

Mine Water Notes

A Word from the Secretary General

Dear colleagues and friends,

Thirteen to fifteen years – that is the number you may have read or heard talked about during recent weeks. Thirteen to fifteen years of a more or less stable climate if nothing is done about the CO₂-emissions of mankind. I don't want to discuss the results of the United Nation's world climate report "Climate Change 2007" here, but the good thing is that the human impact to the climate change, according to the report, can be minimized and the seeming irreversibility of the climate change can be stopped.

We, as consultants, scientists, or decision-makers working for the mining industry have the responsibility to invent methods to reduce the CO₂-output to the atmosphere. I am sure that mining or remediation techniques that consume less energy – and thus produce less CO₂ – can, and will, be made available in the near future. "Newmont - The Gold Company" recently published the following statement on their web page and incorporated similar words in their "Corporate Sustainability Report": "Carbon dioxide emissions from burning fossil fuels contribute to climate change. Our mining operations require relatively large amounts of energy, particularly in transporting and processing ore. We recognize that reducing our energy use is good for the environment and our business. Energy accounts for about a quarter of the cost of producing an ounce of gold." I am certain that other mining companies and consultants will follow in the near future.

Furthermore, the mine fields themselves offer opportunities to reduce fossil fuel use. Several research groups are looking at using mine water as an energy resource, using heat pump technology to extract heating and cooling value from the constant temperature water. According to one analysis, published a year ago in this journal [25 (1): 1–14], this approach could reduce annual costs for heating and cooling by 67 and 50%, respectively. One would think that the burning coal fields in China and India could (and should) also prove to be a geothermal resource, if investigators approach those problem sites with the right frame of mind. Therefore, our next Symposia and Congress will have sessions devoted to "Geothermal Energy Use in Mines" and "Mining and Climate Change". I invite you to present your research results or your technical experience at our IMWA meetings and of course in our journal, "Mine Water and the Environment".

Other climate change-related research opportunities tied to mining exist as well, though they may not be linked to mine water. For example, methane is a green-

house gas that is 26-30 times more powerful than CO₂, yet mines around the world simply allow it to flow into the atmosphere. At many sites that gas is now captured, but can we do more? And of course, geological sequestration of CO₂ is a growing research area that is very closely tied to mining interests. In fact, one of the major options is to sequester the gas in deep "unmineable" coal seams. The fact is that doing so would drive off methane, which would ideally be captured, and water, which would move away from the injection site, but be made acidic by the carbon dioxide. It may not be mine water, but it is similar enough to it that some of our skills and expertise may prove to be very useful. Finally, of course, are issues related to more efficient combustion of coal and the capture of the CO₂ from power plants; these topics, though far afield from mine water, will dictate the nature of coal-powered power plants in the future, and so, indirectly, will affect the way we mine. It is clear that over the next two decades, society will have to develop and learn new ways of producing, using, and conserving energy. Some of the opportunities to change will be in your working environment; if so, seize the opportunity!

Concerning our journal, you will notice several substantial changes, starting in issue 3/2007. Our negotiations with Springer resulted in a new, improved publishing policy. Please read the "Dear Readers" page at the beginning of this issue.

Glückauf

Chris Wolkersdorfer, Bob Kleinmann

IMWA Symposium 2007

The IMWA Symposium 2007 will be held in Cagliari, Sardinia (Italy) – Hotel Mediterraneo. Mining activities in Sardinia date back to the Roman times and left an important imprint in the cultural history of the region and an impressive industrial archaeology heritage.

The Symposium will be devoted to mine water issues that involve both the quality and management of water either in active or abandoned mining areas. Mining involves the removal, processing and disposal of vast volumes of rock and wastes, and frequently the use of large quantities of water. In terms of effluents and wastes, mining is mostly a local issue but may become of global concern when the transport of contaminants crosses international boundaries. Although mining and metal beneficiation industries have developed into sophisticated operations, the causes and nature of an impact on aquatic systems often need further investigation.

In this context, it appears important to sustain the research activities involving chemistry-, mineralogy- and biology-based impact assessments; the results of such studies will be a relevant contribution to an eco-sustainable development of the mining industry in the future.

The Symposium will focus on the following mine water related subjects:

- Impact on the aqueous environment
- Reclamation/remediation at abandoned mine sites
- Mine water and geothermal uses
- Coal mining
- Mine water management and dewatering
- Water engineering: groundwater and hydrogeology
- Geochemical and mineralogical processes in mining environments
- Biogeochemical processes in mining environments
- Mining and climate change
- Case studies

The scientific and technical communities related to mining environments are invited to attend the IMWA Symposium 2007; the organisers are making every effort to prepare a friendly and unique forum to promote the exchange of current information, the sharing of diverse experiences, the interaction of experts and those new to the field, and the multi-disciplinary nature of mine water issues.

Web page: <http://www.unica.it/geochim/imwa07/>

Prof. Rosa Cidu, Cagliari, Italy

New Members

We welcome our following new members:

Dawn Garcia, Tucson, USA
 Dan Mackie, Vancouver, Canada
 Mary McDougall, Vancouver, Canada
 Andrew Pearson, Solihull, United Kingdom
 Stephen Schultz, Vancouver, Canada
 Jacek Scibek, Vancouver, Canada
 Mike Sieber, Tucson, USA
 Eric Swanson, Fort Collins, USA
 Jeff Taylor, Kew, Melbourne, Australia
 Rodrigo Zamora, Tucson, USA
 Kendra Zamzow, Reno, USA

We hope that our new colleagues will benefit from and contribute to the extensive mine water knowledge and expertise gathered within our group of international

experts. Please use your membership number in any correspondence, especially money transfers with IMWA. You can find it easily on your journal's address label, in front of the word "GES".

Adrian Brown, Treasurer, Denver, Colorado, USA
 Chris Wolkersdorfer, Secretary General, Munich, Germany

Back Issues

An overview of European mine water was provided over three issues in 2005. We received many requests for those three issues and therefore decided to put together those country studies in one electronic article. You can download it from IMWA's home page or use the following Digital Object Identifier: <http://dx.doi.org/10.1007/s10230-005-0081-3>.

Members who recently joined IMWA can find a complete index (issues 1–25) of the *International Mine Water Association Journal* and *Mine Water and the Environment* at our web-page www.IMWA.info. Volumes 17(1), 18(1), 19(2), 20(1) and 21(1) as well as proceedings of the 7th and 8th IMWA Congresses are still available for \$ 15.00 (U.S.) a copy. Some other back-issues are available on request – copies of single pages at \$ 0.60 (U.S.) each. Please add \$ 5.00 (U.S.) for shipping/handling. You can also access the journal on line, using <http://springerlink.com>

Past IMWA issues, published before the year 2000, can be accessed with your private login and password that you received with your last membership status or by e-mail.

Chris Wolkersdorfer, Munich, Germany

Forthcoming Events

March 21th – 24st 2007, Munich, Germany

Mine Water Hydrogeology Seminar; LMU
 Munich, Department of Earth and Environmental
 Sciences, wolkersdorfer@lmu.de

May 15th – 17st 2007, Juneau, Alaska

Northern Latitudes Mining Reclamation Workshop
John_Clark@ak.blm.gov

May 27th – 31st 2007, Cagliari/Sardinia, Italy

IMWA Symposium 2007

www.IMWA.info; imwa2007@IMWA.info

June 2nd – 6th 2007, Gillette, Wyoming, USA

24th Annual Meeting of the American Society of Mining and Reclamation;
<http://ces.ca.uky.edu/asmr/>

June 12th – 13th 2007, Perth, Australia

Mine Water Management Seminar
www.acg.uwa.edu.au

June 14th – 15th 2007, Perth, Australia

Planning for Mine Closure
www.acg.uwa.edu.au

December 11th – 13th 2007, Bangkok, Thailand

SWEMP 2007 – 9th International Symposium on Environmental Issues and Waste Management in nergy and Mineral Production

Deadline for receipt of abstracts (maximum 1 page) is 15 April 2007.

<http://www.mpes-cami-swemp.com/intro.html>

May 6th – 8th 2008, Nancy, France

Post Mining 2008
PostMining2008@IMWA.info

June 1st – 5th 2008, Carlsbad, Czech Republic

10th IMWA Congress
www.IMWA.info; imwa2008@IMWA.info

2011, Aachen, Germany

11th IMWA Congress
www.IMWA.info; imwa2011@IMWA.info

International Mine Water Symposium 2007

Cagliari, Sardinia

Italy

May 27th – 31st 2007



Organized by IMWA – International Mine Water Association in Association with University of Cagliari

Congress Theme

impact on the aqueous environment
Reclamation/remediation at abandoned mine sites
Mine water and geothermal uses
Coal mining
Mine water management and dewatering
Water engineering: groundwater and hydrogeology
Geochemical and mineralogical processes in mining environments
Biogeochemical processes in mining environments
Mining and climate change
Case studies

Conference fees

IMWA members 350 Euro (Early registration)
Non IMWA members 400 Euro (Early registration)
IMWA members 400 Euro (Late registration)
Non IMWA members 450 Euro (Late registration)
Students 100 Euro
Accompanying Persons 100 Euro

Conference fees include: the conference proceedings, coffee breaks and lunches during the conference, and welcome reception for all participants.

Two-days field trip at historical mine sites of Sardinia: 100 Euro

Information and Correspondence

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Important Dates

10th Feb 2007: submission of abstracts
10th Feb 2007: early bird registration
15th April 2007: submission of full Papers