SGA TAKES ON NEW OPPORTUNITIES WITH OTHER SOCIETIES

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The close link between ore geology and mineral economics has rendered economic geology as a sort of self-sustaining field. Societal memberships and meetings include a significant number of persons whose employment and focus is the mineral industry. However, this has not deterred geoscientists from outside fields to make use of ore geology, particularly in the last few years as emerging techniques and new applications draw key information from sulfides and oxides, the very stuff of economic geology.

The Goldschmidt meetings are the gathering point for members of the Geochemical Society, publisher of the premier journal in geochemistry, Geochimica et Cosmochimica Acta. As a regular attendee of Goldschmidt meetings, it is clear that economic geology is a fast growing segment of this meeting. The meetings are annual, and their scientific quality is very high. The last few meetings, each with several thousand attendees, were held in the resort city of Davos (2002, Switzerland), in the historical city of Kurishiki (2003, Japan), in the cosmopolitan city of Copenhagen (2004, Denmark), and in the small town of Moscow, Idaho, (2005, USA). The 2005 meeting netted 1713 abstracts with 1534 participants comfortably moving about in the Kibbe athletic dome on the University of Idaho campus. All talks, posters, meals, ceremonies, concerts, and banquets were held in this gargantuan dome, with the service component of the meeting, as is traditionally the case, nearly flawless. The meetings, indeed, are impeccably organized. In 2006, the meeting will be in Melbourne, Australia. Andy Barnicoat, Chris Heinrich, and I have conferred to assemble an array of topical sessions relating to economic geology, we have approached the SGA to be a session cosponsor. The number of economic geology faces among the geochemistry crowd at each passing meeting is on the rise, and a meeting venue in Australia should almost certainly add to this tally. In sum, the Geochemical Society has done a superb job of developing the Goldschmidt venue into a broad platform for overlapping geologic disciplines.

At the most recent Goldschmidt (May 20-25, 2005), the theme was "Voyage of Discovery", and the meeting marked the 50th anniversary of the Geochemical Society (GS). Two of the three meeting organizers, Scott Wood and Peter Larson, should be familiar to the economic geology community. In addition to a general symposium in mineral deposits, there were five well-attended special symposia in Mineral Deposits/Economic Geology: "Carbon and gold", "Geochemistry of gem deposits", "Hydrothermal fluids, magmatic volatiles, and surficial metal mobility in platinum-group element (PGE) deposits", "Ore deposits in their temporal and orogenic framework: new concepts and perspectives", and "Vapor as a medium for the transport of metals: implications for ore deposit modeling".

The SGA sponsored session, "Ore deposits in their temporal and orogenic framework: new concepts and perspectives", was conceived for the Goldschmidt meeting by co-convenors Holly Stein and Judith Hannah. Abstracts for the nineteen talks in this session are published in an issue of Geochimica et Cosmochimica Acta (2005, v. 69, no. 10S). The invited speaker was Weidong Sun who presented a talked titled "Why golden fingers point to the arc?" addressing the relationship between high oxygen fugacity and porphyry Cu-Au mineralization. The keynote speaker for this session was Bernard Bingen from the Geological Survey of Norway in Trondheim. Although Bernard Bingen is a newcomer to economic geology, he is widely known in the geochronology community for his innovative work in U-Pb dating, particularly with respect to understanding monazite behavior and use of this mineral to date orogenic events. His talk, "Molybdenite deposits: time markers for orogenic processes, example from SW Scandinavia" was a perfect fit for the SGA session topic, emphasizing the value of coupled host rock and ore chronology far beyond deposit and district scale studies.

At the Goldschmidt meeting, the SGA booth enjoyed a strategic location in the poster hall, amongst the fabulous appetizer buffet tables that were the socializing center every afternoon. Because a shipping problem left us without our application blanks and journal copies (though we commandeered a couple of copies of MD from the Springer booth), our table was not as overflowing as we would have liked. The pens, pins, and scale cards were enormously

Figure 1: Judy Hannah signs up new SGA member Weidong Sun (invited speaker, SGA sponsored session), presenting him with a flyer for the SGA meeting in Beijing.

popular, nonetheless, and the stellar new SGA banner that formed the backdrop for the booth gave us a nice working space to visit with new members such as Weidong Sun (Figure 2). Special thanks are due to Gregor Borg, SGA promotion manager, for his responsiveness and help in organizing the new booth. We welcome new members Alan Cocherie, Suzanne Golding, Jason Kruszewski, Andrew Wilde, and Yongliang Xiong!

The IAVCEI (the International Association of Volcanology and Chemistry of the Earth's Interior) has also taken an interest in ore geology. Their annual meetings are commonly at exotic places where volcanism is an active part of the landscape. In 2004, the IAVCEI meeting titled "Volcanism and its Impact on Society" was held in Pucón, Chile, where the degassing Villarrica volcano (Figure 2) served as an utterly fantastic backdrop for the meeting site. The meeting was held in a resort hotel with large tiled verandas and grassy lakeshores, the site of social activities. More than 1200 abstracts were submitted (1150 accepted) and 936 scientists attended. The field trips, focusing on all aspects of volcanism including societal concerns, took participants to different segments of the Chilean volcanic arc. Day trips to a ski resort just below the Villarrica summit were popular. Blinding white snow contrasted sharply with the dark volcanic flows peering out along ridge points and with the heated steam curling from the volcanic edifice (Figure 2). Needless to say, the ingredients for a porphyry-style deposit potentially lay some distance below in the roots of this spectacular volcano. The IAVCEI holds several meetings each year, with Iceland getting the nod to host a major meeting in 2006.

Figure 2: The active and visibly degassing Villarrica volcano provided the backdrop for the IAVCEI meeting in Pucón, Chile. This spectacular volcano was the object of numerous excursions during the meeting.

Figure 3: The SGA recruiting trio at the IAVCEI meeting, Pucón, Chile (from left, José Cabello, Holly Stein, Pär Weihed).

At this most recent IAVCEI in Pucón (November 14-19, 2004), the first of twelve sub-divided symposia making for a total of 33 thematic sessions was titled "Origin of iron oxide-Cu-Au deposits: the magmatic-hydrothermal controversy", followed by "Epithermal and geothermal systems: active ore formation", and "Porphyry deposits: relationships to volcanism". Other sessions integrating ore geology with volcanism included "Shape, structure and emplacement mechanisms of arc plutons and their relationships to hydrothermal mineralization" and "Time scales of magmatic processes". No stranger to ore geology, Jeff Hedenquist formed part of the scientific committee for the meeting.

At the IAVCEI meeting, the SGA was granted space for a booth that was coordinated with the able assistance (and negotiation skills) of José Cabello, regional VP of South America. The SGA booth was installed for only a couple of hours on the morning of the poster sessions relating to ore geology. In that short time, SGA membership recruiters José Cabello, Pär Weihed, and Holly Stein (Figure 3) lassoed six new members, including the willing Olof Martinsson. Not bad for a couple hours work among a sea of volcanologists. Welcome to Olof and other new members Ramon Aguirre, Jaime Arias, Raymond Jannus, Stephen Matthews, and Tapani Rämö!

Herein lays an urgent opportunity for the SGA. Join together with our sister societies in co-sponsoring meetings. Get involved. Find out what others are doing, and why the component of economic geology is on the rise at other meetings. Opportunities lie ahead to partner with these societies. And, as we learn from others, we can find ways to increase our own breadth and, importantly, ways to better serve the interests and needs of other geoscientists. This is the essential ingredient for SGA membership growth. The opportunities are ours to take!

UNESCO-SEG Latin American Metallogeny Course (August, 22 – September, 2, 2005; Lima, Peru) - For the second time completely devoted to mine waste management

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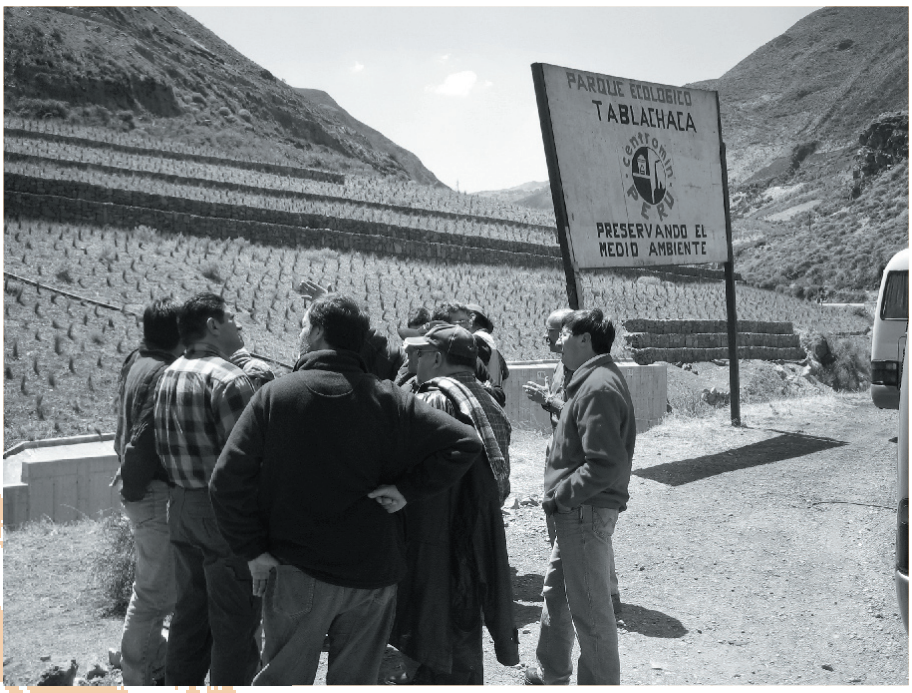
The XXIV edition of the Latin American Metallogeny Course "Geochemistry and Geomicrobiology of mine waste management" was held at the Pontificia Universidad Católica del Perú (PUCP), Facultad de Ciencias e Ingeniería, Departamento de Ingeniería, Sección Ingeniería de Minas, from August 22 to September 2, 2005, in Lima, Peru. The course, traditionally sponsored by the Society of Economic Geologists and UNESCO, had this year the additional generous support of the KFPE agency of the Swiss Agency for Development and Cooperation (SDC) and the Society for Geology Applied to Ore Deposits (SGA), as well as logistic support from the Peruvian Geological Survey (INGEMMET) and the Peruvian Ministry of Energy and Mining. The 6 days field trip was partly sponsored by Southern Peru Copper Corporation (SPCC), Volcan S.A.A., and Centromin, Peru. Altogether, the financial support has allowed to fund 22 travel grants included among the 43 Latin American and 2 Spanish geologists, mining engineers, chemists, metallurgists, biotechnologists, and ecologists coming from universities (15), research institutes and Geologic Surveys (7), mining companies (10), consultants (5) and postgraduates students (8) from Argentina, Bolivia, Chile, Colombia, Cuba, Dominican Republic, El Salvador, Mexico, Nicaragua, Peru, Spain, Uruguay, and Venezuela who have attended the course.

The 2005 edition, was for the second time (after the 2002 edition) completely devoted to the geochemical and geomicrobiological aspects of mine waste management. During the six days of lectures, a broad overview about the environmental problems of mining activities with special focus on the formation, control and prevention of acid mine drainage was given. The aspects covered in the course included a general introduction to the metallogeny of Peru (Dr. Miguel Cardozo, Exploandes), "Risk, rewards and returns of copper exploration in the 20th Century and beyond" (SEG Regional Vice President Lecturer Dr. Richard Leveille, Phelps Dodge), Peruvian Legislation in relation to the environmental impact of mining (Ing. Julio Bonelli, General Director of Environmental Affairs, Ministry of Energy and Mining), a general introduction to the aquatic geochemistry, geochemistry of mine waste management, and remediation,

Group photo in the Toquepala mine, Southern Peru Copper Corporation, Peru.

Participants studying the water flow path along the cross-bedding of the Excelsior waste-rock dump, Cerro de Pasco, Peru.



Participants discussing the remediation approach of at the Tablachaca tailings deposit, Central Peru.

prevention, and treatment strategies of mine waters, including sampling and analytical approaches (Dr. Bernhard Dold, University of Lausanne, Switzerland), geomicrobiology and bioremediation (Prof. Dr. Ricardo Amils, Universidad Autónoma de Madrid y Centro de Astrobiología, Spain), as well as an introduction into geochemical modeling with practical experiences in the Computer Laboratory (Prof. Dr. Carlos Ayora, Instituto de Ciencias de la Tierra, Jaume Almera, CSIC, Barcelona, Spain).

In the 6 days long field trip, practical aspects of environmental contamination by mine waste, remediation projects in central Peru from CENTROMIN, Peru, the polymetallic Zn-Pb-(Ag-Bi-Cu) Cerro de Pasco deposit (Volcan S.A.A.), and the Toquepala porphyry copper deposit and the remediation approach at the Bahía de Ite tailings deposit (Southern Peru Copper Corporation) were visited to show the complete mining process from the mineral extraction in the open pit, through crushing, milling, flotation, to the tailings disposal, and mine waste remediation in these world class deposits. The difference in the behavior of mine waste in high sulfide and low sulfide system, the influence of the climate, theoretical aspects dealt with in the course could as well as sampling techniques were illustrated in the field.

Among the 22 grant holders the two best presentations were honored with a one year Mineralium Deposita subscription (courtesy SGA). The best presentation this year was given by Katya Reátegui Palomino from the Universidad Central de Venezuela in Caracas. On the second place two young scientists from the Universidad Nacional de Colombia in Medellín share their subscription: Clara Lamus Molina and Alexandra Muñoz Blandon. We congratulate them for their excellent presentations.

Course coordinators, Silvia Rosas (PUCP, Lima, Peru) and Bernhard Dold, wish to thank the course sponsors UNESCO, SEG, SGA, and KFPE; the managements of all supporting mining companies and institutions, namely Ing. Oscar González Rocha, President and Dr. Ezio Buselli Director of Environmental Services and their staff from the Southern Peru Copper Corporation, Ing. Jack Timmers, General Manager and Ing. Arturo Salvador, General Superintendent of the Cerro de Pasco Unit of Volcan S.A.A., Ing. Juana Rosa del Castillo, General Manager and Ing. Abdel Arroyo Coordinator of Environmental Affairs of Centromin Perú S.A., Ing. Víctor Lay, President of the Council of INGEMMET, and all instructors, which made with their support and enthusiasm the course and the field trip a great success. Further information on this and past editions of the course can be obtained from the web page http://www.unige.ch/sciences/terre/mineral/seminars/latinometal.html

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