SUMMARY OF THE 2005 BC/MEND ML/ARD WORKSHOP

The objective of the 12th Annual BC/MEND Metal Leaching and Acid Rock Drainage (ML/ARD) Workshop was to show how practitioners are addressing some of the major challenges faced in mine drainage prediction. The 17 papers on drainage chemistry prediction were divided up into sessions on analytical methods, data interpretation and case studies. The workshop finished with presentations on new developments by Canadian and international organizations with an interest in metal leaching and acid rock drainage.

Key outcomes of the workshop were:

- There are many potentially contributing properties and processes that must be considered and this can increase the potential that something significant may be missed,
- Good mineralogical information is important for the interpretation of static and kinetic test results,
- Acronyms must be defined and there should be more consistency in the terms that are used,
- The design of a prediction program and the interpretation of test results requires a good understanding of the mine site, its environment, and the practical and theoretical (scientific) aspects of weathering and leaching,
- Short cuts may be possible, but one must check whether the underlying assumptions or limitations apply to a specific situation, and
- Safety factors may be required to account for limitations in the precision and accuracy of sampling, analysis and data interpretation as well as for material handling inaccuracies (e.g. segregation).

Several BC MEMPR and MEND resource documents may assist practitioners in drainage chemistry assessment. These include:

- *MEND 5.10 List of Potential Information Requirements in Metal Leaching/Acid Rock Drainage Assessment and Mitigation Work* - a checklist to ensure all assessment *issues are addressed; available on the MEND web site in both official languages,*
- *Draft Guidelines and Recommended Methods for the Prediction of Metal Leaching and Acid Rock Drainage at Minesites in British Columbia* - a collection of analytical procedures that is currently being updated by MEND; pdf version available on request,
- *Glossary of ML/ARD Terminology - developed to define concepts and encourage consistent terminology, and*
- *Various case studies produced by MEND.*

Much has evolved and transpired in our collective thinking and approach to ML/ARD prediction since the first BC MEND workshop entirely devoted to the prediction of

drainage chemistry in 1996. For example, the 1997 "*Draft Guidelines and Recommended Methods for the Prediction of Metal Leaching and Acid Rock Drainage at Minesites in British Columbia*" were controversial when first released, but have gained general acceptance by practitioners and have even been formally and informally adopted by various jurisdictions and companies.

Almost a decade later, ML/ARD remains a topic of significant interest. A burgeoning mining industry has resulted in a resurgence of mine development projects and many new practitioners entering the mining environmental fields, including ML/ARD. This was evidenced by the over 170 delegates at this years workshop.

Significant challenges continue to arise in the field of ML/ARD prediction and assessment. It is hoped that by presenting different approaches to prediction test work and the interpretation of results, that our collective understanding of prediction will be increased and that this will help to avoid errors and omissions in future assessment work. Best practices for ML/ARD depend on the environment and site-specific objectives. Readers should be aware that not all of the practices and procedures outlined during the workshop would necessarily be acceptable in British Columbia.

For more information on MEND, MEND publications and ongoing prediction projects, please visit the MEND website at http://mend.nrcan.gc.ca. As always, comments and suggestions regarding this and future workshops are welcomed!

Bill Price, Natural Resources Canada
(bprice@nrcan.ca)

Kim Bellefontaine, BC Ministry of Energy, Mines and Petroleum Resources
(Kim.Bellefontaine@gov.bc.ca)

ACKNOWLEDGMENTS

A number of organizations and individuals are thanked for their assistance with the workshop. The workshop was co-hosted by the British Columbia Ministry of Energy, Mines and Petroleum Resources (BCMEMPR), Natural Resources Canada (NRCan) and the Mine Environment Neutral Drainage (MEND) Program, in association with the British Columbia Technical and Research Committee on Reclamation (TRCR) and the International Network for Acid Prevention (INAP).

Thanks to Gilles Tremblay and Charlene Hogan of the MEND program who were responsible for most of the advertising and pre-workshop registration. Gilles Tremblay, Ross Gallinger (INAP and Placer Dome Canada), Bill Price (NRCan) and Kim Bellefontaine (BCMEMPR), are acknowledged for chairing portions of the workshop. Carol Howell of BCMEMPR expertly handled logistical issues associated with the workshop and managed the on-site registration. Jozsef Miskolczi, Judy Andrina and Jill

Baldwin from UBC provided great assistance with registration and were responsible for all the successes in the audiovisual department.

Most importantly, thanks to the speakers, who volunteered their time and to the audience who contributed much to the enlightening discussion that followed each presentation.