

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 for-

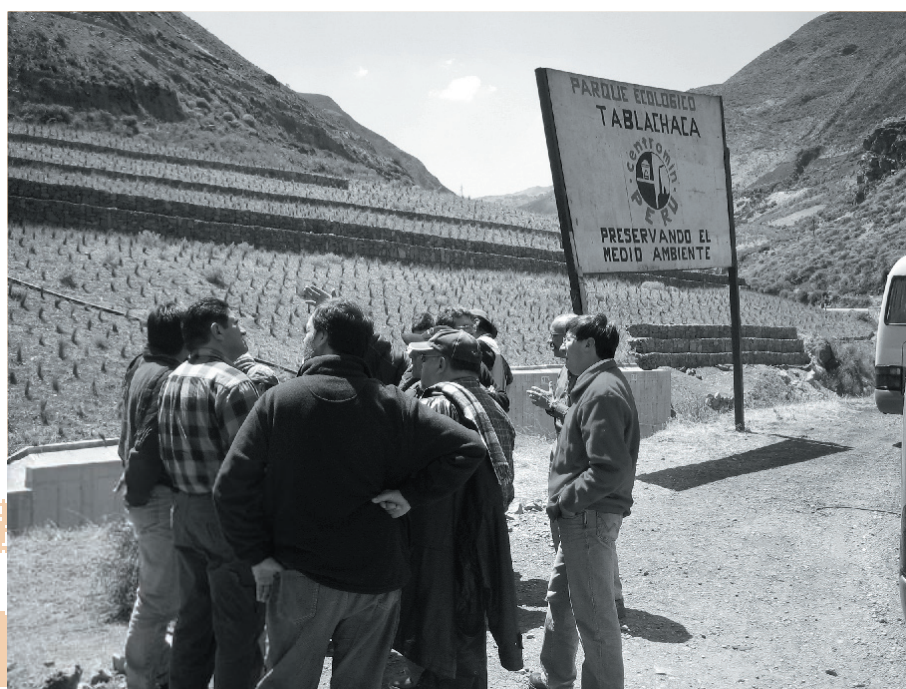
mation, control and prevention of acid mine drainage was given. The aspects covered in the course included a general introduction to the metallogeny of Peru (Dr. Miguel Cardozo, Exploandes), “Risk, rewards and returns of copper exploration in the 20th Century and beyond” (SEG Regional Vice President 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/latino-metal.html>

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