

GEOLOGICAL SOCIETY OF NEVADA NEWSLETTER

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CALENDAR OF GSN EVENTS

**Sept. 8
Wednesday**

WINNEMUCCA CHAPTER *(Every 2nd Wednesday of the month)*

The monthly meeting will be held at the Martin Hotel, 94 West Railroad Street. Drinks and appetizers at 6:30 PM, speaker at 7:00 PM. Sponsors for the evening will be Redcor Drilling, Inc. Speaker for the evening will be Shay Clark Smith, Minerals Exploration & Environmental Geochemistry. His talk will be titled "**Biogeochemistry is a Geochemical Mapping Tool**". (see abstract on page 8). For more information contact Rebecca Morris at (775) 304-2661.

**Sept. 16
Thursday**

ELKO CHAPTER *(Every 3rd Thursday of the month)*

The monthly meeting will be held at the Western Folk Life Center, 501 Railroad Street. Refreshments at 6:00 PM, talk at 7:00 PM. Speaker and sponsor for the evening to be announced. For more information contact Joe Becker at (775) 778-4071.

**Sept. 24
Friday**

GSN MEMBERSHIP MEETING

The monthly meeting will be held at the Reno Elks Lodge, 597 Kumle Lane, Reno, NV. Drinks at 6:00 PM, dinner at 7:00 PM, and talk at 8:00 PM. Sponsor for the evening will be Boart Longyear. Speaker for the evening will be Chris Holm-Denoma, U.S. Geological Survey, Denver, CO. His talk will be titled "**Stratigraphy, Internal Structure, and Assembly of The Roberts Mountains Allochthon (RMA) in The Independence Mountains and Surrounding Areas: Relevance to Exploration for Concealed Carlin-Type Gold Deposits**". (see abstract on page 3). Dinner reservations must be made by 1:00 PM Wednesday, September 22nd. Contact Kathy Sestanovich at (775) 323-3500 or e-mail gsn@gsnv.org for reservations.

**Sept. 30
Thursday**

SOUTHERN NEVADA CHAPTER *(Every Last Thursday of the month)*

The monthly meeting will be held at the Lilly Fong Geoscience building at UNLV, Room 105. Social hour begins at 6:45 pm with the speaker starting at roughly 7:15 pm. For more information contact Josh Bonde at 702-468-2500.

*Don't be left out of the 2011 Membership Directory - Pay your dues now so you don't forget!
We will email you a Membership Application tomorrow.*

FROM THE PRESIDENT

Peter Vikre, *GSN President 2010-2011*

Us and Them

The GSN shares geographic and geologic space in the intermountain west with a number of geoscience and trade organizations. Among the most active are the Arizona Geological Society (AGS), the Utah Geological Association (UGA), and the Northwest Mining Association (NWMA). AGS and UGA are broadly similar to GSN in that they promote geological sciences, largely in their respective states, via regular meetings, monthly newsletters, field trips, educational programs, periodic symposia, and publications derived from these activities. Like GSN, their membership is predominantly natural resources-oriented. The NWMA bills itself as a trade organization, but has a history of distinctive annual meetings that feature geoscience sessions attended and organized by GSN members. GSN, AGS, and NWMA have common members so "them" is really "us".

(Continued on page 2)

GSN SEPTEMBER MEETING SPONSOR



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(Continued from page 1)

The AGS, based in Tucson and born in 1948, has about 300 members, holds a monthly dinner meeting with speaker, publishes an annual membership directory, and conducts 2-3 field trips annually. The mission of AGS is "promotion and encouragement of interest in the science of geology and in the geology of the State of Arizona" (AGS website). It periodically sponsors field conferences and symposia, most recently Ores and Orogenesis... in 2007. Major event proceedings comprise much of the AGS Digest series; field trip guidebooks are prepared for participants only and not published. AGS is composed largely of exploration and mine geologists, with significant contingents from environmental and engineering consulting firms, academia, mining industry services providers, and government. Most annual publications of AGS are focused on within-state geology while symposia and conferences are worldly.

The UGA, based in Salt Lake City, has about 250 members, holds a monthly lunch with speaker, publishes an annual geologic guidebook, and conducts one field trip each year. The mission of UGA is to "increase and disperse geological information to the scientific community, and promote public awareness of the usefulness of geology in general" (UGA website). UGA member affiliations are subequally distributed among government (28%), environmental and engineering consulting (26%), oil and gas industry (20%), and academia (18%); about 8% of members are associated with the mining industry. Most members (78%) reside in Utah.

AGS and UGA hold organized social events including picnics and golf tournaments. Management of both organizations is entirely volunteered; some accounting services are contracted. Annual dues are \$20 (AGS) and \$15 (UGA).

NWMA differs considerably from the GSN in mission, scope, and organizational structure. One NWMA function is to monitor and attempt to influence legislative and regulatory processes that affect mineral resources. Information is distributed to members in several forms, among them a monthly bulletin, periodic "Issues Update", and a Service Directory. At its annual convention NWMA has sessions that span the entire mining community from exploration to mining to processing to regulation. Because of political advocacy and the emphasis on exploration and mining geology at conventions, the NWMA membership includes many mining industry geologists. NWMA is administered by compensated staff. Individual memberships are \$95/year; corporate memberships start at \$500 annually.

Summer Events

Those traditional summertime events, the golf tournament and Silver Summer Series, attracted sizeable numbers of participants. Appreciation is extended to Carmen Arbizio and Inspectorate America for organizing and sponsoring the golf tournament. A pictorial record of the tournament appeared in the August Newsletter. Department of GSN personages imaged apparently reflected scores. Dan Kappes graciously staged the Series in his spacious backyard which was filled with members, spouses, others, food, drink and lawn chairs. Doug Silver delivered views and commentary on domestic and global economics (pretty much woeful) and metals (still much-needed, even silver). Both are thanked for making this annual get together enjoyable and entertaining.

Fall Field Trip

The fall trip has a great itinerary that features 3 Au deposits, one a new and unvisited mine (Cortez Hills), the second an infrequently visited mine with perseverance (Bald Mountain), and the third a deposit in a district that refuses to retire (Eureka). A sign-up form will be sent to the membership later this week.

Financial Reality I

Your Executive Committee (EC) is striving to maintain the "core" services and activities of the GSN, among them monthly dinner meetings, monthly newsletter, field trips with guidebooks, distribution of relevant information, and a public office. Costs of these services and activities are somewhat straightforward but have steadily to abruptly increased. Income, mainly membership dues (> 80% of annual income), participation fees (e.g., field trip fees), publication sales, and sponsor donations, fluctuates considerably on a monthly and annual basis and is very difficult to accurately predict. The EC is committed to a balanced annual operating budget with revenue-neutral forecasting of individual services and activities. Because of fee structure, monthly dinner meetings sometimes "lose" money. More importantly, the 2010 Symposium, although highly successful scientifically and financially, greatly reduced the candidate pool of new geoscience topics and "local" presenters (as well as field trip sites) for monthly dinner meetings. A low deposit discovery rate and an aging mineral resources community have further limited the availability of new topics. In order to schedule presentations of timely and new topics with appropriate speakers, travel costs will be incurred. The EC anticipates invoking a modest dinner fee increase (currently \$17) during the 2010-11 operating year to ensure that monthly dinner meetings deliver relevant geoscience and are revenue-neutral.

September dinner meeting presentation

The September dinner meeting presentation will be given by Chris Holm-Denoma of the U.S. Geological Survey (Denver). The topic is stratigraphy and structure of upper plate rocks, those pesky strata that years ago portended a future of dealing with concealed mineral resources (that future would be now).

Auf wiedersehen,

Peter Vikre

Each month the GSN Newsletter features a member in "Faces of GSN". Please consider nominating a colleague for this highlight by submitting a biographic write-up and an appropriate photograph of the nominee to Kathy at the GSN Office gsn@gsnv.org.

**Thanks to Dan Kappes for hosting
The Silver Summer Series**

GSN September 24, 2010 Membership Meeting

Reservations Are Required - Please Cancel if You Are Unable to Attend

The reason we need reservations and also cancellations is because our caterer needs to know how many people to cook for.

GSN CAN NO LONGER GUARANTEE DINNER SEATING WITHOUT ADVANCE RESERVATIONS.
Please call 775-323-3500, Fax 775-323-3599 or e-mail gsn@gsnv.org by 1:00 PM, Wednesday, September 22, 2010.
Social Hour: 6:00 PM – Dinner: 7:00 PM – Speaker: 8:00 PM
\$17.00 per person

Location: Elks Lodge, 597 Kumle Lane, Reno, NV
Directions: across (W) from the Reno-Sparks Convention Center
(S. Virginia Street, behind the Les Schwab Tire Center)

**Prepaid dinner reservations will only be accepted for the current monthly meeting.
Cancellations must be received two days before the meeting in order for your money to be refunded.**
Download the prepayment form from the GSN website: <http://www.gsnv.org/membership.html>

Stratigraphy, Internal Structure, and Assembly of The Roberts Mountains Allochthon (RMA) in The Independence Mountains and Surrounding Areas: Relevance to Exploration for Concealed Carlin-Type Gold Deposits

Chris Holm-Denoma
U.S. Geological Survey, Denver, CO
Abstract

The Roberts Mountains thrust fault is the décollement to the Late Devonian-Early Mississippian Antler fold and thrust belt. The Roberts Mountains thrust fault is generally a several to 10's of m thick zone of deformation with clast-rich foliated cataclasites, block-in-matrix, shear-band cleavage, boudins and phacoids. The fault also was an important ore-fluid boundary as most Carlin-type gold deposits are concentrated in permeable reactive carbonate rocks structurally below it.

In the Independence Mountains (IM), Eocene Carlin-type gold deposits are hosted in altered carbonate rocks of the Ordovician-Silurian Hanson Creek Fm. and Silurian-Devonian Roberts Mountains Formation that are exposed in, or near, erosional windows through antiforms in the RMA.

New detailed geologic mapping and identification of fossils including radiolarians, conodonts, and graptolites, confirm that RMA siliclastic rocks with minor chert, greenstone, and carbonate previously lumped into the Ordovician Snow Canyon Formation actually are comprised of the previously defined late Cambrian-Middle Ordovician Vinini Formation, Lower Silurian Cherry Spring Chert, Lower Silurian-Lower Devonian Elder Sandstone, and Middle-Upper Devonian (?) Slaven Chert with an aggregate thickness of at least 1 km. RMA units also are discriminated on the basis of their mineral properties and chemistry. HyMap and ASTER SWIR data have been useful in mapping greenstones and limestones in the lower Vinini Formation whereas ASTER thermal data is useful in mapping the Eureka and McAfee Quartzites (and other quartz-abundant units). RMA units are also apparent in factor analyses of multi-element analyses of drill hole samples. The factors are comprised of elements typical of black shales, greenstones, carbonates, alteration and gold mineralization.

The aforementioned RMA units, lower plate carbonate units and intervening siliclastics of the Early Mississippian Waterpipe Canyon Fm. are folded and imbricated along E-W axes suggesting that deformation was accommodated in the foot-wall of the Roberts Mountains thrust fault zone. Footwall deformation likely enhanced permeability of the carbonate rocks by increasing the density of fault and fracture networks. The E-W trending, S-verging megascopic folds formed prior to the emplacement of relatively undeformed NW-striking mafic dikes of Late Mississippian age. These E-W trending folds formed during eastward emplacement of the RMA over an oblique footwall ramp or during a subsequent post-Antler, pre-Late Mississippian contractional event. Evidence of two events is also indicated by mesoscopic (outcrop-scale) folds in the RMA with N-NE and S-SW trends that are non-coaxial to megascopic S-vergent folds.

Structurally above the deformed RMA units in the IM is a thick (100's of m) sheet of Middle-Upper Ordovician Valmy Formation quartzite, locally termed the McAfee Quartzite. Previous investigators described the contact between the Valmy and Snow Canyon Fm. (Vinini Fm.) as continuous stratigraphy due to age concordance and lack of exposure of the contact. We find that the Valmy Fm. is structurally above units as young as Devonian (Slaven Chert) in various parts of the IM and other nearby exposures. The Valmy thrust sheet contains E-W trending megascopic folds that probably formed during south(?)-directed compression. The Pennsylvanian-Permian overlap rocks, Valmy Fm. and underlying RMA units were later folded into a broad, N-S trending, range-scale (1.5 km amplitude) antiform.

FACES OF GSN

David R. Shaddrick - Reno, Nevada

Geologist, Explorationist, Entrepreneur

Unlike many of my colleagues, I didn't come to geology, or even education, by early association or interest. No one in my extended family had ever gone to college much less had an interest in science. Mining was something they did "up nort on da range – don't ya know" in Minnesota. I only knew that I was very curious about pretty much everything and I liked the outdoors. Actually, I really disliked school! I began my undergraduate work in 1962 at Long Island University while I was in the U.S. Air Force stationed in (get this) "the Hamptons" and finished up with a B.Sc. in Geology from the University of Minnesota, Institute of Technology. My first geology course hooked me and I've never looked back. I did my graduate work at the South Dakota School of Mines and Technology where I earned a M.Sc. in Geology. A few years later I got within inches of a M.Sc. in Mining Engineering but, for many reasons, I never finished.



My first job out of school, was as a mine geologist at the Homestake Mine in Lead, South Dakota. Times were tough and I thought I was just taking a job to mark time until I could get a "real" job. I'm constantly amazed at how wrong I can be! This was where I discovered the emotional and intellectual "rush" of finding gold, both by breaking it out of a rock face and by guessing (modeling) where it might be, drilling holes through it, actually opening it up and finding that it really was or wasn't there. I've been looking for, and occasionally finding, gold ever since.

I stayed with Homestake for 12 years working in many old and new mines, both underground and surface. I spent several years doing basic district and detailed scale mapping and then went off to the San Francisco corporate office where I got involved in evaluating projects, programs, companies and deals. When I transferred to the Exploration Division I wound up running exploration projects in South Dakota, Montana and Wyoming. I like to think I got pretty good at working Precambrian rocks and mineral systems but, unfortunately, I never have been and never will be a real "expert".

The education I received at Homestake was priceless and I was privileged to work with, and learn from, many of the brightest geologists, engineers and businessmen in the business. If asked, I'll tell you I learned the business from the bottom (of the Homestake Mine) to the top (of the Homestake corporate offices).

I moved to Reno in 1983 to manage the exploration effort for Atlas Corporation (later to become Atlas Precious Metals). For the next four years I had the honor and privilege of working with, and learning from, one of the finest exploration teams ever assembled (my humble opinion). The discovery by that team of what is now called the "Gold Bar District" in Eureka County, Nevada and the Grassy Mountain deposit in Oregon, provided about as much fun as anyone should have without involving women and booze.

In 1987 I launched (or is it lurched?) into the great adventure of independent consulting. This has been a 23 year "wild ride" that I have enjoyed more than I can describe. I've been able to take soil samples in a still-smoking burn area of central Nevada, run a couple of junior mining companies, advise hundreds of clients (rightly or wrongly in their judgment), ride a mule up a narrow mountain trail in Mexico, manage projects, large and small throughout North America, mix with brilliant scientists, infamous promoters, wonderful people, real jerks and generally live a pretty free and independent life. I'm still at it and still having fun.

(Continued on Page 5)

(Continued from Page 4)

FACES OF GSN

David R. Shaddrick - Reno, Nevada

My association with GSN dates to my arrival in Reno in 1983 and I've been involved in one way or another since then. I've worked, in various capacities on every Symposium since 1987 and will, with luck, be involved in the next one. I've been on nearly every field trip and I still regret the ones I missed. In about 1990, I was asked to be the first Chairman of the Education Committee and served in that capacity for about 5 (I think) years. I was asked to help out with the formation of the GSN Foundation in the late '90's and to work on the committee that established the GSN Board of Directors in 2004. I was "elected" Vice President in 2001 – 2002, President 2002 – 2003 and a Director in 2004. I currently serve as the Chairman of the Board of Directors.

GSN is truly unique in our industry. I don't know of any other organization that combines the technical excellence of a true scientific society with the fun and camaraderie of a social "club". Geologists and "miners" are, indeed, special and GSN reflects, in many ways, the special characteristics of our profession and avocation.

Career highlights include being involved in the discovery of the Foley Ridge gold deposit (now the Wharf Mine) in South Dakota, the magnificent adventure of discovery during my time with Atlas and the fun of working and playing with all of the wonderful and "interesting" people in the mining business. In a 39 year career my only real regret (aside from bitching about the heat or the bugs) is that I didn't get to go to all those exotic foreign places in my youth and have to do it now, even though it's much more demanding physically – and I often have to pay for it myself rather than being paid to do it!

Deep Enough!

(Continued from page 3)

Stratigraphy, Internal Structure, and Assembly of The Roberts Mountains Allochthon (RMA) in The Independence Mountains and Surrounding Areas: Relevance to Exploration for Concealed Carlin-Type Gold Deposits

Chris Holm-Denoma

U.S. Geological Survey, Denver, CO

Abstract

The Valmy thrust sheet is a regional feature (locally called the Lander thrust fault in the Shoshone range, the Coyote thrust sheet in the Tuscaroras, and the McAfee thrust sheet in the IM). Based on combined ASTER quartz maps, previously mapped areas, and reconnaissance mapping, the Valmy thrust sheet is discontinuously exposed for at least 220 km along the RMA until it is buried by Snake River plain volcanic rocks. It has an exposed width of 60 km that has been exaggerated by Miocene extension. In the IM, the Valmy thrust sheet is not intruded by Mississippian dikes and is unconformably overlain by Pennsylvanian-Permian overlap (upper Strathearn Fm.?) rocks, potentially constraining emplacement to the intervening time period.

The Mississippian S-vergent folding of RMA and underlying carbonate rocks is interpreted to be direct evidence of Antler orogeny deformation. The emplacement of the Valmy thrust sheet appears to have taken place during a younger Pennsylvanian event. The orientation of the non-coaxial N-NE and S-SW mesoscopic folds is similar to those found in rocks of the Golconda allochthon, which is structurally above the RMA and overlap rocks and exposed in the northwest part of the IM. In all, there are at least three Carboniferous to earliest Mesozoic deformation events recorded in the IM. Recognition of windows through and klippe of the Ordovician Valmy Formation quartzite as well as deformation in underlying RMA units is needed to identify areas where concealed Carlin-type gold deposits may be in reach of drilling. The overall thickness of deformed RMA units between the Valmy and underlying carbonate rocks varies from < 100 m in parts of the IM to > 600 m in the Shoshone Mountains.



GSN would like to thank Steve Sutherland for volunteering to represent GSN and the mining and minerals industry at the Boy Scouts of America's 2010 Centennial Jamboree held August 5-7 at the Churchill County Fairgrounds in Fallon Nevada.

The Jamboree was a huge success and there were 1,200 scouts and leaders in attendance.

2010 Doug Silver Summer Series

Doug Silver entertained a crowd of 122 GSN members and guests for the 9th year in a row on August 26, 2010. Doug as usual had a myriad of facts, thoughts, ideas and predictions for us to take in and ponder (think zinc and rare earth metals). The crowd seemed to agree with Doug's statement that the economy is suffering due to the huge amount of uncertainty in the world, compounded by a lack of leadership. He applauded the geologists and mining professionals who work in Nevada for successfully fighting to keep their livelihood alive in this state as he has seen many other states succumb to the regulations and red tape. The setting for the Silver Summer Series was Dan Kappes' (of Kappes, Cassiday & Associates) beautiful and spacious backyard where there was plenty of room for all next to the waterfall and pond. Dan not only hosted but also generously donated 40 lbs of barbecued beef from the Oakland BBQ House for the event. Neil and Cami Prenn provided 2 kegs of Great Basin Brewing Company beer (which were drained I believe!) and everyone else brought fabulous appetizers, dips, salads, finger foods and desserts to share. It was a great evening and we look forward to the 10th Annual Silver Series next summer!



Just A Reminder 

*Mark
Your
Calendar*

September 24, 2010

*Meeting Date is the Fourth Friday of
the Month because of remodeling at the
Elks Lodge.*

Hello GSN Fall Field Trippers

October 1 - 3, 2010

The fall field trip is shaping up to be another great Nevada geologic outing. The trip will focus on the role of unconformity, paleo-karst, solution/collapse and hydrothermal breccias as controls on gold mineralization in central and eastern Nevada. The trip will leave at 2 pm on Friday, October 1st from the Reno GSN office at 2175 Raggio Parkway headed for Elko, Nevada. Please remember to bring your PPE's (hard hat, safety glasses and steel-toed boots). The dinner bell will ring at the Star Restaurant – after partaking in a delicious but dangerous picon punch or three -- around 7pm. After the Cortez Hills surface and underground presentations, the bravest amongst us will saunter over to the Stray Dog for a cleansing ale.

Get up early because Saturday and Sunday will be filled with field trip stops at Cortez Hills, Ruby Hill and Bald Mountain mines with fine dining and lodging in the Pittsburg of the West, Eureka, Nevada, and the bus leaves at 7:30am. Enlightening and engaging presentations in Elko on Friday night (Cortez Hills), and Saturday night (Ruby Hill, Bald Mountain and South Eureka/Lookout Mountain) are sure to amaze friends and confound enemies. I would especially like to acknowledge and thank our gracious host Barrick Gold and specifically, Kerry Hart, Roger Bond, Warren Rehn, and Gary Edmundo of Timberline Resources. So gather your hand lens, rock hammer and bionic liver for fun, comradery, and good geology.

GSN Winnemucca Chapter Meeting September 8, 2010

“Biogeochemistry is a Geochemical Mapping Tool”

Shay Clark Smith

Minerals Exploration & Environmental Geochemistry

New mineral resource pipelines are depleted relative to today's high demand, begging for a resurgence of successful grass roots exploration in Nevada and worldwide. The easy ones have been found, and those were typically lying in exposed terrains. Covered terrains are the continuing challenge, yet there's almost too much of it. The arsenal of geochemical tools to meet an increasing demand for major discoveries include weak soil extractions, geomicrobiology, soil gases, and biogeochemistry. These tools are commonly known, but not as commonly applied, because drilling drives investor dollars, and there's little patience for detailed target development. The general results: Dollars are wasted, development is slow, and the biggest targets (undercover) are missed.

Many of the best working examples of biogeochemistry come from desert terrains. This presentation will use results from Alligator Ridge, Pinson, Chimney Creek, Bald Mountain, Freedom Flats, Talapoosa, Rosebud, and the Reese River KGRA, as well as many named and un-named projects where biogeochemistry was (or is) being used to find new mineralization, and simultaneously identify ground that has very low metal potential. The presentation will also draw on a plethora of project maps, available from various web-sites, to show where biogeochemistry might be effectively applied, and where it might not.

All biogeochemical surveys end with a structure map, which for most exploration projects is half the battle. More than simply looking for economic metal and pathfinder zonation, biogeochemical data are equally important for information about subsurface structure and stratigraphy. Biogeochemistry creates chemical maps of the subsurface, approximately at the bedrock-ground water interface. What is generally lacking in the geological / geochemical talent pool is an ability to interpret these patterns.

Here are two examples: Figure 1 shows an unmineralized structure at a bedrock contact. Figure 2 shows bedrock mineralization that is being weakly oxidized by deep ground water. Figure 1 contains fairly common patterns that in cross-section are easily explained. Figure 2 displays a very noisy pattern that at first glance does not contain an anomaly. Yet, the “bubble” in Figure 2 is an anomalous feature that empirically leads to ore. The processes that create this pattern relate to numerous post-mineral structures, which create a noisy background that overwhelms the anomalous response from weakly oxidizing ore. What we see in pattern is a smooth shift in the baseline. Not an anomaly we have been trained to recognize!

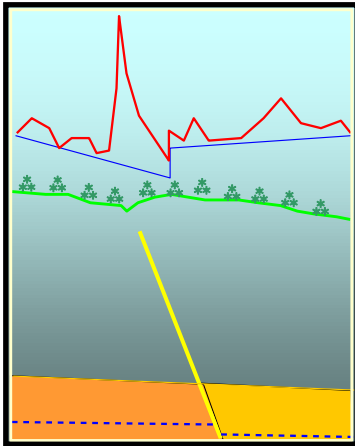


Figure 1

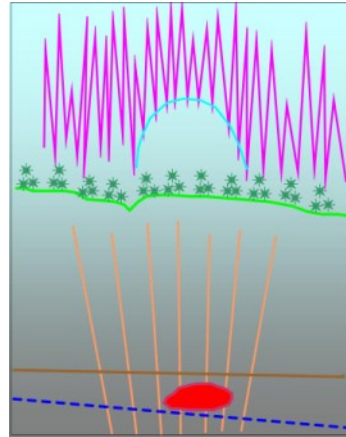


Figure 2

Would you put a hole into the anomaly in Figure 1? If so, you lose.

Where should biogeochemical methods be used in mineral exploration? Assuming very little is known about subsurface structures, biogeochemistry is a preferred method for detailed, local surveys. Strike, dip, and contacts are all revealed by biogeochemical patterns. The scale of the survey determines the detail, and for drilling projects, 30 meter spacing is best. For reconnaissance exploration, pairs of lines on 100-200 meter centers will work, but only with a commitment to follow up with a tighter survey prior to drilling.

Deep ore deposits are not beyond the reach of biogeochemistry. Very commonly, anomalous biogeochemical patterns relate to deposits that are 100 – 200 meters from the surface. Overburden can be “dense” post-mineral volcanics, and/or unconsolidated pediment gravels. There doesn't seem to be much that stops metals (as organo-metallics) from migrating vertically.

Biogeochemical surveys are excellent for mapping subsurface structures that may be related to mineralization. If luck is with the survey, the data may contain patterns that are also guides to ore. The geologist who learns how to effectively use biogeochemistry will have the advantage of seeing deep, seeing structure, and seeing ore.

In Recognition of Outstanding Contributions Toward Understanding the Geology and Ore Deposits of Nevada, California, and Arizona

Ted Theodore

Is Hereby Named Honorary Member of the Geological Society of Nevada
May, 2010

Ted earned his Ph.D. in Geology from UCLA in 1967, and soon thereafter joined the U.S. Geological Survey, where he had a very productive 37 year career until his retirement in 2003. Ted's first assignment with the USGS was working with Ralph Roberts on a geological and geochemical study of the Devonian Scott Canyon Formation in the Battle Mountain mining district, Lander County, Nevada. This was the beginning of a long association with Ralph and the geology and mineral deposits of the Battle Mountain district and Nevada. Ted's early work was focused on the Copper Canyon and Copper Basin porphyry systems and their associated mineral deposits. This work led to many publications on the mineral deposits of this prolific area, including the Copper Canyon porphyry (Cu) deposits, the Tomboy-Minnie (Au) deposits, the Buckingham (Mo) deposit, the Fortitude (Cu-Au) skarn deposit, the Marigold (Au) deposit, the Elder Creek porphyry (Cu) system, and other Cu, W, and Au skarn occurrences associated with both the Mesozoic and Tertiary intrusive centers in the district. Research topics included regional and deposit scale mapping, mineralogical and alteration studies, fluid characterization studies, isotopic studies, regional structure and tectonics, age dating, and mineral assessments. All of this work was pertinent and represents significant contributions to the understanding of the geology and mineral deposits of Nevada. Ted participated in a number of regional mineral endowment studies of large areas in the western USA, including the Humboldt River Drainage Basin, Winnemucca District, and Surprise Resource Area in Nevada. Ted has authored or co-authored more than 250 publications, and the majority of these are related to Nevada.



Ted has collaborated extensively with the mining industry during the course of his career, which led to the completion of the mapping of several 7.5' quadrangles in Nevada, including the Valmy, North Peak and Snow Gulch quadrangles in the Battle Mountain district, and the Santa Renia Fields and Beaver Peak quadrangles on the northern Carlin trend. This work has contributed to a better understanding of structural and stratigraphic relationships and the distribution of mineral deposits in these areas. Ted's mapping in the Beaver Peak quadrangle documented a widespread, late Paleozoic crustal shortening event represented by the Squaw Creek, Little Jack and Coyote Thrusts. His mapping in the Battle Mountain district in collaboration with Jeff Doebrich helped to elucidate the north-south and northwesterly controls of several distal disseminated gold deposits in the district.

For those of us who have been fortunate enough to work and collaborate with Ted over the years, his very pleasant personality and dedication and contributions to the science of geology and ore deposits have left an enduring mark. Ted's "retirement" from the USGS was only a formality, as he has remained active as both an industry consultant and a Contractor Geologist to the USGS. His most recent work has been on the economic geology of gold in Asia, mostly in Mongolia and the Russian Far East, and most recently in Afghanistan.

**WINNEMUCCA CHAPTER
SEPTEMBER SPONSOR**

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**Thanks to ALS Minerals & Allied Nevada
Gold Corp for sponsoring the Winnemucca
Chapter's BBQ Meeting**

**Thanks to ALS Minerals for sponsoring the
Elko Chapter's August BBQ Meeting**

Activity Update

Mike Brady, July 2010

Nevada

www.activityupdate.com

Japan Oil, Gas and Metals National Corp. announced that it acquired an option to earn a 40% interest in the Borate Hills Property (Li) from American Lithium Minerals Inc. for \$4,000,000 in exploration expenditures over 3 years. *M.J.*: June 18

Kokanee Minerals Ltd. announced that it terminated its interest in the Diamond Peak Property of Max Resource Corp. *Press Release*: June 29

Allied Nevada Gold Corp. announced that recent drill results at the Hycroft/Vortex Project include 169-625 meters @ 0.022 opt Au, 1.38 opt Ag (H10D-3382); 376-631 meters @ 0.020 opt Au, 2.72 opt Ag (H10R-3288) and 151-506 meters @ 0.014 opt Au, 1.08 opt Ag (H10R-3840). (resource = 510,918,000 tons @ 0.014 opt Au, 0.36 opt Ag measured+indicated) *Press Release*: July 12

AuEx Ventures Inc.(49%) announced that recent drill results at the Long Canyon Project include 391-474 feet @ 0.175 opt Au (LC443C); 617-827 feet @ 0.154 opt Au (LC444C); 326-414.5 feet @ 0.175 opt Au (LC459C) and 427-522 feet @ 0.259 opt Au (LC462C). (resource = 13,464,000 tons @ 0.050 opt Au measured+indicated) *Press Release*: July 20

Evolving Gold Corp. announced that recent drill results at the Carlin Project include 631-650 meters @ 0.061 opt Au (CA-008). *Press Release*: June 30

Goldcorp. Inc. announced that it purchased 19,047,721 shares of Evolving Gold Corp. for \$15,619,000. *Press Release*: July 7

Laurion Minerals Explorations Inc. announced that it acquired an option to earn a 100% interest in the Bell Mountain Property from Globex Nevada Inc. for 3,700,000 shares and \$5,000,000 in exploration expenditures over 5 years. *Press Release*: June 29

Nevada Copper Corp. announced that recent drill results at the Pumpkin Hollow Project include 486.2-530.4 meters @ 2.37% Cu, 0.020 opt Au (NC10-47); 448.1-451.4 meters @ 1.34% Cu, 0.003 opt Au (N10-42); 481.3-487.7 meters @ 3.08% Cu, 0.014 opt Au (N10-44) and 259.1-278.9 meters @ 0.45% Cu, 0.001 opt Au (N10-40). (resource = 488,230,000 tons @ 0.58% Cu measured+indicated) *Press Release*: July 8

Trio Gold Corp. announced that recent drill results at the Rodeo Creek Project include 315-400 feet @ 0.048 opt Au (AMKFZ-03); 265-270 feet @ 0.016 opt Au (AMKFZ-01) and 315-345 feet @ 0.024 opt Au (AMKFZ-02). *Press Release*: July 6

Premier Gold Mines Ltd. announced that it offered to acquire Saddle Gold Corp. for \$3,100,000, 5,400,000 shares and the assumption of \$12,000,000 in debt. *N.M.*: July 19

Gold American Mining Corp. announced that it purchased a 72% interest in 12 mining claims (known as the Mexican Property) near Las Vegas from private interests for undisclosed terms. *Press Release*: July 31

Gryphon Gold Corp. announced that recent drill results at the Borealis Project include 117.3-141.7 meters @ 0.026 opt Au (FF-13); 89.9-92.9 meters @ 0.005 opt Au (FF-14); 79.2-91.4 meters @ 0.058 opt Au (FF-15) and 57.9-79.2 meters @ 0.043 opt Au (FF-16). (reserve = 18,150,000 tons @ 0.021 opt Au proven+probable) *Press Release*: July 29

THANKS TO EVERYONE--Another Successful GSN Symposium

Thanks to all of the attendees, volunteers, technical session presenters and chairs, field trip and short course leaders, poster presenters and keynote speakers for upholding the professional standard of excellence that is now expected from the GSN Symposia. Special thanks to our generous sponsors for helping us keep the costs low and for allowing us to have fun throughout the entire symposium. Our business couldn't grow and improve without the companies that were represented in the exhibit hall.

As many of you know, the Symposium Committee volunteers will continue to work until we have the Publication Volumes in your hands. The editors are quickly finalizing all of the papers and our goal is to get the CD in the mail to all Technical Session participants before the end of the year (yes, I mean 2010!). Additionally we hope to have the hardbound volumes ready for pickup at that time and shipped soon afterward. The Pre-Publication price ended earlier this month and the final price will be \$200 plus shipping and handling.

The Symposium Committee will have a final review meeting in September, and I will give you another update in the next Newsletter. Thanks again to everyone who made this a superb technical and professional event. It always amazes me what a group of dedicated volunteers can accomplish.

Nancy J. Wolverson

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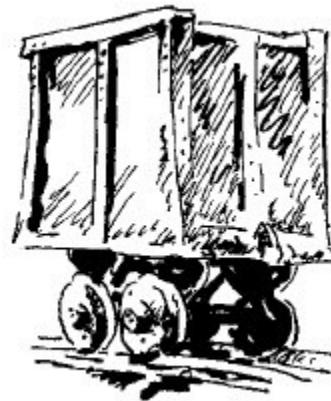
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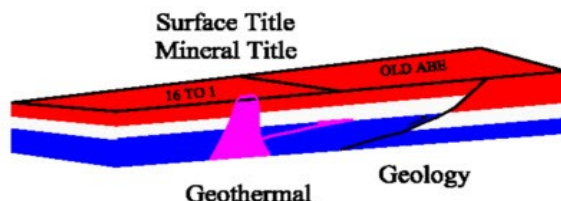
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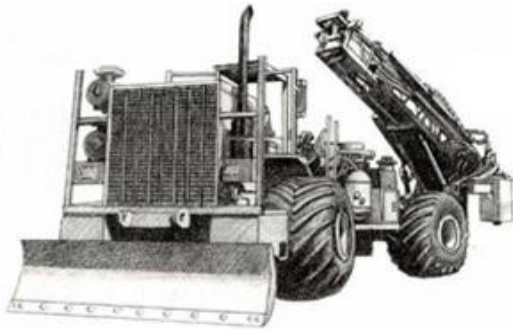


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