



The Mining Association of Canada again showcases the photography of one of its own—Pierre Gratton, Vice President of Sustainable Development and Public Affairs. This report features photos Pierre has taken across Canada while attending mine tours, pausing between business meetings or simply travelling.

Pierre remains "a very amateur photographer" but has been reading up on photographic techniques, including working with light, shadow and other natural effects. In addition to the secondhand telephoto lens he acquired last year, be has broadened his horizons with a wide-angle lens. He still resists the pressure to go digital.

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### President's Message

It has been another exciting year for the Towards Sustainable Mining initiative. In spring 2005 MAC was honoured with the Globe Foundation's Award for Environmental Performance in the industry association category, mostly because of our development of TSM. As I said at the time, such recognition helps us on our path. It motivates us to go farther, while making others in the mining industry aware that change is necessary.

TSM made a great deal of progress over the past year. Learning from the first year of measuring and reporting on TSM performance, MAC members took steps to improve the reporting process, iron out inconsistencies and raise the bar. As described in this report, companies are now using comprehensive assessment protocols for all performance areas: tailings management, energy use and greenhouse gas management, crisis management and external outreach. After a year of training personnel in how to use the protocols, we now have a measurement system that is rigorous and exacting. We have also designed a verification system so that, starting next year, member companies and the public can be confident about the accuracy of reported results.

This report takes a detailed look at our progress and performance in the past year. It also describes how we have benefitted from the invaluable advice of our Community of Interest Advisory Panel on the design and implementation of TSM.

As always, you will find thorough reporting of the industry's releases to the environment, including efforts to reduce greenhouse gases. Detailed release data are provided in the bulletins in the back pocket of this report and also on MAC's website (*www.mining.ca*). Also provided are updates on the industry's key research initiatives, MITHE-RN and MEND, both of which are improving our understanding of how to address the industry's environmental and health impacts.

This year we present four feature articles that illustrate the mining industry's commitment to TSM and sustainable development. One article showcases Albian Sands' bird deterrence system, which is gaining worldwide recognition. Teck Cominco describes how its Trail facility is getting into the e-scrap business, recycling old computers instead of sending them to landfill. A third article looks at the Canadian Council for Aboriginal Business and its Progressive Aboriginal Relations (PAR) program. Two MAC members, Syncrude and Diavik, have achieved PAR gold status. In the fourth article De Beers Canada, soon to be this country's largest diamond producer, describes its sustainable development philosophy and actions.

I hope you find this report interesting and informative. As support for and commitment to TSM broadens and deepens across the Canadian industry, your feedback is important to us. I encourage you to complete the comment card at the end of this report and urge you to contact us directly if you have any questions.

Sincerely,

Gordon R. Peeling President and CEO



Gordon R. Peeling President and CEO The Mining Association of Canada

### Towards Sustainable Mining



Derek Pannell Chair TSM Governance Team Chief Executive Officer Falconbridge Limited

### A Letter from the Chair of the TSM Governance Team

In May 2005 I had the pleasure of attending the ceremony that honoured The Mining Association of Canada with the Globe Foundation's Award for Environmental Performance in the industry association category. MAC won this award largely for developing and implementing the Towards Sustainable Mining initiative. It was an important recognition of the mining industry's commitment to collective action to improve performance in some key areas.

We took many steps over the past year to build on the foundation laid for TSM in 2004. We reviewed, tightened and strengthened all of the performance indicators. We developed assessment protocols, bringing an auditor's rigour to the process to make performance measurement and reporting more consistent. We held a series of French and English workshops to train the staff of mining operations on how to conduct assessments. We have almost finished designing an external verification system, which should come into effect in 2007, and we are making progress on new performance elements such as biodiversity and Aboriginal relations.



A poppy grows in Nain, Labrador

As the TSM initiative unfolds, it is firmly taking root and becoming better known across the mining industry. Thanks to support from the Canadian Institute on Mining, Metallurgy and Petroleum (CIM), MAC has been able to introduce TSM to branches of CIM across Canada. The initiative has also been featured at CIM's annual convention for the past two years. In addition, MAC is cooperating with several provincial mining associations and the Prospectors and Developers Association of Canada.

It has been another exciting year for TSM, with the Globe Award a high-water mark. The challenge now is to make sure the momentum and progress continue. To that end, we count on the ongoing efforts of MAC's Board of Directors, TSM initiative leaders, MAC committees, members of the Community of Interest Advisory Panel and the countless others who want to see the Canadian mining industry succeed responsibly.

MAC members have made a bold move in putting forward a public document that refers to the industry's shortfalls as well as to its positive achievements. A report that reflected a perfect score would be neither credible nor useful. I trust you will take a balanced view of the evaluations and follow the improvements members are committed to achieving year by year against the baseline that this report establishes.

I hope that you enjoy reading the report that follows and that you appreciate the hard work that many, many people have put into the development and implementation of TSM. I welcome your comments on what you read and learn about our industry's progress and I encourage you to take the time to complete the feedback card contained in this report.

Sincerely,

#### Derek Pannell

Chair TSM Governance Team

# A Report on TSM Progress 2005

This article reports on members' results under the TSM performance indicators over the past year. It also reports on the design of the verification system and the work of the Community of Interest Advisory Panel.

#### The path forward

Now finishing its second year of implementation, TSM is focusing on the following goals:

- annual reporting on performance indicators for tailings management, energy use and greenhouse gas emissions management, external outreach and corporate crisis management planning (performance assessed and reported on a facility basis)
- external verification of performance results beginning in 2007
- eventual development of indicators for new performance elements

#### **TSM performance indicators**

From the outset, MAC members identified the need for performance indicators to provide a consistent framework for evaluating and reporting on industry performance against the TSM guiding principles. Indicators help ensure that reporting is relevant to communities of interest. They also help member companies improve their performance at both the operational and corporate levels.

As you review the results below, you may want to consult the list of performance indicators in the back pocket of this report. You will also find full assessment protocols for each performance element on MAC's website (*www.mining.ca*).



The performance indicators were greatly improved in 2005. Criteria were modified and added, and assessment protocols were developed to bring greater rigour to the performance evaluation process. For example, in the case of energy use and greenhouse gas emissions management, companies now report against six indicators as opposed to four in 2004. The overall effect of the changes is a tighter, stricter performance measurement system.

However, these improvements have made it difficult to compare 2005 results with those from 2004. Under some indicators, for instance, the changes have lowered overall ratings even though actual performance may have improved. Consequently, this report does not provide a full comparison with last year's results. It does, however, make some general observations on progress made. MAC is confident that this year's results will provide a clearer baseline for evaluating progress in the future.

TSM Initiative Leaders pause for a group photo. From left to right: Patricia Dillon (Teck Cominco Limited), Bob Masterson (Stratos Inc.), Craig Ford (Chair, Inmet Mining Corporation), Brenda Erskine (Suncor Energy Inc.), Denis Kemp (Falconbridge Limited), Bill Ferdinand (Barrick Gold Corporation), Inge Robinson (Inco Limited), Fim Seeley (Dynatec Corporation), Gilles Couture (Quebec Cartier Mining Company), Pierre Gratton (Mining Association of Canada), Colin Seeley (Placer Dome Canada), Claire Parkinson (Inco Limited), Lee Preziosi (Iron Ore Company of Canada), Barbara Shumsky (Syncrude Canada Ltd.), Claire Vivier (Falconbridge Limited), Les Hulett (Inco Limited)

Tailings Management	Energy Use and Greenhouse Gas (GHG) Emissions Management	External Outreach	Crisis Management Planning
Tailings management policy and statement of commitments	Energy use and GHG emissions management systems	Community of interest (COI) identification process	Crisis management preparedness
Tailings management system	Energy use and GHG emissions reporting systems	Effective COI communications and engagement processes	Annual review
Responsibility for tailings management assigned to a senior official	Energy intensity performance	COI response mechanism	Training
Annual senior management review	GHG emissions intensity performance	Reporting performance	Adherence to best practices
Operation, maintenance and surveillance (OMS) manual			

#### Interpreting TSM Indicators

The TSM performance indicators developed so far mostly measure the quality and comprehensiveness of management systems in four performance areas. They provide the public with a window on the industry's performance but by no means a complete picture. Readers are encouraged to review the environmental and greenhouse gas release data published in this report, as well as to consult member companies' reports for more information on their performance. Like last year, the indicators for three elements-tailings management, external outreach, and energy use and greenhouse gas emissions management—are supported by a ranking system and clear criteria for evaluating performance and monitoring progress. For each indicator there are five performance levels, each with its own

criteria. The levels generally reflect the following:

- Level 1 No systems in place; activities tend to be reactive; procedures may exist but are not integrated into policies and management systems.
- Level 2 Procedures exist but are not fully consistent or documented; systems/processes planned and being developed.
- Level 3 Systems/processes developed and implemented.
- Level 4 Demonstrated integration into management decisions.
- Level 5 Excellence and leadership.

MAC sees Level 3 as representing a good performance under each indicator. In some cases, Level 3 presents a realistic stretch target for member companies.

#### Regardless of which level a facility reports at, the facility is assumed to be in compliance with all legal and regulatory requirements.

The measurement system, in keeping with the TSM guiding principles, has been designed to help MAC members improve their performance by moving beyond minimum regulatory standards towards best practices worldwide.

In the case of crisis management planning, companies assess their performance against criteria by answering yes or no (met requirements/did not meet requirements). One of the indicators, adherence to best practices, applies to MAC itself. This indicator requires that MAC's *Guidelines for Corporate Crisis Management Planning* be reviewed and updated every two years to reflect best practices in the industry. The last update was in the fall of 2004.

#### The results

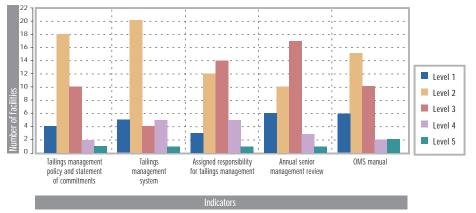
The graphs that follow show data from the performance assessments of 16 member companies' operating facilities. (Only member companies with operating facilities in Canada are expected to report.) In total, 4 member companies with operating facilities did not report in 2005.

The results show overall performance across MAC membership on an aggregate basis. Some members are voluntarily publishing their individual results for 2005. In 2004 companies had the option of reporting on a company or a facility basis. This year they have reported results by facility, which MAC members agreed was the most accurate, effective way to both assess and drive performance. In the case of crisis management planning, companies report at both the corporate and the facility level.



TSM Initiative Leaders at work

#### Tailings Management Assessments



Tailings Management Facility Assessments: 35 facilities

#### 1. Tailings management

The 2005 results for tailings management are mixed. Most facilities are at Level 3 or better for the two indicators that measure accountability and responsibility for tailings management. This is an important result: it means the facility has assigned responsibility and accountability for tailings management to a senior official who has the budgetary allocation to implement the system. It also means that senior management conducts a formal, documented annual review of the facility's tailings management system. To obtain Level 4 or higher, these actions must be formally verified.

The results for indicator 1 (tailings management policy and statement of commitments) and indicator 2 (tailings management system) are not as strong. In 2005 a new requirement was added to Level 3 for both indicators stipulating that a facility's communities of interest must be consulted. While this is common practice for some sites, it is not yet the norm. For many

Energy Use and Greenhouse Gas (GHG) Emissions

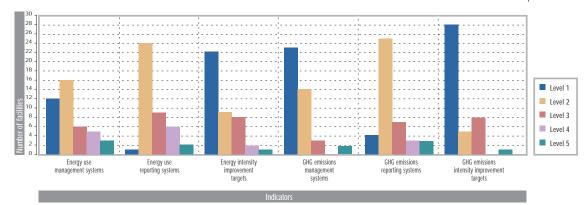
Management Assessments

mining facilities, the development of policies and systems is still mostly an internally driven exercise.

In 2003 MAC published *Developing an Operation, Maintenance and Surveillance Manual for Tailings and Water Management Facilities.* This guide has helped members develop OMS manuals for each of their tailings facilities. The manuals address a range of issues, including facility design, operation, regulatory compliance, maintenance and surveillance, and emergency preparedness and response. Up to now, most members' facilities have either developed and implemented OMS manuals or are in the process of doing so.

### 2. Energy use and greenhouse gas (GHG) emissions management

In 2004 energy use and GHG emissions management and reporting systems were clustered together into four indicators. After some



#### Companies submitting TSM Assessments (16):

Albian Sands Energy Inc.\* Barrick Gold Corporation BHP Billiton Diamonds Inc.\* Diavik Diamond Mines Inc.\* **Dynatec Corporation** Falconbridge Limited HudBay Minerals Inc. Inco Limited\* Inmet Mining Corporation\* Iron Ore Company of Canada Newmont Mining Corporation of Canada Limited\* Placer Dome Canada\* Quebec Cartier Mining Company Suncor Energy Inc.\* Syncrude Canada Ltd. Teck Cominco Limited \*Indicates individual results published in Highlights of Company Actions

Energy and GHG Management Facility Assessments: 42 facilities

experience, it became clear that it was easier and more effective to divide them further. There are now six indicators under this performance element.

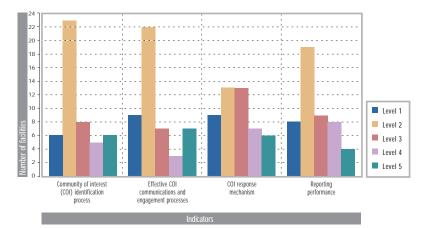
The current separation of energy use and GHG emissions management is also revealing. Energy use, perhaps not surprisingly, is more likely to be managed and reported than GHG emissions, as the mining industry has a longer history of dealing with the cost of energy. The majority of facilities have established inventories and basic systems or strategies for energy use, including having designated energy leaders at the facility (Level 2) and company (Level 3 or higher) as well as senior management commitment. Virtually all facilities have systems for collecting and reporting data on energy use, and almost half report this information publicly. Furthermore, in 2005 close to 30 percent of facilities met or exceeded MAC's annual energy intensity improvement target of 1 percent.

For GHG emissions management, the results are less positive. While many facilities have basic systems for measuring and reporting GHG emissions, more than half do not have systems in place for managing them. The majority of facilities have not set GHG emissions intensity targets. Of course, facilities that measure and report on energy use, as well as set and meet energy targets, will in practice do so indirectly to affect GHG emissions. However, these systems and actions are not equivalent. For example, electricity, a major cost for many facilities, will be managed. But managing electricity produces different GHG emissions depending on the electricity generation profile in a given province.

#### 3. External outreach

Assessing external outreach at mine sites has revealed widely variable performance among MAC members. Some sites meet requirements for external dialogue; at times these are spelled out in agreements with local communities (e.g., impact benefit agreements). Most facilities have at least informal systems for identifying, communicating, responding to and reporting performance to their communities of interest. Yet there are still some sites with no systems in place at all. For some, this may be because of their remoteness or because external communication has not been a priority. Nonetheless, MAC members recognize the need to communicate more with their communities of interest, and they support the high value TSM has placed on external dialogue.

Many facilities reporting Level 2 performance lack formal documented systems for external outreach. In small communities where people tend to know one another, a formal system may seem an unnecessary burden. But still, many of these sites have noted that development of such a system is a priority and is in progress. TSM initiative leaders will look for ways of sharing best practices to improve performance in this area.



#### External Outreach Assessments

External Outreach Facility Assessments: 48 facilities

#### 4. Crisis management planning

The first indicator in this area, crisis management preparedness, has a high pass mark. Member companies are asked whether they have a crisis plan in place that is consistent with best practices worldwide. The wording here is important: answering "no" does not mean a company has no crisis plan. It may simply mean that the plan is not yet at the level of excellence MAC members strive towards.

Nevertheless, companies are reporting significant progress for all three indicators compared to last year. A solid majority of MAC member corporate offices have plans in place that are reviewed annually, and training is commonplace. Similarly strong performance is reported at the facility level, which is encouraging since crisis planning is often a head office initiative that takes time to implement fully at operational facilities.

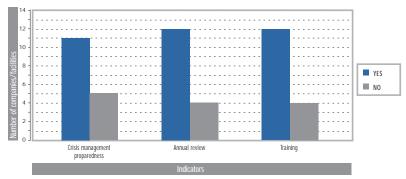
Given these results, MAC's Board of Directors may soon realize its goal—that all MAC members have crisis management plans in place.

#### Implementing external verification

The TSM results in this report are based on company self-assessment, a procedure the MAC Board of Directors believes is a necessary part of performance evaluation. When personnel directly participate in assessing their company's performance, they learn from the process and are better able to identify and plan improvements.

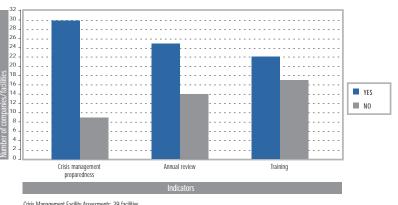
However, the Board also recognizes how crucial it is to assure MAC members and their communities of interest that reported results are

#### Crisis Management Planning Assessments Corporate-Level Reporting



Crisis Management Corporate Assessments: 16 companies

#### Crisis Management Planning Assessments Facility-Level Reporting



Crisis Management Facility Assessments: 39 facilities (Companies with only one facility were considered as part of the corporate assessments.)

consistent and accurate. To that end, in 2004 the Board approved a three-step plan for phasing in a TSM verification system:

• Year 1 (2004 reporting year): Members self-assess and submit performance data to MAC for reporting on an aggregate basis in the *TSM Progress Report*.



A view from the Voisey's Bay mine site.

- Year 2 (2005 reporting year): As above. Assessment protocols are developed and used to improve consistency of evaluation and reporting.
- Year 3 (2006 reporting year): Each company's self-assessment is verified by an external party.

Over the past year TSM initiative leaders from member companies have worked together to design a verification system that will do the following:

- verify that MAC members' assessments reflect actual company performance
- assist members in developing the capacity to monitor and self-assess TSM implementation
- ensure that MAC members and their communities of interest can rely on the reported results

Initiative leaders reviewed a range of verification systems in use or under development by MAC members and by other industry associations in mining and non-mining sectors. Several auditing and verification professionals were consulted or were actively involved in the design. In addition, the COI Advisory Panel was regularly consulted on all elements of the system. Initiative leaders were able to incorporate much of the panel's advice.

The resulting TSM verification system is based on a layered approach. Three elements combine to give MAC members and their communities of interest confidence in the integrity of reported company performance:

- verification of company self-assessments by an external verifier
- letter of assurance from a CEO or authorized officer confirming the verified results
- annual post-verification review of two or three member companies' performance by the COI Advisory Panel

#### 1. Verification of company selfassessments

Verification will be conducted by verifiers who are outside MAC and the individual companies. MAC members will hire external verifiers who meet qualifications and conditions spelled out in the terms of reference (currently under development). The external verification will cover all indicators at all operating facilities in Canada. Member companies will report their verified results to MAC.

In the first year of implementation, all MAC members will have their results externally verified. Subsequent years will follow an annual rotation, with one-third of MAC members undergoing external verification each year.

#### 2. CEO letter of assurance

In the year when a MAC member company undergoes external verification, the CEO or authorized officer of the company will provide a letter of assurance confirming that the verification was conducted. The letter will be posted on MAC's website.



Fish in Bear Creek, Voisey's Bay

#### 3. Post-verification review

From among the companies externally verified in a given year, the COI Advisory Panel will select two or three to present their performance assessment and verification results. These companies will be expected to answer the panel's questions on their performance results and future plans.

MAC will assess the verification system once it is underway and, with advice from the COI Advisory Panel, will decide whether further steps are needed to meet TSM objectives.

#### 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 met twice in 2005, on March 10 and September 20, with conference calls on specific issues between meetings. The panel discussed and advised on a range of issues, including the following:

- the design of the TSM verification system
- new performance elements for Aboriginal relations and biodiversity
- climate change and climate change adaptation in relation to tailings management
- orphaned and abandoned mines

For more information, see the panel's meeting reports on the MAC website (*www.mining.ca*).

The COI Advisory Panel is in the midst of a twoyear review of its operations to determine how to enhance its contribution. In a statement in this report, the panel presents its views on TSM progress and the challenges facing Canada's mining industry.

#### TSM Community of Interest Advisory Panel Members

**Gordon Ball** Syncrude Canada Ltd.

Chief Jim Boucher Fort McKay First Nation

**Richard Briggs** Canadian Auto Workers

Charles Campbell United Steelworkers of America

Ginger Gibson CoDevelopment Canada Larry Haber

City of Kimberley Peter C. Jones

Inco Limited

Peter R. Jones HudBay Minerals Inc.

Stefan Lopatka Nunavut Tunngavik Incorporated

**Brenda Kelley** Canadian Environmental Network

**Soha Kneen** Inuit Tapiriit Kanatami

**Christie Marinig** Timmins Economic Development Corporation

**Elizabeth May**, Sierra Club of Canada Gordon Peeling Mining Association of Canada

Alan Penn Cree Regional Authority

Allan Morin Métis National Council

Richard Ross Inmet Mining Corporation

David Scott CIBC World Markets

**Chief Darren Taylor** Assembly of First Nations

**Eira Thomas** Stornoway Diamond Corporation

#### Next steps

Over the next year, MAC will continue to work on new performance elements in such areas as biodiversity and Aboriginal relations, with the support of the COI Advisory Panel. In 2006 MAC will hold a workshop for associate members—suppliers and consultants to the mining industry—to identify how they can participate in and support TSM. There will also be workshops for potential external verifiers in fall 2006.

### Statement from the Community of Interest Advisory Panel

The Community of Interest (COI) Advisory Panel is pleased to have an opportunity to comment on the implementation of the TSM indicators in light of the many environmental, social, cultural and economic challenges faced by The Mining Association of Canada, its members and Canadian communities. This is the first letter issued by the panel since the initiative's inception.

The COI Advisory Panel has always regarded the TSM initiative as having considerable potential to assist mining facilities in recognizing and adopting best practice protocols, thereby performing above and beyond regulatory requirements. The implementation of best practice protocols encourages mining companies to work more closely within the community to set goals, guidelines and, where appropriate, specific targets for mining companies. Doing so ensures that the mine proposal or the mine itself works more closely and transparently with the citizens living in and around the mine's communities of interest.

The development of indicators and a verification process to identify whether the mining companies participating in TSM are actually meeting their objectives has the potential to provide greater assurance to the community where a mine is operating that the issues important to the community are not only being considered passively, but are being planned for and acted upon positively.

We commend those mining companies that have taken a leadership role and made the extra effort to follow the TSM process. We recognize that MAC membership does not include all mining companies in Canada, and that uranium and coal mining companies in particular are not members. Most MAC members are making progress, with 16 out of 20 members now reporting within the TSM framework. It is unfortunate that not all mines are doing so. But we hope that as the process becomes more familiar to them, more companies, with the help of both the panel and MAC, will join the list.

In our view, the credibility of the TSM initiative rests in large part on meeting its goals. With regard to the 2005 report, the panel is pleased to see an issues-oriented approach combined with reporting on indicators. We believe that these issues are ones that most of your stakeholders will find relevant.

An indicator verification system was developed in 2005 and will be implemented in the next reporting year. The COI Advisory Panel has requested that the third-party verification reports from several mines be tabled at an upcoming panel meeting so that panel members can begin to review this concrete action, comment on the process and make recommendations for further improvements if necessary.

We believe the system will be strengthened when citizens of communities where the local mine has adopted TSM processes actually see improvements, both in their working relations with the mine and in mining's environmental performance.

The heightened guidelines for crisis management planning, external outreach, energy use and greenhouse gas emissions management, and tailings management, as well as the emerging discussions on Aboriginal relations and biodiversity, are all signs that MAC member companies are aware of the importance of addressing and including in their work these current critical issues, which are of course vitally important to all mining communities.





### **De Beers Canada:**

### **Creating Value Through Community Partnerships**

n the 40 years De Beers has been exploring for diamonds in Canada, the company has dedicated people, time and resources to building relationships based on respect.

De Beers is committed to adopting business strategies that meet the current needs of the company, its stakeholders and its partners, while protecting, sustaining and developing human, social, economic and natural resources for the future. To that end, the company believes that good community relationships are essential when developing projects. Although a small team of professionals drives this vision, all De Beers employees are responsible for supporting it.

Over the past five years De Beers has been in transition, moving from pure exploration to developing three projects. Its objective is to become a significant Canadian producer by 2009. As the company's projects move ahead, it is signing agreements with Aboriginal groups across the country.

In June 2005, after two years of negotiation, the Attawapiskat First Nation of northern Ontario voted 85.5 percent a Canadian record—in favour of an impact benefit agreement (IBA) with De Beers for the Victor project. This was the first opportunity for the First Nation to get involved in a development project of this size, and the first such agreement concluded by De Beers.

The Chief of Attawapiskat, Mike Carpenter, had this to say: "Our people have had a great deal to consider in the negotiation and ratification process for this agreement. We wanted to ensure that we had a sound and fair agreement which would provide long-term benefits for our First Nation. While there are still concerns over the impact of the project, the people have decided that the significant long-term benefits for our community and our children outweigh the risks."



Caribou surveys are completed to monitor any potential effects of the mine on wildlife movements or behaviour. Surveys are done several times a year in a study area that is a 31 km radius around Snap Lake.

"True partnerships underpin our approach to business," said Richard Molyneux, President and CEO of De Beers Canada, "and this is evident in the relationship we have developed with Attawapiskat since we first began work in the area in the 1980s. We have completed a range of agreements with different Aboriginal communities widely across Canada, but this is our first IBA. The nature of this agreement is such that it eclipses those previously completed in terms of the major long-term benefits which Attawapiskat will receive throughout the life cycle of the mine."

Shortly after signing this IBA in November 2005, De Beers and the Yellowknives Dene First Nation concluded another for the Snap Lake project in the Northwest Territories. This is one of four IBAs the company is negotiating with communities impacted by the Snap Lake project.

Commenting on this agreement, John McConnell, Vice President of NWT Projects, said, "As the Snap Lake project has advanced, and during the IBA negotiations, we have managed our business to ensure that the Yellowknives Dene experience tangible benefits from the Snap Lake project. Concluding this agreement builds on our success in this area and provides a more formal mechanism to define a positive long-term relationship with the community."

Reaching agreements like these takes time, patience, resources and a true willingness to understand one another's needs, both business and societal.

# employment, training and busin<u>ess opp</u>ortunities

While the agreements mean a great deal to the parties involved, the real commitment comes in the implementation. Even before the agreements were signed, De Beers was working to fulfil their spirit.

For example, as of January 15, 2006, De Beers had spent over \$171 million on the Snap Lake construction. Of that, over \$90 million, or 53 percent of the total, went to NWT businesses. Nearly three-quarters of the NWT expenditures, some \$66 million, went to Aboriginal businesses or joint ventures. With more than \$400 million in contracts and purchase orders committed by mid-January 2006, the Snap Lake project will make a considerable contribution to the Northwest Territories' growing economy and to Aboriginal businesses.

Another example of De Beers' partnership approach to social investment is the \$1.5 million expansion of the Kimberlite Career and Technical Centre in Yellowknife. Spearheaded by De Beers, the expansion project involves many partners: Nuna Logistics Limited, Ek'ati Services/ PTI, Ke Te Whii/Procon, Ke Te Whii/Ledcor, Deton'Cho Corporation, AMEC and Yellowknife Catholic Schools. Together, De Beers



Agreement with the Taykwa Tagamou Nation

In May 2005 the Taykwa Tagamou Nation and De Beers Canada concluded an agreement outlining how the groups will work together on the Victor project. This is one of many agreements between De Beers and Aboriginal groups in the region. From left to right: Deputy Chief Deborah Rickard of Taykwa Tagamou; Jeremy Wyeth, Vice President, Victor Project; Chief Dwight Sutherland of Taykwa Tagamou; and Wayne Ross of Taykwa Tagamou.

and its partners raised \$750,000, which was matched by the Northwest Territories government. De Beers had donated \$500,000 over five years to the original construction of the centre.

In northern Ontario, to encourage local and Aboriginal participation in the Victor project, De Beers has launched an online database to give business owners and contractors information on procurement and human resources. "Developing meaningful partnerships with the communities in which we operate is key to the continued success and development of a mine at Victor," said Jeremy Wyeth, Vice President of the project. "As the bulk of the work will be contracted out during construction, this database will be a vital tool in honouring our commitment to maximize employment and business opportunities for the north."

Another De Beers collaboration is the James Bay employment and training partnership, developed to make the most of training opportunities in local communities. A contribution agreement was recently approved involving De Beers, Human Resources and Skills Development Canada (HRSDC) and several Aboriginal communities. Under the agreement HRSDC will provide funds for training, and De Beers will provide funding and jobs to local communities.

For more information on De Beers' community partnerships, visit the company's website (www.debeerscanada.com).

### Managing Releases and Materials SECTION 1

### Summary of Industry Progress

For over 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 toward significant, meaningful reduction in the releases of key substances such as mercury, sulphur dioxide, lead and cadmium. These reductions have led to improved exposure conditions for the environment and communities around operations. In the case of sulphur dioxide, reductions have contributed to a favourable trend for acid rain, a North American issue.

The graphs and tables below show members' releases to air and water in 2004 against the base year. Detailed tables on members' greenhouse gas releases are provided in the separate "Greenhouse Gas Progress Report" in the back pocket of this report. Information on the *Metal Mining Effluent Regulations* and environmental effects monitoring is also provided in a separate bulletin (see back pocket or *www.mining.ca*).

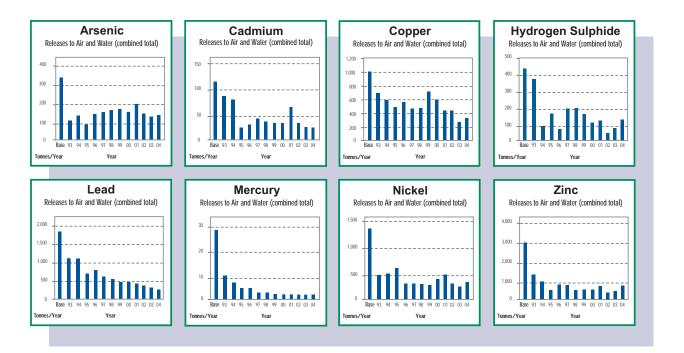
### **Releases of Minerals and Metals**

The following are the major substances commonly released by our industry. Though these substances occur naturally, their release to the environment from mining, smelting and refining can pose environmental or health risks. Whether this happens depends on a number of factors, including bioavailability (ability to be absorbed by living organisms) and the concentration of the substances compared to natural background levels. For this reason, MAC members believe it is important to reduce releases as well as to study their potential effects on environmental and human health. Many MAC members are 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 has been a major sponsor of the Metals in the Human Environment Research Network (MITHE-RN), which examines the connection between metals in the environment and the potential for adverse effects on humans (see article in this report).

Government of Canada officials visit Voisey's Bay mine

#### **Reductions Achieved to 2004**

Arsenic	57%
Cadmium	79%
Copper	67%
Hydrogen Sulphide	69%
Lead	87%
Mercury	93%
Nickel	74%
Zinc	75%





#### Focus on Sulphur Dioxide

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 for acid rain, which occurs when SO<sub>2</sub> oxidizes and mixes with water in the atmosphere to produce sulphuric acid. There are also health risks associated with SO<sub>2</sub>. High levels contribute to breathing problems and increased difficulty for people with respiratory and cardiovascular diseases.

A colourless gas, sulphur dioxide is produced naturally and by human activity. The main natural sources of  $SO_2$  are volcanoes, forest fires and oceans. The main human sources are burning fossil fuels and smelting sulphidic ores. In Canadian base metal ores, the desired metal occurs as a compound of sulphur. Extracting the metal means dealing with the sulphur; therefore, traditional smelting generates SO<sub>2</sub>. Most of the sulphur is rejected at the concentrator stage before smelting; the rest can be treated by capturing the gas generated. Using an acid plant to convert the gas to sulphuric acid can reduce releases by 80 to 99 percent. However, technological features and the distance between some smelters and markets for sulphuric acid make this approach challenging for some operations.

New hydrometallurgical technologies offer an option that does not generate SO<sub>2</sub>, but they are currently economically and technically feasible only for processing some types of sulphidic ores. Research is underway to extend this technology to all sulphidic ores.







A view from St. Andrews, New Brunswick, location of the 2005 Federal/Provincial/Territorial Mines Ministers Meeting.

### **Teck Cominco** Delivers E-Scrap Solution

sing existing furnace capacity at its metallurgical complex in Trail, British Columbia, Teck Cominco is building a new business that will divert thousands of tonnes of discarded electronic equipment, or "e-scrap," from landfills in western Canada and the United States.

For two years Teck Cominco worked closely with community partners, federal and provincial regulators and teams of professional engineers and operators at the smelter to come up with a sustainable way of processing growing amounts of e-scrap. Their collaboration led to a new business for the #2 slag furning furnace. It is now processing shredded e-scrap and is increasing the recovery of zinc, lead, indium, germanium and cadmium at the entire metallurgical complex. In June 2005, after extensive testing, Teck Cominco announced that it would offer its unique service to customers interested in recycling and processing escrap responsibly. The company is thus poised to greatly reduce the volume of electronic waste going to landfills.

The e-scrap idea first surfaced in August 2003, when Teck Cominco was looking for ways to make the Trail metallurgical complex more profitable. The company was particularly interested in opportunities that were independent of the metal price cycle, that would increase the use of existing assets and that would generate value from its existing processes, engineering and market knowledge. Furthermore, the company recognized that regulations increasingly require manufacturers to take responsibility for the life cycle management and stewardship of their products.

In the business of recycling lead-acid batteries since the mid-1980s, Teck Cominco has in some years recovered as much as 25,000 tonnes of lead from recycling. Armed with this experience, the team knew that recycling processing fees are often unaffected by the metal price cycle. The team began to



E-waste close-up on feed belt

see an excellent opportunity for recycling electronic scrap. This was good news for Trail, whose furnace, built in 1947 and modified in 2000 to process stock slag, was scheduled for permanent shutdown in 2005.

With this new business in the wings, the team turned to setting the parameters for processing the metals and plastics that make up most e-scrap. A series of theoretical and practical tests were set up. During the planning and the first tests, the team recognized the broader potential to recover even more zinc, lead, indium, germanium and cadmium from input feedstocks. This discovery, along with rising indium prices, was a compelling reason to fasttrack the project.

In August 2004 a 30-tonne e-scrap trial put some primary assumptions to the test. The results were overwhelmingly positive, and the company was able to identify potential environmental impacts and safety hazards and either eliminate or mitigate them. In November, a 14-day, 225-tonne trial was conducted and the recycling model was evaluated. In the end, 100 percent of the e-scrap was successfully processed with no increase in the facility's emissions. In June 2005 the B.C. Ministry of Environment approved the Trail furnace to process bulk e-scrap in an environmentally safe manner.

The e-scrap marketplace is evolving and expanding. According to Environment Canada, in 2005 more than 156,000 tonnes of electronic scrap accumulated in Canada and 2.2 million tons in the United States. Teck Cominco's response is to market its new service and work with partners in and around Trail to deliver efficient escrap recycling.

Teck Cominco is committed to developing sustainable businesses, contributing to the well-being of the communities in which it operates, providing value to its customers and increasing the utility of the country's natural resources. As it moves forward with this new business, Teck Cominco will collaborate with government, communities and customers to ensure that metal bearing products have a better chance of being used again and again. The company has committed substantial resources to being part of the escrap solution. It looks forward to the day when residents of British Columbian, western Canada and the pacific northwest can drop off their old computers, printers, telephones and televisions knowing they will be processed in an environmentally responsible way.

### SECTION 2 Collaborative Research Delivering Results



Construction of the Voisey's Bay port facilities

### Mine Environment Neutral Drainage (MEND)

### Canadian research in an international context

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.

MEND is administered by a small secretariat at CANMET, part of Natural Resources Canada. It is highly respected both in Canada and abroad. Canada is currently the only country in the world addressing acidic drainage and metal leaching through a focused research program directed by a multi-stakeholder committee from industry, government and non-government organizations.

Since 2001 MEND has been building the foundation for a renewed research program. In doing so, it has identified several priorities: closure management, verification of technologies, metal leaching, passive treatment, early prediction, sludge management, cold temperature effects and paste backfill. In the past year MEND made great progress in addressing these priorities.

MEND is now part of a global alliance for acidic drainage research that also includes the International Network for Acid Prevention, the US Acid Drainage Technology Initiative, the industry's environmental and social performance. MITHE is contributing greatly to our collective understanding of the sources and effects of metals in the environment and their relationship to human health. MEND has contributed enormously to our understanding of acid rock drainage. Both research programs are highlighted here.

Scientific research is critical to the mining

As well, a feature article looks at how the Canadian Council for Aboriginal Business, through its PAR Program, rigorously assesses the performance of two MAC members that are working with Aboriginal communities. This program will help build our knowledge of effective models of Aboriginal engagement.

Australian Centre for Minerals Extension and Research, and the Partnership for Acid Drainage Remediation in Europe. This alliance has many benefits, including the following:

- better global information sharing
- efficient pooling of resources and leveraging of funds
- reduced duplication of effort, meaning a wiser investment of capital

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

A more detailed bulletin is available on this topic (see back pocket or www.mining.ca).



MEND has contributed enormously to our understanding of acid rock drainage.

# Metals in the Human Environment Research Network (MITHE-RN)

### Metals research network begins second year

The University of Guelph hosted the official launch of MITHE-RN on October 24, 2005. The new research network builds on the knowledge developed by its predecessor, MITE-RN (Metals in the Environment Research Network), which ran from 1999 to 2004.

MITHE-RN has received five-year funding (2004–09) from NSERC (the Natural Sciences and Engineering Research Council of Canada) as well as financial and in-kind support from many partners, for a total of \$5.4 million. The network is led by Dr. Beverley Hale from the University of Guelph and is supported by a secretariat managed by Dr. Len Ritter, Executive Director of the Canadian Network of Toxicology Centres. The network's research program addresses key uncertainties that hamper site-specific risk assessments for metals in surface environments. Dust, soil and food are the main routes by which humans are exposed to metals. It is therefore important to measure and characterize the metals present in these routes, looking specifically at their speciation and bioavailability. The network's program also recognizes that the health of aquatic and terrestrial ecosystems is a critical part of human health.





The 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 levels to the highest consumers. The 16 projects in the network's second year promote collaboration among university and government researchers. For more information, visit the MITHE-RN website (*www.mithe-rn.org*).

A more detailed bulletin is available on this topic (see back pocket or www.mining.ca).

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### **Progressive Aboriginal Relations:**

### Diavik and Syncrude Lead the Way

BY KEN TUFTS, CANADIAN COUNCIL FOR ABORIGINAL BUSINESS

Far North have in common with digging for bitumen in Alberta?

Syncrude Canada and Diavik Diamond Mines both operate in Aboriginal territory in these regions. Both have made the commitment to be good neighbours and good corporate citizens, and both are profiting handsomely from the decision. Both companies have been honoured by the Canadian Council for Aboriginal Business (CCAB) for their work with Aboriginal people, receiving the gold level of recognition in the Progressive Aboriginal Relations (PAR) program.

"We are very proud that two of the leading companies in Canada's vital mining sector have chosen to support Aboriginal business and participate in the PAR program," said Jocelyne Soulodre, President and CEO of CCAB. "The success they have gained by recognizing the capabilities of Aboriginal employees and suppliers serves as an example to the rest of the corporate world."

Syncrude Canada has been a leader in Aboriginal relations since it began operating in the oil sands near Fort McMurray, Alberta, in the 1970s. In recent years it has become the largest industrial employer of Aboriginal people in Canada, with Aboriginal workers making up 12.5 percent of the employee/contractor workforce. In 2004 Syncrude conducted about \$107 million in business with Aboriginal firms in the Fort McMurray area.

Syncrude first achieved gold recognition from PAR in 2002. It resubmitted self-assessments of its Aboriginal relations achievements for verification in 2004 and 2006, and was renewed at the gold level both times.

Diavik Diamond Mines is committed to effective, meaningful, lasting relationships with Aboriginal people, employees, families and communities. The company's vision is to become Canada's premier diamond mine. Part of this vision is to leave a lasting legacy in employment, business development, capacity building and community relations. Diavik's self-assessment was verified by independent assessors and received PAR gold recognition in 2005.

Diavik has adopted a philosophy of sustainable development and continuous improvement. It is therefore committed to providing Aboriginal people, families, communities, businesses and organizations with opportunities in the areas PAR focuses on so the benefits last long after the Diavik diamond mine has ceased operations.

Like Syncrude in Alberta, Diavik has negotiated agreements with the government of the Northwest Territories and neighbouring Aboriginal communities. The commitments made by both Diavik and Syncrude are clearly reflected in such agreements, which aim to maximize participation in mining operations by affected Aboriginal communities and groups. Beyond these agreements, Diavik and Syncrude have adopted policies, strategies and programs to maximize Aboriginal participation in employment, business, capacity building and community relations.

The Progressive Aboriginal Relations program helps companies assess their relationships with the Aboriginal community. By participating in PAR, companies show they are committed to establishing a balanced business relationship based on mutual self-interest. Companies' internal assessments are verified by the National Quality Institute through document reviews, discussions with management, site visits and feedback from stakeholders.

PAR is not a competition among companies. Rather, it provides a framework organizations can use to assess



Darryl Bohnet (Diavik Diamond Mines) receives PAR Gold Award from Albert Diamond (Air Creebec)

their approach to the emerging Aboriginal marketplace. It also gives them tools to improve their performance. PAR is a long-term process that helps companies expand their knowledge of and interaction with the Aboriginal community. The program is based on mutual understanding and respect and is motivated by enlightened self-interest, which is the way Syncrude and Diavik operate.

PAR is the first program of its kind in the world. It has already attracted interest from Aboriginal and business organizations in Australia, the United States and South America. PAR is overseen by a jury of eminent Aboriginal and non-Aboriginal businesspeople who examine each company's application. For more details, visit the CCAB website (*www.ccab.com*).

CCAB is the leading organization in Canada dedicated to promoting Aboriginal communities' full participation in the Canadian economy. CCAB's mission is to connect Aboriginal and non-Aboriginal people and companies with the opportunities they need to achieve personal and business success.

### Improving Responsible Mine Management SECTION 3

The development in 2003–04 of TSM performance indicators for tailings management continued the global leadership of MAC and its members on issues concerning tailings management performance. Last year these indicators were improved, and companies were trained in their use. A Guide to the Management of Tailings Facilities was refined and updated, and the finishing touches are being put on a comprehensive verification protocol for tailings management.

As well, the industry's partnership with other communities of interest on orphaned and abandoned mines continues to make progress. This section also highlights an innovative bird deterrence program developed by Albian Sands at its tailings facility in northern Alberta.



Thompson mine tailings area in northern Manitoba

### Orphaned/Abandoned Mines in Canada

### Assessing opportunities for remediation

First launched in 2002, the multi-stakeholder National Orphaned/Abandoned Mines Initiative (NOAMI) has contributed greatly to addressing the legacy of orphaned and abandoned mines in Canada. The initiative continues to make progress on complex issues such as liability, health concerns and clean-up costs.

In March 2005 NOAMI completed a report entitled Capacity Building for a National Inventory of Orphaned/Abandoned Mines in Canada. The report, posted on NOAMI's website (*www.abandoned-mines.org*), brings much-needed clarity to the task of categorizing and prioritizing orphaned and abandoned sites.

A report produced for NOAMI in 2003, Potential Funding Approaches for Orphaned/Abandoned Mines in Canada, was the basis for discussions at a NOAMI workshop held in Ottawa in November 2005. The workshop, "Assessing Liabilities and Funding Options," drew 75 representatives from industry, government, environmental organizations, First Nations and communities. The agenda centred on three case studies: Giant, Britannia and Kam Kotia. The workshop proceedings are available on the NOAMI website.

NOAMI has also completed guidelines to help jurisdictions evaluate their own legislation, policies and practices for contaminated sites, operating sites and orphaned/abandoned sites. In the summer of 2005 NOAMI hired a consultant to assess the gaps and opportunities in each jurisdiction for addressing orphaned/abandoned sites and to formulate recommendations. The consultant's report, expected in 2006, will help NOAMI develop a best practices guide for legislative, regulatory and policy approaches to the management of orphaned and abandoned mines across Canada.

A more detailed bulletin is available on this topic (see back pocket or www.mining.ca).

The workshop, "Assessing Liabilities and Funding Options," drew 75 representatives from industry, government, environmental organizations, First Nations and communities.

### Tailings and Water Management Facilities

In 2005 MAC developed a protocol for assessing tailings management performance. This development helped refine the indicators and clarify some criteria.

#### Assessing the industry's performance

To support TSM, the Tailings Working Group began in 2004 to develop performance indicators based on two MAC best practice guides: *A Guide to the Management of Tailings Facilities* and *Developing an Operation*, *Maintenance and Surveillance Manual for Tailings and Water Management Facilities.* The performance indicators help measure members' progress towards full implementation of MAC's framework for tailings and water management.

In 2005 MAC developed a protocol for assessing tailings management performance. This development helped refine the indicators and clarify some criteria.

In June 2005 the Tailings Working Group held a two-day "lessons learned" workshop in Toronto that did the following:

reviewed the industry's usage of A Guide to the Management of Tailings Facilities and Developing an Operation, Maintenance and Surveillance Manual for Tailings and Water Management Facilities

- introduced a new draft document, A Guide to Verification of Tailings Facility Management
- updated participants on TSM as it relates to tailings management
- explored emerging issues such as climate change adaptation and its implications for tailings management

The Tailings Working Group is currently completing A Guide to Verification of Tailings Facility Management and updating A Guide to the Management of Tailings Facilities. Both will be published in 2006.

A more detailed bulletin is available on this topic (see back pocket or www.mining.ca).



Adding lime to neutralize Thompson tailings water

# **Albian's Bird Deterrence System**

**Recognized Worldwide** 

il sands companies with large tailings ponds have tried many ways of keeping birds from landing on the ponds. In 2002 Albian Sands Energy, the newest mining operation in the Athabasca oil sands, was the first to introduce an on-demand radar-based bird deterrent system.

Developing an effective bird deterrent system is more than a nice-to-have luxury—it's an important regulatory requirement. According to the *Migratory Birds Convention Act* and regulations, anyone controlling a body of water that contains harmful oily substances must take measures to keep migratory birds from frequenting the water.

Albian is concerned because its operations are near a major migratory flyway for waterfowl travelling to the Peace-Athabasca Delta. The problem is most serious in early spring, when migrating birds are looking for safe places to rest and the only ice-free bodies of water are the tailings ponds.

In the oil sands region, propane "scare cannons" and human effigies are the most common bird deterrents used. Research shows that the most common problem with these devices is that birds get used to them, making them less effective over time. To address this problem, Albian worked with a company called BirdAvert to apply the latter's innovative bird-activated deterrent system to the conditions of northeastern Alberta. The system uses radar to detect birds as they approach a tailings pond. When the system senses bird activity, a radio signal activates a selection of deterrents, including propane scare cannons, moving falcon models, recorded attack calls and flashing lights.

Because the system can be activated while the birds are in flight, particularly at lower altitudes, it is effective in altering their landings. The deterrents stay activated as long as the birds fly over or near the tailings pond, then turn off when they leave the area. With the tailings pond only six kilometers from Fort McKay, residents were concerned that they would hear the propane scare cannons every day from spring to fall. But because the cannons are activated only when birds are near the pond, the noise is seldom heard.



Research conducted by the University of Alberta in the spring of 2003 showed the BirdAvert system to be more effective than the industry standard. On the heels of this research, Albian and BirdAvert improved the system further. The final version was installed in May 2004 and is still providing outstanding results today.

Albian stakeholders, including residents of Fort McKay, have applauded the system, and Alberta wildlife inspectors have voiced their approval as well. The academic response to the program is also encouraging. The University of Alberta's study has already been published in *Marine Ornithology, Canadian Field-Naturalist* and the *Journal of Applied Ecology.* 

Since Albian adopted its on-demand deterrence system, other mining companies have followed suit with similar programs. Last year two systems were installed on tailings ponds in the United States, and papers have been presented internationally at several bird strike conferences. Albian is proud to be leading the way towards better bird deterrence systems for the industry around the world. Solar panels power the bird deterrent radar system that activates the falcon models on the floats



### **SECTION** 4 Highlights of Company Actions

#### Albian Sands Energy Inc.

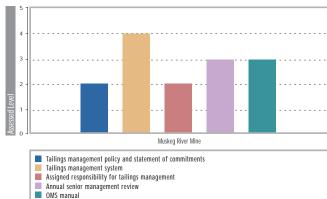
Albian Sands Energy is a joint venture that operates the Muskeg River mine on behalf of the owners of the Athabasca Oil Sands Project—Shell Canada, Chevron Canada and Western Oil Sands. The Muskeg River mine contains more than 5 billion barrels of minable bitumen, equal to about twice the amount of conventional oil reserves remaining in Alberta. Operating at its design capacity, the mine produces 155,000 barrels of bitumen per day.

As a member of the Regional Municipality of Wood Buffalo, Albian recognizes its social responsibility and supports projects and activities that benefit local communities. For example, in the Aboriginal community of Fort McKay, Albian helped build a 2,500square-foot community centre for elders, which promotes the communication of traditional knowledge. Albian was also instrumental in setting up an elearning program so that local youth can attend high school online without commuting to Fort McMurray. Furthermore, an office in Fort McKay allows Albian to keep in close contact with the community and address concerns as they arise.

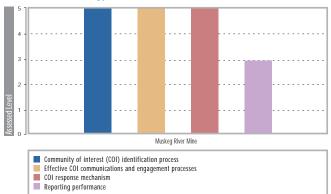
In Fort McMurray, Albian has teamed up with Keyano College on many projects. Recently, Albian made a donation to Keyano's campaign to build a Sport and Wellness Centre, a new recreational facility that will be accessible to the entire community. Albian has also been a champion supporter of the college's environmental technology program for the past two years, and in 2005 became the lead donor of the Aboriginal entrepreneurship certificate program. Albian has also invested in health and wellness projects associated with the region's rapid growth. When the Northern Lights Regional Health Foundation needed extra support, Albian responded by helping to purchase a new CT scan machine. The company supported the foundation further by becoming the lead donor in fundraising efforts to buy a new MRI machine.

In the area of environmental management, Albian takes a best practices approach. A prime example is the company's innovative bird deterrence system, which uses radar to keep migratory birds from landing in tailings ponds. (See the feature article in this report.) Also, in 2004 Albian was the first oil sands operation in the world to become ISO 14001 certified. This achievement is a testament to Albian's

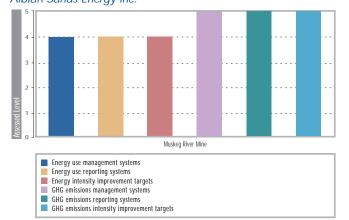
#### Tailings Management Assessment Albian Sands Energy Inc.



External Outreach Assessment Albian Sands Energy Inc.



Energy Use and Greenhouse Gas (GHG) Emissions Management Assessment Albian Sands Energy Inc.







environmental policy and its commitment to constantly improving its environmental performance.

For more information, visit Albion's website (www.albiansands.com).

#### **Barrick Gold Corporation**

Since entering the gold mining business in 1983, Barrick Gold Corporation has grown into one of the largest gold companies in the world. At the end of 2005, the company had fourteen operating sites and three development projects on four continents and in eight countries.

With corporate headquarters in Toronto, Barrick operates two mine sites in Canada: the Eskay Creek mine in northern British Columbia and the Hemlo joint venture on the north shore of Lake Superior in Ontario. Barrick also has one active-closure property in Canada, the Nickel Plate mine in south central British Columbia.

Corporate social responsibility has long been a priority at each of Barrick's sites. In 2004 this priority received additional support when management established the Executive Environmental, Health, Safety and Sustainability (EHSS) Committee, which regularly reviews performance trends and issues, and approves EHSS strategic business plans. Barrick also developed a corporate social responsibility charter late in 2004, which frames the company's approach in this area.

Social responsibility at Barrick involves an array of programs and initiatives related to dialogue, communications, social effects assessment, community infrastructure development and charitable giving. This comprehensive approach aims to ensure that the benefits generated through mining are shared, leading to lasting social and economic benefits for the communities, regions and countries where the company operates. Barrick became a signatory to the UN Global Compact late in 2005, signalling the company's commitment to integrating corporate citizenship into its culture, strategy and day-to-day operations.

Barrick participates in a number of voluntary environmental initiatives. The company is a signatory to the Australian Minerals Industry Code for Environmental Management and MAC's TSM guiding principles. Barrick has also been a key partner in developing and implementing the International Cyanide Management Code for improved cyanide management in gold operations around the world. In addition, Barrick's operations participate in local environmental initiatives such as the Nevada governor's sage grouse initiative in the United States and the Western Australia conservation of raptors program in Australia.

Late in 2003 the board of directors approved a safety and health system that focuses Barrick's safety programs and policies on a company-wide basis. The system builds on Barrick's existing corporate safety and occupational health policy by setting global, comprehensive standards of excellence and the practices to achieve them. Safety is one of the five key performance dimensions represented in the formal annual performance commitments made by all senior leaders of Barrick, from the CEO on down.

For more detailed information about Barrick's environmental performance, visit the company's website (www.barrick.com).

#### **BHP Billiton Base Metals**

BHP Billiton is a global resource company headquartered in Melbourne, Australia. It is one of over 300 companies included in the Dow Jones Sustainability Index, which lists the top 10 percent of sustainability firms in 59 industry groups in 34 countries.

BHP Billiton takes a long-term view of business, focusing strongly on its performance in health, safety, environment and the community (HSEC). The company values people, respects host communities and believes that excellence in HSEC is good for business.

Besides its current operations, BHP Billiton manages a number of closed mine sites in Canada. The company is committed to addressing long-term liability issues and to working with provincial governments towards lasting results that satisfy all stakeholders.

#### Profile of closed mines

The company's closed mines in Canada include the Selbaie and Poirier sites in Quebec, the Elliot Lake properties in Ontario, the East Kemptville site in Nova Scotia and the Island Copper site in British Columbia. Reclamation projects at these sites are in various stages of final implementation. Detailed caretaking plans, including monitoring for reclamation success, are in place and are reviewed annually for improvement.

BHP Billiton's programs at these closed mines align well with the TSM initiative. Each site has a water management plan, and runoff from tailings and waste rock areas is treated as needed to conform to permit limits. The amount of water released varies from year to year, depending mostly on weather conditions. Generally there is no significant waste generation, or greenhouse gas or other air releases.

Here are some of the company's activities in 2005 involving its closed mines:

- inspecting reclaimed tailings impoundments regularly and planning for risk reduction
- monitoring and assessing site status to plan improvements to water management and vegetation covers
- producing a historical video so that the community, especially its new residents, is aware of Elliot Lake's mining history
- partnering with Wildlife Habitat Canada to support the North American Waterfowl Management Plan's Eastern Habitat Joint Venture (other projects include wetland habitat enhancement in Ontario and data collection for the Ontario Breeding Bird Atlas)

- partnering with NSERC (Natural Sciences and Engineering Research Council of Canada), industry, École Polytechnique de Montréal and Université du Québec en Abitibi-Témiscamingue on a project to examine applied technologies for mine waste disposal
- internal auditing and statistical reporting to ensure that sites contribute to BHP Billiton's rigorous HSEC goals and targets

BHP Billiton produces an award-winning annual HSEC report. This report and more information can be found at www.bhpbilliton.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).

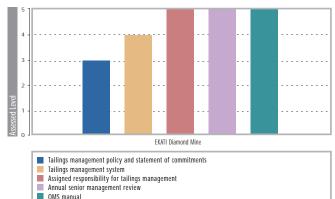
Located about 300 kilometres northeast of Yellowknife, the EKATI mine operates in an area of continuous permafrost. The claim block covers 344,000 hectares in the subarctic tundra, with a land lease area of 10,960 hectares. Access to the mine is primarily by air, though a 400-kilometre ice road is built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

In 2005 BHP Billiton Diamonds employed about 760 people; another 530 contractors provided a variety of 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 this reporting period, the EKATI mine produced 4.5 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 on July 24, 2003, and was re-registered in April 2004 and again in 2005.

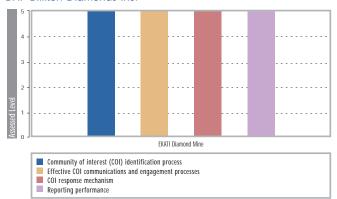
#### Recognition

BHP Billiton Diamonds was recognized nationally several times during 2005. For instance, the company won the Canada Export Award for Community Impact. This was the second Canada Export Award for BHP Billiton, the first having come in 2003 in the Job Creation Achievement category.

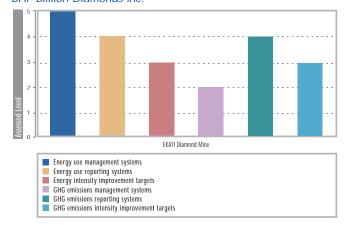




External Outreach Assessment BHP Billiton Diamonds Inc.



#### Energy Use and Greenhouse Gas (GHG) Emissions Management Assessment BHP Billiton Diamonds Inc.



Crisis Management Planning Assessment



The company was also named one of Canada's top 100 employers for the fifth consecutive year. These accomplishments are due to the staff and contractors who make the EKATI diamond mine a safe and productive place to work.

The EKATI mine is proud to have received the 2005 Environment Award for the Naonayaotit Traditional Knowledge Project, a GIS (geographic information system) database that contains the ecological knowledge of the local Inuit. The project enables western scientists to use information while preserving the intended context. As well, EKATI's Workplace Learning Program was recognized when employee Germaine Eyakfwo, a participant in the program, received the 2005 Canada Post Literacy Award for Individual Achievement.

Globally, UK business leaders recognized BHP Billiton as company of the year in 2005 at the Business in the Community National Awards for Excellence. The company is proud to be a leader in building business success on the values of sustainable development and responsible business practice.

#### Reclamation

EKATI operations disturbed an additional 244 hectares during the past year. This brings the total site disturbance requiring rehabilitation to 2,002 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 this reporting period was 148 megalitres. In addition to fresh water, mineral processing on site used 5,139 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.

#### Energy

For this reporting period the mine used approximately 115,921 megawatt hours of self-generated electricity. About 49 percent of this was used by the process plant and 26 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 2 million litres of diesel fuel. Many energy efficiency initiatives, some of which were suggested by employees, have been incorporated into the new underground office building.

EKATI is currently investigating the feasibility of installing a wind farm consisting of six one-megawatt wind generators.

#### Waste management

All waste oil produced by EKATI will now be burned on site during the cold months to heat the mine air in the underground operations. This measure will eliminate the need to send this hazardous material to southern Canada for processing each year. 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 studies. Here are some examples:

- Bear surveys
- Wolverine genetics study
- 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 diamond mine's consultation activities have evolved as a result of several voluntary agreements—socioeconomic, environmental, and five 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, and the mine staff is occasionally invited to make presentations on specific topics.

Stakeholders are encouraged to express their concerns or suggestions directly to the site management. Any complaint or query is directed to the responsible person on site, and feedback is given directly to the person who made the initial contact. All concerns are taken seriously and treated confidentially.

### Voluntary codes and industry initiatives

BHP Billiton is a signatory to several voluntary initiatives, including the TSM initiative, the Australian Minerals Industry Code for Environmental Management and the Australian Greenhouse Gas Challenge. The mine is committed to implementing the principles of these initiatives through its health, safety, environment and

community (HSEC) management systems, goals and targets, and through its performance indicators.

#### **Diavik Diamond Mines Inc.**

Diavik Diamond Mines Inc. is a wholly owned subsidiary of Rio Tinto plc of London, England. The Diavik diamond mine, located on a 20-square-kilometre island in Lac de Gras, 300 kilometres northeast of Yellowknife, is a joint venture between Diavik (60 percent) and Aber Diamond Mines Ltd. (40 percent), a wholly owned subsidiary of Aber Diamond Corporation of Toronto. Diavik is the mine operator.

The Diavik mine is expected to produce over 100 million carats of diamonds from four ore bodies (kimberlite pipes) over a life of 16 to 22 years. Mining the ore, which is located under shallow water in Lac de Gras, requires three dikes. The first was completed in 2002. The second, which encircles the third ore body, was partially built in 2005.

The rest of the construction will be finished in 2006.

Diavik's vision is to become Canada's premier diamond producer, creating a legacy of responsible safety, environmental and employee development practices and enduring community benefits. An important milestone in the past year was receiving the 2004 E3 Environmental Excellence in Exploration Award from the Prospectors and Developers Association of Canada.

With production fully underway, Diavik remains committed to protecting the ecological integrity of the local environment through adaptive management and custom prevention programs. Diavik's environmental management system is certified to ISO 14001 standards and was recertified in 2005 to 2004 standards. The company's product-sorting facility was also recertified under ISO 9001 (to 2000 standards). As well, Diavik launched several more Six

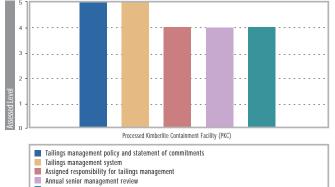
Sigma business improvement processes to maximize its operational efficiency.

During 2005 Diavik continued its construction of fish habitat within the A154 dike. This work is part of the progressive reclamation that will prepare the mine for eventual closure and will help ensure no net loss of fish habitat. A fish health and palatability study, which combines traditional and scientific knowledge to measure fish health over the mine life, continued in 2005 at the seasonal camp Diavik constructed near the mine for such work.

Diavik also advanced reclamation research programs to study the following topics:

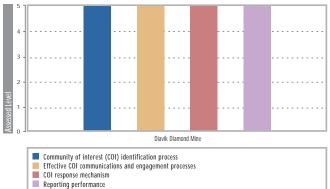
- till cover stability
- revegetation
- planning for PKC (tailings) closure
- disposal alternatives for sludge from the water treatment plant
- country rock test piles

#### Tailings Management Assessment Diavik Diamond Mines Inc.

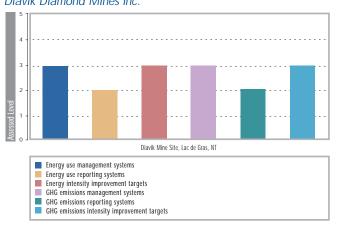


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External Outreach Assessment Diavik Diamond Mines Inc.



#### Energy Use and Greenhouse Gas (GHG) Emissions Management Assessment Diavik Diamond Mines Inc.



**Crisis Management** Planning Assessment Diavik Diamond Mines Inc.





Even though the sulphide content is very low, Diavik is using the precautionary principle to manage waste rock with a very low acid-generating potential. Waste rock is classified into three types, ranging from low to relatively high sulphur content. Rock with the highest potential is placed in the middle of country rock piles and surrounded by medium- and low-grade, virtually clean granitic rock.

Permafrost enters the central core, helping to eliminate contact with water and air and thus any acid-draining potential.

Diavik takes a comprehensive approach to community engagement. This approach provides for open communication through community-based socioeconomic and environmental advisory boards, and through Aboriginal involvement in agreement implementation committees. The mine participates in and contributes to local and Aboriginal communities, moving toward the collective goal of a positive legacy, for the community and the environment, when the mine eventually closes.

More detailed information can be found in Diavik's annual sustainable development report and other resources available at www.diavik.ca.

#### **Dynatec Corporation**

Dynatec Corporation is a growing company with extensive mining and metallurgical expertise. It has developed this expertise as a leading service provider to the global mining industry for over 25 years.

Dynatec's Mining Services Division has completed over 1,000 mining contracts on behalf of clients. The division's expertise extends to all aspects of the mining business, including full mine development and operation. Its capabilities in underground narrow-vein mining have been successfully applied to large-scale production of gold, nickel, copper and other base and precious metals in North America and around the world.

The Metallurgical Technologies Division is a recognized leader in applying pres-

sure hydrometallurgy. This technology uses chemical reactors known as autoclaves to conduct chemical reactions at high temperatures and pressures. This technology and related processes have proven highly successful in the extraction and recovery of a variety of metals from metal-bearing materials. In fact, the division has commercialized more than 40 circuits that use autoclaves in over 20 client operations on 6 continents, including 15 circuits involved in producing nickel and cobalt.

Now Dynatec is focusing on opportunities to own and operate mineral assets that involve the production of nickel and other base and precious metals and that also draw on the company's mining and metallurgical experience. In addition, Dynatec is looking into natural gas production. The company currently has three main growth assets in its portfolio.

The first is the Ambatovy nickel project in Madagascar, which could become one of the world's largest nickel operations. Its unit operating costs are among the lowest in the industry, and it has an estimated project life of 27 years. Annual production capacity is expected to total 60,000 tonnes of nickel and 5,600 tonnes of cobalt. The project will make use of Dynatec's hydrometallurgical expertise. Extensive testing has shown that the laterite ore at Ambatovy is highly amenable to the proprietary processes and technologies of the Metallurgical Technologies Division. The division has played a lead role in completing the feasibility study, including designing the project flowsheet.

Second, with 20.5 million common shares, Dynatec is the largest shareholder in FNX Mining Company. FNX produces nickel, copper, platinum, palladium and gold at one operating mine, McCreedy West, near Sudbury, Ontario. FNX is also pursuing several other development properties and exploration targets, including the footwall discovery at the Levack mine announced in early 2005. Besides its ownership interest, Dynatec provides FNX with mine production, development and construction services under a two-year mining services contract. Finally, Dynatec is involved in pilot production of natural gas through a coal-bed methane lease arrangement in West Virginia. The lease covers 42,053 acres, which contain an estimated 65 billion cubic feet of gas-in-place. Dynatec is currently producing and selling gas from two pilot production units that consist of a single horizontal well intersecting with a single vertical well. Two more pilot well units have been drilled, and production should begin in the near future. Dynatec has also drilled the first full production unit, consisting of two horizontal wells intersecting with a single vertical well. Dewatering of this unit began late in 2005. The company plans to use data from the pilot program and the first full production well to find the optimal approach to drilling the full field and realizing the greatest value from it.

#### Falconbridge Limited

Falconbridge Limited is a leading copper and nickel company with investments in fully integrated zinc and aluminum assets. It is also a recycler and processor of metal-bearing materials. The company took the name Falconbridge Limited following the amalgamation of Noranda and Falconbridge in June 2005.

Falconbridge employs 14,500 people at operations and offices in 18 countries. Its Canadian operations include the following:

#### Ontario

- Sudbury mines, mill and smelter
- Montcalm mine, Kidd mine and Kidd metallurgical division (Timmins)
- Noranda Recycling Inc. (Brampton)

#### Quebec

- Raglan mine (northern Quebec)
- Horne smelter (Rouyn-Noranda)
- CCR refinery (Montreal)
- General Smelting (Lachine)
- CEZ refinery (Salaberry-de-Valleyfield)

#### New Brunswick

 Brunswick mine and smelter (Bathurst)

Falconbridge is a strong supporter of TSM. The TSM guiding principles and protocols, besides encouraging performance improvement throughout the Canadian industry, also align with Falconbridge's values, commitments and objectives. In 2005 the company's operations improved their understanding of the protocols and indicators. In 2006 they will develop new practices and will further apply the indicator criteria in order to improve results.

Falconbridge recognizes the value of building relationships and dialogue with its communities of interest. The external outreach programs at the company's operations are designed to address unique, site-specific stakeholder concerns.

For example, Falconbridge is participating in the Sudbury Soils Study, one of the largest human health and ecological risk assessment studies ever in Canada. Other partners include the Ontario Ministry of the Environment, the Sudbury District Health Unit, the City of Greater Sudbury, Health Canada's First Nations and Inuit Health Branch, and Inco Limited. An independent observer attends meetings to represent the general public and the environment, and a public advisory committee represents citizens' interests and ensures that the process is transparent.

Following peer review by an independent panel of international experts, the results of the Sudbury Soils Study will be shared with the public. For more information, visit the study's website (*www.sudburysoilsstudy.com*).

All Falconbridge operations strive to continuously improve their environmental performance and have adopted rigorous environmental management systems. In 2005 the Sudbury mines and mill were registered to the ISO 14001 standard for world-class environmental management systems. This achievement is noteworthy, as Sudbury is the largest integrated and most geographically diverse of Falconbridge's operations to be registered. CEZ, a zinc refinery, also received ISO 14001 registration, as did Brampton's Noranda Recycling, which processes postconsumer electronic waste to feed the Horne smelter. In all, 14 Falconbridge operations worldwide are registered to the stringent ISO standard.

Energy and greenhouse gas management remain critical to Falconbridge's operations and sustainability commitments, and TSM plays a pivotal part in achieving the company's goals. Falconbridge takes an approach to energy and GHG management that includes the elements found in the TSM protocols for energy use and GHG emissions management. The company has integrated the accompanying indicators and targets into its energy management plans at Canadian operations and is also promoting them in its global operations.

Falconbridge is committed to an energy intensity improvement target of one percent per year for 2000–10. In 2005 the company's energy intensity at Canadian operations was 0.3 percent lower than in 2004. On average, energy intensity has been decreasing by 0.7 percent per year relative to 1989 levels.

Falconbridge is working to optimize its energy performance by implementing Six Sigma process efficiency projects, using energy monitoring and control systems and buying energy-efficient equipment whenever possible. The company will continue to take part in discussions with the federal government and industry associations as climate change policy develops.

Falconbridge produces an annual sustainable development report that details progress on commitments to environmental responsibility, social equity and economic prosperity. Beginning with the 2005 report, the company is aligning its reporting with the Global Reporting Initiative framework, internationally recognized as a best practice in sustainability reporting. The 2005 report, along with related information on performance, is available on the company's website (www.falconbridge.com).

#### HudBay Minerals Inc.

HudBay Minerals Inc. (HMI), which bought Hudson Bay Mining and Smelting (HBMS) from Anglo American plc in late 2004, is an integrated Canadian mining company that produces zinc, copper and precious metals. In 2005 HMI operated four mines, two concentrators and two metallurgical processing facilities (one for zinc and one for copper) through its subsidiary, HBMS. These plants are located in Flin Flon and Snow Lake, Manitoba. HBMS also operates an exploration division known as HBED and a zinc oxide plant in Brampton, Ontario, called Zochem.

Because HMI's only operating subsidiary in 2005 was HBMS, this profile focuses on HBMS results.

The company made significant progress towards meeting the requirements of MAC's *Developing an Operation*, *Maintenance and Surveillance Manual for Tailings and Water Management Facilities*. A manual was completed for the Flin Flon tailings impoundment system, and most of the work is done on a manual for Snow Lake.

The company retained ISO certification at its Flin Flon and Snow Lake operations, and also at HBED and Zochem.

In 2005 HBMS received approval from Saskatchewan's Environmental Assessment Branch to expand the Flin Flon tailings pond northwest of its current location. Construction is set to begin in 2006. The expansion has two main benefits. First, it will be easier to manage water quality because of longer retention times before effluent is released through the final discharge point. Second, there will be less potential for dusting because the active tailings areas will move farther away from the nearby community.

Also during 2005, mine closure plans were updated to feasibility level; environmental effects monitoring studies

were completed for Flin Flon and Snow Lake; and experiments with vegetation test plots continued in the Flin Flon tailings impoundment system.

#### **Inco Limited**

Inco, a Canadian-based mining and metals company, is the second-largest producer of nickel in the world. It also produces copper, cobalt and precious metals at operations in Canada and around the world. Inco is expanding with a new mine that began operations in 2005 at Voisey's Bay, Labrador. With this increasing activity, the company must strive to meet new health, safety and environmental challenges at all its operations.

Inco's performance in these areas is being driven to higher levels by initiatives like TSM and the reporting standards of the Global Reporting Initiative. In addition, Inco's evolving internal requirements play an important role. For instance, the company launched its own integrated health, safety and environmental management system in 2005. At the end of the year, all operations reported to the chief operating officer on their compliance with the system, enabling the company to focus on areas needing improvement. Inco's performance is detailed in its annual environmental, health and safety progress reports (*www.inco.com*).

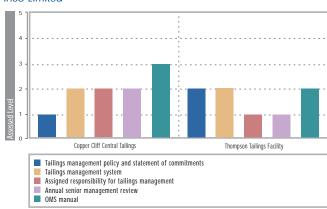
The startup of the Voisey's Bay nickel mine and concentrator in 2005 marked the culmination of a considerable effort, one that involved a major environmental assessment; a large-scale construction project in a harsh, environmentally sensitive region; and the creation of close working relationships with the two main Aboriginal groups in the area. Inco's partnership with the Innu and Inuit has meant that environmental challenges can be met amicably, in a way that incorporates shared environmental values. Inco is proud of its working relationships with communities on the northern Labrador coast.

At its operations in Sudbury, Ontario, and Thompson, Manitoba, Inco continues to focus on the impact of its emissions. The sulphur dioxide abatement project at Sudbury advanced during the past year. The project, which should be commissioned in 2006, will bring a considerable reduction in sulphur dioxide emissions.

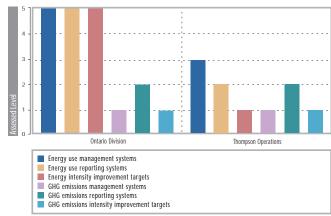
Inco is especially focused on controlling emissions during periods of poor atmospheric dispersion. At both Sudbury and Thompson, the company used measurement equipment and better dispersion modelling to anticipate the occurrence of such periods. These steps have helped, but Inco is determined to improve even more in 2006.

The company's efforts to improve the quality of effluent discharge have produced results. In 2005, thanks to an enhanced water management program,

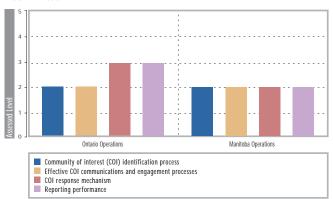
#### Tailings Management Assessment Inco Limited



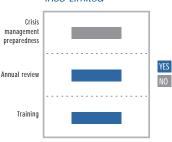
#### Energy Use and Greenhouse Gas (GHG) Emissions Management Assessment Inco Limited







Crisis Management Planning Assessment Inco Limited



Inco Limited

there were no bypasses of the effluent treatment systems in Sudbury. A similar program in Thompson will better control the quality of discharges from the Birchtree mine.

Land use and reclamation continue to be a priority at all Inco operations. The company has three aims: to undertake reclamation at operations that have reached the end of their productive phase; to continue progressive reclamation of active properties wherever feasible, and in accordance with closure plans; and to continue reclamation at 42 idle properties in the Sudbury basin. One example of Inco's emphasis on this important responsibility is the reclamation at its Shebandowan and Whistle properties in Ontario. The company has flooded active tailings, filled in pits and placed engineered covers over acidgenerating waste rock to prevent further acidification.

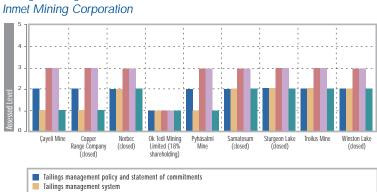
Tailings Management Assessment

Inco is involved in other related research projects, such as the co-mix cover project underway in the Copper Cliff tailings area. There Inco is testing the long-term efficacy and geotechnical stability of potential dry covers for preventing future acid generation from sulphidic tailings and waste rock.

#### **Inmet Mining Corporation**

Inmet Mining Corporation reported its 2004 TSM performance in detail in last year's *TSM Progress Report*. Since then the company has continued to improve its operational performance to reduce risk. Inmet incorporated TSM principles into its 2005 targets for safety, environment and community affairs by committing to better tailings management, community engagement and dialogue.

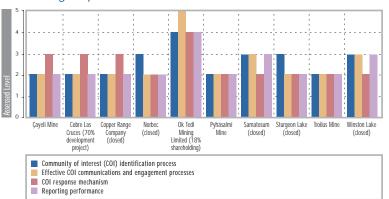
Throughout Inmet, personnel are becoming more knowledgeable about TSM and its valuable philosophy of



Assigned responsibility for tailings management Annual senior management review

OMS manual

#### External Outreach Assessment Inmet Mining Corporation



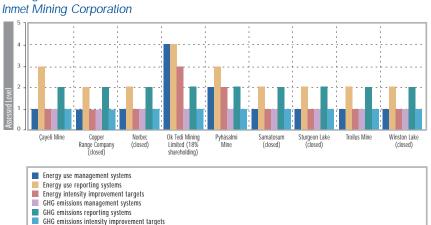
continuous improvement. However, the company was unable to meet its 2005 targets for reasons described below. Inmet's overall results actually improved in 2005 compared to 2004, but some evaluations appear to show a performance decline. This discrepancy was expected and occurred because the TSM indicator protocols were strengthened during the year.

Cobre Las Cruces is Inmet's development property near Seville, Spain. Although it is not operating, certain components of TSM apply to it. Community dialogue has been an integral part of the site's activities and will continue to be as construction begins in 2006. Las Cruces will also develop an emergency preparedness and response plan to meet both regulatory requirements and Inmet's TSM goals.

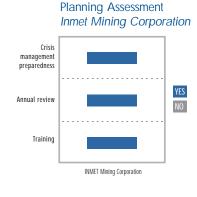
In 2004 Inmet conducted self-assessments for the Ok Tedi mine in Papua New Guinea, based on the company's knowledge of operations there. Inmet's assessment of tailings management was based on the fact that Ok Tedi carries out considerable dialogue with downriver communities about the impact of mine waste management practices. In 2005 Ok Tedi staff completed the selfassessments themselves, based on the strengthened TSM protocols. As a result, Ok Tedi's results for the tailings management indicators have declined significantly and more accurately reflect the site's current status.

In Canada Inmet made progress in tailings management by developing and implementing formal OMS (operation, maintenance and surveillance) manuals at its closed properties. For instance, at Troilus in northern Quebec, formal implementation of the OMS manual began. However, Inmet did not make as much progress as it had hoped in implementing a management system and OMS manual at Pyhäsalmi in Finland.

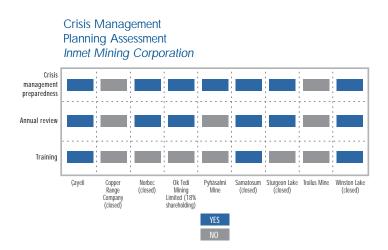
In the area of crisis management and emergency response, the company advanced considerably by developing emergency preparedness and response plans at its closed Canadian properties.



#### Energy Use and Greenhouse Gas (GHG) Emissions Management Assessment Inmet Mining Corporation



**Crisis Management** 



As well, simulation exercises were conducted at Samatosum (British Columbia) and Winston Lake (Ontario).

In the area of developing and implementing formal community engagement and dialogue plans, Inmet did not progress as hoped. But the company did make headway in building a solid foundation for this activity and in improving dialogue. The business case for formal community engagement and dialogue has evolved slowly over the past few years. However, Inmet now has understanding and commitment throughout the company to move ahead with formal dialogue plans.

At the Troilus site, Inmet built on its existing relationship with the Cree community by collaborating on a number of projects, including environmental monitoring and a case study on the Troilus experience. At Çayeli (Turkey) Inmet became more involved in the community by helping establish a housing foundation to assist needy families. At Samatosum and Winston Lake, the company developed formal community plans and began dialogue with its communities of interest.

In the area of energy and greenhouse gas, Inmet has generally not advanced. After re-evaluating performance against the revised TSM protocols, the company adjusted some of its levels upward compared to 2004, particularly at Ok Tedi.

Looking ahead, Inmet has maintained its 2005 targets for 2006. The company will continue to improve its tailings management in the coming year. It will also build on the existing foundation for community engagement by developing and implementing formal plans, especially at its operating sites at Çayeli, Pyhäsalmi, Troilus and Las Cruces.

#### Iron Ore Company of Canada

IOC is the largest manufacturer of iron ore pellets in Canada and a leading supplier of iron ore pellets and concentrate around the world. It operates a mine, concentrator and pelletizing plant in Labrador City and has port facilities in Sept-Îles, Quebec. It also operates a 418-kilometre railroad that links the mine to the port. IOC's customer base includes North American, European and Asian steel producers. The company employs about 1,700, and its major shareholder is Rio Tinto, an international mining group active in over 40 countries.

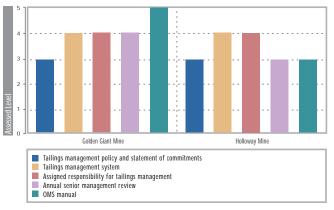
IOC supports MAC's Towards Sustainable Mining initiative. In fact, the company was involved in developing the TSM guiding principles. These principles align with IOC's mission, values, commitments and performance improvement objectives, all of which are outlined in the company's annual social and environment reports (available at *www.ironore.ca*). IOC also played a key role in developing the TSM external outreach indicators, and will be involved in shaping future TSM performance indicators in areas such as biodiversity.

IOC's commitment to TSM is evident in the improvements the company has made, not only under the TSM performance indicators but also in other areas that IOC considers important to the sustainability of the company and the communities in which it operates. The TSM performance indicators, as well as other environmental initiatives, are incorporated into IOC's environmental management system, which was formally registered to ISO 14001:2005 in the fall of 2005.

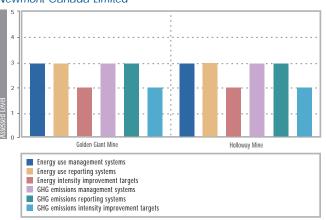
Looking at the first TSM performance area, tailings management, IOC has faced some unique challenges in how it operates and maintains its tailings facility in Labrador City. But after several years of consulting with the community and interacting with government, IOC has developed a solution that will minimize the tailings footprint, improve biodiversity and ecosystems, and reduce the physical and chemical impact of its tailings operations. IOC has incorporated some of the TSM tailings management performance indicators into its own performance improvement objectives to ensure that first-class standards are in place.

IOC has made advancements in the other three TSM performance areas as well. Under energy use and GHG emissions management, IOC's Continuous Improvement Initiative has identified a number of energy conservation opportunities in the past few years. As a result, the company has seen significant reductions in its energy usage and emissions. In the area of crisis management planning, IOC has adopted a formal disaster management and recovery plan

#### Tailings Management Assessment Newmont Canada Limited



#### Energy Use and Greenhouse Gas (GHG) Emissions Management Assessment Newmont Canada Limited



that conforms to MAC's Guidelines for Corporate Crisis Management Planning.

Finally, under community outreach, IOC continues to improve its relationship with its communities of interest. In Labrador City, a community advisory panel has been established to provide feedback on the company's social and environmental initiatives and issues.

Biodiversity is another important area in which IOC has improved its performance. The company's Tailings to Biodiversity initiative has made some important gains in attracting diverse waterfowl to the wetlands created on the tailings facility. In a related project completed in 2005, the company designed and built a meandering fish habitat channel for resident and migratory species in the Luce Creek Basin and Wabush Lake. This channel is another example of IOC's commitment to having a net positive impact on biodiversity.

In 2005 IOC was awarded the Great Blue Heron Award by the North American Waterfowl Management Plan Committee in recognition of the company's work to conserve wetland habitat.

#### Newmont Canada Limited— Golden Giant Mine

Newmont's Golden Giant mine is a shaft-access underground gold mine operation that includes a mill, a refinery and other surface facilities. The mine is located 30 kilometres inland from the north shore of Lake Superior in the Hemlo mining camp. The operation employs about 250 people, most of whom live in Manitouwadge, Ontario, 50 kilometres north of the mine site.

The Golden Giant mine started production in 1985 and has operated continuously ever since. The operation sold 162,000 ounces of gold in 2005, bringing the mine life total to over 6.7 million ounces, valued at \$3.2 billion. After 21 years of successful mining and with the depletion of the ore reserves at hand, Golden ceased underground operations in February 2006.

The company will now focus on site reclamation, which should be complete in four to five years, with regulatory monitoring and reporting to continue thereafter.

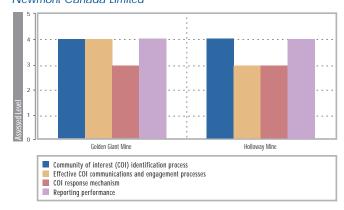
The key environmental goals at Golden Giant have not changed from previous years. They are still to have no environmental incidents, to minimize the operation's footprint on the environment and to comply with all environmental regulatory requirements.

By setting internal standards that are more stringent than the environmental regulatory standards, Golden Giant has achieved its sixth straight year of 100 percent compliance with requirements for treated effluent discharge and 100 percent compliance with its permit for taking fresh water. In another major accomplishment, the mine reduced its reportable spills from twelve in 2004 to only one minor spill in 2005. This single spill, of 1,500 litres of grinding circuit slurry, was contained and promptly cleaned up with no adverse effect on the environment.

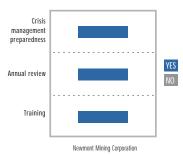
Golden Giant has set the following objectives for 2006:

- minimize its environmental footprint by meeting all regulatory requirements and corporate standards
- review and amend as needed all environmental programs, approvals, permits and requirements to properly monitor and manage closure and reclamation

#### External Outreach Assessment Newmont Canada Limited

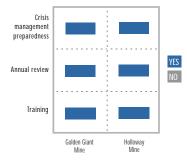


#### Crisis Management Planning Assessment Newmont Canada Limited



- increase involvement and communication with communities of interest regarding the mine closure
- encourage good relations with local First Nations to ensure a positive environmental legacy
- encourage public dialogue during the transition from operation to closure to reclamation

#### Crisis Management Planning Assessment Newmont Canada Limited



The table below summarizes some key indicators of Golden Giant's environmental performance:

#### **Environmental Performance Indicators**

	2002	2003	2004	2005
Total number of environmental incidents	16	12	12	1
Environmental incidents with adverse effect	0	0	0	0
Treated effluent discharge compliance	100%	100%	100%	100%
Fresh water take/use compliance	100%	100%	100%	100%
Environmental offences/charges/fines	0	0	0	0
Water recycling efficiency	75.1%	80.4%	96.2%	95.9%
Fresh water use in litres per tonne of ore	906	1,113	264	223

#### Newmont Canada Limited— Holloway Mine

Newmont's Holloway mine is located in the Abitibi-Témiscamingue region, 56 kilometres east of Matheson in northeastern Ontario. The mine consists of an underground operation with three shafts, as well as a gold mill and refinery. The mine employs about 179 people from 26 surrounding communities.

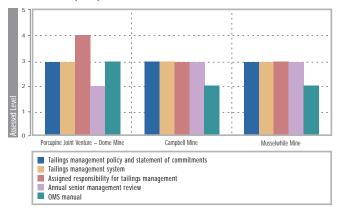
Holloway's environmental strategy is to remain compliant with all government regulations and industry standards while implementing the Newmont Five Star environmental management system. By integrating compliance and environmental management systems into operational strategies, and by adopting effective monitoring and control programs, the company can ensure that the environment is protected.

With the purchase of the Holt-McDermott mill from Barrick, Holloway had to incorporate new disciplines, such as tailings storage management, into its environmental program. Integrating the mill and its four tailings ponds, formed by eighteen small dams, broadened Holloway's work and presented new challenges. Overall, the tailings area covers a watershed of 3.39 square kilometres (1.3 square miles).

These operational changes mean that Holloway must discharge water into the environment in accordance with provincial and federal permits and regulations. The operation discharges some 2.5 million cubic metres of treated

Tailings Management Assessment Placer Dome (CLA) Limited

Management Assessment



Energy Use and Greenhouse Gas (GHG) Emissions

Placer Dome (CLA) Limited

water each year from the tailings storage and treatment facility into the Magusi River.

Despite the environmental challenges of incorporating the acquired mill into its operations, Holloway achieved a number of milestones in the past year:

- improved its Five Star Assessment environmental scores
- achieved zero releases of mercury, cyanide and hydrocarbons (oils and fuels)
- experienced no mortality of threatened, endangered or other common species

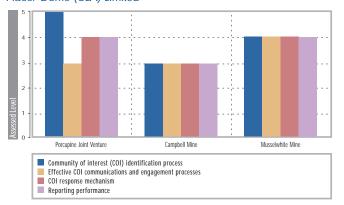
A key focus for Holloway in 2006 will be working on its environmental closure plan, an integral part of the overall mine-life planning process.

#### **Placer Dome Canada**

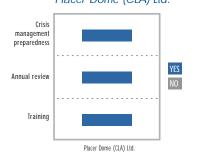
All of Placer Dome's Canadian operations are based in Ontario. They include the Campbell mine in the Red Lake district, the Musselwhite mine north of Pickle Lake and the Porcupine joint venture in Timmins. Canadian operations that are closed but still under Placer Dome's care include the Equity silver mine near Houston, British Columbia; the Dona Lake mine near Pickle Lake, Ontario; and the Detour Lake mine north of Cochrane, Ontario.

Placer Dome's commitment to sustainability is reflected in the company's sustainability charter, a set of guidelines to govern sustainability practices throughout the company. Mine sites can adapt these guidelines to their local needs. The guidelines provide a framework for setting goals and priorities and for identifying areas that need improvement at each site. Each component of a site's sustainability program is geared towards enabling that site to operate as sustainably as possible.

External Outreach Assessment Placer Dome (CLA) Limited



Crisis Management Planning Assessment Placer Dome (CLA) Ltd.

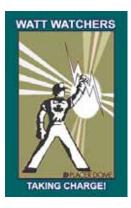


Involving stakeholders is an important sustainability priority for Placer Dome. Using established methods for engaging with local stakeholders at the mine level, each operation strives to inform stakeholders, facilitate dialogue and invite feedback.

Since its last report on the TSM indicators, Placer Dome Canada has, in its annual sustainability plan, emphasized performance improvement in crisis planning, tailings management, energy management and community involvement.

In the area of crisis planning, Placer Dome has substantially revised its crisis management plan, establishing linkages to mine sites and corporate offices in Vancouver.

In tailings management, Placer Dome's operations underwent external audits based on MAC's guidelines. As well, external TSM audits were conducted to



verify the assessment levels at the Campbell mine and the Porcupine joint venture. The sites have been working together to improve their operation, maintenance and surveillance (OMS) manuals. Future OMS refinements should result in better operation of the company's tailings facilities and a higher assessment in the TSM program.

Energy management is a key focus for Placer Dome. In 2005 the company introduced the Watt Watchers program to get employees involved in energy conservation and management. The program, active at all three mine sites, includes an employee awareness campaign to modify behaviour and encourage workers to participate. The program involves workshops on how to save energy and promotes communication with employees and communities about the importance of energy management. In less than a year the program has proven its value. Placer Dome Canada aims to improve its energy efficiency by 10 percent by the end of 2006.

Although Watt Watchers focuses on energy conservation, it is expected to lead to improved greenhouse gas emissions as well. The company will use information gained from its energy conservation programs to develop a future GHG strategy.

All in all, Placer Dome's approach to TSM has been to integrate the requirements into existing management systems and programs, and to include improvements that can be reflected in the TSM assessment in the company's annual sustainability plan. By taking this approach, the company can build on existing programs rather than viewing TSM as an independent initiative. Placer Dome has made progress but will continue to strengthen its environmental and social performance in the future.

#### Québec Cartier Mining Company (QCM)

QCM 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. QCM also operates an iron ore pellet plant with annual production capacity of some 9 million metric tonnes at Port-Cartier, Quebec, on the north shore of the Gulf of St. Lawrence. The deep harbour at Port-Cartier operates yearround and can accommodate ships carrying up to 188,000 tonnes of ore. The Cartier Railway Company, a QCM subsidiary, links the mine to the port.

After the federal *Metal Mining Effluent Regulations* came into effect in 2002, QCM applied for a transitional authorization for total suspended solids at one of its effluent sources. After making modifications to decrease the total suspended solids, QCM met all effluent requirements in 2005.

When Quebec's industrial waste reduction program for mining came into effect in 2002, QCM submitted two requests to the Quebec Ministry of the Environment, one for Mont-Wright and one for Port-Cartier. In cooperation with the Quebec Mining Association, QCM continues to be active in defining the contents of its "depollution attestations"-the operating permits in which facilities measure and declare their normal discharge levels and outline measures for lowering them. This is done with a joint committee involving members of the Quebec Mining Association and the Quebec Ministry of the Environment. In 2005 a working group was created to define the specific aspects of the waste reduction program for pellet plants.

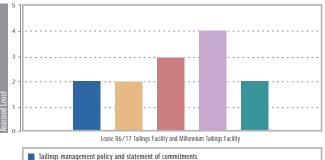
QCM's pellet plant uses about 30 percent less energy per tonne of pellet production than its Brazilian competitors. In keeping with Kyoto objectives, the plant contributes considerably to reducing net emissions from pellet production at the global level.

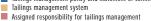
As a member of The Mining Association of Canada, QCM adheres to the TSM guiding principles. The company will make additional efforts in the coming year to improve its performance under specific indicators, especially those involving crisis management planning and energy use.

#### Suncor Energy Inc.

In 1967 Suncor Energy made history by tapping the oil sands to produce the first commercial barrel of synthetic crude



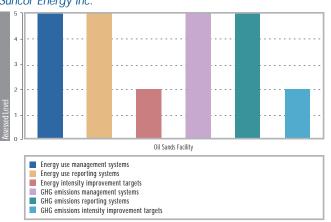




Annual senior management review

OMS manual

#### Energy Use and Greenhouse Gas (GHG) Emissions Management Assessment Suncor Energy Inc.



oil. Since then Suncor has grown into four major business divisions. Our core oil sands business is supported by conventional natural gas production in western Canada and by downstream refining, marketing and retail businesses in Ontario and Colorado.

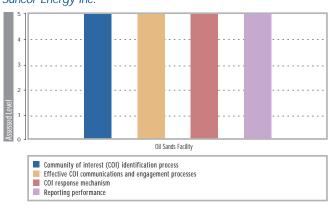
Suncor recovers bitumen from the oil sands near Fort McMurray in northern Alberta and upgrades it to refinery-ready feedstock and diesel fuel. With total production surpassing the one billion barrel mark and enough reserves to sustain production for the next 50 years, the company remains a leader in oil sands development.

In 2005 Suncor completed the next phase of its expansion, increasing oil sands production capacity to 260,000 barrels per day.

For Suncor, being a sustainable energy company means managing the business in a way that enhances social and economic benefits to society, while striving to minimize the environmental impacts of resource development. Suncor believes technology and innovation are key to this vision.

Here are some examples of sustainability in action at Suncor.

In 1997 Suncor pioneered consolidated tailings (CT) technology. CT technology uses gypsum to bind mature fine tailings with mined sand, freeing water for reuse in oil sands processes. The remaining solids consolidate to form a reclaimable deposit. Once the released water has been removed, the solids can be sealed with a sand cap to provide a firm platform on which to begin reclamation activities. Suncor's first CT pond should be filled in by 2007, a key step toward surface reclamation.



#### External Outreach Assessment Suncor Energy Inc.



- Water withdrawal intensity at Suncor's oil sands operations declined 32.3 percent between 2000 and 2004. This reduction reflects the increased use of recycled water from the company's tailings systems in the bitumen extraction and upgrading operations. Because more recycled water is being used, less water is being released back to the Athabasca River. Recycled water from the ponds accounts for 82 percent of the water Suncor uses to produce oil.
- Between 2000 and 2004, NO<sub>x</sub> emissions and emissions intensity at Suncor's oil sands operations decreased by 8.9 percent and 53.5 percent respectively. The company

exceeded its commitment to reduce NO<sub>x</sub> emissions in the mine by buying more efficient replacement equipment such as heavy haulers, shovels, bulldozers and backhoes.

Suncor is also playing a lead role in balancing the conservation of Canada's boreal forest with responsible resource development. Suncor was a founding member of the Boreal Forest Conservation Framework, a groundbreaking national initiative developed by 11 First Nations, environmental groups and resource companies. In addition, in November 2005 the Suncor Energy Foundation announced that it would invest \$1.05 million over three years to help the Alberta Conservation Association secure important boreal habitat that will be turned over to Alberta Parks for ongoing stewardship and management.

Suncor is also collaborating with the Regional Municipality of Wood Buffalo on waste management. Suncor and the Suncor Energy Foundation will give the municipality up to \$100,000 a year for the next three years to develop a public awareness and education campaign about recycling and waste management. The two parties will also examine the joint management of waste, including recyclables, generated by both organizations.



An iceberg floats offshore from the Torngat mountains, Labrador



Gannets nesting at Cape St. Mary's, Newfoundland

- Suncor, in partnership with the Regional Municipality of Wood Buffalo and the Athabasca Regional Issues Working Group, has developed the first sustainable community indicators for the Wood Buffalo region. The 21 indicators are being used to measure quality of life in the community compared to other Alberta communities, including Edmonton, Grande Prairie and Medicine Hat.
- In December 2005 the Suncor Energy Foundation announced that it will invest \$2.5 million in what will be Alberta's largest multirecreational facility. The new facility will be built on MacDonald Island in Fort McMurray and will serve the surrounding communities in the Regional Municipality of Wood Buffalo.

Sustainable development is fundamental to Suncor's long-term strategy. Suncor believes that supplying energy in a way that meets the social, environmental and economic expectations of stakeholders—employees, shareholders, customers, communities, governments and advocacy groups—creates a solid foundation for increasing shareholder value. For more information on Suncor's progress on sustainability, the environment and social responsibility, look for the company's 2005 sustainability report and 2004 climate change report, both available at www.suncor.com. For printed copies of current and previous reports on climate change and sustainability, call 1 800 558-9071 or email the company at info@suncor.com.

#### Syncrude Canada Ltd.

Syncrude is a leader in Canada's oil sands industry, supplying 13 percent of the nation's crude oil requirements. The company operates technologically advanced oil sands mines, extraction and upgrading facilities, and utilities plants at its two sites north of Fort McMurray, Alberta. Syncrude is in the midst of a major expansion that will see it producing about 350,000 barrels of crude oil a day by 2006.

Syncrude's commitment to superior environment, health and safety (EHS) performance has been strengthened and streamlined with the implementation of an EHS management system that identifies risks, then documents and implements controls to mitigate against the identified risks. Here are some highlights from 2005.

- Syncrude continued to work toward improving its sulphur performance. The company is building sulphur reduction technology into its upgrader expansion project, scheduled for completion in mid-2006. Syncrude is also proceeding with an initiative to incorporate sulphur reduction technology into its existing operations by 2009. These 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 about 50 percent.
- Syncrude reduced its fresh water intake from the Athabasca River by over 25 percent. This reduction is due to better management of the recycled water pond system as well as water conservation initiatives throughout the operations. A sitewide water management program made further progress in 2005, helping Syncrude achieve its lowest raw water intake since 1990, at less than half the regulatory licence limit. Over 80 percent of Syncrude's water needs are now met by a continuous recycle system. The company does not inject any water into reservoirs, nor does it discharge any process-affected water into river systems.



- During the year Syncrude reclaimed 305 hectares of land, bringing the total reclaimed to 4,360 hectares— 22 percent of the land disturbed to date. In 2005, for the first time, Syncrude's reclamation rate exceeded the rate of disturbance at the Mildred Lake base mine. Reforestation in 2005 included planting more than 660,000 tree and shrub seedlings, bringing the total planted to more than 4 million.
- The company continued to operate the Beaver Creek Wood Bison Ranch in partnership with the Fort McKay First Nation. Syncrude was once again a winner at the annual bison show for the quality of its herd of 300.
- Syncrude conducted a thorough independent review of its Aboriginal Relations Program and has already begun to act on stakeholders' recommendations. Of note, an Aboriginal recruitment representative has been hired to work closely with Aboriginal communities to ensure that employment opportunities are realized.
- The company continued to work with regional stakeholders to manage the social and environmental effects of oil sands development. Independent multiparty groups are gathering and sharing comprehensive scientific data for a better understanding of human and industrial impacts on air, land and water.
- Syncrude awarded \$54,000 in grants to non-profit organizations that its 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; community development; arts and culture; and recreation.

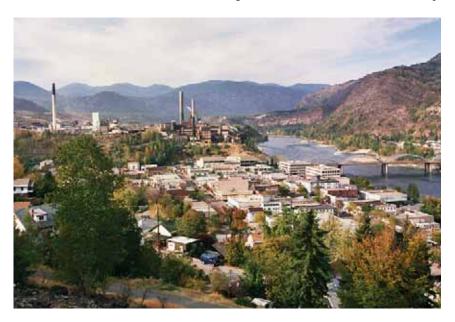
For more information about Syncrude, or to see the company's 2004 sustainability report, visit www.syncrude.com.

#### **Teck Cominco Limited**

Teck Cominco is committed to sound. responsible business practices in every aspect of its activities. These activities are governed by both the principles set out in the company's charter of corporate responsibility and the standards set out in its code of business, environmental and health and safety practices. These principles and standards (available at www.teckcom*inco.com*) have been highlighted in the company's sustainability reports since 2002. Furthermore, Teck Cominco's performance standards for external outreach, tailings management and crisis management planning align closely with the TSM performance indicators.

Teck Cominco measures its performance on an ongoing and comprehensive basis. The company's monthly and quarterly internal reports on environment, health and safety, and community (EHSC) track many performance indicators, including compliance with permits, environmental monitoring, material inputs and outputs, community concerns and actions, reclaimed land and dialogue processes initiated, to name a few. The company modified these reports in 2005 to capture information that supports the TSM performance areas.

On behalf of Teck Cominco's board of directors, the Environment, Health and Safety Committee sets goals and strategies for environmental, social and safety



This year Teck Cominco is reporting on TSM performance for three facilities: Highland Valley Copper, one of the world's largest-tonnage copper mining and milling complexes; Trail Operations, one of the world's largest fully integrated zinc and lead smelting and refining facilities; and Hemlo Gold Mines, in which Teck Cominco has a 50 percent interest with Barrick Gold Corporation. performance. As well, the Corporate Environment and Risk Management Committee, a senior management committee chaired by the CEO, establishes priorities and directions for environmental, health and safety programs, tracks performance and measures results. These two committees ensure the highest level of oversight on EHSC issues.

In early 2006 site and corporate personnel conducted "brutally honest" selfassessments against the protocols for TSM's four performance areas: external outreach, tailings management, crisis management planning, and energy use and greenhouse gas emissions management. These self-assessments were reviewed by senior operations managers to make sure the results were clearly understandable and to identify priority areas for 2006. Results were lower than expected for some indicators because of a lack of fully documented systems and supporting paperwork.

Currently, the facilities are focusing on energy efficiency and cost reduction.

At Hemlo, a 2005 analysis of energy management practices and a site-wide energy review led the company to identify improvements that, when fully implemented, will reduce annual energy costs by about \$1 million.

After this year's experience with TSM reporting, Teck Cominco recognizes that some indicators need more clarification in order to be consistently applied within the company. As well, site staff are now fully involved and can provide valuable insight into the interpretation of indicators and the design of systems to track and report on performance. Teck Cominco has used the TSM indicators in conjunction with other elements

to set goals in priority areas for 2006.

With its 2005 sustainability report, Teck Cominco will begin its multi-year transition to reporting in accordance with the Global Reporting Initiative's G3 Guidelines. One of the first steps will be to return to a more detailed print report. The report will be available to communities of interest and will be posted on the company's website by mid-year.

As a company committed to continuous improvement, Teck Cominco strongly supports TSM as a means of demonstrating progress on key issues and identifying areas that need further action.



View departing Prince Edward County, where geology, soil and climate combine to create one of Canada's newest wine-growing regions.

Dedicated to former MAC employee, Dan Paszkowski, who is now president of the Canadian Vintners Association.



#### 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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