTURE  
 POLITICAL



Great Basin GIS  
 Spring Creek, NV  
[www.greathasingis.com](http://www.greathasingis.com)  
[jlavie@frontiernet.net](mailto:jlavie@frontiernet.net) 775-777-8223

# OCTOBER



# GEOLOGICAL SOCIETY OF NEVADA



gsn@gsnv.org • www.gsnv.org  
Telephone (775) 323-3500  
Fax (775) 323-3599  
2175 Raggio Parkway, Room 107  
Reno, NV 89512 USA

---

## **TRAVELING GSN BACKPACK PHOTOS**

(Please submit your backpack photos at any time!)

I know of at least two GSN members who will recognize this little oasis of a pool at a motel that's in a "shady" spot along Interstate 80! In less than 8 months, all technical session registrants at the upcoming GSN 2020 Symposium will receive a brand-new GSN backpack!

