



GEOLOGICAL SOCIETY OF NEVADA NEWSLETTER

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MAR. 13, 2024 WEDNESDAY

GSN WINNEMUCCA CHAPTER MEETING

The GSN Winnemucca Chapter Meeting will be held at the Martin Hotel, 94 W. Railroad St. **SPEAKER: Alex Deatherage, Integra Resources. Topic: The Delamar Project.**

FOOD & BEER SPONSOR: PARAGON GEOCHEMICAL.

For more information, please contact Chapter President, Kris Alvarez at: kalvarez@i80gold.com. Details on pg. 6.

MAR. 15, 2024 FRIDAY

GSN REGULAR MEMBERSHIP MEETING

The GSN Membership meeting will be held at the Atlantis Casino Resort, Reno, NV. **SPEAKER: Ken Witherly, Condor Consulting, Inc.. TITLE: "Cortez Summit Case Study Plus 11 years; do we know any more?".**

DRINKS SPONSOR IS: KAPPES, CASSIDAY & ASSOCIATES. Dinner cost is \$60 per person. Please register for dinner online by clicking the link: [DINNER RESERVATION](#) or RSVP to Laura Ruud: gsn@gsnv.org. **PLEASE Register or RSVP by MONDAY, March 11th!** Details on pg. 3.

MAR. 21, 2024 FRIDAY

GSN ELKO CHAPTER MEETING

The GSN Elko Chapter Meeting will be held at the Western Folklife Center, 501 Railroad St. Elko. **SPEAKER: Gregory Crouch, Author. TOPIC: The Bonanza King, the legend of John Mackay.**

FOOD & DRINKS SPONSOR: KP EXPLORATION.

Please contact Chapter President, Luke Schranz, lukeschranz@gmail.com for more information. Details on pg. 7.

GSN RENO MEETING SPONSOR



FROM THE PRESIDENT
Tony Gesualdo, GSN President 2023-2024
MARCH 2024



Last month it was great to have the combined GSN – CREG Program dinner meeting with the Ralph J Roberts Distinguished Lecture given by Moira Smith on the pulse of the industry. A huge thank you to you all, as she presented to our largest crowd this year. She presented many downward trends, but as an exploration geologist, I am staying optimistic. And we always appreciate the good trends in Nevada including the Carlin Trend, the Battle Mountain – Eureka Trend, the Getchell Trend, and the Walker Lane Mineral Belt.

Regarding trends, software is becoming more and more a part of a geologist’s tool kit. Many of you will be at PDAC this upcoming week. I am sure you will see all the new software and hardware that can make your job easier. There are new software tools to help you to monitor a drill rig in real time, plan drill holes, map geology, model X (insert geology, block models, etc here), log and scan core, analyze geochemical data, and display your data in beautiful ways. Even one of the most basic tools on your belt that has been used for 120+ years has gotten recent upgrades to help you collect data better and faster. This is not a paragraph arguing for or against the usefulness of all these tools, it is just a reminder to not lose sight of the scientific process that these tools support. As geologists, we will have many tools on our belt, on our computers, and on our phones, along with contractors who can supply more tools that can support our work. However, I feel it is still important to use basic geological principles to reach a conclusion, even if that conclusion came quicker by using software or AI.

Our speaker this month is Ken Witherly who will be revisiting a case study of geophysical data from a Carlin-Type gold prospect in the Cortez Mountains, Nevada. His talk is titled: *Cortez Summit Case Study Plus 11 years; do we know any more?* I am interested to see how the surveys and interpretations have evolved over the past decade, especially in light of Barrick’s nearby Goldrush development and Fourmile discovery.

I would also like to announce that our April meeting will be a Student Poster Competition. Please spread the word to any students who may be interested. There will be no speaker that night but there will be a happy hour student poster session followed by dinner. Winners will be announced after dinner with cash prizes. More information can be found on page 8.

Cheers,

Tony



Moonrise cradled in the Diamond Mountains next to Diamond Peak, seen from Eureka, Nevada.

GSN wishes to thank our FEBRUARY MEETING sponsors!



GSN MEMBERSHIP MEETING—MARCH 15, 2024

GUEST SPEAKER: KEN WITHERLY, Condor Consulting

TITLE: “Cortez Summit Case Study Plus 11 years; do we know any more?”

SPONSOR:



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

WHERE: ATLANTIS CASINO RESORT, RENO, NV

DINNER COST: \$60 per person

ONLINE RESERVATIONS CAN BE MADE on the GSN WEBSITE by clicking this link: [DINNER RESERVATIONS](#).

PLEASE RSVP/REGISTER NO LATER THAN MONDAY, MARCH 11TH!

Abstract:

Extracted from the extended article “An assessment of airborne and ground geophysical data over a Carlin-Type gold prospect, Battle Mountain Nevada.” published in 2013 by Ken Witherly, President of Condor Consulting, Inc, Lakewood, CO.

Summary

Carlin-Type deposits represent a major class of gold deposit first defined at the type location in Nevada with the discovery of the Carlin deposit in 1960. Since then, dozens of other similar deposits have been found and many exploited, making the NE corner of Nevada one of the most prolific gold districts in the world.

The petrophysical characteristics of these deposits are subtle as the primary deposit attributes; structures and lithology along with some alteration associated with ore emplacement are seldom unique and often overprinted by other similar events before, concurrent and post the primary ore forming events.

In the present study the results from three geophysical surveys; two airborne techniques ZTEM and HeliTEM and ground gravity are processed and assessed over a property that while near well-defined Carlin-Type deposits, is itself largely covered by young volcanic rocks which has made the assessment of the property challenging.

The geophysical results show good agreement with some previously recognized structural features derived from regional mapping and drilling. As well the surveys are providing information about what are considered significant structural features not previously recognized. Alteration could be a component of the observed responses but additional validation with drilling is required to fully assess the significance of these results.

Bio:

Ken Witherly graduated from UBC (Vancouver Canada) with a BSc in geophysics and physics in 1971. He then spent 27 years with the Utah/BHP Minerals company during which time as Chief Geophysicist, he championed BHP’s programs in airborne geophysics which resulted in the development of the MegaTEM and Falcon technologies. In 1999, Ken helped form a technology-focused service company that specializes in the application of innovative processing and data analysis to help drive the discovery of new mineral deposits. In 2017, he helped establish the Women Geoscientists of Canada, a group dedicated to support early career women in the minerals industry. In the last five years, he has undertaken to help build a historical record of mining geophysics and the people and technology in this profession.

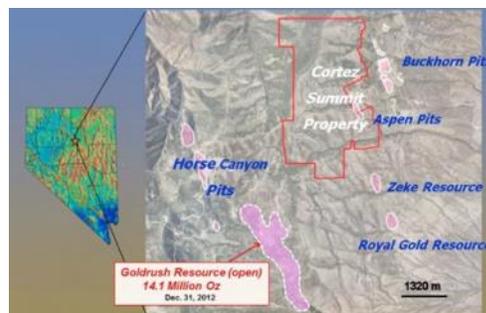


Figure 1: Location map showing the Cortez Summit property and surrounding deposits/resources.



“Faces of GSN”

Randy Hannink, Minden, Nevada

The California Central Valley might seem like an unlikely origin for an exploration geologist, but, it's actually not that far away from Reno. And, also, very close to the Gold Rush camps and mines.

After graduating high school in Ripon, California, in 2000, I attended Dordt College in Sioux Center, Iowa. All I really learned in my one semester there was that I had a hard time living where there were no mountains, and engineering classes are no joke. So, at age 19, I decided to transfer to the school of hard knocks instead, and for a year I worked several jobs including at a feed store, surveying/engineering company, and driving hay truck around the valley. I thought it was a pretty good set up, however, my mom didn't. She put down the ultimate ultimatum: go back to school, or start paying rent. I wasn't going to pay rent to stay at home. So I signed up for classes at California State University, Stanislaus, in Turlock, CA.

My younger brother then decided he was also going to Dordt College, so we road-tripped out there to let him give it a try (he did 4 years there..). On the way there, we stopped at an uncle's house in Missouri, and on a whim he gave me the John McPhee book “Rising From the Plains”, about a Wyoming geologist. I was very intrigued by the oil exploration scene portrayed in that book, so when I signed back up for school at Stan State, I put geology as my major.

The first day in Geo 101, I knew it was the right choice, when the instructor, Dr. Horacio Ferriz, said something like “it isn't always just smoke a joint and geologize” waving his hands in the air. The (often informal) field trips always involved pizza and beer, and there was much to go look at between the coast and the high Sierra. The four years went fast.

As graduation approached, the reality of working as a geologist in the valley got more real, and I wasn't enthralled by hydrology or gas station “yank a tank” environmental work. My tentative life plan was to drive a hay truck around California and Nevada, as it seemed a person could earn as much driving truck as he could using a geo degree. However, my professor Dr Ferriz had another idea: let's go to Reno, and check out the grad school, the Center for Research in Economic Geology at UNR.

Turns out that was a great idea! The people there were very enthused about exploration and mining, and I signed up. I worked under Dr. Tommy Thompson and Dr. John Muntean, (eventually) completing my thesis on the Santa Rita porphyry copper deposit in New Mexico.

Then it was once again time to find work, and luckily in 2008 things were getting busier in the exploration scene. I'd met Bob Felder at GSN meetings in Reno and at the CREG meetings, and he was looking for someone to sit rigs at the Northumberland project in central Nevada for Fronteer Gold, so off I went in my old Dodge diesel. Northumberland drilling wound down soon after, but (continued on page 5)



Kinsley Mountain Core Shed, 2011

there was another project where they needed rig geologists, Long Canyon. After a few years working there I ended up back at Northumberland as the decline was driven to the high grade zone, when Newmont bought out Fronteer Gold. I consider myself very lucky to be involved in such good projects and great geologists so early on in my career. After the buyout, I stayed with the same Fronteer Gold group, with Moira Smith, Kent Samuelson, Pete Shabestari, and others, under the moniker Pilot Gold. That was 2011.

Pilot Gold carried on a similar theme of picking up projects and working them towards resource, and I worked on most or all of them, including Regent, New Boston, Kinsley Mountain, Goldstrike Utah, TV Tower, and Black Pine. Along the way the name changed to Liberty Gold. It was a very busy time, so I decided I needed some distractions from work, and my favorite one was a girl named Amy Eisses, an Alaskan I'd met in grad school. We started dating seriously in 2012 when she finished her thesis at UNR and moved to Denver to work for an oil company. Perfect timing, since I'd just bought a house in Spring Creek, Nevada, near Elko. We did the long distance thing for a few years (I was in Turkey for much of the time anyways), then somehow she decided it was a great idea to relocate to Spring Creek. She found work with Klondex Mining as an ore control geo at Fire Creek, and saw more actual gold on her first day than I ever had! We also decided it was a perfect time for a dog, and we got (and still have) a wonderful goldendoodle named Bandit, who has learned not to drink from poly water drill sumps or play with rattlesnakes.

In 2019 I took a short break from Liberty Gold, to try build a small backpack drill rig, and to spend time with our son George! Born in April. The drill rig didn't get very far, but George sure grew fast and is now 4. A wild 4. Our daughter Clara followed in 2021, by which time I was back with Liberty Gold, and we moved to Minden, NV.

Although Minden was much closer to family and friends, it was quite the distance from Black Pine, Idaho, where I was project manager since 2020. I recently made the change to work for Headwater Gold, based out of Reno, and am enjoying the proximity to projects (and some great mountain biking trails!).



Afternoon ride with Bandit, Black Pine, ID, 2022



The Family, George, Randy, Amy and Clara



GSN WINNEMUCCA CHAPTER NEWS



Wednesday, March 13, 2024

(every 2nd Wednesday)

The Martin, 94 W. Railroad St., Winnemucca

Food and Drinks at 6 pm, Talk at 7 pm

Speaker: Alex Deatherage, Integra Resources

Topic: The Delamar Project

FOOD & BEER SPONSORS:



Short Course on Metallurgical Inputs to Integrated Planning

Dear Friends and colleagues:

The [Lowell Institute for Mineral Resources](#) and the [Lowell Program in Economic Geology](#) are pleased to announce we are opening the registration for our Short Course on Metallurgical Inputs to Integrated Planning.

You can choose to attend in person or learn at a distance, at your own pace, and focus on what is most important to you. The in-person course will take place April 12-13, 2024, at the University of Arizona (main campus). For the online course, we offer two options: an **asynchronous**, self-guided, and pre-recorded option and a **synchronous** option that will be live-streamed on April 12-13. Online participants are welcome to take advantage of both. The asynchronous online will start on March 11, 2024 (midnight, MST).

The course fee is **\$749** for [in-person](#) and **\$400** for [online](#). Organizations may receive a discount ([contact us](#) for details). The in-person course fee includes course materials, lunch, coffee breaks, and refreshments for the two days, but it does not include room accommodations, transportation, or additional meals.

The deadline to register for the **online** version of the short course is **March 6**. We may conditionally accept your registration after the deadline, but please note that this reduces the time you have to go through the learning materials. For the **in-person** version, the deadline is **March 29**.

For a comprehensive description and important information regarding this short course click [here](#).

To register, please complete [this form](#). If you have any questions or concerns, please contact [Rocio Brambila](#).



GSN ELKO CHAPTER NEWS



When: Thursday, March 21, 2024

(every 3rd Thursday)

Presenter: Gregory Crouch

Title: “The Bonanza King”. The legendary John Mackay.

TIME: Drinks & Appetizers @ 6 pm, Talk @ 7 pm

Where: The Western Folklife Center, Elko, NV

FOOD & DRINKS SPONSOR:



The Bonanza King author Gregory Crouch will discuss mining legend John Mackay, who got his start in the United States as a destitute Irish immigrant brought here when he was 9 years old. Mackay grew up in New York City’s Five Points slum (“The Gangs of New York” neighborhood), came of age amid the violent mayhem of the California Gold Rush, and rose to the full power of his manhood in the deep, rich, and outrageously dangerous mines of the Comstock Lode beneath Virginia City, Nevada, the ultimate Old West boomtown.

On the Comstock, Mackay worked his way up from nothing, battling the pernicious “Bank Ring” of California capitalists who’d monopolized the lode, and struck the legendary Big Bonanza, a stupendously valuable body of gold and silver ore buried 1,500 feet below the center of the town.

The extraordinary wealth Mackay extracted from the Comstock Lode drove wild stock market frenzies in San Francisco and launched his wife, whose beginnings were every bit as humble as his own, on a meteoric social career among the finest European aristocrats. When John Mackay died in 1902—with a personal fortune equivalent to about \$50 billion modern dollars—front page obituaries all over Europe and the United States hailed him as one of the most admired Americans of the age.

Speaker / Author Bio:

Gregory Crouch is the author of the Comstock epic, *The Bonanza King: John Mackay and the Battle Over the Greatest Riches in the American West*, the World War II flying adventure *China’s Wings: War, Romance, Intrigue, and Adventure in the Middle Kingdom During the Golden Age of Flight*, and the mountaineering memoir *Enduring Patagonia*. Crouch has published stories in *The Atlantic*, *National Geographic*, *Smithsonian*, *Time*, and many other national media outlets. Gregory Crouch graduated from the United States Military Academy at West Point, New York and U.S. Army Airborne and Ranger schools. He lives in Walnut Creek, California.

GSN Student Dinner Fund in Dire Need of Donations!

Dear Generous GSN Members,

Our Student Dinner Fund is running VERY LOW!

We want to keep this benefit available to our student members because we love having them attend and find that the more they meet and interact with members, the more likely they will continue their membership after they graduate!

Please click on this link to donate whatever amount you'd like. All funds go directly to paying for the student dinners and nothing else! (You may need to wait 10-20 seconds for this site to load)

[DONATE TO THE GSN STUDENT DINNER FUND](#)

Thank you to Mario Desilets, Ed Orbock and Bert Jeffries who donated last month!

GSN STUDENT POSTER COMPETITION!

FRIDAY, APRIL 19, 2024

at the Atlantis Casino, Reno

The Geological Society of Nevada announces their annual *Student Poster Competition* will be held on **Friday, April 19, 2024**, during the GSN Membership Meeting at the Atlantis Hotel and Casino, 3800 South Virginia Street, Reno, NV 89502, USA.

There will be a first-place prize of \$500, second place prize of \$300 and third place prize of \$200. This year the GSN will also offer a prize for the best Undergraduate Poster. We invite all University of Nevada, Western Nevada Community College, Great Basin College, and Truckee Meadows Community College geoscience and hydrology students to participate. Geoscience students at UNLV, Sonoma State, Sacramento State and Chico State are also invited and welcome to participate.

Student membership in GSN is required (join GSN as a Student Member on-line for \$25 at <https://www.gsnv.org/>). Posters will be judged by a panel of GSN volunteers. Poster presenters should arrive at the meeting room in the Atlantis at 5:00pm on April 19th and have their posters up by 5:30pm—judging will start at 6:00pm sharp. GSN will provide student presenters with free dinner starting at 7:00pm. Winners will be announced, and prizes awarded starting at 8:00pm, after dinner.

This will be a casual, sponsored, fun event and a good opportunity for students to showcase their work in progress and interact with the wider, Reno geoscience community.

Students must send their name and poster subject or title no later than March 31, 2024 via email to Steve Weiss (siraweiss@outlook.com) or Tony Gesualdo (anthony.gesualdo@gmail.com).

Thanks, we hope to see you at GSN!
Steve Weiss
Secretary, Geological Society of Nevada
siraweiss@outlook.com



NEWS FROM THE FOUNDATION

March, 2024



Looking for volunteers to give classroom geology-related talks at local secondary schools

Dear GSN Members,

GSN was recently contacted by a fourth grade teacher to assist in providing a speaker to give a Nevada geology presentation. We were unable to satisfy this request, so missed out on an opportunity to help introduce the geological sciences to young students. In an effort to be better prepared the next time we receive a request like this, we're sending this notice to ask GSN members if you may have an interest in participating in earth science educational programs that may come up in the future. In your response, any additional information you can provide in terms of your preferences will be very helpful in our effort to assemble a list of potential presenters. Items such as grade preference, specific earth science subcategory preference, and any other consideration important to you. Our goal is to have a list of possible participants who are potentially available that we can reach out to when the next request is made for a classroom show-and-tell session. Thank you for your consideration.

If you are interested, please contact :

Ruth Carraher

K-12 Educational Grants Committee Member

GSN Foundation

racarraher@gmail.com

OTHER UPCOMING EVENTS

March 7, 2024 Nevada Petroleum & Geothermal Society meeting, Please join us on Thur., March 7th, at 6:30 pm for the monthly meeting at Tamarack Casino 13101 S Virginia St, Reno, NV 89511. **Speaker: Patricia de Luga - strataimage.com. Presentation: Joint Interpretation using UAV-MAG and MT for geothermal target detection.** Click here to register: [Register Now](#) . Contact Luis Navarro for more info: 832-707-2778 or email energygeologist@gmail.com

March 4, 2024: DREGS Meeting, Colorado School of Mines, Petroleum Hall, Green Center, Golden CO. Social at 5:00, Talk begins at 5:30 p.m. **Speaker: Garth Graham, USGS. Title: "Critical minerals – U.S. Geological Survey mineral resource assessment efforts utilizing new, uniform geoscientific datasets"**. DREGS meetings will no longer be streamed live. Meeting recordings will be available on their YouTube channel and website within the week. For more information, please see our [Events](#) page.

March 5, 2024: Arizona Geological Society Meeting. Location: Hexagon Mining Division Office, 40 East Congress St, Suite 150, Tucson, AZ. Parking: On the street or parking garage (Old Pueblo Parking). Social Hour with Sandwiches from Beyond Bread (5:30-6:30 PM) Presentation (6:35 PM). **Speaker: Jason Ricketts, University of Texas, El Paso. Title: "The Origin and Tectonic Significance of the Basin and Range - Rio Grande Rift Boundary in Southern New Mexico"**. More information and online registration: [The Origin and Tectonic Significance of the Basin and Range - Rio Grande Rift Boundary in Southern New Mexico](#)

March 11, 2024: SME Northern Nevada Chapter Meeting, Circus Circus Mandalay Room, Reno, NV. 6 p.m. **Speaker: Dana Bennett. Sponsor: Cyanco.** Email: NNevSME@gmail.com. email us about the details. [NNVSME Website](#)

Mining Activity Update

JANUARY 2024, Mike Brady

LMBrady@aol.com

NEVADA

NuLegacy Gold Corp. announced that it is suspending exploration efforts at the Red Hill Property due to discouraging results. The company also stated that it is now investigating its options for the property. *Press Release:* January 4

Fortitude Gold Corp. announced that recent drill results at the East Camp Douglas Project include 0-27.43 meters @ 1.49 gpt Au (ECDRC-75); 0-12.19 meters @ 1.08 gpt Au (ECDRC-78); 0-13.72 meters @ 0.98 gpt Au (ECDRC-86) and 56.39-68.58 meters @ 1.45 gpt Au (ECDRC-88). *Press Release:* January 22

Nevada King Gold Corp. announced that recent drill results at the Atlanta Project include 105.2-154.0 meters @ 1.8 gpt Au, 13.5 gpt Ag (AT23NS-131B); 102.1-125.0 meters @ 2.38 gpt Au, 24.1 gpt Ag (AT23NS-133); 61.0-114.3 meters @ 1.86 gpt Au, 34.1 gpt Ag (AT23NS-167A) and 80.8-157.0 meters @ 1.41 gpt Au, 38.8 gpt Ag (AT23NS-168). (resource = 11,000,000 tonnes @ 1.3 gpt Au measured+indicated) *Press Release:* January 23

Hycroft Mining Holding Corp. announced that recent drill results at the Hycroft/Brimstone Project include 59.44-307.85 meters @ 0.46 gpt Au, 26.8 gpt Ag (H23R-5761); 94.49-237.01 meters @ 0.56 gpt Au, 9.2 gpt Ag (H23R-5766); 1.52-65.53 meters @ 0.45 gpt Au, 24.8 gpt Ag (H23R-5775) and 24.38-48.77 meters @ 0.35 gpt Au, 42.7 gpt Ag (H23R-5782). (reserve = 669,680,000 tonnes @ 0.34 gpt Au, 14 gpt Ag proven+probable) *Press Release:* January 9

Phenom Resources Corp. announced that recent drill results at the Carlin Vanadium Project include 74.68-97.54 meters @ 0.48% V₂O₅ (RC23-17) and 3.05-18.29 meters @ 0.41% V₂O₅ (RC23-18). (resource = 2,400,000 tonnes @ 0.61% V₂O₅ indicated) *Press Release:* January 11

I-80 Gold Corp. announced that recent drill

results at the Ruby Hill/Fad Project include 659.1-663.6 meters @ 4.9 gpt Au, 60.2 gpt Ag, 0.2% Pb, 9.3% Zn (PC23-12); 687.0-692.4 meters @ 5.7 gpt Au, 159.4 gpt Ag, 2.8% Pb, 15.0% Zn (PC23-22); 642.5-645.9 meters @ 15.6 gpt Au, 847 gpt Ag, 0.5% Pb, 15.1% Zn (PC23-26) and 707.4-718.4 meters @ 4.1 gpt Au, 350.1 gpt Ag, 7.3% Pb, 13.8% Zn (PC23-28). (resource = 2,818,000 tonnes @ 5.46 gpt Au, 188 gpt Ag, 3.7% Pb, 9.5% Zn inferred) *Press Release:* January 25

I-80 Gold Corp. announced that recent drill results at the Ruby Hill/Hilltop Project include 269.4-285.3 meters @ 1.1 gpt Au, 174.4 gpt Ag, 2.0% Pb, 3.8% Zn (iRH23-48); 272.8-387.1 meters @ 0.01 gpt Au, 12.6 gpt Ag, 0.1% Pb, 9.5% Zn (iRH23-50); 175.6-185.6 meters @ 2.1 gpt Au, 514.8 gpt Ag, 23.4% Pb, 3.1% Zn (iRH23-52) and 175.7-199.3 meters @ 1.0 gpt Au, 469.4 gpt Ag, 15.6% Pb, 6.8% Zn (iRH23-56). *Press Release:* January 17

SSR Mining Inc. announced that reserves at the Marigold Mine aggregate 185,703,000 tonnes @ 0.48 gpt Au proven+probable. (was 203,800,000 tonnes @ 0.48 gpt Au proven+probable) *2023 Annual Report*

ARE YOU A STUDENT or RECENTGRAD in need of a GEOLOGY VEST?

I have two geology vests that I need to get rid of. Both are in good condition and have the hi-viz taping required for mine sites. Perhaps our GSN members know of some UNR students or recent graduates who could use them. No charge.

Interested parties can email me at:
fhopson@sbcglobal.net.

Thanks so much!
Forrest Hopson

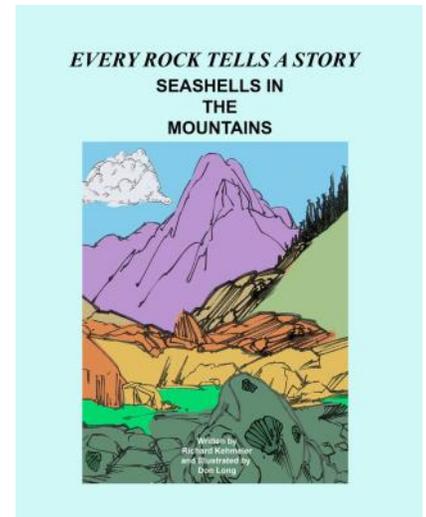
In the interest of getting earth science knowledge to young adults, and letting them know about the possibility of becoming a geologist as a career, we wanted to share that GSN member, Richard Kehmeier has written a book for young adults. If interested, please keep reading to find out more!

Helping Explore The Evolution Of Our Planet In Terms Everyone Can Understand

Every Rock Tells a Story: Seashells in the Mountains, a new book by Richard Kehmeier and illustrated by Don Long, has been released by Dorrance Publishing Co., Inc.

Every Rock Tells a Story is a series of books for young adults conceived by geologist Richard Kehmeier. The series' "raison d'être" is to emphasize the types of knowledge geologists must have to understand the evolution of our physical planet. Rather than explaining science with confusing terms and unfathomable concepts, these books provide simple, understandable explanations of terms and concepts in a story form.

Geology is often misunderstood because of the difficulty understanding subjects like geological time, rock names, mineral identification, and even faulting and volcanoes. Many people are exposed to geology in their own backyards every day and many more are introduced to it when they travel. It is the author's hope that this series of books will help answer many questions young people may have about geology, ignite their curiosity about our planet, and help them understand how they can have careers in this fascinating and dynamic field of science.



About the Author

Richard has worked in geology for more than fifty years and has practiced his branch of exploration geology in North America, South America, Europe, Africa, and Greenland. He has spent much of his career exploring remote places across the globe for sources of metals to support our economy. Richard has two college degrees, a Bachelor of Science in Geological Engineering and a Master of Science in Geology, both from Colorado School of Mines. He lives in Colorado with his wife, Andrea, and two naughty dogs. In addition to writing, he enjoys photography and cooking.

Don Long, artist/illustrator for this book, brings fifty years of ongoing commercial art experience. He has taught and created multiple university-level classes for the subject areas of illustration, character design, anatomy, storyboard layout, and movie animation concepts. He has notable industry awards and has been the lead contributing illustrator on award-winning projects such as the National Autism Society teaching manual. He won first place at the International Expo, large animatronics character division. He has contributed as lead for character design, children's books, and graphic novel illustration. His documentary film art has won three Tele Awards. He holds a Master's of Illustration from Syracuse University. Don lives in Colorado with his wife, Ellen, and two cats. His passion is flyfishing, and he has traveled the world pursuing his flyfishing and his love of the outdoors.

Every Rock Tells a Story: Seashells in the Mountains is a 30-page paperback with a retail price of \$18.00 (eBook \$13.00). The ISBN is 979-8-88925-119-4. It was published by Dorrance Publishing Co., Inc of Pittsburgh, Pennsylvania. For members of the press, to request a review copy, visit our virtual pressroom at <https://dorrancepressroom.com/every-rock-tells-a-story-seashells-in-the-mountains/> or to buy the book visit our online bookstore at <https://bookstore.dorrancepublishing.com/every-rock-tells-a-story-seashells-in-the-mountains/>.

James E. DeLong Jr.

December 6, 1939 — February 10, 2024
Denver, CO



James (Jim) Edward DeLong Jr., age of 84, died with family by his side in Denver, CO on February 10th, 2024.

Born on December 6th, 1939, in Utica NY, Jim lived his childhood in the family home located in the Adirondack town of Old Forge, NY.

In 1957, he graduated from the Town of Webb High School in Old Forge. Jim went on to earn his bachelor's degree from Dartmouth College in New Hampshire, class of 1961. He later obtained his master's degree in Economic Geology from the University of Michigan.

An avid and accomplished skier, he raced competitively in high school and later captained the Dartmouth Ski Team. As captain, he was afforded the opportunity to travel the country for competitions, skiing alongside world class athletes. Having traveled to Colorado to compete, he gained a love for the Rocky Mountains, which made his first career opportunity at Climax Molybdenum in Denver a perfect fit.

During his early years at Climax, he lived in Georgetown, CO with his then wife, Kate, before settling down to raise their family in Wheat Ridge, CO. At Climax, Jim was a part of the team that discovered the second largest Molybdenum deposit in the world, later named the Henderson Mine. In 1980, he moved the family to Reno, NV to pursue a role as Manager for the Western US District for Anaconda Minerals. It was during this stint of his career where he led a geological exploration group that uncovered a deposit yielding over a million ounces in gold. As a career Exploration Geologist, he enjoyed working outdoors "in the field" surrounded by spectacular mountains in many western states including Nevada, New Mexico, and Alaska. Late in his career he spent 4 years overseas as a consultant in the countries of Kyrgyzstan and Uzbekistan. As preparation for his role in Central Asia, he took a Russian language immersion course taught in Russia.

After retiring, he moved to Fairmont, WV to take care of his aging parents, where he became very involved in the community and thrived in the new environment. In 2021 he moved back to Denver to be close to his sons and grandchildren, where he lived across from historic City Park.

Among his many interests, Jim enjoyed skiing, hiking, cycling, traveling, gardening, card games, classical music, reading, bird watching, and attending happy hours. He had a natural ability for conversation and easily made lifelong friends everywhere he went.

He was preceded in death by his parents and his two brothers Douglas and Lawrence. Jim is survived by his two sons Douglas (Lora) and Peter (Julie) both of Denver, CO, and his grandchildren Bonnie, Kevin, Trevor, and Casper, and sister Constance Mosher of Schoharie, NY.

Mr. DeLong has chosen cremation services. Internment will be in the Riverview Cemetery, Old Forge, NY in the summer with family attending. Plans for a Springtime memorial in the Denver area will be shared in the coming weeks.

Charles A Sandberg



Charles Albert Sandberg, age 94, of Lakewood, CO, passed away peacefully in his sleep at home early on the morning of January 24, 2024.

Charles was born in Boston, Massachusetts on June 12, 1929. He grew up in the Boston area, graduating from Boston Latin School at the age of 15. Charles then attended Harvard University, graduating cum laude in 1949 with a Bachelor's degree in Geology. He joined the U.S. Geological Survey (USGS) in 1950 and moved to Billings, Montana where he worked until being drafted into the Army.

Charles served as a 1st Lieutenant with the U.S. Army Combat Engineers, 2nd Infantry Division, in Korea from 1952-1954. After returning from Korea, Charles eventually began working for the USGS again in Billings, Montana. Here he met Dorothy Ann Taylor, also a geologist, whom he married on September 22, 1956.

Charles and Dorothy moved from Billings to Lakewood, Colorado in 1957 where they both worked for the USGS. Dorothy passed away in 2010 and Charles passed away in the same home that they had purchased in 1958.

Charles spent his entire career with the USGS as a research geologist, specializing in micropaleontology and biostratigraphy of conodonts (microscopic teeth of an extinct eel-like fish). His career with the USGS spanned over 50 years, including time as a geologist emeritus after retirement at age 65. He authored/co-authored numerous professional publications that will be of enormous value to future generations of geologists.

His interests and hobbies included travel, military history, biblical archeology, gardening (devising innovative ways to keep rabbits out of his flower beds!), bird watching, stamp collecting, photography, friends and family.

Charles is survived by three children: Susan A Wajda (Peter), Janet L Sandberg (Mark Daniels) and William A Sandberg (Jamie); six grandchildren and six great-grandchildren.

In lieu of flowers, the family suggests memorial donations to a charity of your choice. A memorial service was held on Friday, February 23, 2024 at Fort Logan National Cemetery in Denver, CO.

A Special Thank You

Thank you to all who can share Dad's special day, February 23, at Fort Logan with us. Thank you, neighbors, friends, geology professionals, and caregivers. And especially thanks to you, Reta, for creating true joy and for being part of Dad's life since 2011. Dad lived a long and happy life. He knew the value of living each day to the fullest. Dad was the son of Russian Jewish émigré parents who came to the U.S. at the turn of the last century. Think "Fiddler on the Roof"! Here in America, Dad's family worked hard, and Dad went on to graduate from Harvard at the age of 19. Dad served his country bravely with the Combat Engineers, leading a platoon as a newly commissioned Lieutenant, 2d Infantry Division, the division "Second to None," in the Korean War. We are proud of him. I followed in his footsteps and made the U.S. Army a career. Dad and Mom were both geologists, and geology brought them to Colorado in 1957. In May 1958, they bought a new house near the Federal Center in Lakewood and lived there for the rest of their lives. Sadly, Mom, Dorothy Ann, passed in June 2010, but Mom and Dad were lucky to share over 50 years together. Dad spent his entire career with the U.S. Geological Survey (USGS), retiring in 1994, but continuing work as a geologist emeritus. conodonts@comcast.net That was his favorite email! I'm sure Dad told you about conodonts! Dad's headstone depicts a flaming chalice, the symbol of Unitarian Universalism. Dad was Jewish, but he found a faith home at the Jefferson Unitarian Church (JUC) in 1960, and our family all went to Sunday services there, first in downtown Golden and later in Applewood. My husband Peter and I were married at JUC on December 27, 1982 (never mind the two feet of snow delivered by the Christmas Eve Blizzard!). Dad had several close friends at JUC, Carl and Stacie Stock among them. We always dreamed that Dad would live to be 100. Not quite. But he did know the secret of finding happiness in simple things and being thankful for each and every day. He was kind and loved us all. We miss him so much!

Susie
Susan A.Wajda Genesee, Colorado

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| #29 | 29.17 | 0.093 | 6.009 |
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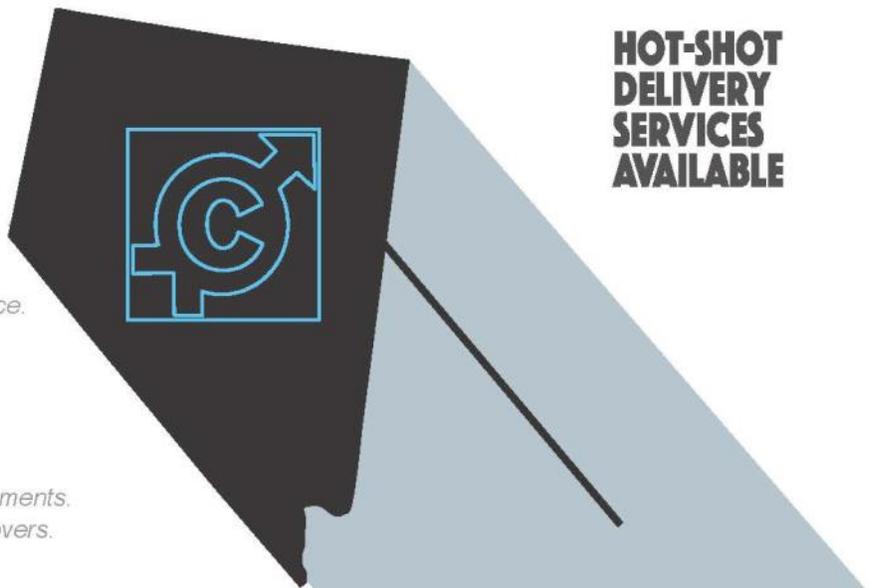
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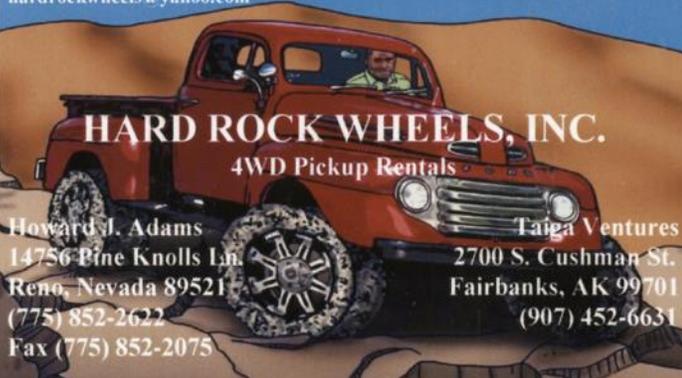
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