

# MEND Report 5.8e

## Summary and Recommendations

Representatives from the mining industry and provincial and federal mining ministries held a two-day workshop on mine reclamation in Toronto on March 10-11, 1994

Many policy issues were discussed by the participants, and perspectives from the industry, the provinces, territories and from the federal government were presented. There remains a great deal of work to do and information to be obtained to arrive at a clear consensus on the many issues concerned with mine reclamation.

Among the many issues discussed, two central issues were raised at the workshop; the extent of the liability for mine reclamation and how the cost of this reclamation might be met.

CANMET and MEND (Mine Environment Neutral Drainage program) have assembled a databank from information on the liability associated with acid mine drainage (AMD), the most important mine environmental issue. It was estimated that the AMD liability ranges from \$2 to \$5 billion, depending on sophistication of treatment and control technology being put in place. The most economical strategy to meet environmental objectives may be to collect water and treat it for a very long time, but such a practice raises concerns about treatment product disposal and sustainability of the process. New technologies that will reduce or eliminate AMD are being developed by industry and governments under the MEND program.

A total of about 7 billion tonnes (41,000 hectares) of metal-mine and industrial mineral tailings are estimated to exist in Canada. In addition, about 6 billion tonnes of waste rock are estimated to exist on surface. Insufficient information is available to make an estimate of the cost of rehabilitation of non-acid generating mine waste sites, but the cost of reclaiming these sites to meet current standards is expected to be over \$1 billion. Less than 10% of the total \$3 to \$6 billion liability is attributable to sites that have reverted to the crown.

A review of the financial performance of the mining industry over the past 21 years shows that on balance the industry has had a net after tax and after dividend surplus of \$11.3 billion (in constant \$1993). However, considerable writedowns (\$18.2 billion) occurred and the retained earnings position deteriorated from \$9.6 billion to \$2.7 billion. The after-tax real rate of return on investment was only 3.6%.

Two examples of extensive mine reclamation were presented at the workshop -- Equity Silver in British Columbia and Denison Mines in Ontario. Both cases are examples of the application of the best and least-costly technologies to achieve minimum long-term environmental impact. Tax treatment of reclamation financial assurance and increasingly-stringent standards were issues raised by the two companies.

A more comprehensive national database is needed to get a more precise measure of the nature, extent and needs of mine reclamation across Canada. Expertise and practical skills in mine rehabilitation are being developed in across Canada, and this should be made more available by the documenting and reporting of many more examples. Canada is a world leader in many aspects of mine reclamation.