# **GEOLOGICAL SOCIETY OF NEVADA** NEWSLETTER

Geological Society of Nevada, 2175 Raggio Parkway, Room 107, Reno, NV 89512 (775) 323-3500 - Hours Monday -- Friday 8-3 Website: www.gsnv.org • E-mail: gsn@gsnv.org

#### March 2011, Vol. 26, No. 3

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#### **CALENDAR OF GSN EVENTS GSN EXECUTIVE COMMITTEE** March 9 WINNEMUCCA CHAPTER (Every 2nd Wednesday of the month) Wednesday The monthly meeting will be held at the Martin Hotel, 94 West Railroad Street. President Drinks and appetizers at 6:30 PM, speakers at 7:00 PM. Sponsor for the evening will Peter Vikre be Legarza Exploration, Bill Arthur. Speaker for the evening will be Odin Christen-US Geological Survey sen, Hardrock Mineral Exploration Inc. His talk is titled."Bolivia - Geology and Min-Vice President eral Exploration in the Central Andes". (see abstract on page 8). For more infor-William (Bill) Howald mation contact Rebecca Morris at (775) 304-2661. Rye Patch Gold US Inc. March 17 ELKO CHAPTER (Every 3rd Thursday of the month) Thursday 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 for the evening will be Todd W. Wakefield, AMEC. His talk is titled "The Caspiche Gold-Silver-Copper Porphyry Deposit in Atacama Region, Northern Chile". (see abstract on page 7) For more information contact Joe Becker at (775) 778-4071. March 18 **GSN MEMBERSHIP MEETING** (Every 3rd Friday of the month) The monthly meeting will be held at the Reno Elks Lodge, 597 Kumle Lane, Reno, Friday NV. Drinks at 6:00 PM, dinner at 7:00 PM, and talk at 8:00 PM. Sponsor for the evening will be Enviroscientists, Inc. Speaker for the evening will be Lisa L. Stillings, U.S. Geological Survey. Her talk is titled "Lithium Resources: Geology and Technology". (see abstract on page 3). Dinner reservations must be made by 1:00 PM Wednesday, March 16. Contact Kathy Sestanovich at (775) 323-3500 or e-mail gsn@gsnv.org for reservations. March 31 **SOUTHERN NEVADA CHAPTER** (Every Last Thursday of the month) The monthly meeting will be held at the Lilly Fong Geoscience building at UNLV, Thursday Room 105. Social hour begins at 6:45 pm and talk at roughly 7:15 pm. The sponsor and speaker for the evening to be announced. For more information contact Josh Bonde at 702-468-2500. **GSN MARCH MEETING SPONSORS** Enviroscientists, Inc. Reno, Nevada Office: Ph (775) 826-8822 Fax: (775) 826-8857 Elko, Nevada Office: Ph (775) 753 9496 Fax: (775) 753 9499

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# FROM THE PRESIDENT

Peter Vikre, GSN President 2010-2011

#### Great Gold Moments

Several years ago (2007) The Minerals, Metals, and Materials Society (TMS) came up with a list of ten "Great Material Moments":

	1.	Periodic Table of the Elements	1864
	2.	Iron smelting	1500 BCE
	3.	Transistor	1948
	4.	Glass	2200 BCE
	5.	Optical microscopy	1668
	6.	Concrete	1755
5	7.	Crucible steelmaking	300 BCE
	8.	Copper extraction and casting	5000 BCE
	9.	X-ray diffraction	1912
	10.	Bessemer process	1856

Absent from this largely unreflective list is that glittering home-grown metal, gold. After all, it can be argued that gold has shaped social structure since wealth attainment became part of the human genome, and that gold introduced "western" civilization to much of the Americas. Perhaps if the Iceman, who made an early global warming appearance in 1991, had been carrying a gold trinket in addition to his copper knife, gold might have at least made position 9 (X-ray diffraction?).

Since gold was ignored by TMS, here are ten provincial gold moments:

- 1. GSN members spend hundreds on gold specimens
- GSN members spend thousands on gold specimens
  Sutter's mill: WUS goldmap created

- Comstock/Tonopah/Goldfield: NV on the WUS goldmap
  Carlin-type gold deposits: fundamental GSN ties
  Carlin-type gold deposits: portentous GSN ties
  CN heap-leach technology advanced in Reno: home to GSN
- 8. Price leap; ex's jewelry mined from the Truckee (now by envelope)
- 9. NV #2/3 in production: big-time GSN ties
- 10. WUS gold deposits pentannually documented: owned by GSN

Decembers, 2000s Decembers, 2000s 1848 1859-1902 1962 1962mid-1960s 1970s 1990s-2000s 1987-

#### March dinner meeting presentation

At the March dinner meeting Lisa Stillings, U.S. Geological Survey, and Claude Morissette, UNR graduate program, will provide an overview of Li uses, geology, and Li in NV.



Due to a conflict with the Elk's Lodge and Speaker arrangements, the May and September meetings will be held the

2nd Friday of the month instead of the 3rd Friday.

May 13, 2011 & September 9, 2011

# Thanks to CGS, Inc. For Hosting the February Meeting

# GSN March 18, 2011 Membership Meeting

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

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, March 16, 2011. 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: <u>http://www.gsnv.org/membership.html</u>

# Lithium Resources: Geology and Technology

Lisa L. Stillings<sup>\*</sup> U.S. Geological Survey MS-176 University of Nevada Reno, Reno, NV 89557 <u>stilling@usgs.gov</u> Claude Morissette Graduate Program of Hydrological Sciences MS176 University of Nevada Reno Reno, NV 89557

Speaker

#### Abstract

Society's growing need for renewable energy has increased demand for rechargeable Li ion batteries for hybrid and all-electric automobiles, and portable electronics such as cell phones, computers, digital cameras, and cordless tools. The growth of the battery industry has driven our interest in quantifying worldwide reserves and exploring for new sources of Li. It has also fueled a media debate over whether our known reserves can meet future demand, or whether a supply growth will cause an overcapacity and threaten the stability of the Li industry.

The first commercial source of Li was zinnwaldite, a Li-mica. Later, Li was produced from spodumene mines in the Black Hills of South Dakota, and during WWII Li was discovered in the pegmatite fields of North Carolina. At that time Li was used in alkaline batteries for submarines, and in greases which could lubricate at very high and very low temperatures. Because of its temperature resistant properties Li began to be used in glass-ceramic cookware, such as Corningware<sup>™</sup>.

After the war Li continued to be produced from pegmatites, but the economics of Li production shifted when Foote Mineral Company began to produce Li from brines in Clayton Valley NV, in 1966. Extraction of Li from pegmatites can be expensive, because it requires the ore to be concentrated, calcined, and acid leached. The leachate is then treated with  $Na_2CO_3$  to produce  $Li_2CO_3$ . A brine source changed these economics. In Clayton Valley brines were pumped from the ground, held in evaporation ponds to concentrate the Li, then pumped to a recovery plant and treated with  $Na_2CO_3$  to precipitate  $Li_2CO_3$ . Brine Li quickly became the preferred, most economical source of  $Li_2CO_3$ , and for almost 20 years Silver Peak was the only brine source in the world. In 1986 the Sociedad Chilena de Litio (SCL; owned by Chemetall Foote) and the Sociedad Quimica y Minera (SQM) began to produce  $LiCO_3$  in Salar de Atacama. Today these 2 companies are responsible for ~60% of the world's annual production of  $Li_2CO_3$ .

Despite the dominance of continental brines as a Li source, high grade spodumene is still mined to produce mineral concentrates for the ceramic and glass industries. A third source of Li is hectorite, a trioctahedral smectite found in the western U.S. The type locality for hectorite is Hector, CA, where the clay is mined for its swelling characteristics and used in the paint and cosmetics industries. Hectorite is also found in the lacustrine and volcaniclastic sediments associated with the collapsed McDermitt caldera in Northern Humboldt County, NV. Western Lithium Corporation is currently investigating the economics of producing Li from the hectorite clay.

The University of Nevada Reno and the USGS Mineral Resources Program are conducting joint research to analyze the chemistry and mineralogy of hectorite clays collected from Hector CA, Clayton Valley NV, and the McDermitt caldera. The research asks whether the Li concentration and location in the clay structure can be correlated to the geological environment and temperature of formation. The hectorites in Clayton Valley are thought to have formed from low temperature processes, whereas hectorites in Hector and the McDermitt caldera may have formed from hydrothermal fluids. It is hoped that a link between Li content and depositional environment will guide exploration for additional hectorite deposits.

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Activity Update

Mike Brady, January 2011 Nevada www.activityupdate.com

NuLegacy Gold Corp. announced that recent drill results at the Red Hill Project include 670-680 feet @ 0.016 opt Au (RHM10-01) and 970-1,000 feet @ 0.012 opt Au (RHM10-02). Press Release: January 13

Fronteer Gold Inc. announced that based on recent drill results at the Long Canyon Project, resources aggregate 20,208,000 tons @ 0.069 opt Au measured+indicated and 12,287,000 tons @ 0.066 opt Au inferred. (was 13,464,000 tons @ 0.050 opt Au measured+indicated and 11,433,000 tons @ 0.048 opt Au inferred) Press Release: January 12

Allied Nevada Gold Corp. announced that recent drill results at the Hasbrouck Project include 34-64 meters @ 0.020 opt Au, 0.54 opt Ag (HSB10-04); 111-122 meters @ 0.041 opt Au, 0.19 opt Ag (HSB10-08); 160-171 meters @ 0.035 opt Au, 1.54 opt Ag (HSB10-09) and 131-143 meters @ 0.020 opt Au, 1.33 opt Ag (HSB10-15). (resource = 20,240,000 tons @ 0.023 opt Au, 0.32 opt Ag indicated) Press Release: January 7

Coral Gold Resources Ltd. announced that recent drill results at the Robertson Project include 80-115 feet @ 0.012 opt Au (CC10-10); 130-165 feet @ 0.022 opt Au (CC10-12); 0-45 feet @ 0.044 opt Au (CC10-13) and 65-100 feet @ 0.013 opt Au (CC10-14). (resource = 91,285,000 tons @ 0.025 opt Au inferred) Press Release: January 10

US Gold Corp. announced that recent drill results at the Limo Project include 415-540 feet @ 0.034 opt Au (LB77); 395-555 feet @ 0.014 opt Au (LB78); 470-480 feet @ 0.092 opt Au (LB79) and 425-485 feet @ 0.019 opt Au (LB80). (resource = 6,500,000 tons @ 0.026 opt Au measured) Press Release: January 11

Yukon-Nevada Gold Corp. announced that recent drill results at the Jerritt Canyon/Smith Project include 785-824 feet @ 0.201 opt Au (SMILX-751); 1,187-1,194 feet @ 0.134 opt Au (SMILX-752); 887-903 feet @ 0.131 opt Au (SMILX-755) and 52-61 feet @ 0.119 opt Au (SMILX-756). (reserve @ Smith = 954,100 tons @ 0.282 opt Au proven+probable) Press Release: January 24

Timberline Resources Corp. announced that it acquired an option to earn a 100% interest in the White Rock Property from private interests for \$20-50,000/year advanced royalty payments and an ending purchase price of \$100,000. Press Release: January 13

Timberline Resources Corp. announced that recent drill results at the Lookout Mountain Project include 417-471 feet @ 0.033 opt Au (BHSE-026C); 277-358 feet @ 0.017 opt Au (BHSE-028C); 612-646 feet @ 0.024 opt Au (BHSE-029C) and 52-73 feet @ 0.030 opt Au (BHSE-031C). (resource = 4,753,000 tons @ 0.020 opt Au measured) Press Release: January 20

Rye Patch Gold Corp. announced that recent drill results at the Wilco/North Basin Project include 337.7-348.4 meters @ 0.102 opt Au (WRC-05) and 315.5-346.6 meters @ 0.053 opt Au (WRC-06). (resource @ Wilco = 8,278,600 tons @ 0.020 opt Au measured) Press Release: January 25

Nevada Copper Corp. announced that recent drill results at the Pumpkin Hollow/East Project include 518.1-522.7 meters @ 1.24% Cu. 0.005 opt Au (NC10-GT07) and 618.7-673.6 meters @ 1.59% Cu, 0.008 opt Au (NC10-GT07). (total resource = 488,230,000 tons @ 0.58% Cu measured+indicated) Press Release: January 11

Gryphon Gold Corp. announced that recent drill results at the Borealis/Freedom Flats Heap Project include 9.1 meters @ 0.044 opt Au (BOR203); 13.7 meters @ 0.041 opt Au (BOR204); 12.2 meters @ 0.037 opt Au (BOR206) and 13.7 meters @ 0.038 opt Au (BOR207). (Heap resource = 1,028,000 tons @ 0.026 opt Au indicated) Press Release: December 30

Fronteer Gold Inc. announced that recent drill results at the Long Canyon Project include 38.1 meters @ 0.098 opt Au (LC728); 25.0 meters @ 0.097 opt Au (LC715C); 12.3 meters @ 0.122 opt Au (LC706C) and 26.5 meters @ 0.062 opt Au (LC712C). (resource = 20,208,000 tons @ 0.069 opt Au measured+indicated and 12,287,000 tons @ 0.066 opt Au inferred) Press Release: January 18

# STUDENT DINNER FUND

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Rendy Keaten

# FACES OF GSN Richard DeLong, Reno, Nevada Enviroscientists, Inc.

My first exposure to geology (and gold) began before I was born when my fifth generation back grandfather came around the horn to California to participate in the 1849 gold rush. My personal exposure to aeologic forces began in the mid-1960s to mid-1970s with active seismic events in Palm Springs and the Bay Area. Those experiences contributed to my decision to pursue an undergraduate degree in economic geology from California State University. Chico in 1980. I was able to catch the tail end of the molvbdenum boom and the beginning of the gold boom by working for Gulf Mineral Resources in



Richard DeLong in New Zealand

Montana (Marysville) and Nevada (Battle Mountain). My position at Gulf lasted for a year and then I started graduate school at the University of Idaho, Moscow. I earned two Masters Degrees: one in Geology; and the other in Resource Management, where I was a Fellow in the Institute for Resource Management (sponsored by Robert Redford, the actor). The Resource Management degree was a multidisciplinary degree and my thesis was on the development of the United States Mining Law from 1803 to the present.

Following my graduate education I obtained a position in 1986 with Kennecott in Reno, where I was involved in gold exploration primarily in western Nevada, California, and Oregon. While with Kennecott, I was involved with some of the early work at the Sandman Project. It was during this time that I started attending GSN meetings. My earliest memory is of Roger Steininger and Bob Cuffney as President and Vice President (if I recall correctly, this was also my first experience with "Land Sharks").

Early in 1988, I was offered a six-month position with Kennecott in their Sydney, Australia, office and worked in Papua New Guinea where most of my time was spent on the island of Lihir conducting exploration in the caldera, peripheral to the main ore body. I also was involved with exploration at Simberi. My time on Lihir was cut a little short with a wicked case of malaria and I spent about a week with the nuns in their hospital in Rabaul. With the eruption in 1994, the hospital and the town of Rabaul were abandoned. From Rabaul I spent some time in the Sydney office and at the Olympic Dam project in South Australia before returning to the States. I remained with Kennecott through the summer of 1988 and then I changed careers.

In October of 1988, I was hired by Environmental Management Associates, a southern California based firm primarily involved with the geothermal industry, to develop a mining and exploration permitting practice for their Reno office. I continued in this position with EMA until 1991 when my wife was transferred to Houston with Shell. EMA wanted to keep me as an employee, so I ended up opening an office for them in Houston, where I worked primarily with the banking and coal industry in Texas. This worked well until late 1993, when due to economic conditions in southern California, poor performance of the Reno office, and a change in my marital status, I moved back to Reno to operate the office for EMA.

#### (Continued from Page 5 : Richard DeLong)

During the summer of 1994 (I have Debbie Struhsacker to thank for suggesting my name to Opal Adams) I served as treasurer of GSN, which I did for two years. During that time I took the books from a paper ledger system to an accounting software program. In addition, the 1995 Symposium was in full swing and eight months before the meeting the symposium Treasurer quit. So I also took over those treasurer duties. After being Treasurer of GSN for two years I served a year as Vice President and then as President. After that I continued on with GSN serving as the Treasurer for the 2000 Symposium.

The year 2000 was a big year for my career. In August, after 12 years with EMA I left that firm. My, wife, Opal (we married in 1998) and I opened our own environmental consulting firm (Enviroscientists, Inc.), which has successfully grown from three employees to 18. I took a break from GSN from 2001 to 2005; however, in April of 2005 I was back working with a small group of past officers on the development of a GSN Board of Directors. This required a major revision of the GSN Constitution, which we shepherded through the review and approval process with the Executive Committee and the membership. I was then elected, along with Dave Shaddrick, to the first three-year term as a member of the board and was voted in by the Board as the first Chairman of GSN, a position that I held for three years. Also during that time I helped rewrite the GSN by-laws and the constitutions and by-laws for the three GSN chapters. In 2008, my three-year term on the Board ended and I chose not to run again.

Currently, I help run our business, which has offices in Reno, and Elko, and a field office in Boise, Idaho, I am a Commissioner with the Nevada Commission on Mineral Resources, and I serve on the executive committee of the Northwest Mining Association and will hold the office of President in 2012.

The past 30 plus years in the minerals industry, geology, and particularly with the GSN have been very rewarding and the involvement with GSN has been great fun (though there have been days). We all should be thankful for what GSN has done, what it will continue to do, and for what it provides to this part of the minerals industry.

Cheers!



Opal Adams and Rich DeLong of Enviroscientists, Inc. Mackay School of Earth Sciences and Engineering are so grateful for the generous donation of the 2007 Ford F150 Truck!



From left: Opal Adams, Dean Jeff Thompson, Development Director Char Hagemann, Rich DeLong

# GSN Winnemucca Chapter Meeting March 9, 2011

# **BOLIVIA – Geology and Mineral Exploration in the Central Andes**

Odin Christensen Hardrock Mineral Exploration Inc. Mancos, Colorado



Bolivia is a country of incredible geographic and geologic diversity, tucked in the center of South America and extending from the high Andes on the west to the Amazon lowlands on the east. Bolivia can be separated into 5 provinces, each with its own distinct geography, geology, and metallogenesis: the Western Cordillera, the Altiplano, the Eastern Cordillera, the Beni-Chaco lowlands, and the Eastern Precambrian terrane.

Bolivia is a land of tremendous mineral wealth. The rich silver mines of Potosi drew the Spaniards to Bolivia in the 1500's. Giant tin mines were the nation's economic foundation from 1860 through the 1980's. Gold and silver deposits have received increased attention over the past 20 years. Finally, within the past decade there has been a shift within the Bolivian mineral industry toward hydrocarbon production and away from mining with the construction of major gas pipelines to Argentina and Brazil.

Unfortunately, the history of natural resource production in Bolivia has been one of serious social and environmental injustice. This presentation will discuss an exception to this generalization – a model now being followed throughout South America.

The Kori Kollo gold-silver mine is located in the central Bolivian Altiplano at an elevation of 3700 meters. For years, Kori Kollo was the largest gold producer in South America. Over the life of the mine from 1984 to 2005, the mine produced about 3.5 million ounces of gold, at one time accounting for 8% of Bolivia's exports. The deposit consists of a sheeted polymetallic vein system developed within the upper portion of a porphyritic dacite dome emplaced into Silurian clastic sedimentary rocks. The operation was a conventional open-pit mine, with gold recovered in a typical CIP mill and by CN heap leaching.

By 2000, economic reserves at the Kori Kollo mine were near exhaustion, and company geologists were challenged to discover additional reserves to extend the life of the mine – the economic mainstay of the local economy. Success was realized with discovery of the Kori Chaca deposit, which began producing gold in 2005. The discovery of this deposit is an interesting story of creative geological initiative.

This talk will discuss the geography of Bolivia, the geologic framework of the Central Andes, the geology of the Kori Kollo and Kori Chaca deposits, and the importance of conducting mineral exploration and production in a socially and environmentally responsible manner.







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Thanks to TonaTec Exploration, LLC. for Sponsoring the Winnemucca Chapter's February Meeting

# In Memoriam



Karl Albert Frost was the third son of Virginia Dale Sternhagen Frost and Harold Joseph Frost born on August 31, 1951. He passed away February 16, 2011. He is preceded in death by his parents Harold and Virginia and his eldest brother Stephen. He is survived by his seven siblings and their spouses; Eric and Pam Frost, San Diego, CA, Paul and Ellen Frost, Ridge Farm, IL, Joseph and Joyce Frost, Kirkland, WA, Carolyn and Maher Alkhoury, Duvall, WA, Kenneth and Rita Frost, Bellevue, WA, David and Debbie Frost, Port Orchard, WA and Amy Frost and Jason Souza, Mount Vernon, WA. He is also survived by 28 nieces and nephews and well as cousins, aunts, uncles, and many friends.

Karl was born in Rapid City, South Dakota. He attended St. Evangeline's in Rapid City, Saint Lambert's School, Whittier Junior High, and O'Gorman High School in Sioux Falls. In 1967 the family relocated to Bellevue, Washington where Karl entered as a Junior and was a member of the first ever graduating class of 1969. After Karl earned a B.S. in Geology

from the University of Washington, he began his Geological Career in Alaska. His first exposure to exploration geology hooked him for life. Mud, flies, bears, moose, cranky helicopters notwithstanding, he was spending every day doing something he loved.

He earned his Master's Degree from the University of Nevada at Reno in 1983. Karl was a long time active member of the Geological Society of Nevada. His 30-year career as an Exploration Geologist had him mapping and studying across Nevada, Arizona, Utah, New Mexico, California, Alaska, Canada and Mexico. He lived in Reno, at first sharing a house with other students and building the strong bonds of friendship with his fellow Geologists that were such a big part of his life. Karl was an avid runner and enjoyed skiing, mountain climbing, kayaking, photography and woodworking. He was a very creative and resourceful person making it through the lean times in Geology with short term jobs as a 2000 census worker, tax preparation work for H&R Block, and rewiring a VA hospital. He built or modified most of the furniture in his house.

Karl was the third of nine children and the third Geologist. He deeply cared about his large, close-knit family and visited often. He enjoyed trips to reunions with siblings, aunts, uncles, cousins, nieces, and nephews. He helped establish a family website that has brought generations of the Frost family together. Karl was our family connector and care taker and will be missed so deeply by us all.



(Continued on page 9)

#### (Continued from page 8)

Memorial service for Karl will begin at 1:00 pm on Saturday, March 5, 2011 at the Holy Innocents Catholic Church, 26526 NE Cherry Valley Road, Duvall, Washington 98019. Burial service at Holyrood Catholic Cemetery, 205 NE 205th Street, Shoreline, Washington 98155.

This will be followed by a get together for family and friends at the home of Joe & Joyce Frost.

In lieu of flowers, the family has requested that donations be made to the Geological Society of Nevada Foundation Scholarship Fund in Karl Frost's name.



GSN Field Trip Guidebooks 1 through 10 (Special Publications 1-10) and 11 through 20 (Special Publications 11-20) are now digitally available, and they will no longer be reproduced in paper form. You can obtain guidebooks 1-10 on a CD for \$15 postpaid, guidebooks 11-20 on a CD for \$15 postpaid, or both for \$25 postpaid by placing an order at the GSN Office.

# GSN Elko Chapter Meeting March 17, 2011

## The Caspiche Gold-Silver-Copper Porphyry Deposit in Atacama Region, Northern Chile

## Todd W. Wakefield

AMEC E&C Services 780 Vista Blvd. Suite 100 Sparks, NV 89434, USA e-mail: <u>todd.wakefield@amec.com</u>



#### ABSTRACT

The Caspiche gold-copper-silver porphyry deposit contains a Measured and Indicated Mineral Resource of 35.9 M gold equivalent ounces, and an additional Inferred Mineral Resource of 9.0 M gold equivalent ounces, based upon exploration drilling through September 2010. The deposit is located in the highly-prospective Maricunga metallogenic belt of Northern Chile that hosts many significant high-sulphidation epithermal gold and gold-copper porphyry deposits. The Caspiche property is owned by Minera Anglo American Chile Limitada (Anglo), and Exeter Resource Corporation holds an option agreement with Anglo covering the 1,262 ha that comprise the Caspiche property.

Anglo first discovered high-sulphidation epithermal gold mineralization in the Caspiche area in the 1980s. Anglo and Newcrest drilled 55 holes totalling about 9,000 m through the late 1990s, and intersected porphyry-style mineralization at the Caspiche Porphyry prospect area. Exeter optioned the property in 2005 and has focused on defining the limits of mineralization at the Caspiche Porphyry deposit.

Oligocene to Miocene volcanic and porphyritic intrusive rocks of andesitic to dacitic composition comprise the bedrock geology. Gold and copper mineralization is hosted by pervasive silica-altered volcanic rocks, and intense stockwork veining in volcanic and intrusive rocks. Over 90% of the property is covered by Quaternary glacial deposits and alluvium, up to a maximum depth of 60 m.

Over 64 km of drilling in 144 drill holes have been completed on the property by Exeter, Anglo, and Newcrest. Over 80% of the drilling in the resource area has been diamond drilling.

Exeter's 2009-2010 exploration program focused on infill drilling to demonstrate the continuity of mineralization and upgrade the classification of the current mineral resource. Limited drilling to define the southern limits of the system is also planned. Metallurgical, environmental, water, and power studies are currently underway in anticipation of a preliminary assessment of the project following the 2009-2010 drilling program.





## Thanks to Mira Geoscience for Sponsoring the Elko Chapter's February Meeting





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