







The Mining Association of Canada again showcases some of the photography of **Pierre Gratton**, a former MAC employee, who is now the President of the Mining Association of British Columbia.

We dedicate the 2007 edition of the TSM report to Pierre, with the hope that he continues to provide us with his photos for future editions.

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# PRESIDENT'S MESSAGE

t the root of the Towards Sustainable Mining initiative is MAC's commitment to a continuous drive towards better performance. While we are pleased with the design and effectiveness of TSM to date, we understand that the initiative can always be improved.

To add to the performance elements already in place—tailings management, energy use and greenhouse gas emissions management, external outreach and crisis management planning—we are continuing to define and develop new frameworks in the areas of Aboriginal relations, mine closure and biodiversity.

After a year of consultation, the Aboriginal relations framework will be tabled at the next meeting of the Community of Interest (COI)
Advisory Panel in September 2008. It will then be returned to the MAC Board of Directors for final approval in November 2008, along with the mine closure framework. We are making progress with the draft protocol for biodiversity conservation management, which will also come to the Board for approval in November 2008. The first round of self-assessments for this protocol will begin in 2009, for internal testing and reporting only, leading to public reporting in 2010.

The TSM verification system was implemented as planned in 2007. This concludes four years of work by TSM initiative leaders, MAC committees, the TSM Governance Team and the COI Advisory Panel to design a comprehensive and credible performance measurement system. Of the 19 reporting companies, 8 had their results externally verified. From here on, one-third of MAC members will undergo third-party verification of their performance every year on a rotating basis.

This report takes a detailed look at our members' progress and performance in the past year. It also describes how we have benefited from the invaluable advice of our COI Advisory Panel concerning the design and implementation of TSM.

As always, you will find thorough reporting of the industry's releases to the environment, including information on our efforts to reduce greenhouse gases. Detailed release data are provided in the CD-ROM at the back of this report and on MAC's website (www.mining.ca). Also provided are



"We are continuing to define and develop new frameworks in the areas of Aboriginal relations, mine closure and biodiversity."

**GORDON R. PEELING**, PRESIDENT AND CEO, THE MINING ASSOCIATION OF CANADA

updates on the industry's key research initiatives, MITHE-SN and MEND, both of which are improving our understanding of how to address the industry's environmental and health impacts.

This year we present three feature articles that illustrate the mining industry's commitment to TSM and sustainable development. One looks at Cameco Corporation's efforts to improve the quality of life in northern communities. Another describes the challenges and benefits that Xstrata's Canadian operations have encountered in developing a comprehensive operating standard for biodiversity and land management. And a third looks at Barrick Gold Corporation, whose ongoing commitment to sustainability and making a difference in the communities where it operates has led to recognition by the Dow Jones Sustainability Index.

I hope you find this year's report interesting and informative. As always, your comments are important to us. I encourage you to complete the feedback card at the end of this report and to contact us directly if you have any questions.

# LETTER FROM THE CHAIR OF THE TSM GOVERNANCE TEAM

he year 2007 marked the full implementation of TSM as a performance measurement and reporting system. After years of hard work by TSM initiative leaders, by MAC committees such as the Tailings Working Group and the Energy Committee, and by the Community of Interest (COI) Advisory Panel, TSM now includes the following elements:

- Facility-based reporting by member companies on performance indicators for tailings management, energy and greenhouse gas management, crisis management and external outreach
- Third-party assurance of facility performance
- Annual COI post-verification review of two or three member companies' performance
- New policy frameworks that address biodiversity, Aboriginal relations and mine closure
- Evolution of the COI Advisory Panel's focus beyond the development of TSM, to include some of the critical issues facing the Canadian mining industry

A new study by Five Winds/Strandberg Consulting evaluated TSM against best practices in other Canadian industry associations. The study (available at www.mining.ca) confirmed TSM as best-in-class and stated:

"MAC's comprehensive sustainability approach, including its strong commitment to sustainability, a highly engaged board of directors, indicator protocols, third party verification, stakeholder engagement and transparent reporting, is the strongest sustainability approach compared to the 2007 benchmark study of 7 Canadian industry associations."

I am proud of what we have achieved. However, we have more to do. TSM initiative leaders are developing new performance indicators for mining and biodiversity, which we want to roll out on a trial basis next year. We need to stay proactive, attuned to the emerging issues that face our industry and concern Canadian society, issues such as climate change and water use. And we need to do more to raise the profile of TSM, to involve other

parts of the mining industry and to show our communities of interest and government how committed we are to improving the way we operate.

In June 2008 the TSM Governance Team held a special strategy session to consider broadening TSM communications in a way that deepens the brand and benefits our reputation. We examined emerging performance issues, and considered whether and how TSM might expand to other countries where MAC members operate. Some companies, such as Inmet Mining Corporation, IAMGOLD and Breakwater Resources, have already decided to apply TSM to their international properties.

We have made great strides with TSM to this point. But TSM is a journey—one that, despite its accomplishments, is far from over.



"We need to stay proactive, attuned to the emerging issues that face our industry and concern Canadian society... such as climate change.'

DOUG HORSWILL, CHAIR, TSM GOVERNANCE TEAM SENIOR VICE PRESIDENT, TECK COMINCO LIMITED

# A REPORT ON TSM PROGRESS 2007

his article reports on members' results for the TSM performance indicators over the past year. It also reports on the ongoing development of TSM, progress on Aboriginal relations and biodiversity frameworks, the work of the TSM Community of Interest (COI) Advisory Panel and TSM communications.

#### **FULL IMPLEMENTATION OF TSM**

The TSM verification system was implemented as planned in 2007, concluding four years of work by TSM initiative leaders, MAC committees, the TSM Governance Team and the COI Advisory Panel to design a comprehensive and credible performance measurement system. Last year, ten member companies underwent third-party verification of their 2006 performance results. This year, six new reporters have had their 2007 results externally verified. From here on, one-third of MAC members will undergo third-party verification every year on a rotating basis.

#### **POST-VERIFICATION REVIEW**

In 2007, for the first time, the COI Advisory Panel conducted post-verification reviews.\* The two companies involved, HudBay Minerals and Albian Sands Energy, were each allotted two hours for the review. Beforehand, the panel provided the companies with questions, to which the companies prepared comprehensive responses in order to focus their dialogue with the panel. A full report on the post-verification review is available in the TSM section of MAC's website (www.mining.ca/www/Towards\_Sustaining\_Mining/index.php).

#### **TSM Performance Results**

The graphs that follow show data from the performance assessments of 19 member companies' operating facilities for 2007. In the case of crisis management planning, companies report at both the corporate and the facility level.

Only member companies with operating facilities in Canada are required to report. New members have three years to comply with the TSM requirements and report their performance.

Of the 19 companies reporting performance results for 2007, 6 underwent external verification for the first time. As well, Syncrude and Teck Cominco, which both had their 2006 results externally verified, volunteered to repeat the process with their 2007 results. The results of all external verifications are available on the TSM website and on the enclosed CD-ROM.

The results below show overall performance across MAC membership on an aggregate basis. Because there are new reporters since last year, the totals have changed. Only the 2007 results are reported here; a comparison of reporting facilities from 2005 to 2007 is provided on the CD-ROM. Like last year, the results show that TSM is working as designed and that facilities have improved across the majority of performance indicators.

# COMPANIES REPORTING TSM PERFORMANCE RESULTS 2007

Albian Sands Energy Inc. ArcelorMittal Mines Canada\* Barrick Gold Corporation\* (partial) BHP Billiton Diamonds Inc. Breakwater Resources Ltd. Diavik Diamond Mines Inc. Elk Valley Coal Corporation\* HudBay Minerals Inc. IAMGOLD Corporation Inmet Mining Corporation Iron Ore Company of Canada North American Palladium Ltd. Suncor Energy Inc. Syncrude Canada Ltd.\* Teck Cominco Limited\* (partial) Vale Inco Xstrata Copper Canada\* Xstrata Nickel\* Xstrata Zinc Canada\*

\*Indicates externally verified results. Barrick Gold and Teck Cominco had a sample of their facilities verified.

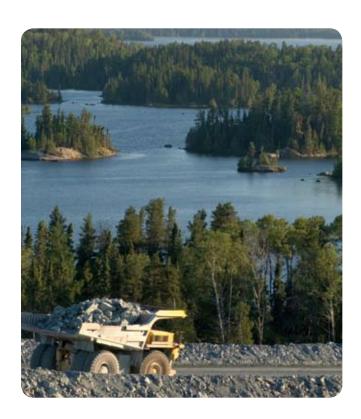
<sup>\*</sup>The post-verification review is one of three components of the TSM verification system that combine to give MAC members and their communities of interest confidence in the integrity of reported company performance. The two other components are the verification of company self-assessments by an external verifier and the publication of a letter of assurance from the CEO or authorized officer confirming the verified results, which is posted on MAC's website.

#### 1. TAILINGS MANAGEMENT

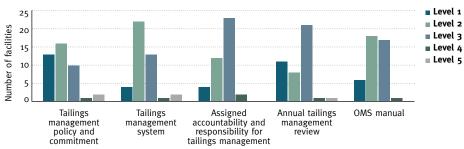
The results for tailings management continue to improve, with the most notable increase being in the number of facilities that have assigned accountability for tailings management to an executive officer. This result is important, since it demonstrates that accountability for what is typically a mining facility's most significant environmental and safety risk rests with the highest management levels.

Under the indicator for tailings management policy and commitment (Indicator 1), there was a decrease from last year in the number of facilities reporting Level 3 or higher. This may be due in part to further clarification of the elements of a tailings management policy and commitment required to meet the Level 3 criteria.

Five companies achieved Level 3 or better across all of the tailings management indicators: Diavik Diamond Mines, HudBay Minerals, IAMGOLD (Rosebel), Inmet (for five closed facilities) and Syncrude.



#### TAILINGS MANAGEMENT ASSESSMENTS



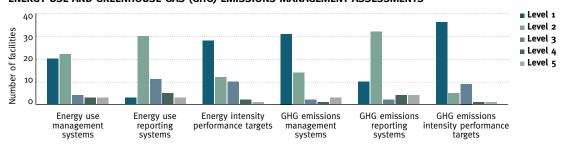
#### 2. ENERGY USE AND GREENHOUSE GAS (GHG) EMISSIONS MANAGEMENT

Performance on energy use and GHG emissions management remains the weakest overall area on an aggregate basis. While there has been some improvement in the number of facilities with energy use reporting systems and targets in place, the majority of reporting facilities are at Level 1 or 2. It is encouraging to see more facilities setting energy and GHG intensity performance targets, which signals more management attention to improving this area.

Notably, four companies obtained Level 3 or better for all six indicators in this area: BHP Billiton Diamonds, Diavik Diamond Mines, HudBay Minerals and Syncrude.

MAC is preparing a guidance document and training workshops on energy use and GHG emissions management for delivery in late 2008 to support continued improvement in this performance area.

### **ENERGY USE AND GREENHOUSE GAS (GHG) EMISSIONS MANAGEMENT ASSESSMENTS**



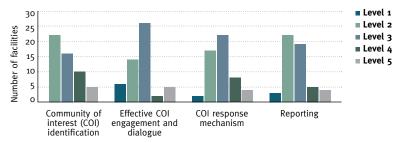
#### 3. EXTERNAL OUTREACH

Results for external outreach remain strong. There has been steady improvement in how facilities identify communities of interest affected or perceived to be affected by their operations. No facilities reported at Level 1 for this indicator, and for every indicator, more than half of reporting facilities achieved Level 3 or higher. MAC members continue to place a high value on

establishing and maintaining good relationships with their communities of interest.

Several facilities reported superior results in this performance area. Seven companies achieved Level 4 or better for all four indicators: Albian Sands Energy, Diavik Diamond Mines, Inmet (Ok Tedi), North American Palladium (Lac des Iles), Suncor, Syncrude and Teck Cominco (Trail).

#### **EXTERNAL OUTREACH ASSESSMENTS**



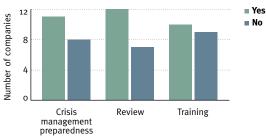
#### 4. CRISIS MANAGEMENT PLANNING

For crisis management planning, head offices and facilities must meet all criteria for each indicator to answer "yes" to the indicator. Good progress was made in this area, with solid improvement reported at the corporate level across all three indicators. Similarly, more facilities responded "yes" to having a complete crisis management plan and conducting annual training exercises. There was a small

decrease in the number of facilities that have met the requirements to review and update their plan and test the notification system. Six companies responded "yes" for all indicators at both the corporate and facility level: Albian Sands Energy, Barrick Gold, Diavik Diamond Mines, Elk Valley Coal, Suncor\* and Syncrude.\*

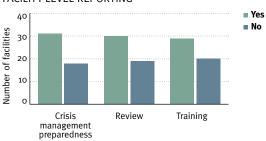
#### CRISIS MANAGEMENT PLANNING ASSESSMENTS





#### CRISIS MANAGEMENT PLANNING ASSESSMENTS

FACILITY-LEVEL REPORTING



#### **INTERPRETING TSM INDICATORS**

The TSM performance indicators measure the quality and comprehensiveness of management systems in four performance areas: tailings management, energy use and greenhouse gas emissions management, external outreach, and crisis management planning. The indicators provide the public with a window on the industry's performance, but by no means do they generate a complete picture. Readers are encouraged to review the environmental and greenhouse gas release data published in this report and on the accompanying CD-ROM, as well as to consult member companies' own reports for more detailed information on performance.

<sup>\*</sup>These sites submitted a single assessment for crisis management planning.

# **Lessons-Learned Workshop**

Although pleased with the design and effectiveness of TSM to date, MAC understands that the initiative can always be improved. To this end, MAC held a lessons-learned workshop involving TSM initiative leaders, verification service providers and a representative from the COI Advisory Panel. The objective of the workshop, held on September 5, 2007, was to give MAC advice on how to enhance the TSM system and to provide input into further refinements to the TSM protocols. Two reports were generated: a discussion paper on the verification experience in 2007, based on interviews with initiative leaders and verification service providers, plus a report on the workshop itself. Both reports are available on the TSM website.

In response to issues raised at the workshop, MAC's Tailings Working Group and Energy Committee collaborated with initiative leaders on some key changes and clarifications to the protocols for tailings management as well as energy use and GHG emissions management. Other improvements to the TSM system are being implemented as well.

#### **New Performance Elements**

In 2006 MAC's Board of Directors adopted a draft policy framework on Aboriginal relations, which outlines members' specific commitments concerning mining development that may impact Aboriginal communities. Since then, MAC has been consulting on the draft framework with the COI Advisory Panel and Aboriginal communities and organizations. MAC held two workshops in 2007, one in Yellowknife with five Aboriginal groups, and one in northern Ontario with the Gull Bay First Nation. More workshops are planned for 2008. The goal is to bring the MAC Board a final policy framework incorporating feedback from the consultations for approval in November 2008.

In June 2007 MAC adopted a new policy framework on mining and biodiversity. This framework, posted on the TSM website, outlines a number of

commitments concerning biodiversity conservation. MAC is now developing the related performance indicators, which it hopes to pilot in 2009, with full implementation of the framework expected to follow in 2010.

Finally, a policy framework on mine closure was drafted and approved by the MAC Board in June 2008, in consultation with the COI Advisory Panel. The development of performance indicators for mine closure is the next step.

# The COI Advisory Panel

The COI Advisory Panel brings together representatives from Aboriginal and labour organizations, communities where the industry is active, environmental and social NGOs and the financial community, along with senior mining industry representatives. The panel, which held its founding meeting in March 2004, meets twice a year. Its mandate is threefold: to help MAC members and communities of interest improve the industry's performance, to foster dialogue between the industry and its communities of interest and to help shape TSM goals.

The COI Advisory Panel met twice in 2007, on March 7 and September 26, with conference calls on specific issues between meetings. The panel discussed and advised on a range of issues, including the TSM verification system and the new performance elements for Aboriginal relations and biodiversity. As well, a panel member participated in the lessons-learned workshop. As mentioned above, the panel also conducted its first postverification reviews.

After almost four years of operation, the COI Advisory Panel has begun renewing its membership, something the panel had agreed to do periodically. The renewal policy, which sees members change at the rate of two to three every two years, will provide continuity and stability in the membership while allowing new ideas and interests to come to the table over time. In early 2008 a panel subcommittee was struck to lead the membership renewal. The goal is to complete the renewal in time for the panel's meeting in September 2008.

The COI Advisory Panel also brought forward two issues that concern its members for discussion with the MAC Board. The first was MAC's position on a decision by the Mackenzie Valley Environmental Impact Review Board to reject a proposed exploration program by Ur-Energy Inc. The second concerned the disposal of tailings in natural water bodies. Both issues benefited from a candid and respectful exchange of views. These two examples represent an evolution in the role of the panel as it becomes an effective forum for discussing issues beyond TSM that nonetheless concern communities of interest.

In a separate statement in this TSM Progress

Report, the COI Advisory Panel presents its views on the progress of TSM and the challenges facing Canada's mining industry.

#### TSM Communications

The MAC Board wants TSM to become a respected brand that denotes a commitment to sustainable development, transparency and continuous improvement. Communications outreach was therefore critical in 2007 and will remain a priority in the years to come.

MAC continues to present TSM at trade shows and conferences, and to communicate with the industry and the public about the initiative and MAC members' commitments. Interest in TSM has expanded beyond Canada's borders, with MAC being invited to speak about the initiative in Algeria, Ecuador, Brazil and elsewhere. Now that interest in TSM is spreading, a new TSM brochure is available in English, French and Spanish, and MAC is considering translating additional material into Spanish, including the TSM protocols.

## TSM Awards 2007

MAC honoured the following member companies and their facilities for their high levels of TSM performance in 2007. A company's TSM results must have been externally verified in 2007 for a facility to receive this recognition.

The TSM awards are based on the TSM assessment system, which works as follows. For three of the performance elements—tailings management, energy use and greenhouse gas emissions management, and external outreach—facilities are assessed according to a five-level system. Each level has clear criteria for evaluating performance and monitoring progress. Level 1 is the lowest level of performance, Level 3 represents good practice and Level 5 is the highest level. Facilities received awards for a performance element only if they achieved Level 3 or better on all indicators.

For crisis management, head offices and facilities both assess their performance against criteria by answering yes/no (met all requirements/did not meet all requirements). Head offices or facilities received awards only if they answered "yes" to all crisis management indicators.

Special recognition goes to Syncrude Canada Ltd. for being the first company to receive Level 3 or higher for all indicators in all four performance areas.

TAILINGS MANAGEMENT	ENERGY AND GREENHOUSE GAS (GHG) EMISSIONS MANAGEMENT	EXTERNAL OUTREACH	CRISIS MANAGEMENT PLANNING
Syncrude (Level 3)	Syncrude (Level 3)	Syncrude (Level 5) Teck Cominco: Trail Smelter (Level 4) Teck Cominco and	Syncrude Teck Cominco: Trail Smelter Teck Cominco and
		Barrick Gold: Williams Operating Corporation (Level 3)	Barrick Gold: Williams Operating Corporation

# Statement from the Community of Interest Advisory Panel

n 2004 The Mining Association of Canada created the Community of Interest (COI) Advisory Panel to provide support and advice during the implementation of the Towards Sustainable Mining initiative. The COI Advisory Panel includes representatives from environmental organizations, community groups, Aboriginal groups and governments, and the mining industry. Our statement draws on observations from all of the constituencies represented on the panel, including industry.

The COI Advisory Panel now has four years of experience with MAC's implementation of TSM. Tracking MAC members' performance against the TSM indicators remains a core activity for us. We are also paying close attention to external verification, which in the next few years will involve all MAC members.

In terms of performance against the four sets of TSM indicators—crisis management planning, external outreach, energy and GHG emissions management, and tailings managementwe note that results continue to improve, and see consistently strong performance for external outreach with more than half of the reporting facilities achieving Level 3 or higher for all of the external outreach indicators. However, performance on energy and GHG emissions management remains relatively weak.

We take particular interest in individual companies' analysis of their own experience using

the TSM indicators. Such analysis is a continuing and interactive process. We intend to encourage initiatives to assess the indicators, as this is one aspect of a continuing policy of improved performance in the sector. We see learning from others' experience with the indicators as an important objective in its own right.

In response to increasing public concern over economic development in the Canadian Arctic and boreal forest, the panel continues to monitor the impacts of exploration and mining activities in these regions. These activities have been accompanied by a growing interest on the part of Aboriginal communities to be seen as partners with the mining industry. Moreover, Aboriginal communities have made it clear that they want to be involved in decisions that have consequences for the environment, for their communities and for their use of wildlife resources-in short, for their culture and way of life.

Relations with Aboriginal communities have been on the panel's agenda from the outset. The issues are both complex and diverse. We will encourage more

initiatives by MAC to probe these issues and develop advice that can be used by both industry members and Aboriginal communities to strengthen communication and mutual understanding.

Aboriginal community relations are just one component of a large array of social and community-based issues arising from the activities of the Canadian mining industry. On the panel, we are aware that MAC needs to take a broad-based focus on these issues, including the

> challenges facing communities that are dealing with mine closures and the changing social and demographic context of mining, particularly in remote regions.

We have sought to maintain a balance between these broad social and economic considerations and more specific environmental topics that are also the subject of TSM indicators. We refer, in particular, to the related issues of the energy intensity of mining operations and greenhouse gas emissions, and to strategies for conserving biodiversity. We acknowledge that these issues are technically complex, but we will continue to prompt the mining industry to engage in frank exchanges about measures that individual companies can take to improve their performance in these areas.

Other emerging environmental and social issues will require attention in the future, and we expect to adapt the panel's objectives and agenda accordingly. For

instance, strategies for tailings disposal and management will likely warrant our closer attention. So will economic and cultural relationships with Aboriginal communities.

The TSM initiative is relevant to the Canadian mining industry as a whole, not only to MAC membership. The community representatives on the COI Advisory Panel take this opportunity to emphasize the need for broad engagement across the industry. We welcome new members of MAC and we support initiatives that use TSM, and its implementation, as a platform for exploring and developing environmental and social policies relevant to the industry as a whole.

Armed now with four years of experience with the TSM indicators, the COI Advisory Panel will continue to stress the importance of the current verification initiatives. We will also stress the need not only to learn collectively from the experience of implementation but to make sure that the lessons learned are widely available.

As is clear from this statement, much work remains to be done.

#### TSM COMMUNITY OF INTEREST **ADVISORY PANEL MEMBERS**

Gordon Ball Chief Jim Boucher Richard Briggs **Ginger Gibson** 

Jim Gowans Larry Haber George Hakongak

Douglas Horswill Peter R. Iones **Brenda Kelley** 

Soha Kneen **Christy Marinig** 

Elizabeth Mav David Mckenzie

Allan Morin **Gordon Peeling** 

Alan Penn David Scott Chief Darren Taylor

**Eira Thomas** 

Syncrude Canada Ltd. Fort McKay First Nation Canadian Auto Workers University of British Columbia DeBeers Canada City of Kimberlev Nunavut Tunngavik Incorporated Teck Cominco Limited Hudbay Minerals Inc. Canadian **Environmental Network** Inuit Tapiriit Kanatami Timmins Economic Development Corporation Green Party of Canada United Steelworkers of America Métis National Council Mining Association of Canada Cree Regional Authority CIBC World Markets Assembly of First Nations

Stornoway Diamond

Corporation



# CAMECO FORGES PARTNERSHIPS IN NORTHERN SASKATCHEWAN



The McArthur River mine has an annual uranium production capacity of 18.7 million pounds U3O8.

SHARING THE BENEFITS OF URANIUM MINING WITH THE COMMUNITIES AND PEOPLE OF CANADA'S NORTH IS A CORNERSTONE OF CAMECO'S SUSTAINABLE DEVELOPMENT PROGRAM. THE PROGRAMS CAMECO HAS PARTICIPATED IN REFLECT THE COMPANY'S COMMITMENT TO ENHANCING THE QUALITY OF LIFE IN NORTHERN COMMUNITIES.

Based in Saskatoon, Cameco Corporation is the world's largest low-cost uranium producer. Cameco, which operates uranium mines and mills in northern Saskatchewan, boasts the world's largest high-grade uranium deposit, at McArthur River, and an active exploration team that works to develop new projects.

Northern Saskatchewan is a vast and largely uninhabited region of boreal forest and freshwater lakes. It is home to some 40,000 people, more than three-quarters of them of Aboriginal ancestry. For decades Cameco has been working closely with northern Saskatchewan communities to build their capacity to participate in the uranium mining industry.

"Cameco shares the benefits of uranium mining with northern people through employment, economic development and support for community projects," says Jerry Grandey, the company's President and CEO. "By ensuring northern people have a meaningful interest in the industry, we build community support for existing operations and future developments."

#### **EMPLOYMENT**

In 2007 Cameco was a leading employer of Aboriginal people in Canada. More than half of the nearly 2,000 employees and contractors at the company's operations were residents of northern Saskatchewan, and nearly half were First Nations and Métis people.

With almost 50 percent of the northern population under the age of 18, the industry sees an opportunity to tap into a youthful and energetic pool of potential workers.

"Our goal is to increase the level of northern employment at our operations as much as possible," says Gary Merasty, Cameco's Vice-President of Corporate Social Responsibility. "We actively recruit northerners by visiting schools and introducing Cameco to potential workers while encouraging them to stay in school, and we let them know about training opportunities, scholarships and job requirements. This youthful and talented population clearly provides a competitive advantage for Cameco's future skilled workforce requirements."

The company has made a point of developing programs that help with recruiting and retaining northern people. Examples include a seven-day rotating schedule, an on-site elder program and advanced educational opportunities.

#### **BUSINESS DEVELOPMENT**

Beyond mining, economic opportunities are scarce in this isolated region dominated by trees, rock and water. There are only a handful of roadways north of La Ronge, and some communities are accessible only by air.

Doing business in such a remote area is a challenge, but this has not deterred Cameco. The company has helped northern communities develop and expand local businesses to supply the uranium industry. Cameco's Northern Preferred Supplier Program (NPSP), for instance, encourages joint ventures with established industry players and builds strong enterprises that can compete for business on their own terms.

One such enterprise is the Athabasca Basin Development Limited Partnership. Formed in 2002 and owned by seven Athabasca communities, the partnership now employs 600 people in winter road maintenance, freight, transportation, mine camp set-up, maintenance, security, underground mining services and line-cutting for seismic exploration. The partnership had consolidated revenues of \$50 million in 2007, and in March 2008 was recognized by the Prospectors and Developers Association of Canada with the inaugural Skookum Jim Award for Aboriginal excellence and achievement in support of the mining industry.

Through the NPSP, Cameco works with companies that are at least 50 percent owned by residents of northern Saskatchewan and whose owners or partners are active in the management or governance of the company. This policy does not guarantee companies work, but it is a commitment that when work becomes available, Cameco looks first to preferred suppliers.

The NPSP also helps Cameco meet obligations, under surface lease agreements, to purchase at least 35 percent of goods and services from northern suppliers. VP Merasty says that Cameco exceeds that obligation by aiming to procure at least 70 percent of its annual goods and services from northern Saskatchewan.

"We continue to develop our northern business program by encouraging ventures that build capacity for northern businesses and by preferring northern contractors in our purchasing process," Merasty says. "We need to have northerners on our team. They are important partners who help secure our social licence to operate. These partnerships help us build economic capacity and enable us to be socially responsible and sustainable."

A good example is Cameco's partnership with Athabasca Catering, which gives local residents access to employment and training. Owned by five northern First Nation partners, Athabasca Catering has a workforce that is 85 percent Aboriginal.

Over the past decade, Cameco has tripled its purchases of services from companies with northern ownership. In 2007 about \$180 million, or 71 percent, of services purchased by Saskatchewan mining operations were provided by northern companies as part of Cameco's NPSP. This included services in more than a dozen sectors, including catering, aviation, underground mining, construction, environmental services and trucking.

#### **EDUCATION AND TRAINING**

Having grown up in northern Saskatchewan, Gary Merasty understands the value that a company like Cameco can contribute, especially when it comes to higher education.

"Since 1992," he says, "Cameco has invested more than \$8 million in training and education programs to ensure northern people can reach their full potential. We operate in-house training programs, employment programs for summer students and stay-in-school initiatives."

Cameco also provides scholarships and other educational support for northern youth. Agreements and partnerships with governments and the private sector have allowed Cameco to fund apprenticeships, skills training and technical programs at several educational centres in Saskatchewan.

Broad consultation with northern people is also an important ingredient in Cameco's success. Consultation occurs formally through regulatory activities and informally through site tours, community visits and public forums each spring in the communities impacted by mining operations.

Cameco works with and supports Saskatchewan's Environmental Quality Committees (EQCs), which focus on mining operations within their regions. EQC members, who are nominated by their home communities, bring concerns and questions to the mining companies and governments involved.

Cameco takes its commitment to community very seriously. "We want to leave a lasting legacy in the north," says President and CEO Grandey. "By assisting northern people to build business structures, skills and experience, we ensure there will be benefits for generations to come."

For more on Cameco, visit cameco.com.



"These partnerships help us build economic capacity and enable us to be socially responsible and sustainable.'

**GARY MERASTY, VICE PRESIDENT OF** CORPORATE SOCIAL RESPONSIBILITY, CAMECO

# MANAGING RELEASES AND MATERIALS

# **Summary of Industry Progress**

ver the past two decades, MAC members have been steadily reducing the substances their operations release to the air and water. Better controls, new technologies and more sophisticated monitoring techniques all contribute over time to better environmental performance. Release levels may vary from year to year, influenced by changing production levels, for example. But the trend is clearly towards significant, meaningful reduction in the releases of key substances.

The following graphs and tables show members' releases to air and water in 2006 against the base year. Detailed tables on members' greenhouse gas releases are provided in the separate "Greenhouse Gas Progress Report" in the enclosed CD-ROM. Information on the Metal Mining Effluent Regulations and environmental effects monitoring is also provided in a separate bulletin (see CD-ROM or www.mining.ca).

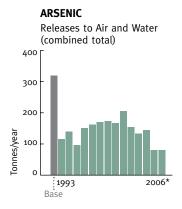
#### Releases of Minerals and Metals

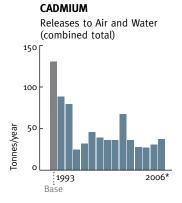
The following are the major substances commonly released by our industry. In 2006 mercury releases were 95 percent below base year levels, while the release of arsenic was at its lowest recorded level. These results reflect concerted action by the industry to reduce releases of these substances. Cobalt, nickel and silver releases also declined from the previous year, while cadmium and copper releases increased slightly.

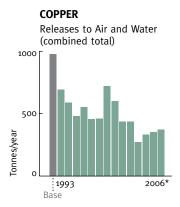
MAC members continue to be involved in community risk assessments-multi-stakeholder processes designed both to determine how releases from historic operations affect human health and the environment and to develop mitigation strategies. At the same time, MAC is a major sponsor of the Metals in the Human Environment Strategic Network (MITHE-SN), which examines the connection between metals in the environment and the potential for adverse effects on humans (see article in this report).

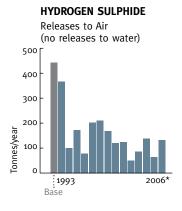


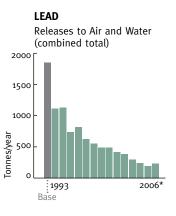
#### **REDUCTIONS ACHIEVED TO 2006** 75% Arsenic 71% Cadmium Copper 62% Hydrogen Sulphide 70% Lead 87% Mercury 95% Nickel 77% 85% Zinc

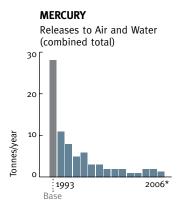


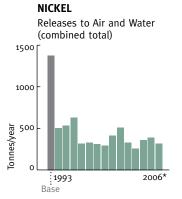


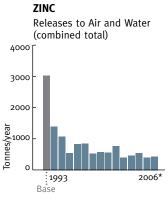










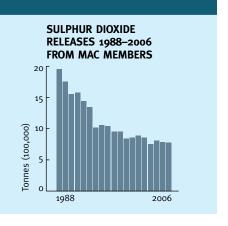


\*Note: 2004-2006 data are based on NPRI submissions.

#### **CUTTING SULPHUR DIOXIDE RELEASES**

MAC members are committed to reducing releases of sulphur dioxide (SO<sub>2</sub>) and have made steady progress over the years. Sulphur dioxide is probably best known as a precursor of acid rain, which occurs when  $SO_2$  oxidizes and mixes with water in the atmosphere to produce sulphuric acid. There are also health risks associated with SO2. High levels contribute to breathing problems and increased difficulty for people with respiratory and cardiovascular diseases.

Reductions in SO<sub>2</sub> typically come about gradually, on a year-to-year basis, through better process controls. However, in some years the reductions are sizeable, often as a result of new technology.



# PARTNERSHIPS KEY TO ENVIRONMENTAL AND SOCIAL PERFORMANCE

cientific research partnerships are indispensible to the environmental and social performance of the mining industry. So are strong partnerships with communities. For years the mining industry has contributed to MITHE-SN (formerly MITHE-RN), a research network that focuses on the sources and effects of metals in the environment and their relationship to human health. Another research program, MEND, and its related global partnerships are furthering knowledge of acidic drainage and studying solutions to this critical environmental challenge. Both partnerships are discussed here.

Community ties are key to an industry's social licence to operate, and the mining industry is intent on building meaningful partnerships with Aboriginal and other local communities. A case study in this report describes Cameco's efforts to work closely with communities in northern Saskatchewan to enhance quality of life and leave behind a lasting legacy.

# Mine Environment Neutral Drainage (MEND) Program



Testing for concentration of metals in effluent.

The original MEND program (1989–1997) and its successor, MEND 2000 (1998–2000), contributed enormously to understanding acidic drainage and its prevention, and to increasing the transfer of information and technology. Still, acidic drainage remains the most serious environmental issue facing the mining industry, government and the public, with potential liability reaching hundreds of millions of dollars. The mining industry continues to bear annual costs associated with the treatment of acidic drainage.

The current MEND program is administered by a small secretariat at CANMET, part of Natural

Resources Canada. The program is highly respected, both within Canada and abroad. Canada is currently the only country in the world to address acidic drainage and metal leaching through a focused research program directed by a committee of industry, government and NGO representatives.

MEND research has always focused on improving environmental management and reducing the cost to existing and future operations. Since 2001 MEND's research program has concentrated on technologies that meet Canadian needs within an international context.

Several priorities were identified early on: closure management, verification of technologies, metal leaching, passive treatment, early prediction, sludge management, cold temperature effects and paste backfill. From 2003 to the end of 2007, MEND made great progress in addressing these priorities. A number of projects and workshops have been completed, and several new projects began in 2007. For a detailed list, see the enclosed CD-ROM.

MEND is part of a global alliance for acidic drainage research that also includes the International Network for Acid Prevention (INAP), the US Acid Drainage Technology Initiative, the Australian Centre for Minerals Extension and Research, the South African Water Research Commission and the Partnership for Acid Drainage Remediation in Europe. This alliance has many benefits. It allows for better global sharing of information, pooling of resources and leveraging of funds. As well, by reducing duplication of effort, it leads to a more

productive investment of capital. The synergies created by this global alliance further underscore the importance of the MEND program.

During 2007 the global alliance and INAP made tremendous progress towards producing a global guide to acid rock drainage. The guide will consolidate current good practices in the management of contaminants produced by sulphide mineral oxidation. It will also address how the production of those contaminants can result in acid rock

drainage, neutral mine drainage and saline mine drainage. Covering all phases of an operation, from initial discovery to final closure, the guide will be a practical "how to" summary and a state-of-the-art reference for the mining industry, regulators, NGOs and the public. For more information on the global guide, visit the INAP website (www.inap.com.au).

A more detailed bulletin is available on this topic (see CD-ROM or www.mining.ca).

## Metals in the Human Environment Strategic Network (MITHE-SN)

#### METALS RESEARCH NETWORK BEGINS FOURTH YEAR

MITHE-SN's research program covers three themes: aquatic ecosystems, soils and plants, and foods and ingested particles. These themes represent a cascade of effects along food webs, from the lowest life forms to the highest consumers. Under each theme, the research projects are driven by the same three objectives:

- Distinguishing the magnitude and roles of natural background and human-related metal inputs in biotic exposure to metals
- Estimating the bioavailable fraction of metals in the exposure media, thus better quantifying the true exposure concentration
- Determining the factors that influence the bioavailability of metals in media so that predictive models can be developed to help create site-specific metals criteria

NSERC (Natural Sciences and Engineering Research Council of Canada) recently approved a two-year Strategic Network Enhancement Initiative award for MITHE-SN. The new award (\$200,800 in year four of the network, \$193,500 in year five) will support activities in three areas:

- Enhancement and development of highly qualified personnel
- Enhancement and development of international linkages (network-to-network interaction)
- Enhanced knowledge transfer, outreach and extension activities

The new NSERC award provides scholarships to help graduate students attend short international courses. The award will also enhance MITHE-SN's international profile by funding travel for principal investigators to other laboratories or agencies in order to exchange information. Finally, the award will encourage knowledge sharing and technology transfer by supporting the production of science briefs, an annual newsletter and an annual report that includes listings of MITHE-SN publications.

For more information, visit the MITHE-SN website (www.mithe-sn.org).

A more detailed bulletin is available on this topic (see CD-ROM or www.mining.ca).



Taking samples to test water quality.



# BARRICK NAMED TO DOW JONES SUSTAINABILITY INDEX

BARRICK GOLD CORPORATION WAS ADDED TO THE ANNUAL DOW JONES SUSTAINABILITY INDEX (DJSI) FOR NORTH AMERICA FOR THE FIRST TIME IN 2007, IN RECOGNITION OF THE COMPANY'S ONGOING COMMITMENT TO SUSTAINABILITY.

One of the world's foremost indices of corporate social responsibility, the DISI is based on a comprehensive review of companies' sustainability practices. Independent research conducted for the DJSI focuses on a broad range of economic, social and environmental performance criteria, and uses both general and industryspecific measures.

"We are very pleased that Dow Jones has recognized Barrick as a leader in corporate social responsibility," says Greg Wilkins, Barrick's CEO and President. "I know that our employees are committed to responsible mining practices every day and have made this significant recognition possible."

Established in 1999, the DJSI is a benchmark for investors and asset managers and is considered influential in investment decision making for socially responsible investors. The DJSI defines corporate sustainability as follows:

"A business approach that creates long-term shareholder value by embracing opportunities and managing risks deriving from economic, environmental and social developments. Corporate sustainability leaders achieve long-term shareholder value by gearing their strategies and management to harness the market's potential for sustainability products and services while at the same time successfully reducing and avoiding sustainability costs and risks."

According to the DJSI, leading sustainability companies are highly competent in addressing global and industry challenges in a number of areas:

STRATEGY Integrating long-term economic, environmental and social aspects into business strategies while maintaining global competitiveness and brand reputation.

FINANCE Meeting shareholders' demands for sound financial returns, long-term economic growth, open communication and transparent financial accounting.

**CUSTOMER AND PRODUCT Fostering loy**alty by investing in customer relationship management, as well as in product and service innovation that focuses on technologies and systems that use financial, natural and social resources efficiently, effectively and economically over the long term.

**GOVERNANCE AND STAKEHOLDERS Set**ting the highest standards of corporate governance and stakeholder engagement, including corporate codes of conduct and public reporting.

"Barrick's reputation rests on responsibility. Good corporate citizenship is a calling card that precedes us wherever we go.'

PETER MUNK, CHAIRMAN, BARRICK GOLD CORPORATION HUMAN RESOURCES Managing human resources to maintain workforce capability and employee satisfaction, through best-in-class organizational learning and knowledge management practices as well as through remuneration and benefit programs.

Barrick is committed to making a positive difference in the communities in which it operates. In the Corporate Social Responsibility Charter, Barrick outlines its commitment to business ethics, the environment, employee health and safety, and community development. The company also publishes an annual Responsibility Report that describes its performance in the area of corporate social responsibility, including successes and challenges.

From exploration to reclamation, Barrick strives to conduct itself with the highest ethical standards and a strong commitment to corporate social responsibility.



# RESPONSIBLE MINE MANAGEMENT

▶anada is taking great strides to address the mining industry's legacy of orphaned and abandoned mines. This section looks at NOAMI, the initiative guiding these efforts, and its progress in 2007. Two other initiatives are aimed at minimizing the industry's environmental footprint. Canada's Metal Mining Effluent Regulations (including the latest proposed amendments) and the environmental effects monitoring program are both featured below.

Two case studies in this report highlight MAC members' achievements in the area of responsible mine management. Xstrata has developed a standard for biodiversity and land management for its Canadian operations. And Barrick's commitment to sustainability was applauded in 2007 when the company was added to the Dow Jones Sustainability Index for North America.

# Orphaned/Abandoned Mines in Canada

#### **NOAMI MOVES AHEAD**

For years now, MAC has been working with others to find solutions to the legacy of orphaned and abandoned mines in Canada, including the associated liabilities, human health concerns and cleanup costs. The National Orphaned/Abandoned Mines Initiative (NOAMI), the multi-stakeholder initiative that MAC is part of, made progress again in 2007.

During the year a report was released on the recent legislative reviews conducted across Canada's mining jurisdictions. Each jurisdiction evaluated its legislation and policies on contaminated, operating and orphaned/abandoned sites, focusing on the issues of liability, funding and collaboration. The summary of their existing regulations and policy will feed into a framework for managing orphaned and abandoned sites across the country. The report on legislative reviews is now available on the NOAMI website at www.abandoned-mines.org.

Early on, NOAMI began working on a national inventory of active, closed and orphaned/abandoned mines, based on inventories in each province and territory. The national inventory, in the form of a web-based portal, will include a system for categorization and priority ranking as well as agreedupon definitions and terminology for orphaned and abandoned sites. Natural Resources Canada has now developed a working model of the inventory, populated with information from several jurisdictions. The official launch has been delayed to allow further testing, but the system was demonstrated at recent conferences of the Prospectors and

Developers Association of Canada and Canada's mines ministers. The "beta" version should be available to the NOAMI advisory committee soon.

On September 24, 2007, the NOAMI advisory committee met in Whistler, British Columbia. The day before, committee members visited the nearby Britannia mine. One highlight of the visit was a discussion of the unique 20-year partnership between the BC government and EPCOR, a utilities company, to operate the Britannia mine water treatment plant.

In spring 2008 several advisory committee members took part in a roundtable on the restoration of mining legacy sites. Hosted by the International Union for Conservation of Nature (IUCN), the International Council on Mining and Metals (ICMM), the Post-Mining Alliance and the Eden Project, the roundtable was a component of the IUCN-ICMM Dialogue on Biodiversity and Mining, launched in 2002.

Looking ahead, in November 2008 NOAMI will sponsor a workshop in Vancouver to explore different perspectives on the risk assessment process at orphaned and abandoned mines. Also in the fall, a progress report is expected on NOAMI's activities in the past five years. Finally, work will continue on the national inventory of sites, a best community practices project and a tool kit of legislative and policy options for dealing with orphaned and abandoned mines.

A more detailed bulletin is available on this topic (see CD-ROM or www.mining.ca).

# Metal Mining Effluent Regulations (MMER) and Environmental Effects Monitoring (EEM)

#### IMPROVING THE REGULATORY PROCESS

The Metal Mining Effluent Regulations, promulgated under the federal Fisheries Act, came into force in 2002. In addition to regulating water releases, the MMER require mines to implement EEM programs to determine whether mine effluent affects fish, fish habitat or the usability of fisheries resources. The MMER provide for transitional authorizations, which allow mines to deposit tailings into water bodies while meeting prescribed requirements. These authorizations give mines extra time to comply with the effluent standards.

For many years, even prior to the MMER, MAC has taken the position that the judicious deposit of tailings in natural bodies of water is sometimes the best practice. Decades of scientific research by governments, the mining industry and academia suggest that on a site-specific basis, subaqueous disposal in lakes—if properly evaluated, implemented and compensated for—can be a safe, environmentally sound and permanent disposal option. In such cases, the main benefit of using water covers is to ensure that the tailings are constantly saturated and safely contained, which creates fewer contaminants and minimizes their migration to the environment.

This option is not approached lightly within the industry. It is approached with serious consideration of its environmental, economic and social implications and as part of an examination of all possible alternatives.

The Mining Association of Canada continues to work with its communities of interest—including the federal, provincial and territorial governments; environmental groups; Aboriginal groups; and society at large—to develop a regulatory process that

is clear, practical and transparent, while maintaining the highest environmental standards.

Turning to EEM, Environment Canada had agreed to review that program's effectiveness after about three years, once the first phase of biological monitoring was finished. To that end, Environment Canada established a metal mining EEM review team, a group of experts from the federal government, industry, and environmental and Aboriginal groups. Their mandate was to review the first phase of EEM and submit recommendations for improving the effectiveness, efficiency, and scientific and technical defensibility of the EEM program.

Environment Canada's own review of the first phase of EEM is now finished. The EEM review team released its final report, containing 42 recommendations for Environment Canada, in September 2007. The review team did not conduct a detailed assessment of phase one results because, although Environment Canada did share some preliminary results, the department's final report was not available until well after the review team's final meeting in early 2007.

It is important to note that the single data set provided by the first phase of EEM is unlikely to provide enough information for substantial program changes. When more data are available, a more indepth review may lead to further improvements to the EEM program.

A more detailed bulletin is available on this topic (see CD-ROM or www.mining.ca).





# THE BIODIVERSITY CHALLENGE AT XSTRATA'S CANADIAN OPERATIONS



MINING OPERATIONS HAVE A RESPONSIBILITY TO PROTECT BIODIVERSITY. BUT THERE IS ALSO AN INCREASINGLY POWERFUL BUSINESS CASE FOR DOING SO-POWERFUL ENOUGH TO LEAD XSTRATA TO DEVELOP A COMPREHENSIVE OPERATING STANDARD FOR BIODIVERSITY AND LAND MANAGEMENT.

The business case has several sides. First is the matter of social licence. Companies that show leadership on biodiversity issues will likely face less opposition and be seen as an investment of choice. Then there are the direct benefits. Managing for biodiversity means planning for fewer disturbances for a smaller ecological footprintwhich should reduce reclamation costs. As well, actively monitoring biodiversity issues, including ecological effects monitoring, helps companies anticipate and prevent negative, and costly, impacts.

There are many examples of how using a biodiversity lens to focus on mine site management can lead to win-win opportunities-opportunities that achieve biodiversity goals while meeting community needs in a cost-effective way.

Xstrata has adopted 17 standards based on the principles of sustainable development, and also based on the company's belief in operating responsibly and to the highest international standards. Along the way, internal reviews by commodity business management, as well as feedback from

stakeholders, have identified biodiversity conservation and land management as a key sustainability challenge. Xstrata has responded by creating a specific standard related to environment, biodiversity and landscape functions. The standard supports the company's adherence to emerging industry standards, like the TSM framework on biodiversity. And it will prepare Xstrata's Canadian operations for the anticipated TSM performance indicators for biodiversity.

The Xstrata standard specifies that all major impacts, potential and actual, that the company's activities and operations have on the environment, biodiversity and the landscape must be identified, analyzed, evaluated and eliminated or otherwise addressed. In performing these actions, Xstrata helps to preserve the long-term health, functioning and viability of the natural environments affected by its activities. As well, in managing the biodiversity and landscape functions around its operations, Xstrata will use scientifically sound technologies and procedures.

To put this strong commitment into action, Xstrata's recently



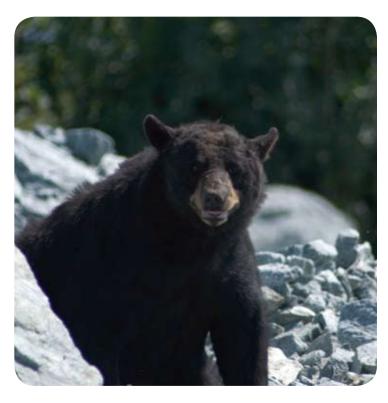
acquired Canadian operations began studies in 2007 to establish current biodiversity conditions and to assess the potential impacts of site activities. In 2008 these operations will develop and implement site-specific biodiversity conservation plans.

As part of their studies, individual operations gathered site-specific information on the biodiversity, habitats and ecosystems in the vicinity. The information came from various sources, including NatureServe Canada databases. The operations also determined the kinds of human and industrial activities that could affect or present a risk to the different components of biodiversity. Here, past environmental studies at many of the sites (mainly in aquatic systems) proved useful.

Another task in this biodiversity assessment was to determine the presence of any protected areas near the operations and any species with special conservation status. Xstrata's operations therefore did a broad research sweep, using government and regional information about the sites and surrounding areas. Managing protected areas and recognizing the importance of certain species is critical, so that each operation can determine future management strategies and identify future land use.

In conducting these biodiversity





studies, different sites used different methods, but they did have some tools in common. Because biodiversity is naturally variable, Xstrata developed an index to help its Canadian sites assess the generic ecological value of their surrounding biodiversity based on habitat characteristics, biological (fauna and flora) components and the reliability of the biological data. This index should be a useful tool for integrating the biodiversity and landscape analysis throughout Xstrata's Canadian operations. By using the same index for most sites, Xstrata can assess and compare the sites' current status and the progress of their management strategies.

Certain locations—for instance, the company's New Brunswick sites—have put more emphasis on developing site-specific GIS databases that combine the habitat characteristics and biological information available for each site.

These databases can become more complex as more site-specific data are available.

By determining key habitats in the areas surrounding operations, Xstrata can identify future rehabilitation methods and monitor current management strategies. This integrated approach to management allows for a more complete assessment of the impacts and risks at each site.

The next step is for sites to use the information they have gathered to create their biodiversity conservation plans. Once the plans are in place, Xstrata's Canadian operations will be in a strong position to preserve the long-term health, functioning and viability of the natural environments affected by their activities. And Xstrata Canada will be in a strong position as well, recognized as an innovator and a leader in biodiversity and land management.  $\phi$ 



# Albian Sands Energy Inc.

ALBIAN SANDS ENERGY OPERATES THE MUSKEG RIVER MINE 75 KILOMETRES NORTH OF FORT MCMURRAY, ALBERTA, ON BEHALF OF THE OWNERS OF THE ATHABASCA OIL SANDS PROJECT: SHELL CANADA, CHEVRON CANADA RESOURCES AND MARATHON OIL COMPANY.

The leased land on which the Muskeg River mine is located contains more than 5 billion barrels of minable bitumen, equal to about twice the amount of conventional oil reserves remaining in Alberta. Operating at its design capacity, the mine produces 155,000 barrels of bitumen a day.

As an operating company within the booming Regional Municipality of Wood Buffalo, Albian is deeply committed to economic, environmental and social responsibility, and supports projects and activities that further the company's commitment to sustainable development.

#### **ECONOMIC SUSTAINABILITY**

Albian spends about \$150 million annually with companies in the Regional Municipality of Wood Buffalo, and over \$50 million on business with Aboriginal suppliers, many from the nearby community of Fort McKay. In addition, Albian's new offices in Fort McKay and downtown Fort McMurray allow the company to stay in close contact with the community and deal with stakeholders daily.

Albian is also committed to hiring locally. Currently, over 60 percent of Albian's team members live in the Regional Municipality of Wood Buffalo.

# **ENVIRONMENTAL SUSTAINABILITY** Albian takes a best practices

approach to environmental management. In 2004 the company became the first oil sands mining operation to achieve ISO 14001:1996 certification, awarded to companies with proven environmental management systems. In 2005 Albian was certified under the new, more rigorous standard, ISO 14001:2004. Albian remains the only oil sands company to have achieved this prestigious accreditation.

Proven management systems enable Albian to meet its environmental goals even as the company grows. Continuing to reduce fresh water use, helping to manage cumulative effects of oil sands development and applying new technology are all part of Albian's commitment to sustainable mining. In addition, ongoing and meaningful involvement with multi-stakeholder groups remains an important part of the company's environmental management strategy. Albian is an active member of the Cumulative Environmental Management Association, the Wood Buffalo Environmental Association and the Regional Aquatics Monitoring Program.

Albian is also committed to using technology in innovative ways to meet environmental challenges. In 2006 the company became involved with the Earth Observation Project. This entails working with the European Space Agency to establish baselines, using satellite imag-

ery, in order to map reclamation areas and regional changes.

#### **SOCIAL SUSTAINABILITY**

Albian successfully completed its first major maintenance turnaround in May 2006, and on April 18, 2007, celebrated 6 million person-hours without a lost-time injury. This is a proud accomplishment for an operation with over 1,000 workers on site. Ensuring that everyone comes home safely continues to be a top business priority.

Albian is also committed to helping manage any infrastructure impacts associated with the region's rapid growth. For example, in Fort McMurray Albian has teamed up with Keyano College on several educational and community initiatives, including a large investment in Keyano's Sport and Wellness Centre, a recently opened recreational facility available to the whole community. Albian has been a champion supporter of Keyano College's environmental technology program and, in 2005, became the lead contributor to the Aboriginal entrepreneurship certificate program. Albian is also a principal supporter of Leadership Wood Buffalo, a community-focused program designed to identify and develop future leaders in the region.

For more information, please visit Albian's website (www.albiansands.ca).

#### ArcelorMittal Mines Canada

ARCELORMITTAL MINES CANADA (FORMERLY QUÉBEC CARTIER MINING COMPANY) IS A LEADING PRODUCER OF IRON ORE PRODUCTS IN NORTH AMERICA. THE COMPANY OPERATES AN OPEN-PIT MINE AND A CRUSHER/ CONCENTRATOR FACILITY CAPABLE OF PRODUCING 16 MILLION METRIC TONNES OF IRON ORE CONCENTRATE ANNUALLY AT MONT-WRIGHT IN NORTHERN QUEBEC. IT ALSO OPERATES AN IRON ORE PELLET PLANT WITH ANNUAL PRODUCTION CAPACITY OF 9.5 MILLION METRIC TONNES AT PORT-CARTIER, QUEBEC, ON THE NORTH SHORE OF THE ST. LAWRENCE RIVER. THE DEEP HARBOUR AT PORT-CARTIER OPERATES YEAR-ROUND AND CAN ACCOMMODATE SHIPS CARRYING UP TO 188,000 TONNES OF ORE. THE COMPANY ALSO OWNS A 416-KILOMETRE RAILWAY THAT LINKS THE MINE SITE TO THE PORT.

As a member of MAC, ArcelorMittal Mines Canada adheres to the TSM guiding principles. In 2007 the company was evaluated by an external auditor for the first time. The results indicated a good level of achievement, and many results were upgraded compared to the self-assessment the company conducted itself.

ArcelorMittal Mines Canada has developed an environmental management system (EMS) based on the ISO 14001 model. The port operations were certified in 2007, and the company has been working to implement the EMS in all other divisions. Many improvement projects are underway as a result.

Over the last decade, ArcelorMittal Mines Canada has made major investments in improving its water effluent quality and petroleum tank-farm facilities. For the past three vears, all regulated effluents have been in compliance with federal and provincial legislation. The company completed other major projects in 2007 involving washing facilities and used water. More studies are in progress concerning wastewater management in Port-Cartier.

Arcelor Mittal Mines Canada's pellet plant uses about 30 percent less energy per tonne of production than its Brazilian competitors. In keeping with Kyoto objectives, the plant contributes considerably to reducing net emissions from pellet production at the global level.

For many years ArcelorMittal Mines Canada has been involved in developing the operating permits for the Quebec government's waste reduction program. Under this program, establishments measure and declare their normal discharge levels and outline measures for lowering them. In 2007 the Quebec Ministry of Sustainable Development, Environment and Parks submitted the first draft of the "depollution attestation" permit. ArcelorMittal Mines Canada will continue to work on all aspects of this document through 2008.

In light of the upcoming new regulations for air quality at both the provincial and federal levels, ArcelorMittal Mines Canada continues to work on understanding the key issues and emerging regulations. The company is conducting studies to improve its measurements and to identify the most efficient and appropriate solutions.

# **Barrick Gold Corporation**

SINCE ENTERING THE BUSINESS IN 1983, BARRICK HAS GROWN EACH YEAR TO BECOME AN INTERNATIONAL LEADER IN GOLD MINING. WITH THE ACQUISITION OF PLACER DOME EARLY IN THE YEAR, THE COMPANY HAD TWENTY-SIX OPERATING MINES AT THE END OF 2007, AS WELL AS SEVEN ADVANCED EXPLORATION AND DEVELOPMENT PROJECTS ON FIVE CONTINENTS: NORTH AMERICA, SOUTH AMERICA, AFRICA, AUSTRALASIA AND ASIA (RUSSIA/CENTRAL ASIA). BARRICK ALSO HAS EXPLORATION ACTIVITIES WORLDWIDE. THE COMPANY'S HEAD OFFICE IS IN TORONTO.

Barrick has two operating mines in Canada: the Eskay Creek mine in northern British Columbia and the Hemlo joint venture on the north shore of Lake Superior in southern Ontario. Barrick also has one active closure project, the Nickel Plate mine in southcentral British Columbia. The Eskay Creek mine is scheduled to complete mining in April 2008 and proceed to closure.

Corporate social responsibility (CSR) has long been a priority within Barrick, evinced by the executive and board committees that focus on CSR, the 2004 CSR Charter, and policies that promote environmental excellence, safety and ethical behaviour.

The CSR Charter defines Barrick's overall commitment to the communities where it operates and to society as a whole. Barrick developed its Community Engagement and Sustainable Development Guidelines in 2006 to outline in more detail the principles, standards and approaches

that are applied to communities under the CSR Charter. The guidelines have been disseminated throughout the company, providing direction for community interaction and engagement with guiding principles and suggested best practices at all operations. Within the guidelines are five community management standards to be applied at the company's mines during the various phases of mine life.

In 2006 Barrick introduced the Barrick Health System throughout the company. This system builds on the Barrick Safety and Health System, which was implemented in 2003 with the goal of optimizing employee health and well-being.

To further support the company's systems of environmental practice, Barrick developed an environmental management system standard late in 2005. The standard consists of 15 principles. Each principle contains a statement of the environmental

conduct expected of each operation, followed by the systems, practices or procedures required to meet the standard. Existing environmental management systems were assessed for compliance with the Barrick standard at all operations in 2006. Full implementation began in 2007 and will continue in 2008.

Externally, Barrick participates in a number of voluntary initiatives that focus on good corporate citizenship. These include the United Nations Global Compact, Transparency International, the International Network for Acid Prevention, the Carbon Disclosure Project and the International Cyanide Management Institute. Barrick is also a signatory to the Australian Minerals Industry Code for Environment Management and to MAC's TSM guiding principles.

For more information, please visit Barrick's website (www.barrick.com).

#### BHP Billiton Diamonds Inc.

THE EKATI DIAMOND MINE. OPERATED BY BHP BILLITON DIAMONDS INC., IS A JOINT VENTURE BETWEEN BHP BILLITON (80 PERCENT) AND FOUNDING GEOLOGISTS CHARLES FIPKE AND STEWART BLUSSON (10 PERCENT EACH).

Located about 300 kilometres northeast of Yellowknife, the EKATI mine operates in an area of continuous permafrost. The claim block covers 344,000 hectares in the subarctic tundra, with a land lease area of 10,960 hectares. Access to the mine is primarily by air, though a 400-kilometre ice road operates for three months in winter to allow bulk supplies to be trucked to the site.

In 2007 BHP Billiton Diamonds employed about 650 people; another 800 contractors provided support services. Most employees work at the mine site. In addition, there are offices in Yellowknife and Vancouver and an exploration office in Kelowna. During the 2007 financial year, the EKATI mine produced 3.7 million carats of high-quality diamonds.

BHP Billiton aspires to cause zero harm to people, host communities and the environment. It also strives to embrace leading industry practices through its sustainable development policy. EKATI has both an internal and an external auditing process to help the company improve its compliance with management standards. The company's environment management system was recommended for ISO 14001 registration in 2003 and has been re-registered every year since, including in 2007.

#### RECOGNITION

Over the past year BHP Billiton Diamonds has made significant changes at the EKATI mine—all with the goal of creating a safe and sustainable long-term business that the company can be proud of.

EKATI has worked for many years to reduce injuries on the job, and in the last two years the number has dropped by two-thirds. EKATI's safety performance has shown such remarkable improvement that in 2007 the mine was named one of the top ten safest within the BHP Billiton Group—and therefore in the world.

This performance is all the more remarkable during a time of unprecedented activity, with the ramp-up of the new Panda underground mine and the construction of the Koala underground mine. EKATI's safety record is a team achievement by the mine's dedicated employees and contractors, who ensure that safety performance remains the top priority and that the company's goal of zero harm is foremost in their minds.

BHP Billiton is most proud of its recent national award, the John T. Ryan safety trophy from Mine Safety Appliances Canada Ltd. EKATI won this award for having the best safety performance in Canada in the "Select Mines" category.

Within BHP Billiton, the Koala mine received a High Commendation Award in 2007 under the company's Project Safety Excellence Awards Program. The global award recognized the considerable efforts made to

improve safety systems while completing the Koala project four months ahead of schedule and under budget. This achievement underscores the high performance of the BHP Billiton team.

In other areas, EKATI was the only MAC member site to achieve TSM Level 3 for energy use and greenhouse gas management for its 2006 performance. In that year EKATI introduced an idle-free program that continues today. As well, the mine is still upgrading the efficiency of its heat recovery plant, which distributes exhaust heat around the site. These combined efforts have reduced the amount of fuel needed to run the EKATI mine, leading BHP Billiton Diamonds to be recognized in 2007 as a gold champion—the highest level—by the Canadian Greenhouse Gas Challenge Registry. For many years the company has voluntarily reported its greenhouse gas emissions, and now it has been recognized for the effort.

#### RECLAMATION

EKATI operations disturbed an additional 1.2 hectares of land during 2007. This brings the total site disturbance requiring rehabilitation to 2,043 hectares.

The waste produced by kimberlite processing and diamond production includes both coarse material, which is trucked to reject stockpiles, and fine processed kimberlite, which is pumped to the Long Lake containment facility for disposal. Field studies are underway to find an appropriate method for rehabilitating the fine tailings disposal site, including possible revegetation using native plants.

#### WATER MANAGEMENT

The total volume of fresh water used by the EKATI mine for 2007 was 116 megalitres for drinking water and 60 megalitres for road watering. In addition to fresh water, mineral processing on site used 4,298 megalitres of recycled water from the Long Lake containment facility. EKATI's water management strategy aims to maximize the use of recycled water through the process plant, eliminating the need for fresh water in processing.

EKATI has two storage locations for water affected by mining: the Long Lake containment facility near the main camp, and King Pond near the Misery pit. All releases complied with the effluent quality requirements in EKATI's water licence.

#### **FNFRGY**

For this reporting period the EKATI mine used approximately 134,052 megawatt hours of self-generated electricity. About 42 percent of this was used by the process plant and 34 percent by the underground operations.

EKATI has a conservation plan, the Energy Smart Program, which is driven by employee suggestions. In the past fiscal year the mine met its savings target of one million litres of diesel fuel. Many energy efficiency initiatives, some of them suggested by employees, have been incorporated into the

underground office building.

EKATI continues to investigate the feasibility of installing a wind farm, which would consist of six one-megawatt wind generators.

#### WASTE MANAGEMENT

All waste oil produced by EKATI is now burned on site during the cold months to heat the underground mine air. This measure eliminates the need to send this hazardous material to southern Canada for processing, EKATI transports used engine filters, vehicle batteries, waste grease, used dry cell batteries and waste glycol over the winter ice road to be processed or recycled by registered contractors.

#### AIR EMISSIONS

Air quality is monitored regularly at the EKATI mine to provide operational air quality data.

#### **ENVIRONMENTAL STUDIES**

EKATI conducts a number of environmental monitoring programs and studies, including the following:

- Bear surveys
- Wolverine observations
- Aerial caribou surveys
- Caribou behaviour studies
- Wolf surveys
- Panda diversion channel study
- Long Lake containment facility studies
- North American breeding bird survey
- Upland breeding bird survey
- Raptor surveys
- Aquatic effects monitoring study

#### COMMUNITY CONSULTATION

The EKATI mine's consultation process has evolved as a result of various voluntary agreements including socio-economic, environmental, and impact and benefit agreements-negotiated before or at the time of the mine's startup. Each agreement specifies a consultation schedule, and these schedules govern the company's meetings with stakeholders. Meetings are held in various communities to provide updates on mine operations, and mine staff are available to make presentations on topics of interest to stakeholders.

Stakeholders are encouraged to express their opinions and suggestions directly to the site management. In addition, certain staff have specific responsibilities for liaison with community leaders and key stakeholders to ensure communication. Any complaint or query is directed to the responsible person, and feedback is given directly to the person who made the initial contact. All queries are taken seriously and treated confidentially.

#### **VOLUNTARY CODES AND INDUSTRY INITIATIVES**

BHP Billiton is a signatory to several voluntary initiatives, including MAC's TSM initiative, the Australian Minerals Industry Code for **Environmental Management and** the Australian Greenhouse Gas Challenge. The EKATI mine is committed to implementing the principles of these initiatives through its health, safety, environment and community management systems, goal and targets, and through its performance indicators.

#### Breakwater Resources Ltd.

BREAKWATER RESOURCES LTD. IS AN INTERNATIONAL MINERAL RESOURCE COMPANY INVOLVED IN ACQUIRING. EXPLORING, DEVELOPING AND MINING BASE METAL AND PRECIOUS METAL DEPOSITS.

Breakwater currently has seven mining projects. Two are in Canada: the Myra Falls mine in British Columbia and the Langlois mine in Quebec. Two projects are international: the El Mochito mine in Honduras and the El Toqui mine in Chile. The remaining three mines are currently in closure: the Nanisivik mine on the northern tip of Baffin Island, the Bouchard-Hébert mine northwest of Rouyn-Noranda and the Bougrine mine in Tunisia.

Breakwater's business vision is to bring value-added opportunities to its shareholders. This vision includes integrating corporate social responsibility into all aspects of the business. Breakwater recognizes that true value-added growth and sustainable development are synonymous, and will occur only via the privilege of social licence.

Breakwater is a member of Canadian Business for Social Responsibility (CBSR), a business-led non-profit organization. CBSR provides candid counsel to Canadian companies as they formulate business decisions that, in CBSR's words, "improve performance and contribute to a better world."

With the support of CBSR, Breakwater is improving its community investment practices. Dedicated individuals are conducting outreach programs aimed at the people living around the company's operations to identify community needs, quantify the benefits of current engagement,

identify gaps that can be filled and provide sustainable benefits for stakeholders.

In 2007 Breakwater became an invited member of the Devonshire Initiative, a group of leading international development NGOs and mining companies. This group is working on an exciting new project that will drive Canadian leadership in social innovation and corporate social responsibility. Participants have come together in response to the emerging social agenda surrounding mining and community development. They believe that partnerships between Canadian mining and NGOs can be a force for positive change.

#### **TSM REPORTING**

This marks the second year that Breakwater is formally reporting under MAC's TSM initiative. Although internal monitoring and external auditing of sustainability practices were already in place at Breakwater, the company decided to participate in TSM because it believes the extra level of selfregulation can only bring added value. Through peer support and networking with the other TSM reporting companies, Breakwater has strengthened its commitment and added to the industry's voice the message that "we are doing the right things right."

For 2007 Breakwater is reporting on two mines: Myra Falls, reporting for the second year, and Langlois, reporting for the first time. Breakwater's longer-term

objective is to include its international operations in TSM reporting.

#### **MYRA FALLS**

The Myra Falls mine is unique in that it operates completely within the confines of a park. Strathcona Provincial Park, on Vancouver Island, is British Columbia's oldest provincial park, established in 1911. It covers 231,000 hectares of pristine wilderness.

Myra Falls operates with permits issued by BC Parks under the authority of the provincial Ministry of Environment and the Park Act, and is regarded as a "long-term resident" of the park. As stated in the park's master plan, "The presence of an active mine in a provincial park presents mine and Park managers with many challenges, and many opportunities for cooperation." Operating within a park carries great social responsibilities and moral obligations. Myra Falls has maintained that privilege for more than 40 years, a testament to its awareness of those sensitivities.

Myra Falls sets a high standard of environmental performance. High permit compliance, combined with effects monitoring, has made environmental management an integral part of the mine's standard operating practices—part of how it does business. The mine is involved in projects that would not be considered core mining business, including projects to enhance fish habitat, to monitor local elk (their



Myra Falls mine.

numbers and their condition) and to upgrade the park's hiking trails. The mine is also involved in monitoring lakes, snow loading and avalanches, and it contributes to park access tracking.

In 2008 Myra Falls will focus on power management. The mine's mandate is to increase efficiency, and its long-term objective is to eliminate dieselgenerated power.

As part of outreach at Myra Falls, managers attend regular meetings of the Strathcona Park Public Advisory Committee. The committee was established by BC Parks to ensure public participation in operations and to make recommendations on environmental stewardship. The free-flowing, constructive dialogue that has developed between the advisory committee and Myra Falls is key to the symbiotic relationship between mine and park.

The Myra Falls operation also participates in Service Plus, a pre-employment and safety training program offered to students in grades 10 to 12.

#### **LANGLOIS**

The Langlois mine is located in northwestern Quebec, 48 kilometres northeast of Lebel-sur-Quévillon. The site falls within Cree treaty land under the James Bay and Northern Quebec Agreement, and the mine's certificate of authorization includes conditions for engaging with the local council of the Waswanipi Band.

The Langlois mine site is home to a regional mining school. Under an agreement with the Quebec government, 20 students currently attend a mining diploma course staged at the site. The course, which involves 930 hours of training, produces development miners who are able to work underground at any mining operation in Quebec or Ontario. The Quebec government provides the course trainers, while Langlois provides a dedicated working area underground plus all mobile equipment (jumbo drill, scissor lift, scoops, trucks), tools, supplies (explosives, bits) and fuel. Langlois is also responsible

for equipment maintenance.

Graduates from the mining school are offered jobs with the Langlois mine but are eligible to work elsewhere if they choose.

#### RECLAMATION

Breakwater practices progressive reclamation at all its operations. This is recognized as the most financially efficient strategy, as well as the best practice from an environmental stewardship perspective. Progressive reclamation is included in the company's annual mine plans and is thus tracked through operating budgets. Progressive efforts are also monitored externally through the asset retirement obligations for publicly traded companies.

Breakwater has two Canadian operations in full reclamation: Bouchard-Hébert and Nanisivik. Both are in the final stages of reclamation (deconstruction of the site infrastructure and site clean-up), after which the land will be available for its pre-mining uses. The sites will then enter a post-closure monitoring period, which will last until stability can be demonstrated and the reclamation objectives are achieved.

Breakwater is proud of the reclamation efforts at its operations and the positive legacies left behind.

For more information on Breakwater, visit the company's website (www.breakwater.ca).

#### Diavik Diamond Mines Inc.

THE DIAVIK DIAMOND MINE, LOCATED 300 KILOMETRES NORTHEAST OF YELLOWKNIFE, IS AN UNINCORPORATED JOINT VENTURE BETWEEN DIAVIK DIAMOND MINES INC. (60 PERCENT) AND HARRY WINSTON DIAMOND MINES LTD. (40 PERCENT). BOTH COMPANIES ARE HEADQUARTERED IN YELLOWKNIFE. DIAVIK DIAMOND MINES INC. IS A WHOLLY OWNED SUBSIDIARY OF RIO TINTO PLC OF LONDON, ENGLAND, AND HARRY WINSTON DIAMOND MINES LTD. IS WHOLLY OWNED BY HARRY WINSTON DIAMOND CORPORATION OF TORONTO. DIAVIK IS THE OPERATOR OF THE PROJECT.

Also located in Yellowknife is the product splitting facility, where mined diamonds are cleaned, sorted and valued for government royalty purposes.

Diavik's mine plan includes three diamond-bearing ore bodies (or kimberlite pipes) named A154 North, A154 South and A418. All are located beneath the waters of Lac de Gras, just offshore of East Island.

To enable open-pit mining, rockfill dikes were constructed to allow the water to be removed temporarily. The A154 dike, completed in 2002, enabled open-pit commercial production to start in January 2003. The second dike, circling the adjacent A418 pipe, was completed in 2007 and allowed pre-stripping to begin.

By year-end of 2007, open-pit mining of the A154 North pipe had ceased. The remaining ore in that pipe will be mined underground. Open-pit mining of the A154 South pipe will continue into 2009. Mining in the new A418 open pit will begin in 2008, with about four years of open-pit mining planned there.

By 2012 Diavik expects to be a fully underground mine. Underground mining should begin in 2009 and continue beyond 2020. The total life of the mine, currently in its sixth year, is 16 to 22 years.

The mine's physical plant is confined to East Island and includes the ore processing plant, accommodations and recreational facilities for the operations and construction workers, a maintenance shop, fuel storage tanks, a hot water heating plant, a sewage treatment plant and a powerhouse. Elevated "arctic corridors" carry services to the facilities and provide enclosed walkways between buildings. In addition, there are potable and wastewater treatment plants and facilities to manufacture explosives. Workers and some supplies are flown in to the site. The mine is resupplied over a winter ice road.

In 2007 Diavik continued its progressive reclamation plan, which includes ensuring that there is no net loss of fish habitat. In the existing open pit (A154), 14.4 hectares of fish habitat has been reclaimed. In the pit still under development (A418), reclamation is at 1.6 hectares. Both pits are on target with the original reclamation plan.

In other measures, Diavik has purchased two high-efficiency waste incinerators to improve air quality. The addition of wet scrubbers will lower particulate emissions. The company will also reduce the amount of material it sends to the landfill. And an in-line heat exchanger, to be installed in 2008, will allow for heat recovery, thus cutting energy costs.

Despite a workforce that is

double the size originally predicted, Diavik has again exceeded its commitments to northern hiring and spending. At year-end of 2007, the operations side included 791 workers, 67 percent of them being northern and half of those being Aboriginal. Total spending on operations and construction for the year was \$727 million, of which 72 percent was northern spending.

For more information on the Diavik diamond mine and its environmental commitments, visit the company's website (www.diavik.ca).



### **Elk Valley Coal Corporation**

ELK VALLEY COAL IS THE LEADING NORTH AMERICAN PRODUCER OF STEELMAKING COAL. THE COMPANY OPERATES SIX OPEN-PIT MINES IN WESTERN CANADA: CARDINAL RIVER, COAL MOUNTAIN, ELKVIEW, FORDING RIVER, GREENHILLS AND LINE CREEK. THE CARDINAL RIVER MINE IS IN WEST-CENTRAL ALBERTA; THE OTHER FIVE ARE IN SOUTHEASTERN BRITISH COLUMBIA. TOGETHER THEY ACCOUNT FOR ANNUAL PRODUCTION CAPACITY OF MORE THAN 25 MILLION TONNES OF HIGH-GRADE STEELMAKING COAL.

A major part of Elk Valley Coal's success is due to its commitment to sustainability. The company believes that its relationship with people, communities and society is one of interdependence. For Elk Valley Coal, pursuing sustainability includes generating wealth and prosperity; demonstrating excellence in safety, health and environmental performance; fostering sustainable communities, including valuing First Nations interests; and maintaining a responsive, transparent and ethical corporate governance.

Elk Valley Coal has been incorporating sustainability into its mining activities since day one. This shows in the company's health and safety programs, environmental management, Aboriginal affairs involvement, community engagement and mining operations.

Elk Valley Coal recognizes personal safety as a core business value. To that end, the company regularly improves its crisis management programs. Elk Valley Coal's safety program has also proven effective. This fact is reflected in the company's safety record, which includes numerous awards, such as the Edward Prior Safety Award for the lowest lost-time accident frequency rate for BC open-pit mines.

Elk Valley Coal has also put great effort into its external outreach and community relations programs, recognizing that community and Aboriginal involvement is critical to current and future mining activities. Working relationships with First Nations have long been recognized as an important component of Elk Valley Coal's business. The company's formal agreements include a memorandum of understanding with the Alexis First Nation near Hinton, Alberta, and a more recent working protocol agreement with the Ktunaxa Nation Council in the east Kootenay region of BC.

Tailings management is integral to Elk Valley Coal's mining operations. In particular, the company focuses on geotechnical stability and safety. All its tailings facilities are inspected annually to ensure compliance with relevant standards. The Elkview mine, which the company is focusing on for this report, maintains an annually updated tailings manual that meets or exceeds several requirements for health and safety.

Proper management of green-house gases continues to be part of everyday operations at Elk Valley Coal. By introducing new technologies and finding potential efficiencies in current technologies, the company is improving its performance while promoting energy research and development. Elk Valley Coal reports on greenhouse gases in accordance with current regulatory requirements, and regularly reviews and updates operational procedures at all levels of the company.

A recent high point for Elk Valley Coal was winning the 2007 British Columbia Mining and Sustainability Award. The award was presented to the company's Fording River operation in February 2008 by the BC Ministry of Energy, Mines and Petroleum Resources and the Mining Association of British Columbia.

As a first-time TSM reporter, Elk Valley Coal is focusing on its Elkview mine for this report. In operation since 1969, Elkview became part of the company in 2003, when Fording, Luscar and Teck Cominco mines were brought together under the Elk Valley Coal Partnership.

A commitment to sustainability is evident at both the corporate and the operational level at Elkview. The mine is a leader in sustainability practices and is constantly working to improve its performance. Elkview's proximity to Sparwood, BC underscores the importance of strong community relations. Through open communication with Sparwood residents over the years, Elkview has been able to resolve sustainabilityrelated issues and has gathered input into several successful programs from residents themselves.

Mining and sustainability are crucial to the future of Elk Valley Coal. The company is committed to meeting the needs of the communities in which it operates, while maintaining a healthy environment and a vibrant economy for present and future generations.

For more information on Elk Valley Coal and its operations, please visit the company's website (www.elkvalleycoal.ca).

# HudBay Minerals Inc.

HUDBAY MINERALS INC. (HUDBAY), AN INTEGRATED MINING COMPANY, IS CANADA'S THIRD-LARGEST PRODUCER OF COPPER AND ZINC METAL. AND NORTH AMERICA'S THIRD-LARGEST PRODUCER OF ZINC OXIDE. THE COMPANY ALSO PRODUCES ABOUT 100,000 OUNCES OF GOLD AND ONE MILLION OUNCES OF SILVER A YEAR. HUDBAY IS A MEMBER OF THE S&P/TSX COMPOSITE INDEX.

The company's operations include three mines in northern Manitoba, operated by the wholly owned subsidiary Hudson Bay Mining and Smelting (HBMS), and a fourth mine and concentrator in the Balmat district of New York state.

HudBay's principal processing facilities are located near the Manitoba mines and include two concentrators, a copper smelter and a zinc plant. The company also refines copper at the White Pine copper refinery in Michigan and produces zinc oxide at the Zochem facility in Ontario. The metals and zinc oxide produced by HudBay are marketed and sold to customers by Considar Metal Marketing, a Toronto agent 50 percent owned by HudBay.

HudBay remains committed to the TSM process. The company won three TSM awards in 2007: the gold award for excellence in crisis management planning at the facility level, and two bronze awards for level 3 rankings in external outreach and tailings management.

The company's focus on community engagement continued in 2007 with the kick-off of the large Metals in Soils study. This study includes a human health risk assessment that is being guided by two distinct groups of stakeholders: the Technical Advisory Committee (TAC) and the Community Advisory Committee (CAC).

The TAC includes representatives from various government agencies: Manitoba Conservation; Manitoba Health; Manitoba Water Stewardship; Manitoba Science, Technology, Energy and Mines; Saskatchewan Environment; Saskatchewan Health; and Health Canada

The CAC is made up of community members from Flin Flon and Creighton. Not all participants on this committee are affiliated with specific communities of interest (COI), but the following COI are represented: the City of Flin Flon, the Town of Creighton, the Flin Flon and Creighton School Divisions, the NOR-MAN Regional Health Authority, the Mamawetan Churchill River Health Region, Healthy Flin Flon, the Flin Flon and District Environment Council, and the Green Project.

HBMS, HudBay's subsidiary, was selected by the MAC Community of Interest Panel for a post-verification review, a key part of the TSM verification system. The review involved a two-hour dialogue at the COI Panel meeting in September 2007. Two HBMS employees and the external verifier gave a presentation on the internal assessment and external verification processes the company used to attain its TSM awards, and responded to questions the panel had prepared beforehand. The panel was pleased with both the TSM results and the process used to verify the same. A report on the post-verification review is posted on the MAC website (www.mining.ca).

In other accomplishments, HudBay completed its tailings pond expansion in 2007. Two new engineered water-retaining dams and a water-control spillway, capable of handling the maximum probable flood, were constructed and commissioned. New tailings pipelines, valves and a spigot system were also installed. A solidsretention dam for storing tailings solids was also created.

Most of HudBay's improvements in energy use and greenhouse gas emissions continue to come from work within the Flin Flon smelter. A combustion improvement project reduced propane use in the smelter's anode, while ongoing management of heavy oil usage led to improvements with that fuel. Reducing the fuel used in processing copper contributes to lower GHG emissions.

The company's decommissioning activities in 2007 were mostly limited to seeding and fertilizing to promote revegetation at previously clay-capped former mine sites. The sites included Konuto Lake mine, Namew Lake mine and Westarm mine, all in the Flin Flon region. Asbestos removal and building demolition occurred at the Britannia concentrator in Snow Lake, Manitoba, which will allow for capping and seeding in 2008.

For more information on HudBay and its operations, including annual sustainability reports, visit the company's website (www.hudbayminerals.com).

### **IAMGOLD Corporation**

IAMGOLD CORPORATION IS A LEADING MULTINATIONAL GOLD PRODUCER THAT EXPANDED SIGNIFICANTLY WHEN IT ACQUIRED GALLERY GOLD IN MARCH AND CAMBIOR INC. IN NOVEMBER OF 2006. THE NEW IAMGOLD HAS OPERATING MINES IN CANADA (QUEBEC), BOTSWANA AND SURINAME, AS WELL AS DEVELOPMENT PROPERTIES IN CANADA, TANZANIA, FRENCH GUIANA AND ECUADOR. IT ALSO HAS OWNERSHIP INTERESTS IN TWO OPERATING MINES IN MALI AND TWO IN GHANA. IAMGOLD HAS SEVERAL NON-OPERATING PROPERTIES IN CANADA AND GUYANA THAT ARE BEING CLOSED IN ACCORDANCE WITH THE COMPANY'S CLOSURE PLANS.

Because of these acquisitions, in 2007 IAMGOLD focused on integration and the transition to successful operators. The company's emphasis was on ensuring that the management structures were in place to maintain a consistently high level of health, safety and sustainability at all operations.

The IAMGOLD board of directors approved two key policies at the beginning of 2007: a health and safety policy and a sustainability policy. The company also developed two frameworks—a health and safety management framework and a sustainability management framework—to ensure that the two policies translate into responsible action at the operational level.

IAMGOLD is now implementing a risk management system that requires a risk assessment for each operation, so that it can develop a clear picture of the important health, safety and sustainability challenges at all levels of the organization. Three risk assessments were finished by the end of 2007. The company's objective is to complete assessments for all operations and development projects by the end of 2008.

In keeping with its strong emphasis on the health and safety of workers, IAMGOLD is developing a health and safety strategy for implementation in 2008. It is

also working on a procedure for reporting significant incidents, which includes a consequence ranking chart to ensure that all operations report incidents consistently. This procedure makes it possible to identify and eliminate unacceptable health and safety issues that could harm workers.

An important aspect of IAMGOLD's approach to sustainability is to establish dialogue with its stakeholders, particularly affected communities. In the case of development projects, IAMGOLD seeks dialogue with stakeholders as early as possible so that it can understand and act upon the concerns of neighbouring communities. In Tanzania and Ecuador, this has led to new projects and initiatives supported by IAMGOLD to improve the health, education and economic well-being of communities.

IAMGOLD became a MAC member in 2007 and is participating in the TSM assessment for the first time. It is reporting on all its majority-owned operating mines for 2007 and on its advanced exploration and closure projects.

In measuring performance against the TSM indicators, IAMGOLD is gaining further guidance for continuous improvement in addition to its internally established goals and objectives. As this is IAMGOLD's first time

reporting against the indicators, it has identified a number of areas that need improvement. The company is also introducing the indicators to its advanced exploration projects to assist them in the future.

IAMGOLD's greenhouse gas emissions for the period totalled approximately 150,000 tonnes CO<sub>2</sub>e, with only 11,000 tonnes of this amount produced in Canada. This total reflects the significant commitment to using renewable energy sources by the company's Quebec mining operations.

For more information on IAMGOLD's health, safety and sustainability performance, see the company's first annual sustainability report, IAMRESPONSIBLE, available at www.iamgold.com.

# **Inmet Mining Corporation**

SINCE THE TSM PROGRESS REPORT BEGAN IN 2004, INMET MINING CORPORATION HAS REPORTED FACILITY-BY-FACILITY PERFORMANCE AGAINST THE TSM INDICATORS FOR ITS OPERATIONS WORLDWIDE, INCLUDING FOR ITS 18 PERCENT SHARE IN OK TEDI MINING LIMITED IN PAPUA NEW GUINEA. INMET HAS ALSO REPORTED ON THE PERFORMANCE OF ITS CLOSED PROPERTIES. THE COMPANY HAS DONE THIS TO DEMONSTRATE THAT IT APPLIES A CONSISTENT STANDARD TO ALL ITS OPERATIONS, REGARDLESS OF THEIR LOCATION OR OPERATING STATUS. INMET BELIEVES THAT DETAILED FACILITY-BY-FACILITY ASSESSMENTS IMPROVE PERFORMANCE.



Inmet's Mine Rescue Team training at the Troilus open pit.

As in past years, Inmet continued in 2007 to incorporate TSM targets into the safety, environment and community affairs targets at its own operations. The company made progress during the year in managing risks in the TSM performance areas: tailings management, community dialogue (external outreach), crisis and emergency management, and energy and greenhouse gas management. Inmet's 2007 results were determined through self-assessment.

An important commitment for Inmet during the year was to improve management systems and OMS manuals at Pyhäsalmi (Finland) and Troilus (Quebec). Pyhäsalmi made significant strides during the year and expects to complete its OMS manual in the second quarter of 2008. Troilus did not progress as quickly, and has renewed its commitment to developing and implementing an OMS manual in 2008. The openpit mining operations at Troilus will close in 2009. Therefore, the OMS will focus on tailings and water management priorities as the site moves towards full closure in 2010.

Caveli (Turkey) has also committed to developing an OMS manual in 2008 that will improve the operation's tailings, waste and water management. Inmet looks forward to reporting on improved tailings management next year.

Inmet also committed to improving external communications in 2007, in order to incorporate community interests into the company's business plans and to establish community development foundations. Çayeli reported progress, but in general this area did not improve as much as the company had hoped. In 2008 Inmet is determined to complete social and economic impact assessments at each of its operations as part of moving forward with community and external outreach and dialogue.

Inmet was unable to schedule

a corporate crisis simulation in 2007, but it did complete emergency preparedness and response training and simulations at its sites. A corporate crisis simulation is scheduled for the second quarter of 2008, and Pyhäsalmi is revising its emergency preparedness and response plan and related training.

Over the past few years, all of Inmet's majority-owned operations have made progress on their energy managementprogress that has translated into modest greenhouse gas reductions because of reduced fuel consumption by the company's mobile fleet. However, Inmet's TSM performance did not improve in 2007.

Inmet took a number of steps to raise awareness of the importance of greenhouse gas and climate change within the company, including participating in the Carbon Disclosure Project and developing a five-year Safety, Environment and Community Affairs (SECA) objective for energy and greenhouse gas. As a result of this increased awareness, Inmet expects to report improvement in the coming years.

# Iron Ore Company of Canada

IOC IS THE LARGEST MANUFACTURER OF IRON ORE PELLETS IN CANADA AND ONE OF THE WORLD'S LEADING SUPPLIERS OF IRON ORE PELLETS AND CONCENTRATE. THE COMPANY'S CUSTOMER BASE SPANS THE GLOBE AND INCLUDES NORTH AMERICAN, EUROPEAN AND ASIAN STEEL PRODUCERS. EMPLOYING OVER 2,000 PEOPLE, IOC HAS A MINE, CONCENTRATOR AND PELLETIZING PLANT IN LABRADOR CITY. FROM THERE, THE QNS&L (QUEBEC NORTH SHORE & LABRADOR) RAILWAY TRANSFERS FINISHED PRODUCTS TO IOC'S DEEP-WATER SEAPORT IN SEPT-ÎLES, QUEBEC, WHICH HANDLES OVER 250 VESSELS EACH YEAR.

Over the past two years, IOC has focused on making sustainable development an integral part of its decisions. The process has included training all managers on the concept and creating decision-making criteria based on sustainable development for capital projects. This process will continue as IOC reviews and refines its policies, procedures and performance. The company aims to eventually incorporate sustainable development into every aspect of the business.

As a member of MAC, IOC is committed to the Towards Sustainable Mining guiding principles. In the past IOC helped develop these principles as well as the external outreach indicators. Today the company is active in refining the current TSM indicators and shaping future ones that will meet the needs of MAC members and push sustainable development forward in the mining sector.

#### **COMMUNITY CONSULTATION**

IOC continues to integrate feedback from the community of Labrador City into the company's benchmark Tailings Management Program, something IOC has been doing since 1999. The government-approved program moved into a new phase in 2007 with the commissioning of a flocculation process that will

restore the visual amenity of Wabush Lake, recover lost fish habitat and make the lake suitable for recreational use again. So far IOC has created a new ecosystem that spans about 540 hectares, with more to come over the next 40 years.

Community consultation is of paramount importance, and IOC has formed Community Advisory Panels (CAPs), based on MAC's Community of Interest Advisory Panel, in both Labrador City and Sept-Îles. The CAPs, which support the TSM principles, give a voice to topics that affect each community and provide a forum in which stakeholders can engage in regular, transparent, constructive dialogue about shared sustainable development goals. All issues are important, and IOC listens and acts alongside community members to achieve the best outcome.

The first official CAPs took place in Labrador City in spring 2006 and in Sept-Îles in fall 2007. The meetings proved challenging, as IOC and other stakeholders have been used to a less unified approach to problem solving. However, there is great optimism on both sides that this can change.

# GREENHOUSE GAS AND ENERGY EFFICIENCY

Greenhouse gas and energy ef-

ficiency will continue to be high on IOC's agenda over the next couple of years. In 2007 Environment Canada launched consultations on *Canada's Clean Air Act*, which will regulate emissions of greenhouse gases, dust, NOx and SOx from IOC's pellet plant. IOC took part in the consultations throughout 2007 and is currently developing strategies for how to meet—and exceed—the Act's requirements, taking into consideration the principles of sustainable development.

In 2007 IOC reduced its consumption of energy, its GHG emissions and its withdrawal of fresh water from an absolute perspective. However, the rate of energy consumption, GHG emissions and fresh water withdrawal all increased. Production issues during the year, combined with a seven-week work stoppage in March and April, were the main reasons why intensity increased over 2006. Nonetheless, IOC is well positioned to exceed its fiveyear reduction targets for GHG emissions and energy efficiency.

# DISASTER AND EMERGENCY MANAGEMENT

IOC's Disaster Management and Recovery Plan performed well in 2007. In 2008 the plan will be implemented at the company's Montreal offices, where it will prepare employees to

Iron Ore Company of Canada's creative use of the inert tailings mixture of rock and sand.

respond to threats in a planned and coordinated way.

The disaster management and recovery team carried out a number of exercises to identify areas for improvement. A full-scale exercise simulating an incident in the automated train operation (ATO) area was conducted to better prepare the team, the ATO area management and the unionized teams involved.

IOC's emergency response team moved forward as well. A 45-member team has now been selected and developed. Leaders attended "train the trainer" sessions, and three team leaders are working towards certification as underground mine rescue instructors. Efforts will continue to upgrade individual and team skills. There will also be efforts towards better understanding of the roles and responsibilities of individuals and teams within both the disaster management and recovery team and the emergency response team, and of the support structures needed to sustain these types of activities.

### LOCAL INVOLVEMENT

IOC participated in a number of projects with local communities throughout the year:

- Household Hazardous Waste Day
- Recycling program



- SAVE Energy event, which included a community fair and a door-to-door campaign to deliver energyefficient light bulbs
- Environment Week light bulb trade-in
- Walk to Work Day
- Municipal Clean-up Day
- Plant a Tree Day
- Installation of 35 songbird nests with Cubs and **Boy Scouts**
- Sept-Îles bird survey and bird-watching events
- Installation of two osprev platforms in Labrador City
- Support to Eastern Habitat Joint Venture for construction and distribution of nest boxes for the common goldeneye
- Sept-Îles Ecopatrouille, during which students promoted waste management and recycling practices to citizens, businesses and industries
- Envirothon 2007, during which students studied aquatic ecology, soil and

land use, wildlife, forestry and other themes

All of IOC's successes, achieved side by side with the community, have ultimately led to the company's expansion project. For several years IOC has been increasing its concentrate production, mainly by streamlining the process and eliminating bottlenecks in the operation system. In 2007 the company completed a \$60 million feasibility study to expand concentrate production capacity to 18.4 million tonnes by mid-2008.

The decision to go ahead with the expansion project will be a real vote of confidence for IOC's ability to maintain improved performance following the recent achievement of a five-year collective agreement. The expansion project is a great accomplishment for both IOC and Rio Tinto, IOC's major shareholder.

For more on IOC's sustainable development initiatives and activities, visit the company's website (www.ironore.ca).

#### North American Palladium Ltd.

NORTH AMERICAN PALLADIUM IS CANADA'S ONLY PRIMARY PRODUCER OF PLATINUM GROUP METALS. THE COMPANY'S LAC DES ILES OPEN-PIT AND UNDERGROUND MINE, 85 KILOMETRES NORTHWEST OF THUNDER BAY IN NORTHERN ONTARIO, IS AMONG THE LARGEST PALLADIUM MINING OPERATIONS IN THE WORLD TODAY.

Platinum group metals are a natural choice for converting harmful emissions into more benign elements such as carbon dioxide, nitrogen and water, and they are widely used in making catalytic converters. Demand for palladium in the automotive industry has more than doubled in the last 10 years, thanks to increased vehicle manufacturing and tighter emissions standards that require catalytic converters, now installed on over 96 percent of new cars. About half the palladium produced at Lac des Iles helps reduce harmful substances such as hydrocarbons, carbon monoxide and nitrous oxides in vehicle exhaust.

North American Palladium is committed to maintaining the highest integrity in its corporate responsibilities for resource development and environmental stewardship. The company has made environmental management a priority and has incorporated environmental considerations into all its mine expansions, operations and closures. It is also committed to operating in compliance with evolving regulatory requirements. The Lac des Iles mine relies on an environmental management system to identify, minimize and monitor all activities that could adversely impact the natural environment.

As a MAC member, North American Palladium has established goals and benchmarks to achieve TSM objectives and improve overall mine performance. In particular, the company has established effective communication and consultation with Aboriginal groups near the mine, and has hired a community liaison coordinator to facilitate the process. The mine is also establishing post-secondary scholarships for students from the Kiashke Zaaging Anishinaabek First Nation.

Construction of the new tailings management facility at Lac des Iles is progressing well, with constant communication and review by environmental personnel. An operating, maintenance and surveillance manual is being drafted for the facility, with full implementation expected in 2008.

Lac des Iles has also begun reviewing its current emissions inventory to identify significant sources of greenhouse gas. The mine will research feasible abatement controls, which may include administrative or engineered initiatives or product replacement, and will then assess the performance of these controls. GHG reductions will be calculated and documented to track the mine's environmental performance.

In adapting its existing environmental management system to suit the TSM assessment protocol, North American Palladium is looking towards a bright future and the continued improvement of its sustainable mining practices.

## Suncor Energy Inc.

IN 1967 SUNCOR ENERGY MADE HISTORY BY TAPPING THE OIL SANDS TO PRODUCE THE FIRST COMMERCIAL BARREL OF SYNTHETIC CRUDE OIL. SINCE THEN SUNCOR HAS GROWN INTO THREE MAIOR BUSINESS DIVISIONS WITH MORE THAN 6,000 EMPLOYEES. THE CORE OIL SANDS BUSINESS IS SUPPORTED BY CONVENTIONAL NATURAL GAS PRODUCTION IN WESTERN CANADA AND BY DOWNSTREAM REFINING, MARKETING AND RETAIL BUSINESSES IN ONTARIO, COLORADO AND WYOMING.

Suncor recovers bitumen from oil sands near Fort McMurray in northern Alberta, and upgrades it to refinery-ready feedstock and diesel fuel. With production capacity of about 260,000 barrels per day and enough reserves to sustain production for the next 50 years, the company remains a leader in oil sands development.

In early 2008 Suncor's board of directors approved plans to construct a third oil sands upgrader and expand the company's in situ operations. These are key steps in Suncor's plans to expand oil sands production to more than half a million barrels per day in the 2010 to 2012 period.

To Suncor, being a sustainable energy company means managing business in a way that enhances social and economic benefits to society, while striving to minimize the environmental impacts associated with resource development. For example, as the company responsibly develops the oil sands, it is also investing in biofuels and zero-emission wind energy.

Here are some other examples of sustainability in action at Suncor:

■ Suncor's proposed Voyageur South mining operation includes plans for mobile ore-preparation equipment instead of a truck-andshovel mining system. With this new technology, Suncor expects to reduce noise pollution and air emissions, in

- particular nitrogen oxides.
- Suncor's plans for a new upgrader include technology that is expected to dramatically reduce reliance on fresh water. Suncor plans to increase production to more than 500,000 barrels per day without increasing its licence to withdraw water from the Athabasca River.
- Water withdrawal intensity at Suncor's oil sands operation declined approximately 50 percent between 2000 and 2006. This reduction reflects the increased use of recycled water from tailings systems in the company's bitumen extraction and upgrading operations.
- Greenhouse gas emissions intensity for Suncor's oil sands operation improved 50 percent between 1990 and 2006.
- Suncor continued its program of introducing low-NOx equipment into the mine fleet. Between 2000 and 2006, NOx emissions and emissions intensity at the oil sands facility improved by about 8 percent and 59 percent respectively.
- The Suncor Energy Foundation worked with the Alberta Conservation Association to establish the Boreal Habitat Conservation Initiative. Under this three-year agreement, the two groups will identify and secure ecologically significant

- boreal habitat, which will be turned over to Alberta Parks for ongoing stewardship and management. More than 1,700 acres of boreal forest have been protected to date.
- Suncor is advancing research into new technologies to reduce the environmental footprint of oil sands production. The company is a founding member of the Integrated CO2 Network, which is proposing a carbon capture and storage framework for Canada. In 2007 Suncor also made a strategic investment in the development of next-generation gasification technology as an alternative to natural gas use in oil sands upgrading.
- Suncor launched its Environmental Excellence initiative in 2006, to instill a conservation ethic among employees and eliminate the wasteful use of energy, water and other resources. Environmental Excellence is modelled after Suncor's successful Journey to Zero initiative, which aims to eliminate workplace injuries.

For more information on Suncor's sustainability performance, see the company's 2007 sustainability report and 2007 climate change report, both available at www.suncor.com. For printed copies of current and previous reports, call 1-800-558-9071 or email info@suncor.com.

## Syncrude Canada Ltd.

SYNCRUDE IS A LEADER IN CANADA'S OIL SANDS INDUSTRY. THE COMPANY'S PRODUCTION CAPACITY IS 350,000 BARRELS PER DAY, ENOUGH TO MEET 15 PERCENT OF THE COUNTRY'S NEED FOR CRUDE OIL. SYNCRUDE OPERATES TECHNOLOGICALLY ADVANCED OIL SANDS MINES, AS WELL AS EXTRACTION AND UPGRADING FACILITIES AND UTILITIES PLANTS, AT ITS TWO SITES NORTH OF FORT MCMURRAY, ALBERTA.

Syncrude understands that Canadians expect the oil sands to be developed responsibly. As a result, the company not only focuses on sustainable development that builds on success, but it also strives for continuous improvement. The following are some highlights from 2007:

- Syncrude completed its application for Alberta government certification for Gateway Hill, a reclaimed landscape. Regulatory approval was granted in March 2008 for the 104-hectare parcel of land, which was once disturbed by the mining operation. Gateway Hill is now a healthy forest of broadleaf and needleleaf trees and contains several wetlands. This is the first certification granted in the oil sands industry, reinforcing Syncrude's leading role in sustainable development.
- Construction to incorporate sulphur reduction technology into Syncrude's operations continued last year. This is the second step in reducing the operation's emissions; the first step was completed in 2006 with the company's upgrader expansion project. The two projects will reduce sulphur dioxide emissions and particulates by 50 percent from current approved levels,

- even though Syncrude's crude oil production will increase by about 50 percent.
- Syncrude decreased its water intensity per barrel of production by more than 10 percent compared to 2006. The company's use of fresh water, at 2.03 cubic metres per cubic metre of production, is the most efficient in the oil sands industry. About 88 percent of the company's water now comes from a continuous recycle loop. Efforts to improve water efficiency will continue in the future. Syncrude's water management team and tailings steering committee are concentrating on further conservation and recycling opportunities.
- The company continued to operate the Beaver Creek Wood Bison Ranch in partnership with the Fort McKay First Nation. Once again. Syncrude was a winner at the annual bison show for the quality of its 300-bison herd.
- The Canadian Council for Aboriginal Business again recognized Syncrude with the Gold Level Progressive Aboriginal Relations award. Syncrude has been recognized at this level since 1992 for increasing Aboriginal employment, assisting business development, building

- individual capacity and enhancing community relations.
- Syncrude worked further with regional stakeholders to manage the social and environmental effects of oil sands development. Independent multi-party groups continued to gather and share scientific data to enable a better understanding of the human and industrial impacts on air, land and water.
- During the year the company awarded \$85,000 in grants to non-profit organizations that Syncrude employees volunteer for. Syncrude also has a community investment program that makes strategic investments in education and lifelong learning; environment, health and safety; science and technology; local community development; arts and culture; and recreation. Syncrude's overall community investment program totalled \$4.2 million in 2007.

For more information about Syncrude and its most recent sustainability report, visit www.syncrude.com.

#### **Teck Cominco Limited**

TECK COMINCO IS A DIVERSIFIED MINING COMPANY HEADOUARTERED IN VANCOUVER. A SIGNIFICANT PRODUCER OF COPPER, METALLURGICAL COAL, ZINC AND SPECIALTY METALS, THE COMPANY ALSO HAS INTERESTS IN SEVERAL OIL SANDS DEVELOPMENT ASSETS. TECK COMINCO HAS OPERATIONS IN CANADA, THE UNITED STATES, CHILE, PERU AND AUSTRALIA. IT ALSO HAS INTERESTS IN MAJOR DEVELOPMENT PROJECTS IN MEXICO AND PANAMA, AS WELL AS EXPLORATION OFFICES AND PROGRAMS AROUND THE WORLD.

Teck Cominco is reporting on performance at three facilities: the Trail metallurgical complex and the Highland Valley openpit copper mine, both in British Columbia, and the Hemlo gold operation in Ontario (50 percent owned with Barrick Gold). The company's TSM self-assessments for 2007 were externally verified for Hemlo and Trail. The TSM performance and the CEO's letter of assurance for Hemlo were submitted to MAC by Barrick Gold.

Carbon dioxide and other greenhouse gases are the subject of increasing public concern and regulatory scrutiny nowadays. Several Teck Cominco operations, including the Trail smelter, emit large amounts of carbon dioxide. The company has made efforts to improve efficiency for years, and in many cases these efforts have made it possible to maintain or reduce GHG emissions intensity.

Similarly, energy intensity at the Trail smelter has dropped by 32 percent since 1990. Still, Teck Cominco's performance on the TSM indicators for energy use and GHG emissions management is below Level 3, the target for MAC members. Energy efficiency is an area for increased attention in 2008.

Back in 2006, at the 100th anniversary celebrations of the founding of the Consolidated Mining and Smelting Company of Canada, Teck Cominco announced two gifts to the community of Trail. The first is a wildlife conservancy that will be created along 890 hectares of the Fort Shepherd Flats on the Columbia River, south of Trail. The company has transferred the land to The Land Conservancy of British Columbia and has donated \$1 million to manage the land. The second gift will convert a company heritage home, the residence

of generations of executives, into a facility that will provide a lasting benefit to the community.

In 2007 Teck Cominco received an environmental award from the BC Ministry of Energy, Mines and Petroleum Resources for the riverbank restoration along the Columbia River. Teck Cominco is very proud of its relationship with the communities around Trail. The company's strong performance (Level 4 and higher) on the TSM external outreach indicators underlines that focus.

Teck Cominco works to establish and maintain its social licence to operate in local and regional communities by incorporating the principles of sustainable development into all aspects of its business. The company strives to carry out its activities so as to ensure the safest possible working conditions, to demonstrate responsible environmental care and to create socio-economic opportunities in the communities where it operates.

Teck Cominco reports on its performance, using the Global Reporting Initiative's G3 Guidelines, in its annual sustainability report, This is Our Future. To view the latest report, visit the company's website (www.teckcominco.com).



Houses in the city of Trail.

#### Vale Inco

# VALE INCO (FORMERLY CVRD INCO) IS THE SECOND-LARGEST PRODUCER OF NICKEL IN THE WORLD. THE COMPANY ALSO PRODUCES COPPER, COBALT, PRECIOUS METALS AND SEVERAL NICKEL SPECIALTY PRODUCTS.

Vale Inco has three nickel mining operations in Canada, an expanding nickel operation in Indonesia, and an integrated operation in development in New Caledonia. As a result of being purchased by Vale in 2006, the company is also developing two mining projects in Brazil: in Carajás (the Vermelho nickel project) and in Ourilândia do Norte (the Onça Puma project).

In addition to mining, Vale Inco produces a variety of finished metals and patented products at its facilities in Canada, the United States, England, Wales, China and Japan.

Environmental stewardship is a high priority at Vale Inco. The company helps conserve the environment through various projects, including partnerships with NGOs, ongoing research, and implementation of emission reduction technologies and process design.

Vale Inco is now in the second year of a five-year \$1-million partnership with World Wildlife Fund Canada that involves sustainability projects at various operating sites. The main objectives are to conserve species at risk that are of national and global importance, to develop a conservation stewardship approach for Vale Inco in Canada and to explore work of a similar nature internationally.

Vale Inco is also involved in reclamation, including research into the revegetation of disturbed land with native plants. At the company's operation in Sudbury, Ontario, aerial seeding has gone on since 1990, transforming thousands of hectares of land.

At its operations in Sudbury and in Thompson, Manitoba, Vale Inco continues to focus on the impact of emissions, especially controlling emissions during periods of poor atmospheric dispersion. Several initiatives took place in the past year. New SODAR instruments, which determine mixing heights, inversions and wind velocity in the atmosphere, have made it easier to decide when smelter production should be cut back. Also in Sudbury, Vale Inco took significant preventative measures against emissions, commissioning a \$115-million state-of-the-art facility (a wet gas cleaning plant for the fluid bed roaster) in September 2006. As a result, sulphur dioxide emissions are now well below the regulatory limit, and other metals and dust emissions decreased in 2007.

A novel hydrometallurgical process for recovering nickel, cobalt and copper from concentrate continued in 2007 at Vale Inco's demonstration plant in Argentia, Newfoundland. Since this technology does not involve smelting and refining, it will be less energy-intensive, will produce fewer emissions associated with smelting and refining, and will reduce the company's impact on the environment.

Vale Inco strives to meet health, safety and environmental (HSE) challenges at all its operations. The company's performance in these areas is being driven to higher levels by MAC's TSM initiative, the reporting standards set by the Global Reporting Initiative and the company's own evolving requirements for better health, safety and environmental management systems.

To effectively manage HSE data on a global level, Vale Inco has deployed a global HSE incident management system. Over the last two years, the operations in Newfoundland and Labrador, Wales, Indonesia, New Caledonia and the United States have used the system to effectively manage and prevent health, safety and environmental incidents. In January 2008 the system was successfully launched at the company's operations in China and Japan. Vale Inco hopes to do the same at its operations in Ontario and Manitoba, thus ensuring that most of the company applies the corporate standard for HSE incident management.

Vale Inco's North mine in Sudbury won the John Ryan Safety Award in 2007 for having no disabling injuries for the year. This award exemplifies a commitment to safety that benefits both the employees and the business at Vale Inco.

For more details on Vale Inco's HSE performance, see the annual environmental, health and safety progress reports, available at www.inco.com.

## Xstrata Copper Canada

XSTRATA COPPER CANADA MANAGES THE ACTIVITIES INVOLVED IN EACH STAGE OF THE SUSTAINABLE DEVELOPMENT CYCLE, FROM MINING EXPLORATION AND MILLING, TO SMELTING AND REFINING, TO SITE CLOSURE AND REHABILITATION. IT HAS A WORKFORCE OF 3,600 EMPLOYEES AND CONTRACTORS.

The division's business units are the Kidd Creek mining and metallurgical operations in Timmins in Northern Ontario; the Horne smelter in Rouyn-Noranda, Quebec; the CCR Refinery in Montreal-East, Quebec; Xstrata Recycling; and closed mine sites. Its products, primarily copper but also base and precious metals, are marketed primarily in North America, and in Europe and Asia.

Xstrata Copper Canada is strongly committed to sustainable development. The division is a pioneer and world leader in the recycling of metallic copper scrap and electronic waste such as circuit boards, chips and cell phones, from which the Horne smelter obtains significant amounts of copper, gold, silver, palladium and platinum for smelting and refining. The Horne smelter significantly increased the amount of recyclable material processed in 2007 to 125,500 tonnes, up 33 percent from the previous vear, as a result of process and equipment optimisation efforts.

Xstrata Copper Canada has also embarked upon initiatives to minimize its impact on the

environment by implementing policies and practices that promote responsible management of its facilities, as well as by creating close links with the communities in which it operates.

At the Horne smelter, several project milestones were met including the commissioning of a large dome to store concentrate, the construction of a truck washing station to minimize the spreading of copper concentrate on the surrounding roads, and the design of secondary hoods for the anode furnaces to capture fugitive emissions.

At the Kidd metallurgical facilities, we invested \$9 million to re-activate the jarosite storage pond. The removal of jarosite from the mill tailing impoundment will stabilize effluent treatment and prepare the area for eventual closure.

A further area of focus was the remediation of former operating sites and zones of impact around current operations. At Murdochville, Ouebec, we began the removal of the surface plant facilities at our former miningsmelting operations, as part of a four-year closure plan. We

also remediated more than 300 private residential properties where elevated metal levels were found to exist through prior characterization studies. We plan to complete this voluntary residential remediation program in 2008. At CCR, we collaborated with four industrial partners to dredge sediments at an adjacent wharf. The sediments will subsequently be treated and disposed of at an approved landfill site.

In 2007, we established formal community partnership programs in Timmins, Rouyn-Noranda and Montreal-East, consistent with Xstrata Copper's Community Social Involvement approach. We increased our financial contributions by 87 percent, directing funds to initiatives identified through needs analyses as the most likely way to make a lasting impact in each community.

Xstrata Copper Canada has its main office in Toronto, Ontario. It is a member of the Xstrata Copper family, headquartered in Brisbane, Australia, the fourthlargest global copper producer, with annual managed production of over one million tonnes.

#### **Xstrata Nickel**

XSTRATA NICKEL IS THE WORLD'S FOURTH-LARGEST NICKEL PRODUCER, WITH ANNUAL MANAGED PRODUCTION OF MORE THAN 116,000 TONNES OF REFINED NICKEL. IT IS ALSO ONE OF THE WORLD'S LARGEST RECYCLERS AND PROCESSORS OF NICKEL AND COBALT-BEARING MATERIALS. A COMMODITY BUSINESS UNIT OF XSTRATA PLC, A MAJOR GLOBAL MINING GROUP, XSTRATA NICKEL IS HEADQUARTERED IN TORONTO.

Xstrata Nickel's Canadian operations consist of five mines and processing facilities in Ontario and Quebec. Internationally, the company operates a ferronickel mine and processing facility in Bonao, Dominican Republic; a high-grade sulphide mine and processing facility in western Australia; and a refinery in Kristiansand, Norway. Xstrata Nickel also has a promising portfolio of growth projects, including Koniambo in New Caledonia, Kabanga in Tanzania, Araguaia in Brazil, Sinclair in Australia and Nickel Rim South in Canada (Sudbury).

Sustainability lies at the foundation of Xstrata Nickel's business strategy and activities. Sustainability requires meaningful engagement with communities of interest. It also requires maintaining the highest regard for environmental stewardship, social responsibility, corporate governance and transparent reporting, while delivering superior shareholder returns.

As a proponent of the TSM initiative, Xstrata Nickel is committed to improving performance and meeting the TSM reporting requirements. In 2007 the company verified performance against the TSM protocols for the first time across its Canadian operations and corporate office.

Xstrata Nickel will continue to look for ways to integrate the TSM framework with the company's own sustainability framework. The Xstrata framework includes health, safety, environment and community management standards that convey the intent and requirements for such elements as biodiversity conservation, community engagement, risk management, and leadership and strategy.

Each Xstrata Nickel operation and project is required to implement programs that contribute to successful sustainability for both the company and the communities in which it operates. Programs exist to support, among other things, community dialogue; health, safety and security; education; environmental leadership; and energy management.

In 2007 the company's Sudbury operations launched a \$2 million community investment program that supports more than 60 community groups focused on health, education, sustainable energy, the environment and other areas. The Sudbury smelter rehabilitated more than 50 hectares of land and planted 60,000 large trees. The Sudbury operations also won the 2007 MASHA award for safety excellence for underground mines and smelters in Ontario.

The Raglan mine, in the far northern region of Quebec, continues to support research projects on the consequences of climate change and caribou migration in the Arctic. The Raglan mine received the 2007 F.J. O'Connell award from the Quebec Mining Association for the best safety improvement in the Quebec mining industry.

Also in 2007, Xstrata Nickel started work on a long-term energy management and climate change strategy to integrate with the company's sustainability strategy.

At Xstrata Nickel, it is important to improve the sustainable development of communities throughout the life cycle of business activities, while identifying and managing key community risks and opportunities. To that end, at all Xstrata Nickel operations and projects, the company seeks external dialogue and stakeholder engagement in order to create effective partnerships. As well, Xstrata contributes at least 1 percent of its pre-tax profit to community initiatives that support enterprise and job creation, education, environment, health, social and community development, and arts and culture.

Xstrata was ranked as the leader in sustainability for the mining sector by the 2008 Dow Jones Sustainability Indexes, the 2007 UK Business in the Community Corporate Responsibility Index, and the 2007 Australian Corporate Responsibility Index.

For more details, see Xstrata Nickel's annual sustainability report, available at www.xstrata.com.

#### Xstrata Zinc Canada

XSTRATA PLC IS CURRENTLY THE LARGEST GLOBAL ZINC PRODUCER IN THE WORLD. ITS NORTH AMERICAN ZINC OPERATIONS ARE MANAGED BY XSTRATA ZINC CANADA (XZC), THE LARGEST PRODUCER OF ZINC METAL IN NORTH AMERICA, SERVING ALL ZINC END-USE SECTORS. XZC'S MINING AND METALLURGICAL OPERATIONS ARE LOCATED THROUGHOUT EASTERN CANADA:

- Brunswick mine, Bathurst, **New Brunswick**
- Brunswick smelter, Bathurst, **New Brunswick**
- General Smelting Company of Canada, Lachine, Quebec
- Noranda Income Fund, CEZ refinery (25 percent interest), Valleyfield, Quebec
- Perseverance mine, Matagami, Quebec
- Kidd Creek smelter, Timmins, Ontario

XZC is also the largest supplier of zinc products in North America, with an output capacity of over 420,000 tonnes of refined zinc. The main end uses for zinc are batteries, construction (galvanized steel and zinc die castings), chemicals, consumer products, pharmaceuticals, infrastructure and transportation equipment. XZC's zinc refineries produce zinc in commodity and value-added shapes and alloys, including specialized zinc powders for manufacturing alkaline batteries.

Each of XZC's facilities had an environmental, health and safety management system in place that was implemented during the former ownership by Falconbridge. These facilities have now integrated their former systems into the Xstrata plc HSEC (health, safety, environment, community) management standard, which encompasses 17 elements.



The Brunswick zinc lead mine.

The following are some of XZC's key HSEC initiatives:

- 46 percent reduction in energy intensity at the CEZ refinery by converting fuel to hydrogen gas, a byproduct of a neighbouring chemical plant
- Comprehensive reclamation program to manage closed mines
- Continued strong community relations
- Development of biodiversity programs at each facility



**THE MINING ASSOCIATION OF CANADA** is the national organization of the Canadian mining industry. It comprises companies engaged in mineral exploration, mining, smelting, refining and semi-fabrication. Member companies account for the vast majority of Canada's output of minerals and metals.

The Association's functions are to promote the interests of the industry nationally and internationally, to work with governments on policies affecting minerals, to inform the public and to promote cooperation between member firms to solve common problems. MAC works closely with provincial and territorial mining associations, and other industry groups across Canada and internationally.



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