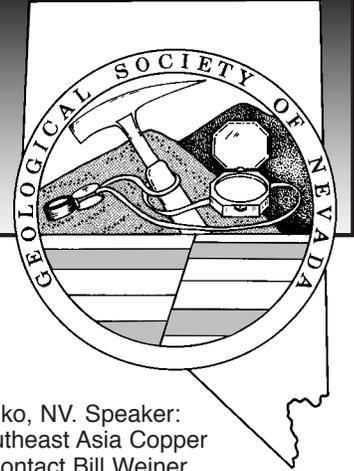


GSN NEWSLETTER



October 2001, Vol. 15, No. 8

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CALENDAR OF EVENTS

- Oct 18 Thursday** ELKO CHAPTER MEETING: High Desert Inn, Elko, NV. Speaker: Steve Garwin, Newmont Mining Corp, Topic: Southeast Asia Copper and Gold Deposits. Refreshments @ 6:30 pm. Contact Bill Weiner, BWeiner@bgmi.com for more information.
- Oct 19 Friday** GSN MEMBERSHIP MEETING: Reno Elks Lodge, Reno, NV. Speaker: Chuck Thorman, USGS Emeritus, Denver, CO, will speak on Brazilian Gold deposits – Age? Origin? Future Development? Social-6 pm, dinner-7 pm (\$17), talk-8 pm. Contact Laura Ruud, 775/323-3500, email: gsn@mines.unr.edu.
- Oct 25 Thursday** SOUTHERN NEVADA CHAPTER MEETING: Lilly Fong Geoscience Building, Room 102, UNLV, Las Vegas, NV. Speaker and topic to be announced. Social-5:30 pm. Contact Chris Riecken, 702/435-5664 for information.

GSN WINNEMUCCA CHAPTER MEETING – NOT AVAILABLE AT PRESS TIME.

MEMBERSHIP RENEWAL NOTICE

You only have ONE MORE MONTH to renew your GSN membership for the June 2001/May 2002 fiscal year. If you need a Membership Application/Renewal form they are available on the website: www.gsnv.org or call the GSN office (775/323-3500) to have one faxed to you. The Directory will be published in December this year, so if you want your name in the Directory and want to continue receiving the GSN newsletter, it is important to send in your dues as soon as possible. If you are unsure about whether you have renewed your dues this year, feel free to contact Laura at the GSN office – 775-323-3500 or gsn@mines.unr.edu.

GSN Newsletter is published monthly except June and July

Geological Society of Nevada, PO Box 12021, Reno, NV 89510-2021 USA, 775/323-3500

FROM THE PRESIDENT

Dave Shaddrick, GSN President 2001-2002

This is the beginning of GSN's meeting year and the programs are shaping up nicely. As you will see in this newsletter our first talk is by Chuck Thorman (USGS) on gold in Brazil. Our wonderful friends at Eklund Drilling Co Inc. have once again volunteered to host the bar for the meeting. In November we will bring it back to Nevada with a talk on the Tonkin Springs project by Terry Jennings (Nevada Contact Inc.). Christmas will be an opportunity for a virtual visit to Saudi Arabia. Jeff Doebrich (USGS) will tell us about the geology, the history and the culture of that fascinating region. Additionally, plans for the Christmas meeting include a GSN Foundation fund raiser similar to the one that proved to be so much fun last year.

By the time you read this many of you will have had a great time at the annual picnic, organized by D.D. LaPointe and Liz Jones Crafford and on the Fall Field Trip, organized by Bob Thomas. These events always make a great start to

the year and, judging from the preparations I've seen, both events will equal or exceed the standards set in prior years.

I am looking forward to a fun year and to seeing all of you again.

October Sponsor



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News and Announcements

EDUCATION FIELD TRIP GRANTS

The GSN and its Foundation proudly donates \$5,000 each year to promote Earth Science related field trips for K-12th grades in the state of Nevada.

Any teacher, classroom, or school in Nevada is eligible to apply for up to \$300 each, and the funds are to be used for bus transportation to a site or activity that educates the students about the abundant earth sciences here in Nevada. If you know a teacher, are a teacher, or have a child in K -12th grades in Nevada who has a teacher, please use the form on page 6 of this newsletter (or print it out if you are reading this on your computer!) and give it to them to fill out. Forms are also available on the GSN website: www.gsnv.org or you can call Laura Ruud at the GSN office, 323-3500.

Forms are due in the office no later than November 1, 2001 and monies will be dispersed in December. If you would like to make a donation to this Grant Program, there is a place for that on your membership form or just mail it in to the GSN office and designate the check for Field Trip Grants.

GEOLOGISTS PART OF INTERNATIONAL COMMUNITY

Geologists don't look at political boundaries - we look at rocks. We cherish the friends we make in far off places and our community of colleagues crosses all types of boundaries - political and otherwise. Hence, those bonds of friendship and respect for our fellow man will ultimately prevail in these difficult times. The GSN has received words of support from some of these international friends, and they are greatly appreciated. The GSN stands with the United States and we will come through this horrendous time with our flag flying high.



EARTH SCIENCE WEEK FIELD TRIPS 2001

D.D. LaPointe, GSN Education Co-Chairperson

In recognition of the significant contributions that the Earth sciences make to society and to the economy and environment of Nevada and the country, Governor Kenny Guinn and the U. S. Congress have proclaimed the second full week of October "Earth Science Week." You are invited to participate in two free public field trips offered by the Nevada Bureau of Mines and Geology (NBMG) and other members of the Earth science community on Saturday, Oct. 6th and Saturday, Oct. 13th. Bring your own insured, high-clearance vehicle, picnic lunch, water, sturdy shoes, and a healthy curiosity to learn more about geology in northern Nevada. Each field trip will be guided by local geologists.

Field Trip 1, Saturday, October 6th 2001: Peavine Peak Geology and History. Join us on a drive up and over Peavine Peak to learn more about the geology and mining history of this local high spot. Collect the rare mineral piemontite, and search for copper minerals, magnetite, as well as schorlite, a rock made up of almost all tourmaline. You must drive your own insured 4WD vehicle to participate in this trip. You may continue on with us to Crystal Peak for quartz collecting, or quit after the "Peavine Peak" experience for a shorter day!

Field Trip 2, Saturday, Oct. 13th: Fossils and Ancient Lakes. Join geologists and paleontologists on a guided field trip to three Nevada fossil collecting sites: a fossil gastropod locality near Nightingale hot springs off I-80, another near the Mopung Hills off U.S. Hwy 95, and a Miocene fossil fish locality near Hazen. Learn from paleontologists what these fossils tell us of ancient life in Nevada. Some travel will be on unimproved gravel roads, but high clearance 2WD vehicles should be adequate. Participants for each trip should meet at 8:45 a.m. at the Evans Street parking lot across from the Fleischmann Agriculture Building on the UNR campus. Bring your own insured high-clearance vehicle for the trip, along with sack lunch, water, hat, sunscreen, and sturdy shoes. Bring implements such as rock hammers, putty knife (for fossils), and ziplock bags to use for specimen collecting. Please fill out and submit the form on the NBMG website to sign up: <http://www.nbmng.unr.edu/esweek/esw2.htm>

You may also sign up by calling D.D. at 775/784-6691 ext. 134, or Terri at 775/784-6691 ext. 126.

Thank You

The GSN Foundation would like to thank the following GSN members for their recent donations to the Foundation at the Donor Level:

Bondar Clegg Inc.	Karl Marlowe	Charles R. Sewell
Jack D. Corbett	J. Howard McCarthy	Anonymous Donor

GSN October 19, 2001 Membership Meeting

Date: Friday, October 19, 2001

Time: Social-6:00, Dinner-7:00, Meeting-8:00

Cost: \$17.00 (dinner)

Reservations: 775/323-3500; fax 323-3599 or e-mail: gsn@mines.unr.edu

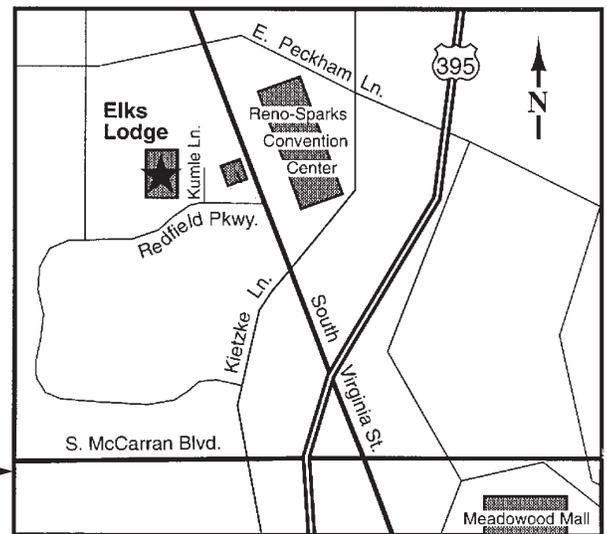
Deadline: Reserve by noon Wednesday, October 17

Location: Elks Lodge, 597 Kumle Lane, Reno, Nevada

Directions: Across (W) from the Reno-Sparks Convention Center (S Virginia St), just behind the Les Schwab Tire Center

Speakers/topic: Chuck Thorman, USGS Emeritus, Denver, CO, Brazilian Gold Deposits - Age? Origin? Future Development?

Location of meetings: GSN's monthly membership meetings are held at the Reno Elks Lodge on Redfield Parkway (at the corner of Kumle Ln): located just west of the Reno-Sparks Convention Center (Virginia St), and directly behind Les Schwab Tire Center.



CLASSIFICATION AND 1982-1999 PRODUCTION OF MAJOR GOLD DEPOSITS IN BRAZIL

Charles H. Thorman, CTGS Intl., Inc.

Ed DeWitt, U.S. Geological Survey

Carlos Maron, 3Departamento Nacional de Produção Mineral, Brasília, and

Eduardo Ladeira, Rua Muzambino 355/404, Belo Horizonte, Minas Gerais

Brazil has been a major producer of gold intermittently since its discovery in 1500. Brazil lead the world in gold production during the 18th and early 19th centuries and re-emerged as a major producer in the 1980s. The discovery of alluvial deposits in the Amazon by garimpeiros in the 1970s and the opening of eight deposits by companies from 1983 to 1990 fueled this boom, increasing from a combined total of about 5 tonnes to more than 100 tonnes per year from 1972 to 1988. By 1999, however, alluvial production had decreased just as rapidly, to about 10 tonnes per year. Company production aided by the discovery of new deposits throughout Brazil, increased from about 4 to 35 tonnes per year. Production from 1992 to the present has remained stable at 40 tonnes per year, even as three deposits were closed and no new deposits were put into production.

Sixteen major and minor gold deposits are classified as hot spring, replacement, quartz vein, breccia, paleoplacer, or shear zone in origin. This classification contrasts with some other models that suggest a much greater role for shear zone deposits. Sea floor hot spring deposits accounted for 26% of Brazil's gold production by companies from 1982 to 1999. In that same time period, replacement deposits accounted for 15%, quartz vein deposits for 38%, breccia deposits for 15%, paleoplacer deposits for 6%, and shear zone deposits for less than 1%. Deposits in Archean rocks produced 67% of the gold in Brazil from 1982 to 1999, whereas deposits in Early Proterozoic rocks accounted for 18%, and deposits in Late Proterozoic rocks produced 15%. Deposits in metamorphosed sedimentary rocks, especially carbonate-rich rocks and carbonate iron-formation, produced the great bulk of the gold. Deposits in igneous rocks were of much less importance.

The Archean and Early Proterozoic terranes of Brazil largely lack base-metal-rich volcanogenic massive sulfide deposits, porphyry and polymetallic veins, and sedimentary exhalative deposits. Our review of the metallogeny indicates that much of the Quadrilátero Ferrífero and some areas near Crixás, throughout Archean and Early Proterozoic time, were ensialic rift basins in which gold deposits were formed by hot springs on the ocean floor. Gold deposits in other parts of Brazil are more diverse, smaller, and typically hosted by quartz veins. Arc volcanism and plutonism and convergent tectonism were probably more important in these areas than in the Quadrilátero Ferrífero.



GSN WEB CONTEST

Mario Desilets, GSN Webmaster

In order to promote "hits" on the GSN web page, the GSN Executive Committee has approved a web based contest. The contest is presently called "What a Pit" but this can change if better titles are submitted. The objective of this game is to identify the geologic feature in a picture posted on the GSN web page at <http://www.gsnv.org>. Pictures may consist of almost any type of prominent geologic feature in Nevada. Pictures can include mines, type localities, prominent outcrops, prominent or infamous geologist, etc. These can be historic or current pictures. I encourage submissions, the only requirement being that each submission is accompanied with a short description of the geologic feature and/or person(s) in the picture. The name of the submitter will be posted with the picture so that they can take the blame! Submissions can be sent to whatapit@gsnv.org or I can be contacted at this same e-mail. This contest will begin in November 2001.

A Few Simple Rules for "What a Pit"

1. First and foremost, I am the omniscient Web Master and I can change the rules at my whim!

2. The person submitting the picture will not be eligible for the contest during the month it's posted.
3. A new picture and the prize for winning will be posted on the GSN web page at the beginning of each month, or whenever I get around to it.
4. All correct answers received at whatapit@gsnv.org will be pooled for three weeks after the contest picture is posted, and the winner will be picked at random from this pool.
5. The following month, the posted picture will be identified followed by a short discussion of the pertinent geology and the winner will be announced. A new picture will be posted. The winner will also be announced in the Newsletter.
6. All can play and be declared the monthly winner, but only GSN members (a mere \$30.00 annually) can win the prize.
7. This is nearly as important as rule #1. This is all done in fun, if the game gets too complicated, people start to whine, or take it too seriously the contest will end!

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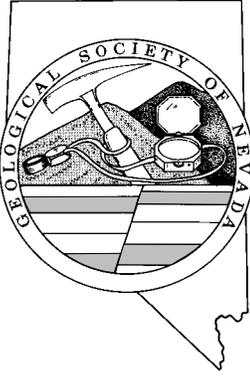
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EDUCATION COMMITTEE
PRIMARY AND SECONDARY SCHOOL EARTH SCIENCE FIELD TRIPS

GRANT APPLICATION

(Please call the GSN office for guidelines!)

NAME OF SCHOOL: _____ PHONE: _____

ADDRESS: _____

NAME AND TITLE/POSITION OF TEACHER MAKING REQUEST: _____

DESCRIPTION OF FIELD TRIP (INCLUDE DATE, TIME, PLACE, PURPOSE, GEOLOGIC CONTENT, AND PERTINENT LOGISTICS—USE ADDITIONAL PAGE IF NECESSARY): _____

GRADE LEVEL(S) OF STUDENTS INVOLVED: _____

NUMBER OF STUDENTS INVOLVED: _____

TOTAL COST OF TRIP: \$ _____ COST OF BUS TRANSPORTATION: \$ _____

OTHER FUND RAISING EFFORTS FOR THIS EVENT AND AMOUNTS (TO BE) RAISED: _____

AMOUNT REQUESTED FROM THE GEOLOGICAL SOCIETY OF NEVADA: \$ _____
(not to exceed total transportation cost)

ARE YOU AN "AT RISK" SCHOOL (AS DEFINED BY SCHOOL DISTRICT)? _____

COMMENTS AND/OR JUSTIFICATIONS: _____

SIGNATURE OF TEACHER/ADMINISTRATOR: _____ DATE: _____

Mail or fax completed application to: D.D. LaPointe, GSN Education Committee, University of Nevada, Reno, MS-178, Reno, NV 89557-0088, or fax 775/784-1709

Questions: Call Ms. LaPointe at 775/784-6691, ext. 134, or fax 775/784-1709

For Committee Use:

Amount Requested: \$ _____ Amount Recommended \$ _____

Comments: _____

Review Committee Chairperson's Signature: _____ Date: _____

Education Committee Action (Approve/Reject): _____

Education Committee Chairperson's Signature: _____ Date: _____

UP-COMING EVENTS

Oct 10 – Homestake Mine Tour, Lead, SD. For more information, contact Dave Shaddrick: 775/746-2071, Dshaddrick@aol.com.

Oct 12 – Northern NV section of SME meeting, Reno, NV. Speaker: Alan R. Coyner, Administrator, Nevada Division of Minerals will talk on the state of the Nevada mining industry, abandoned mines program, environmental issues facing the industry, and other subjects of interest. Noon @ the Bonanza Casino. See the website for more information: www.smennv.org.

Oct 17-19 – Goldfields Mining Expo 2001, Kalgoorlie, Western Australia. Contact Clive Holt, 011-618-9021-2466, or email: admin@gmexpo.com.au

Oct 18, Thursday – ELKO CHAPTER MEETING, High Desert Inn, Elko, NV. Speaker: Steve Garwin, Newmont Mining Corp, Topic: Southeast Asia Copper and Gold Deposits. Refreshments @ 6:30 pm. Contact Bill Weiner, BWeiner@bgmi.com for more information.

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Nov 1-10 – Geological Society of America Annual Convention, Boston, MA: Boston 2001: A Geo-Odyssey. See the website, www.geosociety.org.

Nov 5-10 – Alaska Mining Convention & Trade Show, Alaska Miners Assoc., Anchorage, AK 907/276-0347.

Nov 6 – Denver Region Exploration Geologists' Society, Lakewood, CO. Social-6 pm, presentation-7 pm. Email: dregs@dregs.org.

Nov 9&10 – The Mighty Sullivan Mine is closing. Cominco is pleased to host a final geological meeting and mine tour in Kimberly, B.C. No registration fee. For registration information email helen.augustin@cominco.com.

Nov 15-17 – Manitoba Mining & Minerals Convention 2001, The Rush is On, Winnipeg, Manitoba, Canada. To register: 1-800-223-5215, www.mineralsconvention.com.

Dec 3-7 – Northwest Mining Association's 107th Annual Meeting, Spokane, WA. 509/624-1158, www.nwma.org. (GSN Booth #1426)

Dec 15 – SME Christmas Party, Harrah's Prospector Club, Reno, NV. Begins @ 6 pm. Contact Marcie Wood, 775/331-2375 for information.

Dec 19 – GSN CHRISTMAS MEETING, Reno Elks Lodge, Reno, NV. Contact Laura Ruud, 775/323-3500 for more information.



BLM RELEASES FINAL EIS FOR OIL-DRI CLAY PROJECT

The Bureau of Land Management (BLM), Carson City Field Office, announced the availability of the Final Environmental Impact Statement (FEIS) for Oil-Dri Corporation of Nevada's Reno Clay Plant Project, effective Friday, September 14, 2001. The FEIS is a result of Oil-Dri Corporation of Nevada's submission of a plan of operations for a clay mining operation in Hungry Valley and addresses public comments received on the draft version of the EIS.

The proposed mining operation and processing facility would occur in phases over 20 years, in two pits, on a total of 345 acres. The processing plant for drying, crushing, and packaging of the clay material (cat litter) would be located on Oil-Dri private land located to the south of the mine area. Initially, the mine and processing plant would employ approximately 75 individuals, with an increase to 100 employees over time with expanded production.

If you are interested in obtaining a copy of the Oil-Dri environmental impact statement you can call the BLM at (775) 885-6000 or on the Internet at www.nv.blm.gov/carson

- Public comments on the EIS must be postmarked by Oct. 15.
- Mail comments to BLM, Carson City Field Office, 5665 Morgan Mill Rd., Carson City, Nev., 89701.
- To comment by e-mail: tknutson@nv.blm.gov
- To comment by fax: (775) 885-6147

NEW PUBLICATIONS AT THE NEVADA BUREAU OF MINES & GEOLOGY

The following item is now available for purchase in the Publication Sales Office (SEM 310): M129 - Geologic map of the Lime Mountain Quadrangle, Lincoln County, Nevada by Lehi F. Hintze and Gary J. Axen, 1:24,000, \$15.00 (folded).

You may place an order or check charges for shipping through our shopping cart at:

<http://www.nbmj.unr.edu/sales.htm>
or by calling (775) 784-6691 x2.

The following publication is now available in the Information Office (SEM 311): USGS Water-Resources Investigations Report 01-4130 - Hydrogeology and Geochemistry of the Fallon Basalt and Adjacent Aquifers, and Potential Sources of Basalt Recharge, in Churchill County, Nevada by Douglas K. Maurer and Alan H. Welch - This publication was announced on 8-24-01, but please note that it is also available on the Internet at <http://water.usgs.gov/pubs/wri/wri014130/>.

Thanks! Charlotte Stock, Publication Sales, NBMG.

GEOLOGICAL SOCIETY OF NEVADA



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