GEOLOGICAL SOCIETY OF NEVADA NEWSLETTER

Geological Society of Nevada, PO Box 13375, Reno, NV 89507 (775) 323-3500

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CALENDAR OF GSN EVENTS

May 13 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 Legarza Exploration (Billy Arthur). Speaker for the evening will be Jeffrey Edelen from Midway Gold Corporation. His talk will be titled "A Geologic Overview of the Spring Valley Gold Porphyry Deposit, Pershing

County Nevada", (see abstract on page 8). For more information contact John

Marma at (775) 635-6472.

May 14 Thursday

SOUTHERN NEVADA CHAPTER

Barbeque meeting to "kick off the summer". Time and location will be announced at a later date. For more information contact Josh Bonde at

(702) 468-2500.

May 15 Friday

GSN MEMBERSHIP MEETING (Every 3rd Friday of the month)

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 CGS, Inc. Speaker for the evening will be Paul Spielman, Ormat Technologies Inc. and David Fitch, Consulting Geologist. Their talk will be titled "Geology, Gold, Magma and Drilling Challenges, Puna Geothermal Venture, Hawaii". (see abstract on page 3). Dinner reservations must be made by 1:00 PM Wednesday, May 13th. Contact Kathy Sestanovich at (775) 323-3500 or e-mail gsn@gsnv.org for reservations.

May 21 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. Sponsor for the evening to be announced. Speaker for the evening will be Dhiren Patel. His talk will be titled "Leeville Mine: Challenge and Opportunity" For more information contact Moira Smith at (775) 777-2900.



FROM THE PRESIDENT

Marcus Johnston, GSN President 2008-2009

At the April meeting, J. Kelly Cluer presented a cogent and entertaining case for the possibility of buried Carlin-type deposits at or near the projected intersection of the Carlin and Getchell gold belts. Armed with array of geochemical and geophysical data, as he freely admitted 'no geology exists at Star Lake,' Kelly systematically tackled the concept that the Carlin belt does indeed continue northwest. Altan Rio will soon test this hypothesis on ground that until now had never been staked. We all hope for their success.

May is the last month of my latest tenure as a GSN Officer. I would like to thank the other 2008-2009 Officers for their insights, opinions, and help during this last year. Opal Adams, D.D. La-Pointe, Marilyn Miller, Mike Ressel, and Neville Rhoden were all essential participants in day-to-day GSN activities, and also contributed to the Society's future plans. Kathy Sestanovich has been a lifesaver on several occasions, as she settles into her new role as Office Manager, and Laura Ruud has continued to maintain our financial books. I would also like to thank our Board of Directors, chaired by Dieter Krewedl, who oversees the many



of the 'bigger picture' issues for GSN. Many thanks are also given to our various sponsors, which are too numerous to detail here.

News and Announcements

(Continued from page 1)

During 2008-2009, GSN experienced a bit of a facelift: we hired our new Office Manager, updated our website, added 'Faces of GSN' to the Newsletter, and are preparing to move into fancy new digs at the Desert Research Institute. Looking forward to 2009-2010, we elected a new (and partially renewed) slate of Officers. Mike Ressel, Peter Vikre, Bob Kastelic, Steve Carroll, Dave Emmons, and Marilyn Miller will certainly leave GSN a better organization than the one being given to them. We also elected two new Class A Directors, Lynne Volpi and Kim Craig, who are taking over for Fred Breit and Steve Green. We are also closing in on our 2010 Symposium. Please consider helping out, if and when you are asked, to review a paper, assist in some logistical capacity, or some other task. Thanks in advance for your support.

Steve Garwin is the last featured member for the inaugural 'Faces of GSN' season. Those who have met and/or worked with Steve are aware of his love of exploration, strong understanding of mineral deposits in various settings around the world, and his offbeat sense of humor. Steve recently had a son named Oscar. He asked me to wait five or six months before contacting him again, at which point his wife will let me know if he is 'allowed to come out to look for gold again,' or if we should wait and catch up with him in a few years.

May's speakers will be Paul Speilman and David Fitch, who will discuss the many adventures and challenges faced while drilling the Puna geothermal resource on the island of Hawaii. See their abstract on page 3 for details. How many of you have drilled into an active magma chamber? Come see the talk on May 15th to find out what happens when you do, and to also hear about gold (!) on the Big Island.

Our Spring Field Trip, 'Diverse Gold Deposits of the Osgood Mountains and Humboldt Range, North-Central Nevada: Pinson-Getchell-Turquoise Ridge and Spring Valley-Lincoln Hill-Wilco,' is already a technical success. We have so many applicants that we've added a second bus. I call 'dibs' on whichever bus Shaddrick is riding on.

Good luck to all in your endeavors, and stay safe, Marcus

Clyde Neil Upchurch

Community activist, C. Neil Upchurch, passed away on March 28 after a brief illness. He was born in Wake County, North Carolina to Clyde and Irene Upchurch.

His early life in NC included spelunking, barbershop quartets and attending NC State, making many lifelong friends there.

He worked as a geologist for over 25 years prior to managing an asbestos lab in Sparks the past 13 years. His passion was community activities including his work on the local flood projects, protecting established communities, serving on the SETM CAB and the Hidden Valley Homeowner's Association as a board member and Newsletter editor for many years.

He leaves behind Sue Ehrlich, his wife of 30 years; daughters, Tracy and Amanda Upchurch, Paige Clarno (Chad); sons, Chris (Aitor Galarraga) and Quentin (Rhonda); brother, Philip (Laura); sister, Iris (Doug); four grandchildren, Bobbie his former wife and many friends.

A memorial service is being planned for May 16, 2009.

Rick Russell

We are sad to announce the passing of our friend and co-worker Rick Russell. Rick passed away April 6th after a short battle with pancreatic cancer. Rick received his BS and MS from Northern Illinois University in 1966 and 1969, respectively. He began work early in his career in the Mother Lode and was also a member of the team of geologists for Cominco who discovered the Red Dog Deposit.

Other employment opportunities included Bear Creek Mining, Gold Fields Mining and most recently at Allied Nevada. Rick was a devoted Cubs fan, a great individual to work for (and with) and will be deeply missed by many of us in the geology community. His funeral was held at Mountain View Mortuary, Salt Lake City, Utah on Thursday, April 9th from 1-3 pm.

Dr. Joseph Mancuso

A Tribute to Doc Joe of Bowling Green, Ohio By Dr. Robert K. Vincent, Dept. of Geology Bowling Green State University, Bowling Green, Ohio April 13, 2009

On April 6, 2009, Dr. Joseph Mancuso, Professor Emeritus of the Dept. of Geology, Bowling Green State University passed away at the age of 75. He suffered from two rare diseases, one of which was amyloidosis, but his life was ended by a massive stroke that may have been caused or brought on by a fall down the stairs of his home just days before his death. His son, Toby Mancuso, is also a geologist and one of his former students, residing in Reno, NV. Joe and Nancy had three daughters, Amy, Becky, and Katy, and he left behind many good-looking grandchildren. His surviving older brother, Jim Mancuso, is a well-known corporate figure in the gold mining business, and at the April 11 memorial service, he shared some touching, humorous stories of their childhood in Hibbing, MN. At least 10 of his former students travelled from West Virginia to Idaho to attend that service. All of his family and friends, including me, will greatly miss him.

No one knew the Precambrian better than "Doc Joe," who was one of the first to recognize evidence of algal mats in features of Precambrian rocks. However, he was truly devoted to economic geology, which he taught for many years here at BGSU, and he managed to visit every major gold mine in the world during his career. If the quality of the people a professor taught during his or her career is any measure of success, Joe Mancuso was one of the most successful professors that I have ever known. Today his students are sprinkled throughout the mineral and petroleum industry, and several of them have been major officers in their companies, including some CEO's. A walk with Joe across a crowded geological meeting place was always a slow process because everyone seemed to want to shake his hand and talk to him.

Thanks to Geotemps, Inc. for hosting the April meeting

GSN May 15, 2009 Membership Meeting

RESERVATIONS ARE REQUIRED

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, May 13, 2009.

Social Hour: 6:00 PM – Dinner: 7:00 PM – Speaker: 8:00 PM

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

Geology, Gold, Magma and Drilling Challenges, Puna Geothermal Venture, Hawaii

By: Paul Spielman, Ormat Technologies Inc., Reno, NV and David Fitch, Consulting Geologist, Reno, NV

Puna Geothermal Venture (PGV) produces electricity from a geothermal field located on the island of Hawaii approximately 21 miles south of Hilo. PGV currently has five active production wells that produce about 30 megawatts from a 640° F liquid-dominated geothermal reservoir. The PGV project is located on the Lower East Rift Zone of Kilauea Volcano (LERZ), about 14 miles east of the active volcanic vent Puu Oo. Production well permeability is controlled by two major fracture systems that each have large open segments with voids that range up to 30 feet of vertical drill fall.

A decision to analyze for gold in geothermal scale collected from surface pipes and equipment resulted in surprisingly high-grade gold, silver, copper, zinc, lead and multi-elements. The results of 12 separate samples of scale from various locations ranged up to 17.2 opt Au, 400 opt Ag, 5.19% Cu, 24.0% Zn and 4.44% Pb. Other metals ranged up to 6,960 ppm As, 7,700 ppm Se, 2,019 ppm Cd, 2,060 ppm Mo, 1,510 ppm Sb, 284 ppm Te and 115 ppm Tl. The amount of gold precipitated is estimated to be in the order of 19 ounces per year, and based on further assumptions of nominal fluid flow, the original concentration of the brine could be as low as 0.19 ppb Au. The geochemical signature of the multi-element analyses is very similar to that of the large epithermal volcanic-hosted gold ore deposits of Nevada.

During the routine drilling of injection well KS-13 in 2005, magma was encountered by the drill at a depth of 8,297 ft (MD). High drill string torque occurred and the bit was picked up immediately and cuttings were circulated up to determine the cause. It was concluded that magma had been encountered and was being solidified by the circulating drilling fluid. Each time the drill string was raised and set back on bottom, the string took full weight-on-bit several feet above the original TD. A total of approximately 27 feet of hole was lost. The risk of eruption from the magma chamber was thought to be minimal because there is little gas and the magma is deep and highly viscous. Studies of the cuttings by Dr. Bruce Marsh in collaboration with William Teplow indicate that the rock is dacite and contains 67% silica in contrast to the silica content of ocean basalt (50%) and continental rocks (60%). The dacite melt is inferred to be 2,000° F (1,050° C). It is derived from the differentiation of a parent basaltic magma and may represent a real-time example of the geologic process of forming continental crust.

The Puna geothermal resource presents several drilling challenges that have caused major difficulties for early drilling projects. These include lost circulation in the shallow unstable zones below the conductor until the surface casing is set, hyaloclastite zones that release large amounts of fill into the hole and the highly productive zones are wide open fissures that cause bit advance without taking weight, total mud loss and high pressure fluids over 600° F, that must be dealt with properly to maintain well control. Several innovative drilling procedures were developed to deal with difficulties and successfully complete the wells. These procedures, which were also used for KS-13, include drilling mud motors and MWD from Baker Hughes for most of the drilling to increase penetration rate and for directional control. A Tesco top drive is used to back ream and pump to avoid getting stuck. Micronized cellulose is used to control lost circulation and avoid clogging of the mud system. The formation in the intermediate depths will not support a column of cement to the surface and thus foam cement is used for intermediate and production casing strings. The reverse foam cement jobs are complex and require 7 distinct steps and 14 valves to open and close between steps. The innovative techniques have been developed over the years of drilling and have allowed successful well completions.



May 4 The Nevada Bureau of Mines and Geology invites you to reception honoring Larry Garside's long-time service to Nevada on Monday, May 4, 2009 from 5:00 pm to 8:00 pm. See details on page 9.

May 8- GSN 2009 Spring Field Trip

May 10 Diverse Gold Deposits of the Osgood Mountains and Humboldt Range, North-Central Nevada:
Pinson-Getchell-Turquoise Ridge and Spring Valley-Lincoln Hill-Wilco.

May 11 SME Dinner Meeting.

6 PM, at Circus-Circus Hotel and Casino, Reno. Debra Struhsacker, "Mining Law 2009: the New House and Senate Bills and What You Can Do to Get Involved in this Important Legislative Dialogue" Reservations Required, Please call Neville Rhoden (775) 746-4856 by May 7th.

May 18 The Nevada Bureau of Mines and Geology invites you to reception honoring Stephen Castor on Monday, May 18, 2009 from 5:00 pm to 8:00 pm. See details on page 9.

June 27 GSN Golf Tournament (Lakeridge Golf Course) -Hosted by Inspectorate America Corporation. Tee time will be at 1:00 PM and dinner will be at 6:00 PM. See page 7 for more details.

GSN MEMBERSHIP

When was the last time that you thought about the value of your GSN Membership? The most valuable part of GSN is the intangible part. Meeting up with colleagues, potential employees, potential employers, making new friends, attending the presentations, and finding out what is going on in our fast paced industry doesn't have a direct dollar value. The free drinks aren't really free as they are paid for by our generous sponsors. Even the dinners don't pay for themselves. Over \$32,000 a year are paid to produce the newsletter, membership directory, dinner deficit, the convenience of taking credit cards, filing tax returns, liability insurance, publication storage, having a phone, and running the office. The cost of administrative services and promoting GSN are above and beyond this amount. In addition, the dedication of GSN volunteers makes the organization run. Take a few minutes to think about the role that GSN plays in your career and take time to thank all of the volunteers and sponsors that provide the venue for your GSN experience.

GSN 2009/2010 ELECTION RESULTS

(Terms begins June 1, 2009 – May 31, 2010)

The entire GSN membership had the opportunity to vote during April on next year's nominees for the Executive Committee and Class A, three year term of the Board of Directors. One hundred fifty one (151) members voted almost unanimously in favor of approving the entire ballot. Thanks to all of you who voted and congratulations to the new GSN officers and directors, who are presented below:

Officers 2009-2010 GSN Executive Committee

President Mike Ressel Treasurer Bob Kastelic

Vice President
Peter Vikre

Membership Chair **Dave Emmons**

Secretary
Steve Carroll

Publications Chair Marilyn Miller

Board of Directors (Class A)

(2009 - 2012)

Lynne Volpi Kim Craig

Elko Chapter Officers

(2009 - 2010)

President Jim Essman

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Winnemucca Chapter Officers

(2009 - 2010)

President Matt Hoffer

Secretary Don Martin

Vice President Lora Chiehowsky Treasurer Randy Vance

Southern Nevada Chapter Officers

(2009 - 2010)

President Swapan Sahoo Treasurer Chris Riecken

Vice President Josh Bonde Newsletter Editor Laura Eaton

Secretary Vicki Meyers

Webmaster Nate Eck

Host Aubrey Shirk

FACES OF GSN

Steve Garwin, Perth, Western Australia
Consulting Geologist

I have always enjoyed the outdoors. I started out as an enthusiastic boy scout who learned about rocks and basic geology from field-guide books. In my late teens, I was a backpack guide in the central Sierra Nevada of California. I took a geology course during my senior year of high-school, which opened my eves to the possibility of being a professional geologist. I pursued this interest by enrolling in geology at Stanford, where I learned from professors and other students the importance of making and recording critical observations in the field. One of the benefits of taking geology at Stanford was the field course that was held in the Shell Creek and Snake Ranges of eastern Nevada during the summer of 1983 - both of which are tremendous places to learn to make a geological map!



During my undergraduate years, I worked with the United States Geological Survey on regional mapping- and laboratory based-projects in the western USA. This work and the supervision of senior USGS staff provided me with a firm basis in systematic mapping, data collection and analysis. In the mountains of Alaska, I learned how to hop in and out of a helicopter at a moment's notice, replete with back-pack, hammer, ice-axe and sometimes a 12-gauge shot-gun. I furthered my academic studies and obtained a M.Sc. in geology from the University of British Columbia in 1987, where I focused on the structural geology of the Omineca Crystalline belt in the Cariboo Mountains near Quesnel Lake. British Columbia.

Following the formal part of my education, I set off for a geological expedition in the Himalayas of Nepal, after which I began my career as an economic geologist. This I achieved by knocking on office doors in Bangkok and Jakarta, until I obtained a job with a junior Australian mining group in 1988. My first port of call was eastern Kalimantan (Indonesian Borneo), where I and an Indonesian geologist with the help of several Dyaks explored the jungle by boat and foot via the network of streams that form the arteries of the island. I joined Newmont in 1992, where as regional geologist for South East Asia, I worked on porphyry-, epithermal- and Carlin like-systems in Indonesia, Philippines, Thailand, Laos, China and other countries. Newmont sponsored my Ph.D. on the Batu Hijau porphyry copper-gold district in Sumbawa, eastern Indonesia, which I completed in 2000 while at the University of Western Australia in Perth.

After handing in my thesis, I returned to work in Nevada, where I was chief geologist for Newmont from late 2000 through 2002. I became reacquainted with Nevada geology and assisted with exploration along the Carlin-trend, near Fortitude / Phoenix, Midas and elsewhere. I interacted with government personnel and university staff and students through company-sponsored research- and employment-programs. In 2003, I joined Geoinformatics Exploration, a Perth-based company that specialized in the processing and interpretation of historical data to generate targets which the group explored in North America and Australia. I finally learned how to use computer software properly!

I still live in Perth, where I started a structural geology consultancy in 2007, assisting companies with projects in Australasia and the Americas. I am active in the Society of Economic Geologists (SEG) as co-founder of the SEG mentoring program and as a lecturer on gold deposits as part of international workshops that the society sponsors. I am an adjunct research fellow at the Centre for Exploration Targeting at the University of Western Australia, where I collaborate with staff and mentor graduate students. Perth remains home – for me, Claire and our seven-month old baby Oscar.

Thank you to our generous donors

GSN FOUNDATION

STUDENT DINNER FUND

GOLD LEVEL DONORS \$500+

Del Flint Neville Rhoden

SILVER LEVEL DONORS \$100-\$499

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MinQuest, Inc. (Herb Duerr)
Mike Ressel
Debbie & Eric Struhsacker
Mack Taylor (2 students)
Telesto-Nevada. Inc. (Jonathan Brown)

ACTIVITY UPDATE

Mike Brady, March 2009 Nevada www.activityupdate.com

Nevada Copper Corp. announced that recent drill results at the Pumpkin Hollow Project include 95.4-143.9 meters @ 1.4% Cu, 0.005 opt Au (NC08-52); 26.7-60.4 meters @ 0.52% Cu, 0.002 opt Au (NC08-53); 129.5-198.1 meters @ 0.50% Cu, 0.003 opt Au (NC08-58) and 137.1-155.4 meters @ 1.07% Cu, 0.001 opt Au (NC08-59). (resource = 363,000 tons @ 0.70% Cu, 0.093 opt Au, 3.66 opt Aq measured) *M.J.:* February 27

Agnico-Eagle Mines Ltd. announced that it purchased 1,000,000 share units of AuEx Ventures Inc. for \$2,150,000 to now hold an effective 12.4% interest. *Press Release:* March 11

Fronteer Development Group Inc.(51%) announced that based on recent drill results at the Long Canyon Project, resources aggregate 5,288,800 tons @ 0.069 opt Au indicated and 9,658,000 tons @ 0.048 opt Au inferred. (no previous estimate) *Press Release:* March 13

Midway Gold Corp.(40%) announced that based on recent drill results at the Spring Valley Project, resources aggregate 87,750,000 tons @ 0.021 opt Au inferred. (was 50,600,000 tons @ 0.020 opt Au inferred) *Press Release:* March 2

Firstgold Corp. announced that it shipped the first loaded carbon derived from the start-up of operations at the Relief Canyon Mine. (resource = 12,930,000 tons @ 0.033 opt Au indicated) *Press Release:* March 5

Win-Eldrich Mines Ltd. announced that it purchased an additional 70% interest (to hold 100%) in the Ashdown Property from Golden Phoenix Minerals Inc. for a \$5,300,000 promissory note payable over 6 years. (reserve = 117,000 tons @ 1.65% Mo proven+probable) *Press Release:* February 27

Golden Predator Mines Inc. announced that it completed the spinoff of its non-gold and silver assets into a new company called EMC Metals Corp. *Press Release:* March 6

Piedmont Mining Co. announced that it acquired an option to earn a 51% interest in the Argentite Property from Gryphon Gold Corp. for \$8,000 and \$750,000 in exploration expenditures over 5 years. *Press Release:* March 10

Klondex Mines Ltd. announced that recent drill results at the Fire Creek Project include 1,235-1,250 feet @ 0.213 opt Au, 0.26 opt Ag (FC0805B); 995-1,000 feet @ 0.073 opt Au (FC0818); 1,545-1,560 feet @ 0.142 opt Au, 0.41 opt Ag (FC0827) and 1,130-1,135 feet @ 0.308 opt Au, 0.06 opt Ag (FC0830). (resource = 1,760,000 tons @ 0.582 opt Au indicated) *Press Release*: March 2

Yukon-Nevada Gold Corp. announced that it completed the environmental compliance requirements necessary to restart the Jerritt Canyon Mill by agreeing to implement a state-of-the-art mercury emission control facility. *Press Release:* March 25

Miranda Gold Corp. announced that recent drill results at the Horse Mountain Project include 1,110-1,125 feet @ 0.019 opt Au (H-3); 1,970-1,975 feet @ 0.010 opt Au (H-5); 2,080-2,095 feet @ 0.011 opt Au (H-6) and 2,245-2,255 feet @ 0.039 opt Au (H-9). *Press Release:* March 26

Great Basin Gold Ltd. announced that 28,000 tons of ore from the Hollister Mine have now been test-milled at the Midas Mill of Newmont Mining Corp. Great Basin received revenue of \$10,000,000 from the sale of the concentrate based on an 80% Great Basin/20% Newmont split of the revenue. (resource @ Hollister = 1,100,000 tons @ 0.917 opt Au, 5.58 opt Ag measured) *N.M.:*



Attention Golfers!!







Inspectorate America Corporation is pleased to announce sponsorship of the GSN Annual Golf Tournament 2009 on Saturday, June 27th. Tee time will commence at 1:00 p.m. with a "Shotgun Start" at Lakeridge Golf Course. The tournament is restricted to the first 100 people to enter, so sign up early! Deadline for reservations is Friday, June 19th. You may call Kathy at the GSN office (775) 323-3500, fax (775) 323-3599, or e-mail gsn@gsnv.org to sign up individually, or as a foursome. A fee of \$35.00 per head that will include golf, dinner, and two drink coupons and \$5.00 per head for those not golfing will be charged. Mulligan's may be purchased at 4/\$20.00 with a limit of four per person. Dinner will follow the tournament and raffle tickets for prizes will be sold at 5/\$20.00 or \$5.00 each. All/proceeds raised are to benefit the GSN Foundation. Please join us for a great time and we thank you in advance for supporting the GSN Foundation.

Please provide the following information for each golfer and guest:/

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INSPECTORATE	
1	

<u>Re</u>	egistration Form
Name:	Ave. Score:
Address:	
Phone: E-	/ /
Teamed with:	
BBQ Guest Name(s):	
\$35.00 Per golfer \$5.00 Dinner charge for non-golfer	Amount included with this form: \$
Paid with Check #	_ Visa
Credit Card #	3-digit Security Code:
No r. (775) 323-3500, F	must be made by June 19, 2009 efunds after June 19, 2009 fax: (775) 323-3599 or mail to GSN office: Reno, NV 89507 or email to gsn@gsnv.org

THANKS TO INSPECTORATE AMERICA CORPORATION

For Sponsoring the GSN Annual Golf Tournament - 2009

GSN Winnemucca Chapter Meeting May 13, 2009

"A Geologic Overview of the Spring Valley Gold Porphyry Deposit, Pershing County Nevada"

Jeffrey Edelen, Geologist Midway Gold Corporation

Abstract

The Spring Valley deposit is located near the middle of the Humboldt Range in west-central Nevada. The deposit is about 3 miles north of the Rochester silver-gold mine and is 20 miles northeast of Lovelock, Nevada.

The Spring Valley gold deposit is hosted in Rochester rhyolite suite of the Permo-Triassic Koipato group, a sequence of rhyolite flows, breccias, and inter-layered felsic volcanic-derived sediments overlying fine-grained hypabyssal feld-spar porphyry. Gold mineralization is hosted within the upper levels of the feldspar porphyry and in the overlying felsic volcanic-related sequence. The gold is hosted in quartz veinlets and vein stock-works, as well as hydrothermal clay-rich breccias. Alteration types include strong hydrothermal clay breccia, strong quartz-sericite \pm pyrite, secondary potassium feldspar and rare biotite, Fe-carbonate flooding, and dark purple hematite-quartz alteration.

Gold occurs largely as free gold in and near the quartz veins and is relatively coarse. Drilling intercepted gold over 5000 feet along strike, over 3000 feet wide and about 1,400 feet deep. The deposit remains open north and south along strike, and at depth. A January 2008 43-101 resource is 992,152 ounces (50.6 million tons of 0.020 opt gold grade) at a \$650 gold price and a 0.006 opt gold cutoff. During 2008, drilling has expanded mineralization in the West Diatreme, Big Leap zones and in the deep porphyry target.

GSN Elko Chapter Meeting May 21, 2009

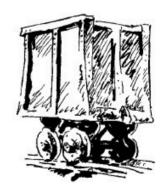
"Leeville Mine: Challenge and Opportunity"

Dhiren Patel

Abstract

The Leeville Mine includes three deep, high-grade refractory gold deposits (West Leeville, Turf and Four Corners) located 1.5 miles north of the Carlin Mine. Eureka County. Nevada Production commenced at West Leeville in 2006 and the present known mine life extends to 2017 with annual production planned at approximately 420k ounces. The deposits are dominantly hosted within flat-lying, silty limestone of the upper Siluro-Devonian Roberts Mountains Formation. Leeville ore control is challenging as ore can only be distinguished from waste by assay, and geological mapping is hampered by ground control added shotcrete. Ore grade mineralization within the mine remains open-ended, with excellent opportunities for reserve additions. Aggressive mine development and drilling is ongoing to determine the overall magnitude of the Leeville mine.

Thanks to Atlas Copco for sponsoring the Elko April meeting.



WINNEMUCCA CHAPTER APRIL MEETING SPONSOR



P.O. Box 1689 Elko, NV 89803

Phone: 775-753-5832

Fax: 775-753-7038

www.legarza.com

Thanks to
International Directional Services and
Layne Christensen

for co-sponsoring the Winnemucca April meeting.

DRI MOVE UPDATE

The GSN Office will be moving, from UNR, in June 2009 to NBMG's Great Basin Science Sample and Records Library at The Desert Research Institute Campus





John Mackay Club

The John Mackay Club and Mackay Mining Team would like to extend a big thank you to everyone that came out to the last mineral sale. We managed to raise over \$1500 dollars for the mining team, which went toward safety gear/gloves, lunch, and even cold medicine for the team. At Butte, Mackay walked away with the most hardware, winning over five events. The Men's team placed third overall and the Women's placed second after a close tie breaker. Next year the Mining Competition is being held in Australia, so the club and team have begun more fund raising to cover the expenses.

The team will be hosting another mineral sale at the Keck museum on Wednesday the 6th of May, from 12 noon to 3pm. Please stop by and see if there's a rock or mineral that needs to come home with you.









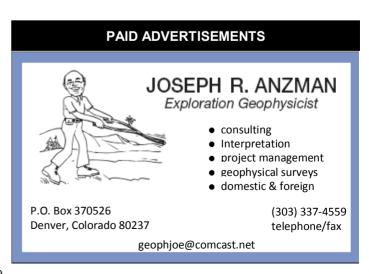
Nevada Bureau of Mines and Geology Reception Honoring Larry Garside and Stephen Castor

The Nevada Bureau of Mines and Geology invites you to receptions honoring both Larry Garside and Stephen Castor, both who will be retiring on June 30, 2009.

Larry Garside began his career with the Nevada Bureau of Mines and Geology in 1965 as a Graduate Research Assistant. In 1968, he was hired as an Economic Geologist, a position he has held for the past 41 years. When John Schilling left the Bureau in 1987, Larry served as Acting Associate Director until Jonathan Price was hired in September 1988. Larry has served as both President and Treasurer of the Geological Society of Nevada and President of the Nevada Petroleum Society. Please join us in honoring Larry's long-time service to Nevada on Monday, May 4, 2009 from 5:00 pm to 8:00 pm at the Great Basin Science Sample and Records Library, 2215 Raggio Parkway, on the west end of campus of the Desert Research Institute.

Stephen Castor joined the Nevada Bureau of Mines and Geology in 1988 as a Research Geologist specializing in industrial minerals. Prior to this, he worked in industry and government for nearly 20 years as a geologist, including stints in mineral exploration, mine geology, and as a volunteer geologist in the Peace Corps. Steve has served on the Geological Society of Nevada's Education and BBQ Committees (he grills a great pork tenderloin!). Please join us in honoring Steve on Monday, May 18, 2009 from 5:00 pm to 8:00 pm at the Great Basin Science Sample and Records Library, 2215 Raggio Parkway, on the west end of campus of the Desert Research Institute.

See map to the left for directions





CALL FOR PAPERS GSN 2010 Symposium

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Draft abstracts up to 500 words should be submitted no later than April 30, 2009. Written papers should be 2,000 to 20,000 words with figures and tables. **Draft manuscripts due November 30, 2009**. **Information for contributors:** http://www.gsnv.org/symposium/author guidelines/guidelines.aspx

Submit abstracts on-line: www.gsnv.org/symposium or via e-mail: technicalsessions@gsnv.org

TECHNICAL PROGRAM SUN-WED, MAY 16-19 Focus Topics:

- •Rumors from the Bush Great Basin Exploration Update
- New Mine Development
- Tertiary Magmatism and Metallogenesis
- •Geology and Tectonics of Nevada
- •Regional Metallogeny and Mineral Belts
- Active or Recent Gold Systems
- •Intrusion-Related Deposits
- •A Stroll Down Walker Lane Geology and Ore Deposits
- •Volcanic-Hosted Precious-Metal Deposits
- Carlin-Type Gold Deposits: Great Basin and Beyond
- Controversies in Great Basin Geology
- •Student Research—Best Student Paper Award
- Environmental/Regulatory Issues
- •Geothermal Resources
- Case Histories of Great Basin Discoveries
- •Exploration International
- Exploration Americas
- Exploration Technologies

FIELD TRIPS

Pre-meeting:

- Carlin-Type Gold Deposits for Geologists
- Epithermal Deposits of Northern Nevada
- Porphyry-Related Deposits-Eastern Nevada
- Industrial Mineral Deposits, Southern Great Basin

Post-meeting:

- Carlin-Type Gold Deposits for Non-Geologists
- Recent Advances in Carlin-Type Deposits, Nevada
- Epithermal Deposits of Central Nevada
- Porphyry-Related Deposits of Western Nevada
- Modern and Ancient Geothermal Systems

SHORT COURSES

- Society of Economic Geologists-Gold Workshop
- Epithermal Deposits: Occurrences, Models, Exploration Criteria
- Structural Systematics: Exploration Applications
- Fundamentals of Canadian NI 43-101
- Introduction to Carlin-Type Gold Deposits
- Porphyry Copper Occurrences, Models, and Exploration Criteria
- Molybdenum Deposits and Exploration Criteria
- Database Management, Geostatistics, GIS, & Modeling
- Sample Collection, Prep, and Analyses: Methods and Advice
- Isotopes and Exploration: Bringing the Esoteric into the Mainstream













GSN Foundation News

These are photos and a thank you letter from a class and teacher at Burkholder Middle School in Henderson, Nevada thanking GSN Foundation for the field trip grant that allowed them to take this recent field trip. The program they attended includes information on the geology of the area and the engineering involved in constructing Hoover Dam.

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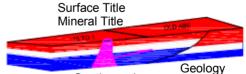
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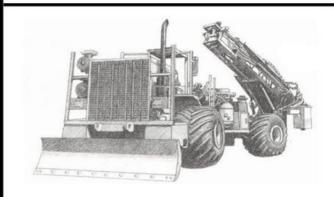
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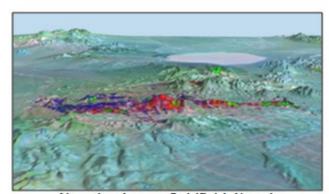


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