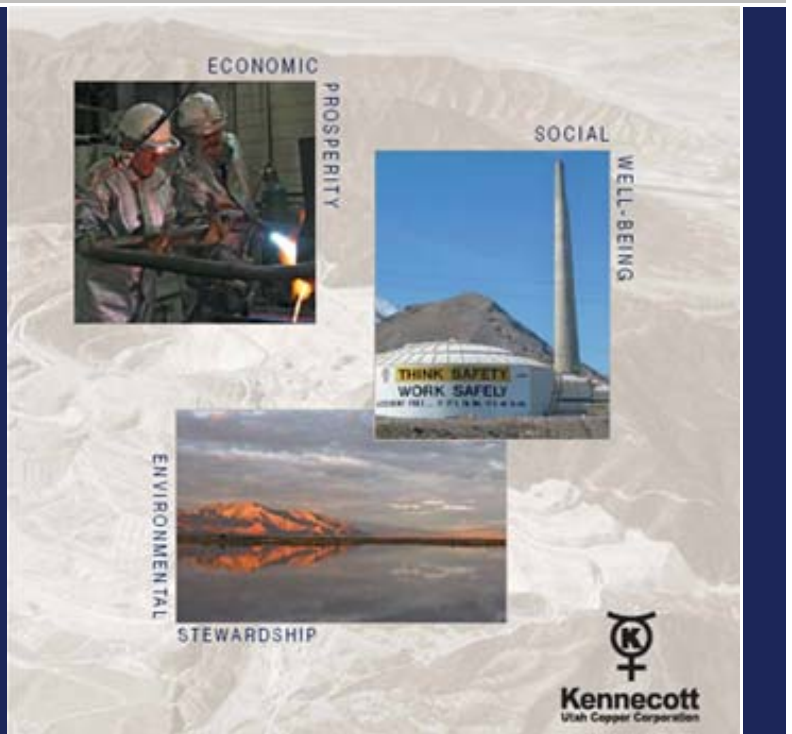


## 2004 SUSTAINABLE DEVELOPMENT REPORT

### OUR CONTRIBUTION TO GLOBAL SUSTAINABILITY

This report was formerly referred to as the Social & Environment Report but has been renamed the Sustainable Development Report consistent with the fact that it covers the four aspects of Sustainable Development that are represented in Kennecott's Strategic Objectives: Economic Prosperity, Social Well-Being, Environmental Stewardship and Governance.



## **TABLE OF CONTENTS**

---

<b><u>Letter to Community and Employees</u></b>	<b>3</b>
<b><u>2004 Highlights</u></b>	<b>4</b>
<b><u>Continuing Down the Road to Sustainable Development</u></b>	<b>6</b>
<b><u>Shareholder Return</u></b>	<b>7</b>
<b><u>Increased Profits</u></b>	<b>7</b>
<b><u>Key Economic Statistics</u></b>	<b>7</b>
<b><u>Mine Expansion</u></b>	<b>8</b>
<b><u>East Wall Pushback</u></b>	<b>8</b>
<b><u>Six Sigma</u></b>	<b>8</b>
<b><u>Business Improvement</u></b>	<b>9</b>
<b><u>Supervisor Training</u></b>	<b>9</b>
<b><u>Economic Contributions</u></b>	<b>10</b>
<b><u>More Donations</u></b>	<b>10</b>
<b><u>Kennecott Village</u></b>	<b>10</b>
<b><u>Kennecott Scholars Program</u></b>	<b>11</b>
<b><u>Community Contribution Awards</u></b>	<b>11</b>
<b><u>Total Payments</u></b>	<b>12</b>
<b><u>Customer Focus</u></b>	<b>13</b>
<b><u>Customizing Copper</u></b>	<b>13</b>
<b><u>Economic Prosperity Goals &amp; Targets</u></b>	<b>14</b>
<b><u>Human Health &amp; Safety</u></b>	<b>15</b>
<b><u>Improved Safety</u></b>	<b>15</b>
<b><u>Kennecott Safety Statistics</u></b>	<b>16</b>
<b><u>Risk Assessment</u></b>	<b>16</b>
<b><u>Systems of Safety Audits</u></b>	<b>17</b>
<b><u>Personal Safety Performance Plans</u></b>	<b>17</b>
<b><u>Training</u></b>	<b>17</b>
<b><u>Accident / Incident Investigation / Near Miss Reporting</u></b>	<b>18</b>
<b><u>Off-the-Job Safety</u></b>	<b>18</b>
<b><u>Occupational Health</u></b>	<b>18</b>
<b><u>Significant Safety or Health Incidents or Violations</u></b>	<b>19</b>
<b><u>Safety Awards</u></b>	<b>20</b>
<b><u>Health and Wellness Fair</u></b>	<b>21</b>
<b><u>Stakeholder Engagement &amp; Transparency</u></b>	<b>22</b>
<b><u>Groundwater Clean-up Agreement</u></b>	<b>22</b>
<b><u>Survey of Public Opinion</u></b>	<b>23</b>
<b><u>Stakeholder Focus Group</u></b>	<b>24</b>
<b><u>External Assurance Review</u></b>	<b>24</b>
<b><u>Working Together</u></b>	<b>25</b>
<b><u>Employees in the Community</u></b>	<b>25</b>
<b><u>CEO Speaks to Employees</u></b>	<b>26</b>

<b>Communities</b>	<b>27</b>
<u>Kennecott Receives Public History Reward</u>	<u>27</u>
<u>Louie Cononelos Named UMA's Executive of the Year</u>	<u>27</u>
<b>Education</b>	<b>28</b>
<u>Teacher is Mine's Two Millionth Visitor</u>	<u>28</u>
<u>Internship Program</u>	<u>28</u>
<u>Eden Mining Education Center</u>	<u>29</u>
<b>Social Well-Being Goals &amp; Targets</b>	<b>30</b>
<b>Resource Stewardship</b>	<b>31</b>
<u>Sharing Biodiversity</u>	<u>31</u>
<u>Land Reclaimed</u>	<u>32</u>
<u>Upper Midas Waste Rock</u>	<u>33</u>
<u>Bluewater 1 Waste Rock Dump</u>	<u>34</u>
<u>Highland Boy Waste Rock Dumps</u>	<u>35</u>
<u>South Tailings Impoundment</u>	<u>36</u>
<u>FRIENDS of Great Salt Lake</u>	<u>37</u>
<b>Pollution Prevention</b>	<b>38</b>
<u>Great Salt Lake Science Panel</u>	<u>38</u>
<u>Air Quality</u>	<u>39</u>
<u>Greenhouse Gas Emissions and Energy Consumption</u>	<u>40</u>
<u>Water Management</u>	<u>42</u>
<u>Waste Management</u>	<u>42</u>
<u>Compliance &amp; Significant Environmental Issues / Incidents</u>	<u>44</u>
<b>Product Stewardship</b>	<b>45</b>
<u>Copper's Benefits</u>	<u>45</u>
<u>Copper Alloys Stem Spread of "Superbugs"</u>	<u>45</u>
<u>More Efficient Motors</u>	<u>45</u>
<u>Product Stewardship Guideline</u>	<u>46</u>
<b>Environmental Stewardship Goals &amp; Targets</b>	<b>47</b>
<b>Governance</b>	<b>48</b>
<u>Personal Responsibility</u>	<u>48</u>
<u>Core Values</u>	<u>48</u>
<b>Contact Us</b>	<b>49</b>

## LETTER TO COMMUNITY AND WORKERS

---

In 2004, our commitment to work safely and efficiently combined with high metal prices allowed Kennecott Utah Copper Corporation to return good value to our shareholders, employees and other stakeholders.

For several years, Kennecott has been looking at options to increase the productive life of the Bingham Canyon Mine. As a result of our past initiatives to control costs and improve efficiencies, we received approval for a \$170 million expansion project from our shareholder and parent company, Rio Tinto. This expansion will extend the life of the open-pit mine to 2017.

Economically, this is good news for our employees, contractors and suppliers. By extending the mine life we can continue to offer high paying jobs, purchase goods and services from our contractors and suppliers and pay taxes that help finance our schools, roads and social services. In addition, it means more contributions and support to worthy community organizations and projects.

Socially, the mine led the way in demonstrating our commitment to safety by setting a record 3 million man-hours with no lost-time injuries. The refinery and tailings also set safety records. We recognize that our workers are our biggest asset and keeping them safe remains our number one goal.

Environmentally, we listened to and worked with our numerous stakeholders who include the general public, the State of Utah, the Jordan Valley Water Conservancy District and various environmental groups. We reached consensus on a plan of action to clean up contaminated ground water in the aquifer in the South West Jordan Valley of Salt Lake County. We also put more emphasis on measuring environmental performance.

While we made progress in 2004, we will continue to educate and train our employees on how each individual can contribute to sustainable development. We are also aware that we operate our plants and facilities in a metropolitan valley of approximately 1.4 million people. As residential homes are built closer to our plants, we must remain vigilant in our pursuit of operating in a safe, clean and efficient manner. We recognize the needs of our neighbors and are committed to exceeding their expectations by ensuring the surroundings remain safe, healthy and beautiful.

As we strive to raise the bar on how we implement sustainable development into all aspects of our business, your feedback is instrumental to our continued success. We seek your opinions and guidance and urge you, our employees and community neighbors, to continue your communication and engagement with us.

*Bill Champion*



*Bill Champion, President & CEO*

## 2004 HIGHLIGHTS

---

### **Economic Posterity**

- Global growth in demand for all metals caused significant increases in prices in 2004, yielding more than a three-fold increase in Kennecott's profits.
- Kennecott is striving for increased transfer of knowledge among plants to ensure consistency and transparency. Among its initiatives are Kennecott Maintenance System(KMS), Kennecott Operations Improvement System(KOIS) and Six Sigma.
- Life of mine to be extended through 2017 with the pushback of the east wall.
- Overall donations to local charities increased for the first time since 1997.
- Kennecott is virtually customizing its copper cathode in response to a customer's request for especially high-quality copper.

### **Social Well-Being**

- Mine won award for 3 million man-hours with no lost time injuries.
- The refinery won award for workplace safety and health performance.
- Kennecott sponsored its first wellness fair for employees and their families in July 2004.
- Kennecott worked with stakeholders to reach an agreement on ground water clean-up agreement.
- Kennecott received a Public History award at the 52nd Annual Meeting of the Utah State Historical Society on September 23, 2004 from the Division of State History, State of Utah.
- Roxann Kristensen is the co-founder of Angel's Hands Foundation (AHF), a local foundation that assists families living with rare diseases such as mucopolysaccharidoses (MPS).
- Seventh grade teacher Mrs. Sunsuk Christiansen became the two millionth visitor to Kennecott's Bingham Canyon Mine Visitors Center since its construction in 1992.
- Eden Project is an educational visitor attraction exploring the interdependence of plants, people and natural resources.

### **Environmental Stewardship**

- Kennecott is exploring ways to share biodiversity information through ECOiSHARE.
- Kennecott developed a product stewardship guideline to act as a framework.

- Reclamation activities were performed on a total of 160 acres of waste rock dumps at the Bingham Canyon mine in 2004.
- Kennecott continued its efforts to reclaim the South Tailings Impoundment.
- Kennecott tries to maintain close ties with local conservation and environmental groups such as FRIENDS of the Great Salt Lake.
- Kennecott and Rio Tinto are supporting the efforts of the Utah Department of Environmental Quality, Division of Water Quality and other stakeholders to set a numeric standard for selenium in the open waters of the Great Salt Lake.
- Reducing airborne emissions in order to improve overall air quality is a major goal for Kennecott.
- Kennecott is finding ways to reduce greenhouse gas emissions and energy consumption.
- Kennecott strives to continually improve the way it manages water.
- Waste management engineers prepared to implement Rio Tinto Environmental Standards in 2005.
- Kennecott has a standing goal of having no "significant" environmental incidents.
- Kennecott collaborates with other producers and fabricators to promote and defend copper in its markets.

# CONTINUING DOWN THE ROAD OF SUSTAINABLE DEVELOPMENT

"Sustainability" can be a hard concept to comprehend in what seems to be an increasingly disposable world. Yet it's vital for future generations that businesses and society continue to move in that direction. At Kennecott, sustainable development is integral to our survival as a mining, smelting and refining company, and to the social and financial investment our stakeholders and surrounding communities have made in us.

By incorporating sustainable development concepts into our corporate philosophy and daily practices we are able not only to strengthen our operations and their products, but also provide lasting benefits for our employees and stakeholders. Those benefits, which flow from our overall Mission "to maximize the long-term value of our resources," extend beyond economic prosperity to involve social well-being and environmental stewardship. To achieve these benefits, we utilize our Strategic Objectives, which are based in the principles of sustainable development.



[Click to Enlarge](#)

This year's social and environmental report is organized around our strategic objectives and offers examples of how Kennecott is integrating the sustainable development concepts of economic prosperity, social well-being, and environmental stewardship into our business.

To bind these three tiers together we rely on the principles of governance, which include quality management and performance systems, high standards of business ethics, and working with governments and communities to encourage policies and laws that support contributions to sustainable development.

Contributing to sustainable development is critical to fulfilling our social responsibility, our ability to create long-term business value, and enhancing our company's reputation in the market and community. Through our approach to sustainable development, Kennecott and its stakeholders can both assess how the company's actions are contributing to sustainable development and identify opportunities to enhance that contribution.

## Strategic Objectives

*Build on our economic, social, and environmental successes by utilizing good governance systems and balancing the needs of present and future generations.*

### Social Well-Being

- Human Health & Safety - pg. 15
- Stakeholder Engagement & Transparency - pg. 22
- Working Together - pg. 25
- Communities - pg. 27
- Education - pg. 28

### Environmental Stewardship

- Resource Stewardship - pg. 31
- Pollution Prevention - pg. 38
- Product Stewardship - pg. 45

### Economic Prosperity

- Shareholder Return - pg. 8
- Economic Contribution - pg. 11
- Customer Focus - pg. 13

### Governance

- Personal Responsibility - pg. 48
- Core Values - pg. 48

## SHAREHOLDER RETURN

### **Shareholder Return:**

*We will maximize return on investment over the long term, thereby providing the resources necessary to maximize our contributions to shareholders and contribute to sustainable development.*

### **Increased Profits**

Global growth in demand for all metals caused significant increases in prices in 2004, yielding more than a three-fold increase in Kennecott's profits. Increasing profits generated higher tax payments to state and federal government entities. Payments to suppliers also rose.

Kennecott is enjoying this increase in metal commodity prices while at the same time remaining vigilant of changing market conditions. It is focusing on long term value creation and investing in equipment and manpower to position the company for the eventual decline in prices, which is bound to occur given the cyclical nature of the mining industry.



Raw material copper production was lower in 2004 compared to 2003 due to lower ore grades. However, the lower ore grades were partially offset by better recovery in processing facilities. Molybdenum production also improved due to higher grade and recovery.

Refined gold production was slightly lower in 2004, however silver production increased by almost 10% thanks to higher silver content in concentrates smelted and refined.

### **Key Economic Statistics**

#### **Kennecott Key Financial Statistics**

	<b>2004</b>	<b>2003</b>
Total Sales	\$1,091 million	\$723 million
Net Profits	\$294 million	\$90 million

#### **Kennecott Key Production Statistics**

	<b>2004</b>	<b>2003</b>
Copper Production (in cathodes)	272,200 (short tons) 246,700 metric tonnes	254,200 (short tons) 230,600 metric tonnes
Gold Production	300,000 troy oz	307,800 troy oz
Silver Production	3,344,000 troy oz	2,964,000 troy oz
Molybdenum Production	7,484 (short tons) 6,788 metric tonnes	5,091 (short tons) 4,618 metric tonnes



## Mine Expansion

Kennecott is moving ahead with plans to extend the life of its open-pit mine from 2013 to 2017. A series of engineering studies demonstrated that pushing back the east wall of the mine is not only a feasible option but an economically viable one. The pushback began in February 2005.

This expansion of the open-pit will be accompanied by the addition of a pebble crushing circuit at the Copperton Concentrator. Pebble crushing will allow the concentrator to achieve higher throughput rates when encountering harder rock types in the mine, resulting in greater copper production. In 2005 and 2006, capital expenditures of \$138 million will be spent on new and relocated mine facilities, mobile equipment and concentrator upgrades. Approximately \$53 million in additional capital will be required in 2008 for the relocation of the in-pit crusher and de-watering facilities.



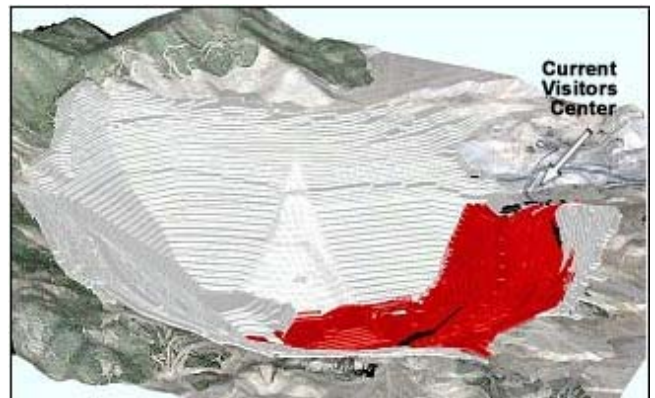
The mine expansion will add years of economic benefit to shareholders, local communities, organizations and projects. Kennecott will continue to look for ways to economically mine the remaining ore to extend mine life even further.

### East Wall Pushback

#### Why open-pit rather than underground expansion?

In value terms, the east pushback is broadly similar to the underground plan. However, the east pushback requires significantly lower capital expenditure to develop and is less technically challenging than an underground development. It also allows the resource to be exploited using proven mining methods that Kennecott is highly experienced with.

Furthermore, the pushback gives Kennecott additional time to complete studies to determine the most effective solution for increasing mine life beyond 2017. The studies will look at further open-pit expansions, smaller underground developments and concurrent open-pit and underground mining operations.



*The red area on the east of the open-pit mine is the site of the planned expansion. The Visitors Center is currently located in this area and will be moved in 2006. This expansion project will extend the life of the open-pit mine through 2017.*

### Six Sigma

Six Sigma is another continuous improvement initiative with a strong business focus. It was launched in June 2004 and by year-end 12 Black Belts (full time continuous improvement project leaders) and 5 Green Belts (part-time project leaders) had completed training. These individuals completed eleven projects that returned in excess of \$3.5 million in value in 2004. During the first quarter of 2005, six additional projects are slated for completion. In the first half of 2005, two additional waves of training will be launched. These deployments will provide Kennecott with eight additional Black Belts and 14 additional Green Belts. Training commenced in January 2005 and is expected to conclude in June.

## Business Improvement

Under the principle of Operations Excellence, Kennecott is striving for increased transfer of knowledge among plants to ensure consistency and transparency. Among its initiatives are Kennecott Maintenance System(KMS), Kennecott Operations Improvement System(KOIS) and Six Sigma.

KMS is aimed at ensuring best practice in regard to maintenance and consistency in standard operating procedures. It also provides a vehicle by which plants schedule maintenance and work concurrently to minimize down time.

Another aspect of KMS involves cross training employees to share knowledge and ensure their skills can be transferred from one plant to another.

"We received accolades for our KMS initiative and Rio Tinto wants to use it as a sharing tool," said Mark Anderson, Kennecott's Chief Operating Officer.

KOIS is a similar program for the operations group. Under this initiative, control and response plans are being developed at all plants.

To support Kennecott's goal of making sustainable development more transparent, Operations has adopted metrics on its daily scorecard that monitor the three pillars of sustainable development. Anderson closely tracks these metrics to look for trends that may signal a problem.

"While there are pockets of excellence, there is room for improvement," said Anderson.



## Supervisor Training

As part of Kennecott's business improvement goals, it launched a new program in 2004 to ensure supervisors not only have the technical skills needed to successfully complete their jobs, but the people and leadership skills necessary to understand and respond to both internal and external stakeholders such as their own employees, their customers and the surrounding community.

The training, which involves 126 supervisors, is meant to improve coaching and leadership skills such as how to develop talent, how to build a team and how to be a team leader. It also covers areas including effective communication, problem-solving, budget and resource management and legal and corporate compliance issues. The sessions are held every other month and alternate among plants.



"The goal is to teach the supervisors how their decisions impact others inside and outside the company," said Tom Lohrenz, who is spearheading the program. "This is all about how decision-making ties into sustainability. People become more aware of sustainable development once they understand how they make an impact."

In conjunction with the supervisor training, a qualification matrix has been developed for hourly employees. The Matrix makes expectations more transparent by outlining four areas of expertise: technical skills, safety awareness, personal effectiveness and business knowledge.

"We are raising the bar on what we expect employees to know. We want them to increase their knowledge and better understand how they can impact the future," Lohrenz said.

## Mine Expansion

Kennecott is moving ahead with plans to extend the life of its open-pit mine from 2013 to 2017. A series of engineering studies demonstrated that pushing back the east wall of the mine is not only a feasible option but an economically viable one. The pushback began in February 2005.

This expansion of the open-pit will be accompanied by the addition of a pebble crushing circuit at the Copperton Concentrator. Pebble crushing will allow the concentrator to achieve higher throughput rates when encountering harder rock types in the mine, resulting in greater copper production. In 2005 and 2006, capital expenditures of \$138 million will be spent on new and relocated mine facilities, mobile equipment and concentrator upgrades. Approximately \$53 million in additional capital will be required in 2008 for the relocation of the in-pit crusher and de-watering facilities.



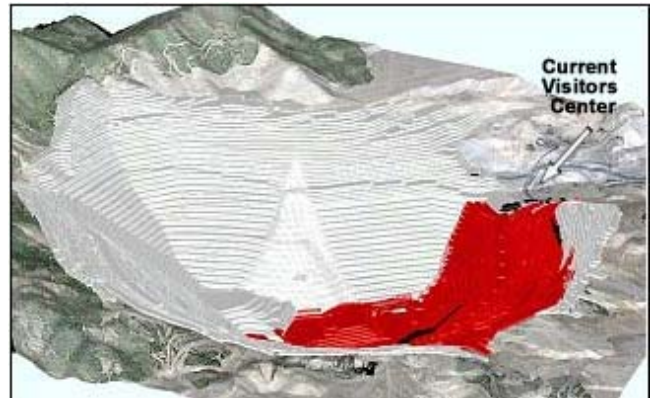
The mine expansion will add years of economic benefit to shareholders, local communities, organizations and projects. Kennecott will continue to look for ways to economically mine the remaining ore to extend mine life even further.

### East Wall Pushback

#### Why open-pit rather than underground expansion?

In value terms, the east pushback is broadly similar to the underground plan. However, the east pushback requires significantly lower capital expenditure to develop and is less technically challenging than an underground development. It also allows the resource to be exploited using proven mining methods that Kennecott is highly experienced with.

Furthermore, the pushback gives Kennecott additional time to complete studies to determine the most effective solution for increasing mine life beyond 2017. The studies will look at further open-pit expansions, smaller underground developments and concurrent open-pit and underground mining operations.



*The red area on the east of the open-pit mine is the site of the planned expansion. The Visitors Center is currently located in this area and will be moved in 2006. This expansion project will extend the life of the open-pit mine through 2017.*

### Six Sigma

Six Sigma is another continuous improvement initiative with a strong business focus. It was launched in June 2004 and by year-end 12 Black Belts (full time continuous improvement project leaders) and 5 Green Belts (part-time project leaders) had completed training. These individuals completed eleven projects that returned in excess of \$3.5 million in value in 2004. During the first quarter of 2005, six additional projects are slated for completion. In the first half of 2005, two additional waves of training will be launched. These deployments will provide Kennecott with eight additional Black Belts and 14 additional Green Belts. Training commenced in January 2005 and is expected to conclude in June.

## **Kennecott Scholars Program**

Kennecott has a long standing commitment to the University of Utah and Westminster College through its Kennecott Scholars Program. This scholarship program was later extended to Utah State University, Brigham Young University and the College of Eastern Utah. In 2004, Kennecott donated \$132,000 in scholarships to these colleges and universities. The Corporation also regularly donates to the Granite and Jordan School districts.

### **Alex Booth, Architecture & Planning**

"I am very grateful for the Kennecott Scholarship. This scholarship has allowed me to spend less time working and more time helping the community. For me Architecture is not limited to the design of a single building, but instead how that single building interacts with the community as a whole.

"During the fall semester I was able to volunteer to teach elementary students about Architecture. This one-on-one interaction helped me to gain a deeper understanding of the influence that I can be to younger generations, as well as the importance of conveying my ideas to others, no matter the age group.

Without the Kennecott Scholarship I would not have been able to volunteer and learn as much as I did. Thank You."



### **Trina Sudweeks, Chemical Engineering**



"The Kennecott Scholarship has helped me so much. I have been able to be involved in two research projects that have taken lots of extra time. Thanks to this scholarship, I have been able to take that time off from my normal job to pursue my interest in research.

"I have lived in Layton since I started college, and the commute has been a trial sometimes. Through this scholarship, I have been able to move to Salt Lake and have a "real" college experience. It is so great to not commute or worry about picking up extra hours at work.

"Thanks Kennecott for helping each of us! It means the world to us!"

## **Community Contribution Award**

Kennecott and the Murray Education Foundation received the Community Contribution Award from the Utah Association for Gifted Children. The award recognized the joint effort of financing and building a major environmental education complex on the Jordan River Parkway, which was named the Kennecott Nature Center of Murray.

## Total Payments

Kennecott has contributed to an array of community events that may not have been possible without the contributions. In addition it has contributed to several community events such as the Susan B. Komen Foundation's Race for the Cure, Valley West Relay for Life and Down Syndrome Buddy Walk. Kennecott is also one of the corporations that consistently offers on-going assistance to Veterans groups.

Kennecott also pays millions of dollars in wages, salaries and benefits to employees, makes payments to vendors and suppliers, and pays taxes to state governmental agencies. The amounts are summarized below:

Communities & Employees (in millions)		
	2004	2003 <sup>2</sup>
Employee Costs & Benefits	\$171 <sup>1</sup>	\$124
Other Payments for Goods & Services <sup>3</sup>		
Local	\$211	\$155
State of Utah	\$68	\$50
National	\$189	\$139
International	\$29	\$22
<b>TOTAL</b>	<b>\$668</b>	<b>\$490</b>

<sup>1</sup> The significant increase from 2003 is due in part to a \$37m pension trust adjustment and prior period incentive payout.

<sup>2</sup> 2003 figures have been restated on a cash basis.

<sup>3</sup> Payments include payments to suppliers outside the business for materials, facilities, services and state taxes.

**Customer Focus:**

*We deliver to our customers high performance, quality products and outstanding service. We search for and test every opportunity to build stronger customer relationships through proactive engagement, attentive listening and value enhancement of our product and service excellence.*

### Customizing Copper

Kennecott is virtually customizing its copper cathode in response to a customer's request for especially high-quality copper. Essex Group, one of Kennecott's major customers, modified its business model in 2003 to focus on high quality magnet wire that requires copper cathode to contain less than 0.5 parts per million (ppm) bismuth (Bi). The standard set by the American Society of Testing Materials (ASTM) calls for copper with less than 1 ppm bismuth.

As a result of Essex's request for low-bismuth cathode, "Kennecott worked very closely with Essex Group to improve the product quality control of our copper cathode," said Jim Cowley, vice president for sales and marketing. "We listened attentively to Essex's needs, and then engaged all of our production, analytical and marketing know-how to deliver cathode that helped their business model succeed."



Kennecott faced many challenges as it tried to make the adjustment, such as developing new ways to analyze the amount of impurities in its cathodes and sort out those meeting Essex's specification limits.

Essex Group casts Kennecott's high grade copper into a rod and then draws the rod into magnet wire that can be as fine as human hair. Magnet wire is used in electrical motors, transformers and various electrical appliances. High levels of bismuth in cathode can cause surface imperfections to form on the wire during the drawing process. Surface imperfections can cause voltage faults to occur, which create heat from greater electrical resistance. Not only does the heat represent a loss of efficiency but it also dramatically shortens the life of the motor.

"While supporting their business model means extra effort and costs on our part, it provides value for our customers," Cowley said. "Now we are able to sort out the very best quality. In essence, we have created a new class of product quality designed specifically to meet Essex's needs."

Cowley's team regularly communicates with Essex Group and other customers to discuss quality, delivery performance and other opportunities to increase the benefits they get from using Kennecott's products.

"The key is to understand our customers' value generation model so that we can create a compelling reason to designate Kennecott as their preferred supplier," Cowley said.

## ECONOMIC PROSPERITY GOALS AND TARGETS

---

2005 Goals	2004 Achievements
<ul style="list-style-type: none"><li>▶ During this period of higher metal prices, imbed continuous improvement programs that will result in sustainable performance improvements.</li><li>▶ Focus on executing the molybdenum plant expansion, open-pit mine expansion and the Concentrator pebble crushing project. These are key value- generating projects that position Kennecott to remain viable for many years to come.</li></ul>	<ul style="list-style-type: none"><li>▶ <b>Goal:</b> Increase resource utilization through improved metal recoveries. <b>Performance:</b> Copper, molybdenum, gold and silver saw increases in recovery of 1.2%, 13.0%, 1.7% and 1.3% respectively. Improvements in flotation reagents and process control contributed to the higher recoveries.</li><li>▶ <b>Goal:</b> Implement a Product Stewardship Program. <b>Performance:</b> Developed and received management approval for a Product Stewardship Guideline as a framework for Kennecott's product stewardship program.</li></ul>

### **Human Health & Safety:**

*We are concerned for the health and safety of everyone at Kennecott, as well as our neighbors and local communities. We will monitor, report and improve on health and safety achievements with an ultimate goal of providing a workplace that is free from exposure to harmful substances, that is free from workplace accidents, and that does not adversely impact the health and safety of our neighbors.*

### **Improved Safety**

In 2004, Kennecott focused on creating an "interdependent safety culture" where all workers cooperate for safety and everyone strives to behave in a manner that protects the safety and well being of themselves and their fellow co-workers.

The 2004 Kennecott Safety and Health Program Management Plan was established not only to deliver industry's "best practice" programs for continued improvement in safety performance, but also to help the organization maintain compliance with all regulatory elements and Rio Tinto requirements. Kennecott's safety performance is one of the best in the industry.

- Kennecott's total lost time injury rate (LTIR) in 2004 was 0.62 compared to 0.65 in 2003. The rate represents 14 lost time injuries compared to 15 in 2003, a 7 % improvement.
- The number of Lost Time Injuries (LTIs) involving Kennecott employees decreased by 50 % (4 vs. 8). The employee LTI rate was 0.27 compared to 0.52 in 2003. The number of contractor LTIs increased by 30 % (10 vs. 7). Contractors' LTI rate was 1.28 compared to 0.93 in 2003.
- The Kennecott All Injury Frequency Rate<sup>1</sup> (AIFR) was 1.85 compared to 2.09 in 2003. The rate represents 42 injuries in 2004 compared to 48 in 2003 (12 % improvement).
- The number of All Injuries<sup>2</sup> (AIs) involving Kennecott employees decreased 11 % (25 vs. 28). The employee AI rate was 1.68 compared to 1.82 in 2003. The number of AIs involving contractors decreased 15 % (17 vs., 20). The contractor AI rate was 2.18 compared to 2.67 in 2003.



<sup>1</sup> All Injury Frequency Rate is derived by this formula: (All Injuries multiplied by 200,000 hours) divided by (Total Hours worked.) The 200,000 hours represents the hours worked by 100 full-time workers for one year.

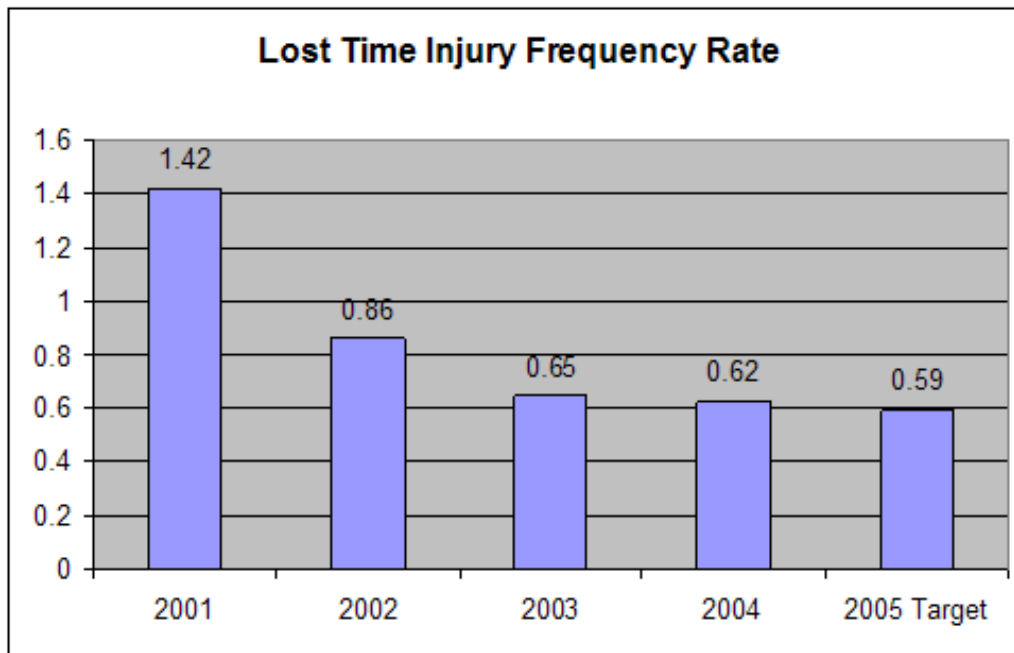
<sup>2</sup> All Injuries equals lost time injuries plus injuries requiring medical treatment. The AI refers to the total number of injuries regardless of number of hours worked.



## Kennecott Safety Statistics

Indicator	U.S. Mining Industry 2003 <sup>1</sup>	Kennecott 2003 Actual	2004 Target/Actual	2005 Target
Lost Time Injury Rate	3.1	0.65	0.33 / 0.62	0.59
Lost Time Injury Severity Rate	N/A	33	17 / 29	23
Total Injury Rate	4.6	2.09	1.05 / 1.85	1.77

<sup>1</sup>Mining except oil and gas



## Risk Assessment

In 2004, all employees and contractors were instructed in the principle of the TRACK pre-task safety assessment system and are expected to use TRACK when performing their work duties. The concept and ideals of TRACK are becoming embedded within all levels of the organization.

**T**hink through the Task

**R**ecognize the Hazards

**A**sses the Risks

**C**ontrol the Hazards

**K**eep Safety First in all the Tasks

Kennecott standardized a system of Risk Assessment that formally incorporated risk assessments as a tool that identifies specific job hazards and ranks the hazards in terms of severity and probability of occurrence. Risk assessments are managed within a plant/work area or across operating facilities through the use of a "risk register" which at a minimum provides for the periodic review and update of the individual risk assessment(s).

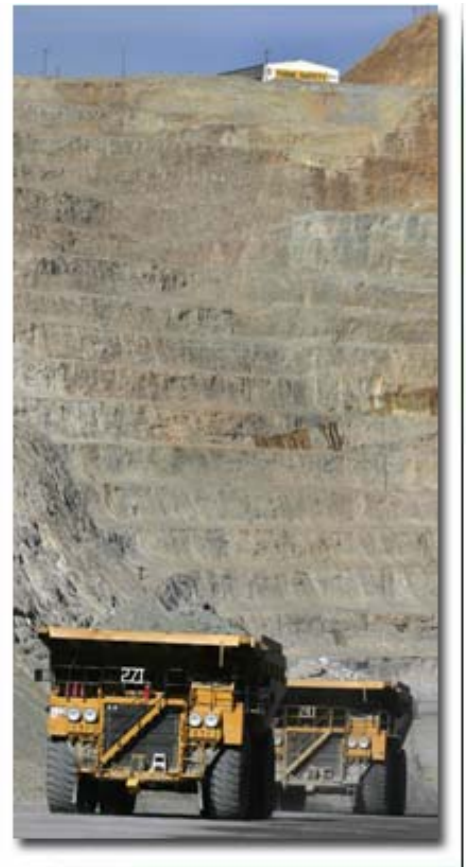
## Systems of Safety Audits

Kennecott raised the bar on using safety auditing as a tool to examine, test and confirm that work areas or facility's procedures and practices meet or exceed company and regulatory requirements. Safety interactions continue to be conducted to address at-risk behavior.

Internal audits of all the Rio Tinto required Safety Standards were completed in 2004 by Rio Tinto employees to not only determine and document compliance with safety standards and requirements, but also to improve substandard performance, heighten awareness and achieve safety goals.

All Kennecott facilities participated in the third round of Rio Tinto Safety Standards Auditing. The audit focused on verification that Kennecott facility standards adhere to the Rio Tinto Standards, and employee knowledge regarding the application of the Standards. The facilities received one S\*, 22 S, and 3 Commendations.

S\* is classified as contrary to Rio Tinto Standards and is critical/high under HSE 6 monthly report definitions. S is classified as contrary to Rio Tinto standards. Upon receiving an S\*, Kennecott has a 30 day period to take corrective action. For each S received, an action plan is written and progress is reported back to Rio Tinto on a quarterly basis.



## Personal Safety Performance Plans

Kennecott required employees to write more comprehensive personal safety and health performance plans in 2004. In the plans, individual employees must identify specific actions beyond normally assigned work functions that they will undertake as a part of their own commitment to safety and health in the work place.

## Training

Kennecott recognizes that a key element in every successful accident prevention program is effective job orientation and health and safety training. Training and coaching are provided to employees and contractors on their role in contributing to a safe work environment and on what specific values and attitudes results in the desired behavior(s) that produce a safe workplace. Health and Safety training manuals and guides have been consolidated across Kennecott facilities to ensure consistency. Hands on or interactive training exercises are emphasized.

## **Accident / Incident Investigation/ Near Miss Reporting**

Kennecott continued to strive for complete and thorough accident/ incident investigations to identify the basic or root cause of the event. Corrective actions were identified and completed with follow-up over-site by plant managers.

Near miss reporting is an essential tool in accident and injury prevention. Reporting of near misses is encouraged and the information communicated to prevent reoccurrence.

Individual employees and contractors are required to take personal responsibility for an unsafe act with the understanding that they will be held accountable for unsafe behavior. In 2004, Accident Review Panels were created as a method of driving this process and to assist in the identification of a root cause and to identify unsafe behaviors.



## **Off-the-Job Safety**

Kennecott emphasizes safety and health off-the-job. Communication and information is provided to employees on issues specific to off-the-job safety topics. A wellness fair was conducted for employees and families that included a variety of safety and health information and a professional speaker skilled in the safety area.

## **Occupational Health**

Kennecott and its employees are responsible and accountable for the health and safety maintenance of all workers. In addition to the ongoing work place monitoring and employee medical surveillance programs, efforts continued in 2004 to implement the Rio Tinto Health Standards. Champions and plant custodians were established for each standard and progress toward implementation of the standards was reviewed in monthly meetings chaired by the Chief Operating Officer.

A trial audit of Rio Tinto's Health and Safety Standards conducted during a Rio Tinto auditor training session scored Kennecott as 85% Level 3 Compliant (risks assessed and protective action plans in place) and 77% Level 4 Compliant (fully implemented and demonstrably used).

As part of its quest to continuously improve workplace conditions, Kennecott has developed a global strategy and action plan that includes several health targets. They include formally identifying and implanting routine preventative maintenance for equipment designed to minimize health exposure, implementing new Health Standards training and achieving a 5% reduction in the amount of employees exposed to noise levels above 85 decibels during 2005. The Health targets have been adopted across the board and each plant is devising a specific action plan to ensure the goal is met.

## Significant Safety or Health Incidents and Citations

Kennecott has a standing goal of no "significant" safety or health incidents. However, in 2004, seven incidents occurred in connection with Kennecott's operations that were categorized as significant because of the potential for, or actual serious impact on human safety or health.

They were:

- An employee was awarded \$1,204 in compensation for a noise induced hearing loss in a "Compromise Settlement of a Disputed Claim" by the State Labor Commission.
- A \$1,275 UOSH citation was issued at Kennecott's refinery for exposure to particulates. Employers must assure that employers working in areas where personal airborne lead exposure is above the PEL do not leave the workplace wearing clothing worn during their work shift. At the time of the inspection there was no procedure to ensure that employees did not wear personal clothing home. Procedures were developed and employee training was completed.
- A \$375 citation by MSHA was issued at the Kennecott mine due to an equipment defect. An electric forklift suddenly reversed while being inspected striking another piece of equipment. The forklift was removed from service until the defect was corrected.
- A \$375 serious citation by MSHA at the Kennecott Mine. Loose unconsolidated material was observed along a section of a high-wall creating a fall of material hazard. A portable unit substation located at the base of the high-wall had sustained damage from falling rock. The substation was repaired and relocated and the conditions were corrected.
- A contractor mechanic sustained a crushing injury to his left hand that resulted in the amputation of the ring finger while attempting to unload a Caterpillar 992 loader from a transport trailer. The loader body was being lifted when the injured employee placed his hands under the frame and was crushed when the loader dropped. The contractor's employees were retrained not to position body parts underneath non-supported loads. Safe work procedures/practices were revised to address/emphasize pre-task assessments. The faulty valve seat was repaired.
- A contractor sustained a concussion and vertebrae fracture when he was struck on the back / neck by a piece of slag material. The employee was working inside a boiler unit when a piece of material dislodged from overhead striking him. A boiler entry protocol was developed that identifies critical safety issues / work procedures that is protective of employees working inside the boiler. Included in the plan are methods to inspect and identify any residual material(s) and to remove them prior to entry. In addition, protective barrier screen(s) were installed above the interior work area of boilers to catch any falling objects and deflect them away from work crews.
- Two Caterpillar 777-B Haul Trucks, owned and operated by a contractor company, collided head-on while hauling material on the Tailings Impoundment. The incident occurred when an empty, southbound haul truck (returning to the slag yard) veered from its lane of travel, striking the loaded, northbound haul truck. As a result of the collision, the driver of the southbound haul truck sustained a fracture injury to the right forearm and the driver of the northbound haul truck sustained a fracture injury to the right ankle. The cause of the incident was the loss of consciousness by the driver of the southbound haul truck. The contracting company developed a site specific plan based on risk assessment that identifies the "Fitness for Work" issues of fatigue / impairment / personal fitness. The plan identifies systems for managing fatigue and include employee training and awareness regarding impairment and personal fitness.

## **SAFETY Awards**

**Kennecott's Bingham Canyon Mine** was honored by the Utah Manufacturers Association for achieving a major benchmark in mining safety: three million man-hours without a lost-time injury through 2004.

An award was presented by UMA president Tom Bingham to Mine manager Ted Himebaugh at the association's annual membership luncheon in Salt Lake City on Jan. 24, 2005.

Himebaugh credited the achievement to outstanding safety training, careful attention to safety standards and improved safety behaviors of the more than 700 men and women employees and contractors at the Bingham Canyon Mine.



The safety milestone was reached in December 2004 after 696 days of around-the-clock, seven-days-a-week mining operations without a lost-time injury.

"We can expect to reach additional one million safe hour milestones in the future as we strive to create a culture where all workers actively care for the safety of others. That is our goal," Himebaugh said

Earlier in the year, the mine received the prestigious "National, International, Safety and Health Recognition Award (ISMSP)" for reaching two million man-hours without a lost-time injury. The award was presented during a national conference by the International Society of Mine Safety Professionals.

The mine also received a Utah Safety Council/National Safety Council Award of Merit for achievement of 2003 workplace safety and health performance.

**The Refinery** won an Award of Merit from the Utah Safety Council/National Safety Council for its 2003 workplace safety and health performance. The refinery broke its own record by going 871 days with no lost-time injuries in 2004. **The Tailings** also set a record, going 834 days with no lost time injuries.

**Kennecott** was one of 50 companies to receive a Product Stewardship award from BNSF Railway Company for safely transporting a minimum of 500 loaded tank cars of hazardous materials during 2004.

## **Health and Wellness Fair**

In collaboration with Altius, Blue Cross Blue Shield and Intermountain Health Care, Kennecott sponsored its first wellness fair for employees and their families in July 2004. The fair at Cyprus High School in Magna, Utah was largely staffed by volunteers from Kennecott and the broader community.

Healthcare providers performed screenings to measure blood pressure, cholesterol, glucose, body composition and bone density. The Salt Lake Unified Fire Authority was on hand with its Fire Prevention Trailer that simulated fire hazards found in the home. The Salt Lake County Sheriff's Office provided identification kits for children as well as information about drug awareness and prevention for teens. Officer Lee Perry of the Utah Highway Patrol operated the Rollover Simulator to demonstrate what happens to vehicle passengers when seatbelts are not worn in a crash or rollover at 20 mph.

Guest speakers included Beverly Hyatt from the Salt Lake Valley Health Department and Leonard and Janet Tayon, husband and wife. Beverly Hyatt shared with employees statistics about the health of our nation. She encouraged employees to become aware of their diet and exercise habits and to make any necessary adjustments to lead a healthier life. The Tayon's story was both tragic and inspirational. Leonard suffered severe burns over a large percentage of his body in an industrial accident while employed at US Magnesium. He still works for the company and emphasized to employees the importance of safety awareness on and off the job.

Every employee was given a pedometer to encourage a walking or exercise program. Kennecott plans to sponsor a wellness fair on an annual basis to encourage employees and their families to live healthier lives.

## STAKEHOLDER ENGAGEMENT & TRANSPARENCY

---

### ***Stakeholder Engagement and Transparency***

*We will continue to develop partnerships and seek input from key stakeholders, be willing to listen to divergent points of view, and provide stakeholders with information relevant to their needs and interests through timely and open reporting.*

### **Groundwater Clean-Up Agreement**

Following a series of technical reviews, committee meetings, public hearings and tours, the State of Utah, the Jordan Valley Water Conservancy District and Kennecott signed an agreement to clean up polluted ground water under the southwest Jordan Valley. Kennecott is committing \$104 million to the effort.

The project involves a 50-square-mile area that became contaminated during more than 100 years of mining, many of which predated Kennecott.

"Kennecott, the community, the state and environmental groups began collaborating on this process more than 10 years ago and it has come to fruition in a very positive way," said Paula Doughty, Kennecott's director of environmental affairs.

"Zone A" encompasses an acidic, metal-laden core surrounded by sulfate-contaminated groundwater. "Zone B" consists primarily of sulfate-contaminated groundwater.

Under the agreement, Kennecott will expand its own reverse-osmosis (RO) water treatment plant for Zone A and will fund a similar RO plant for Zone B, which will be built, owned and operated by the Jordan Valley Water Conservancy District. Both plants are designed to produce water cleaner than Utah drinking water standards.

The proposal went out on public notice twice and, as a direct result of public input, the original plan was changed. The Jordan Valley Water Conservancy District had proposed to dispose of the waste stream from the Zone B reverse osmosis plant into the Jordan River under a state permit held by the District. In response to public comment, the District withdrew its discharge permit and it was decided that the waste would flow into Kennecott's tailings impoundment.

The plant in Zone A is anticipated to reach full capacity by early 2006, at which time the water will be available for public consumption. Zone B's plant should be operating by 2007 or 2008. The plants are designed to operate for 40 years and provide more than 8,235 acre-feet of drinking water per year for public use.

For more information on the South West Jordan Valley Groundwater Proposal, visit the Utah Department of Environmental Quality website at <http://www.eq.state.ut.us/issues/nrd/index.htm>



## Survey of Public Opinion

Communication increases credibility, improves our corporate image and helps build a trust account to call upon during difficult or adverse times. For fourteen years, Kennecott has used the public opinion telephone survey as an effective tool to monitor the general public's view about Kennecott and how it operates. Kennecott's first public opinion survey was conducted in 1991 and was part of the consultation process as outlined in the Rio Tinto Communities Policy guidelines. The last survey was conducted during June and July 2004 and was administered in conjunction with Kennecott's Five Year Community Relations Plan and Sustainable Development Program.



Sixty-six percent of the 1,000 Utahns interviewed said they had heard of Kennecott and rated the company as "excellent" or "good." This is slightly down from 69% in the 2002 survey. When asked to rate if Kennecott's image was "favorable," 73% said yes, down from 77% two years prior. In response to a question on how it performed on corporate citizenship, the rating was 55% compared to 61% in 2002.

Public opinion also declined on whether Kennecott "protects the environment, reduces air pollution" but slightly increased on whether Kennecott "restores lands affected by mining operations." On a positive note, about 92% responded positively to the question "is mining necessary" and 85% were aware of Kennecott's Visitors Center. Of these, 60% responded that they had visited the Visitors Center.

Public awareness of Kennecott's mass media messages is very low considering the fact that Kennecott has the highest unaided corporate awareness in the state. It is evident that the decline in advertising expenditures starting in 1997 has contributed to declining public opinion. When Kennecott stopped informing the public about our environmental performance and community programs, trust and confidence softened and public opinion declined.

Members of Kennecott's management are currently working on a comprehensive strategy that incorporates more community engagement and media messages which will be implemented by mid year 2005.



## **Stakeholder Focus Group**

Kennecott hosted a stakeholder focus group in 2003 where it received valuable feedback on how to improve two-way communication between the company and stakeholders. The group was composed of internal and external stakeholders including representatives from local, state and federal governments, environmental and community groups, employees, suppliers/vendors, business groups and academia.

Stakeholders expressed particular interest in hearing about the mine's life, plans for closure, the status of environmental cleanup, reclamation and stewardship of open space.

In response to stakeholder feedback, in 2004 Kennecott continued to conduct numerous tours of both its operations and the Inland Sea Shorebird Reserve. Kennecott representatives met regularly with local government organizations, as well as community and environmental groups. Additionally, Kennecott management reviewed an external stakeholder strategy it intends to discuss with the stakeholder focus group in 2005. The strategy calls for:

- An increased number of meetings annually between Kennecott management and stakeholder groups to present targeted and relevant information about Kennecott activities.
- More frequent newsletters and an expanded distribution network.
- A broader message about Kennecott activities to include information such as the future of mining activities and non-mining lands, and education about sustainable development.
- An update on information presented during tours of KUCC's property, facilities and plants to include environmental and sustainable development information.
- A greater emphasis on proactive communication and a renewal of KUC's community relations network for company representatives to inform and include stakeholders in a timely manner before major decisions are made.

## **External Assurance Review**

Rather than conducting a stakeholder focus group in 2004, Kennecott asked its community stakeholders and several key Utah public leaders to participate in an external assurance review being conducted by its shareholder, Rio Tinto. The purpose of the review was to independently assess Rio Tinto's and Kennecott's corporate social and environment performance and related reporting, in terms of its relevance, completeness, accuracy and responsiveness.

The review was conducted by Environmental Resource Management (ERM) and sought the opinion of stakeholders and public leaders on issues such as:

- Benefits and impacts from Kennecott and its operations on the local community
- Kennecott's interactions with local communities/ opportunities to discuss issues of interest
- Kennecott responsiveness to stakeholders' concerns
- Community programs supported by Kennecott
- Areas for improvement

The results of these discussions recognize that Kennecott has had a long history of engagement but still needs to continue these efforts and try to include more Kennecott personnel in the external engagement process.

ERM conducted similar reviews of several other Rio Tinto operations and compiled the information to provide feedback to Rio Tinto. This generic assessment is issued as part of Rio Tinto's 2004 sustainability report concerning external assurance.

### **Working Together**

*We involve all employees, working together as a team,  
to achieve our strategic business objectives.*

### **Employees in the Community**

Roxann Kristensen is the co-founder of Angel's Hands Foundation (AHF), a local foundation that assists families living with rare diseases such as mucopolysaccharidoses (MPS). Kristensen's son Matthew passed away from a rare disease in 2002, at the age of 16.

"We went to a national conference on rare diseases and realized how little research was being done on diseases like Matt had," Kristensen said. "Most people do not realize that insurance doesn't pay for items such as hearing aids, wheel chairs, physical therapy and other items that improve the quality of life for sick children."

Kristensen was originally going to raise money for research, but soon changed AHF focus to improving the quality of life for families living with a rare disease. Since its beginning in 2001, AHF has assisted families with medical bills, donated hearing aids, wheelchairs, specialty bicycles and strollers, therapeutic spas, and many other individual family requests. AHF has also developed a much needed support group for these families. They sponsor social activities that, while being fun, also provide an outlet for sharing concerns and emotional support.



"Angel's Hands is not a wealthy organization yet, but we have come a long way," said Kristensen, who has worked in Kennecott's finance department for 20 years. "AHF has grown significantly each year and continues to reach new families."

In all of the United States, there are less than 100 people afflicted with MPS and similar genetic disorders that are caused by the body's inability to produce certain enzymes. Progressive damage occurs throughout the heart, bones, joints, respiratory system and central nervous system, resulting in early death. There is currently no cure for the diseases.

As a Utah foundation, AHF has touched the lives of many Utah families. AHF has also supported Primary Children's Hospital, Shriner's Hospital, as well as several other charitable organizations that support children living with rare diseases. Families living in Utah, or receiving medical treatment in Utah, are eligible to request assistance from AHF.

Support Angel's hand by volunteering or donating at their annual fund raisers. In addition, employees can use Kennecott's Matching Gift Program.

#### **Fundraisers:**

June 8, 2005 - First Annual Golf Tournament - Thanksgiving Point

July 16, 2005 - Third Annual Firefighter Motorcycle Ride/Car Show - Murray

September 24, 2005 - Fourth Annual "Friend Raiser" (Dinner/Auction) - Sandy

For more information [www.angelshands.org](http://www.angelshands.org), or e-mail Roxann at [rkristensen@excite.com](mailto:rkristensen@excite.com)

## **CEO Speaks to Employees**

President and CEO Bill Champion spoke to employees at more than 20 forums during the month of July in 2004. Champion covered topics such as how the company was performing on environmental, safety and training targets, as well as what challenges and opportunities lay ahead, such as plans for expansion of the open-pit mine. Champion gave a presentation and answered employee questions.

### **Communities**

*Good relations with our neighbors are fundamental to our long-term success.  
We will actively participate in the affairs of the communities in which we  
operate by partnering with our local communities for long-term mutual benefit.*

#### **Kennecott received Public History award**

Kennecott, represented by Louie Conanelos, Director of Government and Public Affairs, received a Public History award at the 52nd Annual Meeting of the Utah State Historical Society on September 23, 2004 from the Division of State History, State of Utah. Kennecott received the award for rescuing, preserving and making available to the public 400 letters written by men and women fighting in World War II.

During the war, Kyriakos G. Zahos started the Victory Flag Society, whose purpose was to send letters and newsletters to those serving in World War II. When 400 of the letters he received in return were discovered beneath a war monument at the old Bingham High School in Copperton in 1995, Kennecott realized their value and rescued them. The company then made a generous financial donation to and worked with the Division of State History to preserve the original collection, copy the collection and make it available to the public.

#### **Louie Conanelos awarded UMA's 2004 Business Executive of the Year**

Before nearly 600 Utah Manufacturer Association members and guests, President Thomas E. Bingham, presented a plaque and Zero Enclosure attaché to Louie Conanelos as UMA's 2004 Business Executive of the Year. Louie received the award to a standing ovation from the capacity crowd at Little America Hotel.

The tribute to Conanelos read by UMA president Tom Bingham included the following:

"Louis James Conanelos is commonly known as "Louie" to business, civic, and government leaders on local, state and federal levels. He has been director of government and public affairs for Kennecott since 1991. Louie began working at Kennecott in 1967. Throughout his career he has worked at the concentrator, the mine, the smelter and the refinery in various management positions, including employee relations, training, labor relations and community relations.

"Louie served seven years on the Board of Directors of the Utah Manufacturers Association (1996-2002) and as UMA Chairman in 2000-2001. He served as Chairman of the Utah Mining Association in 1998-1999 and has been a Board director for Utah's mining industry since 1995.

"Currently, Louie is also a Trustee and President of the Kennecott Charitable Foundation Board of Trustees; a member of the Board of Trustees for the Salt Lake Convention and Visitors Bureau; and on the Board of "The Road Home" a charitable foundation helping the homeless.

"He is a friend to all who meet him and has been referred to as "Mr. Kennecott" because of three decades of representing Kennecott interests and managing corporate charitable contributions given in the community."

### **Education**

*We actively support a minerals and mining education program designed to educate the public about our philosophy of balancing society's need for metals with an environmentally responsible approach to mining.*

#### **Teacher is Mine's Two Millionth Visitor**

Seventh grade teacher Mrs. Sunsuk Christiansen became the two millionth visitor to Kennecott's Bingham Canyon Mine Visitors Center since its construction in 1992. Mrs. Christiansen toured the visitors center on Sept. 17, 2004 with her class from Granite Park Middle School. Her class cheered when she was presented with a special Kennecott hardhat. Kennecott also presented the school with a cash award for school supplies and an ice cream party.

Ted Himebaugh, manager of the Bingham Canyon Mine said, "It seems very appropriate that a teacher should be our two-millionth visitor because one of our main objectives at the Visitors Center is to help educate our visitors about mining in general, and Kennecott in particular."



#### **Internship Program**

Over the course of the 2004 summer, Kennecott hired sixteen interns to work in areas including public health, industrial hygiene, mine engineering, metallurgical engineering, chemical engineering, environmental engineering, technology services, wildlife conservation, accounting, economics, and law and fire science.

Managers who were interested in hiring an intern had to provide an example of the work the intern would be doing before their request was approved. Interns, who were generally undergraduate students, worked on specific projects that added value to Kennecott. In return, interns were paid a competitive salary and received invaluable "real life" work experience.

## Eden Mining Education Center

Eden Project's new education center is an example of how education and collaboration across sectors can help create an industry that merges economic gain with environmental and social advancement. The Eden Project in Cornwall, England serves as a model for sustainable development in mine closure planning and post-mining regeneration. It was built in a china clay pit in an area of the United Kingdom still badly affected by the decline of its metals mining industry more than one hundred years ago. Since it opened in 2001, more than six million people have visited Eden's global gardens.



Much work went into finding materials for the education building from as many sustainable sources as possible. As the building itself was designed to be educational, using timber or recycled metal would have offered a chance to repeat well-known eco-stories. However, Eden decided to highlight an example of responsible mining and supply chain management by sourcing metal roofing - copper - from a single mine so that the origin of the metal could be traced from rock to roof.

Kennecott and Rio Tinto supplied 34 metric tonnes of copper from the Bingham Canyon Mine and helped negotiate its journey through the supply chain to Eden. To build on the experience, a research program has been launched to study barriers to supply chain management of minerals.

The copper will clad the Education Center roof, which will be the building's most striking feature as it sits below the entrance to Eden. The double spiral design of the roof is based on the Fibonacci sequence, which also governs the spiral growth patterns seen in nature in pine cones, sunflowers or nautilus shells.



by Tim Stone

The copper was shipped to Germany where it was fabricated by KM Europa Metal (KME) ([www.thecopperlink.com](http://www.thecopperlink.com).) Rio Tinto and Kennecott are working with the Deutsches Kupfer Institut in Germany to develop background information for the education center on the properties and uses of copper, including generic life cycle assessment information on energy required and greenhouse gases emitted to produce the copper roofing. The education center is expected to be completed in late summer 2005 and open to the public in the fall.

For more information visit [www.edenproject.com](http://www.edenproject.com)

<http://www.edenproject.com/postmining/>

[http://www.edenproject.com/395\\_5735.htm](http://www.edenproject.com/395_5735.htm)

## SOCIAL WELL-BEING GOALS AND TARGETS

---

2005 Goals	2004 Achievements
<ul style="list-style-type: none"><li>▶ Achieve total recordable incident rate (all injuries) of less than 1.77 with a stretch target of 1.49</li><li>▶ Achieve an annual average of 48 hours of training per employee.</li><li>▶ Extend engagement with the community through targeted presentations about Kennecott, its operations and its future.</li></ul>	<ul style="list-style-type: none"><li>▶ <b>Goal:</b> achieve a total recordable incident rate (all injuries) of less than 2.0. <b>Performance:</b> Achieved a total recordable incident rate (all injuries) of 1.85.</li><li>▶ <b>Goal:</b> achieve an annual average of 48 hours of training per employee. <b>Performance:</b> Achieved an annual average of 62.9 hours of training per employee.</li><li>▶ <b>Goal:</b> Follow-through on results of stakeholder engagement focus group discussion. <b>Performance:</b> Undertook efforts to implement feedback received from stakeholder focus group.</li></ul>

**Resource Stewardship:**

*We will maximize efficiency in our mining and process operations, minimize product losses, and maximize efficient use of water, energy, and raw materials.*

### Sharing Biodiversity

Kennecott is sharing its biodiversity data through ECOiSHARE, a cross-sector initiative that aims to consolidate biodiversity data generated by multinational companies and make it accessible to the public through the Internet.

The United Nations Environmental Program World Conservation Monitoring Centre (UNEP-WCMC) is supporting the efforts of companies willing to explore ways of sharing biodiversity-related information through ECOiSHARE.

Multinationals collect biodiversity-related information as a regular part of impact assessment, monitoring of sites and activities, site management and restoration. Much of this data is of potential value to those working on biodiversity and its conservation, assuming that they know about it and are able to access it. ECOiSHARE's goal is to develop tools and processes that will facilitate wider access to this information.

Kennecott provided ECOiSHARE's with the data it collected for its "Final Report for the Inland Sea Shorebird Reserve," which contains over seven years of bird, water, macro-invertebrate, vegetation and soil monitoring. This information has also been used by the Utah Department of Wildlife Resources in conjunction with Great Salt Lake water bird studies, as well as by the Western Shorebird Hemisphere Reserve Network, which includes seven countries.

Kennecott also provided ECOiSHARE with its biodiversity study, Biodiversity on the Kennecott Utah Copper Corporation Property - Species Occurrence, Distribution, and Assessment of Potential Species Richness, which was completed in 2002. The study helps Kennecott and Kennecott Utah Land Company to quantify changes in biodiversity as a result of potential changes in operation or land use.

Rio Tinto's interaction with the ECOiSHARE initiative was highlighted in the company's displays and presentations at the IUCN congress in Bangkok in November. The initiative underscores the increasing value being placed on transparent communication and access to information relating to the activities of multinational companies. This push for improved communication is coming from internal private sector audiences as well as those groups striving to conserve global biodiversity.

For more information on Kennecott's biodiversity study go to [www.Kennecott.com/env\\_report\\_2003/env-1.html](http://www.Kennecott.com/env_report_2003/env-1.html). For more information on ECOiSHARE, visit [www.ecoishare.org](http://www.ecoishare.org).

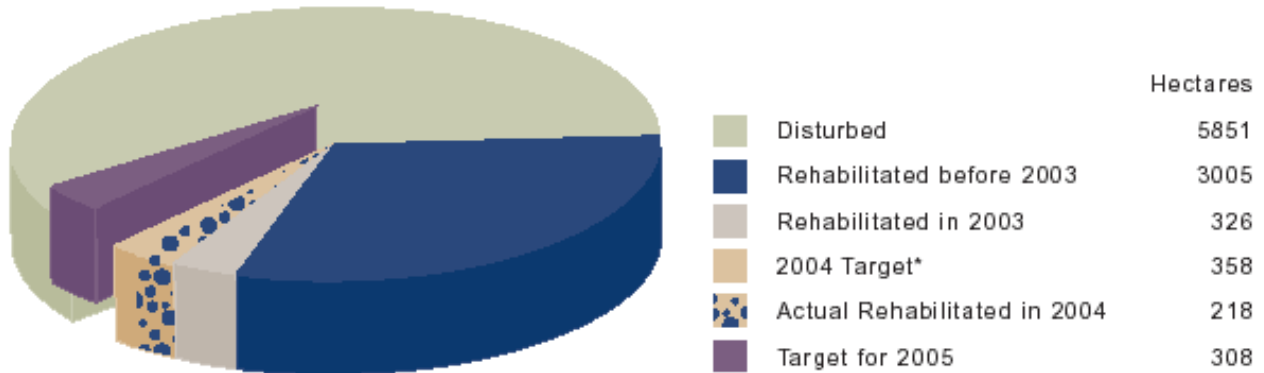




## Land Reclaimed

Reclamation activities were performed on a total of 160 acres of waste rock dumps at the Bingham Canyon mine in 2004. Of the total acreage, 30 acres on the Bluewater waste rock were first re-graded and contoured, and then the surface was tilled to improve plant growth and reduce erosion. Eighty acres above the Highland Boy area of the open-pit were also re-graded, contoured and tilled and 50 acres on the Upper Midas waste rock was seeded. In addition, experimental test plots were established on the Upper Midas waste rock to test the effectiveness of different herbicides for weed control. All grading and ripping work was completed by mine employees. Total expenditure including equipment rental, operating wages, seed, limestone, contractor services and experimental technology approximated \$132,000.

### DISTURBED AND REHABILITATED LAND



\* The reclamation target for 2004 was 358 hectares. Kennecott was short of the target because, due to high precipitation, certain areas of the tailings impoundment did not dry sufficiently to allow rehabilitation equipment access.



## Upper Midas Waste Rock

This waste rock dump is approximately 50 acres and comprises a number of 150-ft high angle of repose slopes, which are visible to the Salt Lake Valley. The waste rock in this area was first placed in 1954 and waste rock disposal in the area continued until 1983. Leaching of this waste rock began in 1964 and continued until 2000.



East face of Upper Midas in 2003 before contour dozing.

In 2004, crushed limestone, inorganic fertilizer made up of phosphorous, potassium and nitrogen was amended to the waste rock surface to increase the pH and provide nutrients. Crushed limestone (-6 to 200 mesh) was broadcast at a rate of 6 tons/acre to increase the surface pH of the waste rock, which varied between 3.9 and 4.6. Inorganic fertilizer was added at a rate of approximately 30 lbs/acre nitrogen, 60lbs/acre phosphorous and 15lbs/acre potassium. Following soil amendments, the area was seeded using a broadcaster.

The DOGM approved seed mix was applied at a rate of 19 lbs pure live seed (PLS) per acre. The seed is a mixture of native perennial grasses, forbs, wildflowers, shrubs and trees. The 2004 seed mix was altered slightly from the 2002 seed mix, where Curl Leaf Mountain Mahogany was replaced with Chokecherry. Although the Mahogany sometimes grows on its own on the waste rock sites, it has never been successfully established from seed, thus it was replaced with Chokecherry. Starting in 2005 Mahogany will be planted in Booth Tube containers in an attempt to establish the native species.



Upper Midas in fall 2004 after contour dozing and seed application.

The reclamation goals in this area include providing wildlife habitat, increasing visual aesthetics and improving water management through establishment of a native vegetative cover.

## Bluewater 1 waste rock dump

The upper section of the Bluewater 1 waste rock dump is approximately 30 acres. The upper Bluewater 1 waste rock dump is located beneath the mine access road and is visible to the Salt Lake Valley. The length of the dump was made up of 100 to 150-ft-high angle of repose slopes. The waste rock in this area was first placed in 1953 and waste rock disposal in the area continued until 1979. Bluewater 1 waste rock leaching began in 1953 and continued through to 1999.



The Bluewater 1 dump in 2003 prior to re-grading and contouring.

As per the Division of Oil, Gas & Mining (DOG M) reclamation plan, this area is part of the 3200 acres that will be re-graded and contoured prior to mine closure. The waste rock in this area contains substantial sulfide mineralization, which causes very low soil pH (2 to 3) and acidic conditions. This area would require large amounts of limestone to increase the surface pH to sustain a vegetative cover and thus would be cost prohibitive.

In 2004, this area was re-graded into a 2.5:1 slope and contoured into a natural looking landform, incorporating to the extent possible, valleys, ridgelines and hillsides to blend into the Oquirrh mountain landscape. Water management was also considered during contour dozing, as flat benches were added as water breaks and the entire surface was cross-rippled to minimize erosion from surface runoff.



The Bluewater 1 dump in fall 2004 after being re-graded and contoured.

In some sections the final contoured dump is steeper than 2.5:1 due to the limited area to cut back during cut and fill operations. This area is immediately below the mine access road and at between 50 and 80 feet of flat area had to be maintained between the road and contoured dump for stability reasons. The dozer work required substantial double handling of waste rock due to lateral cut and fill operations to achieve the required 2.5:1 slope.

The lower section of the Bluewater 1 dump was not contoured in 2004 due to the soil stockpile located immediately below it. The soil will eventually be used for reclamation of the Lower Bingham Canyon dump face and contouring of the lower section would require double-handling and removal of the soil to achieve a 2.5:1 to 3:1 re-graded and contoured slope.

The reclamation goals include increasing visual aesthetics, allowing contoured surface sulfides to weather and preparing area for sampling and vegetation.

## Highland Boy waste rock dumps

The waste rock dumps in the Highland Boy area of the open pit are approximately 100 acres and comprises a number of 50 to 100-ft-high angle of repose slopes. The waste rock dumps in this area are located above the Highland Boy area of the pit, and below a large water shed of approximately 400 acres. Waste rock in this area was first placed prior to 1940 and continued through to 1989. Although the waste rock in the area was leached, there are no records detailing when that took place.



Highland Boy waste rock in Muddy Gulch looking north. The area has been contoured, ripped and volunteer vegetation preserved.

As per the Division of Oil, Gas & Mining (DOG M) reclamation plan, this area is part of the 900 acres that will be contoured and seeded prior to mine closure. Since the waste rock has been in place for over 60 years, much of the sulfide has weathered out of the surface, the pH is largely neutral and the surface resembles soil. The waste rock in the area exhibited a significant portion of fine grained soil (clay and silt) mixed with gravel to cobble sized rock. Based on results of field percolation tests conducted by Sergent, Hauskins and Beckwith in 1992, the waste rock in this area has a permeability of 10-7 m/sec. The waste rock in this area is relatively amenable to vegetative growth, requiring only minor limestone and fertilizer amendments to sustain vegetative growth.



Highland Boy waste rock in Log Fork drainage looking west, showing ripped and contoured surface

In 2004, approximately 80 acres of waste rock in this area was re-graded into a 3:1 slope and contoured into a natural looking landform using a mine D-10 dozer. The entire 80 acres was cross ripped to reduce erosion from surface runoff and break the compacted, hardened surface which was likely preventing volunteer vegetation establishment in many areas. Since the area already contained a substantial vegetative cover from volunteer native vegetation, where practicable, this vegetation was saved to provide a native seed source.

The reclamation goals in this area include visual aesthetics, breaking-up compacted surfaces and preparing the area for sampling and vegetation. In 2005, this area

will be seeded to establish a vegetative cover and improve water management.

## **South Tailings Impoundment**

Throughout 2004, Kennecott continued its efforts to reclaim the South Tailings Impoundment, where the waste byproduct of the mining and milling of ore, known as tailings, was disposed of until 2002. Work focused on 565 acres that were seeded for the first time, and another 906 acres that needed a second seeding after the initial planting had limited success.

The same seed applications were used for both areas. Reclamation experts applied cereal rye and barley as an initial dust control measure. As these seeds die out, the areas are seeded with a collection of salt tolerant native perennials, including four-wing salt bush, shadscale, wheat grasses, rubber rabbit brush, alkali grass, salt grass, yellow sweet clover, and Russian wild rye.

To help contain the seeds under windy conditions, engineers also applied about 161,485 gallons of organic polymer over 1,108 acres in 2004. This is an application rate of 146 gallons/acre. Polymer prevents dust yet allows seedlings to sprout. Additionally, to ensure vegetative growth occurred quickly and dust was prevented, Kennecott mixed 45,516 cubic yards of biosolids with woodchips and applied it to the surface of the tailings, both to first time seed and re-seeded areas.

The tailings are saline and essentially void of nutrients and organic matter. Bio-solids, combined with inorganic fertilizer provide essential nutrients such as nitrogen, potassium and phosphorous, along with organic matter, for plant growth. This improves the soil structure, enhances soil moisture retention and provides nutrients such as nitrogen and phosphorous, which is essential for plant growth and a successful vegetative cover.

Past public complaints relating to odors from bio-solids used to speed up plant growth have been basically eliminated. Now, the bio-solids are stored for 90 days, rather than 14, prior to their application. Then they are sprayed with a polymer, a dust control agent, until they are encapsulated in the tailings.

## **FRIENDS of Great Salt Lake**

Kennecott is keenly aware that its operations impact the environment and tries to maintain close ties with local conservation and environmental groups such as FRIENDS of the Great Salt Lake. The group's mission is to preserve and protect the Salt Lake's Ecosystem and to increase public awareness and appreciation of the lake through education, research, and advocacy. As a strong supporter of FRIENDS, Kennecott helped celebrate the group's 10th anniversary in 2004.



Led by a highly active board of directors and an advisory board consisting of professionals in the scientific, political, literary, and broadcast communities, FRIENDS holds monthly meetings that feature guest speakers and presentations focusing on subjects and issues related to the Great Salt Lake. The organization received special recognition for its efforts in 1998, when it was awarded the Conservation Achievement Award by the Utah Chapter of the Wildlife Society.

FRIENDS has organized and sponsored an array of activities in pursuit of its mission. In 1997, FRIENDS hired its first education director and initiated a major regional project designed to educate residents on how to care for the Salt Lake. A live-narrative slideshow program entitled *The Lake Effect: Living Together Along the Shores of Something Great*, was born. Audiences have included Envision Utah, the Utah Department of Natural Resources, and the Salt Lake Olympic Committee's Environmental Advisory Committee, along with numerous school and civic groups.

In an effort to reach even more citizens with its message about Great Salt Lake, FRIENDS produced a video version of *The Lake Effect*. With this video and the Project SLICE fourth grade Great Salt Lake curriculum, they hope to achieve a positive, long lasting impact on the future of the Lake and those who dwell upon its shores.

They also sponsor a biennial Great Salt Lake Issues Forum, of which Kennecott has been long term sponsor, to encourage constructive dialogue about the future of the lake's ecosystem and its resources, and to illuminate the complexities involved in research, management and planning for the lake.

The 2004 Great Salt Lake Issues Forum celebrated the relationship that exists between the Lake and its neighbors from a scientific, artistic, historic and cultural perspective. Through oral histories, documentaries, research and planning efforts, the forum emphasized the inextricable nature of the relationship. As one of the Lake's neighbors, Kennecott helped fund the event, sponsored a field trip to the Inland Sea Shorebird Reserve (ISSR) and presented findings from the Final Mitigation Report from the ISSR at the Forum.

If you want to read more about FRIENDS go to [www.fogsl.org](http://www.fogsl.org).

### ***Pollution Prevention***

*We strive to minimize releases of pollutants to the environment and minimize waste through the pursuit of source-control technology, technical innovation, best management practices and employee involvement*

#### **GREAT SALT LAKE Science Panel**

Kennecott and Rio Tinto are supporting the efforts of the Utah Department of Environmental Quality, Division of Water Quality and other stakeholders to set a numeric standard for selenium in the open waters of the Great Salt Lake. Elevated selenium can be detrimental to aquatic organisms and aquatic-dependant birds. Selenium is a naturally-occurring trace element in the ore mined at Bingham Canyon. Selenium in the form of selenate - the least toxic form of selenium studied to date, is present in the process waters discharged from Kennecott's tailings impoundment to the Great Salt Lake.



Kennecott has conducted extensive peer-reviewed research into selenium in the Lake's ecosystem, and the State of Utah has in turn established a selenium limit for the company's discharge permit. This limit is at a level that provides full protection for birds on the Lake.

Kennecott's current permit limit for selenium is site-specific and the Division of Water Quality is now moving to establish a broader standard for all dischargers. The Great Salt Lake Water Quality Steering Committee was established to advise the Division on a formal numeric standard. The committee consists of representatives from stakeholder groups including state and federal agencies, conservation groups, the brine shrimp industry, mineral extractors, and dischargers to the lake, including Kennecott.

Under the committee's oversight, a science panel, made up of nine experts, will look at the existing selenium studies on the Lake and conduct additional work, where necessary. The committee will consider the science panel's work, and then make a recommendation to the Water Quality Board. Dr. William J. Adams, of Rio Tinto Health, Safety, and Environment and a recognized expert on selenium, is a member of the selenium science panel.

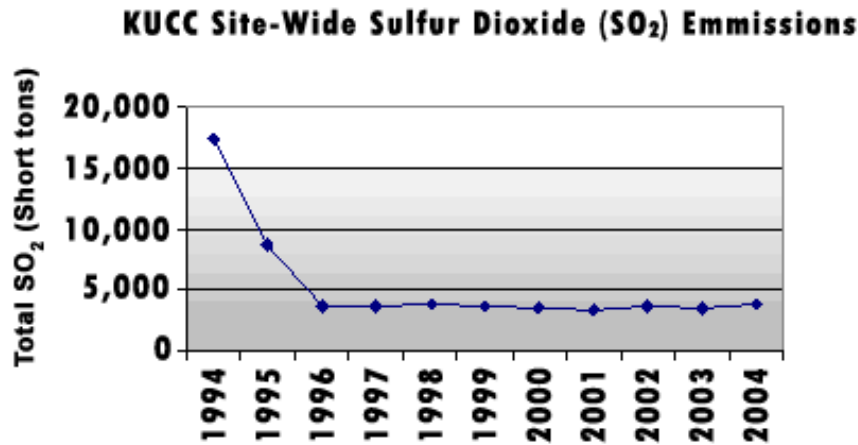
"The Great Salt Lake is a highly valued resource for migratory birds and every effort will be made to protect the birds that use the Lake as well as their food source," said Dr. Adams. "This is consistent with Kennecott's long term commitment to provide and enhance shorebird habitat along the Great Salt Lake."

For more information on the Great Salt Lake water quality standards work visit the website for Utah Department of Environmental Quality, Division of Water Quality at: [http://www.deq.state.ut.us/issues/GSL\\_WQSC/index.htm](http://www.deq.state.ut.us/issues/GSL_WQSC/index.htm)

## Air Quality

In order to improve overall air quality Kennecott is working to reduce its airborne emissions. Kennecott uses low-sulfur fuels in its fleet of haulage trucks, water trucks and other mobile equipment as well as low-sulfur coal in its power plant. The company operates its mine and concentrator under state approval orders, while the remaining facilities are included within two Title V operating permits, one for the smelter and refinery, the other covering the power plant, tailings and laboratory. Kennecott's smelter captures approximately 99.9% of the sulfur dioxide (SO<sub>2</sub>) generated during smelting through its primary pollution control equipment - the double contact acid plant. When the smelter was modernized in mid-1995, it drastically reduced total Kennecott SO<sub>2</sub> emissions, as seen in the graph below.

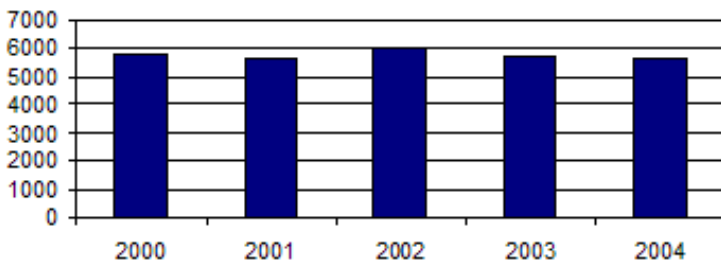
In 2004, site-wide SO<sub>2</sub> emissions were 3,875 short tons. The power plant was responsible for emitting approximately 76% of this total, primarily due to fuel usage. The smelter produced approximately 22% whereas emissions from mine mobile equipment were minimal, at less than 2% of the site-wide total.



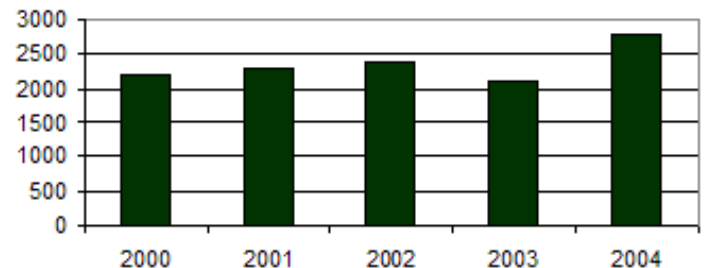
Other air emissions from Kennecott operations include nitrous oxides (NO<sub>x</sub>) and particulate matter (PM<sub>10</sub>). In 2004, total NO<sub>x</sub> emissions were 5,685 short tons. Approximately 58% of these emissions, based upon the conservative AP42 factors, were attributable to fuel usage in mobile equipment at the mine while 39% were a result of on-site power generation.

Kennecott's total PM<sub>10</sub> emissions in 2004 were 2,790 short tons. Approximately 87% of these emissions, using conservative AP42 factors, resulted from mining operations. Although the following chart indicates PM<sub>10</sub> emissions rose by 662 tons from 2003 to 2004, in fact, 80% of this increase is attributable to a change in AP42 emissions factors, and does not reflect a change in operations. Most of the additional increase is due to increased hours of operation at the mine.

**NO<sub>x</sub> (TPY)**



**PM<sub>10</sub> (TPY)**



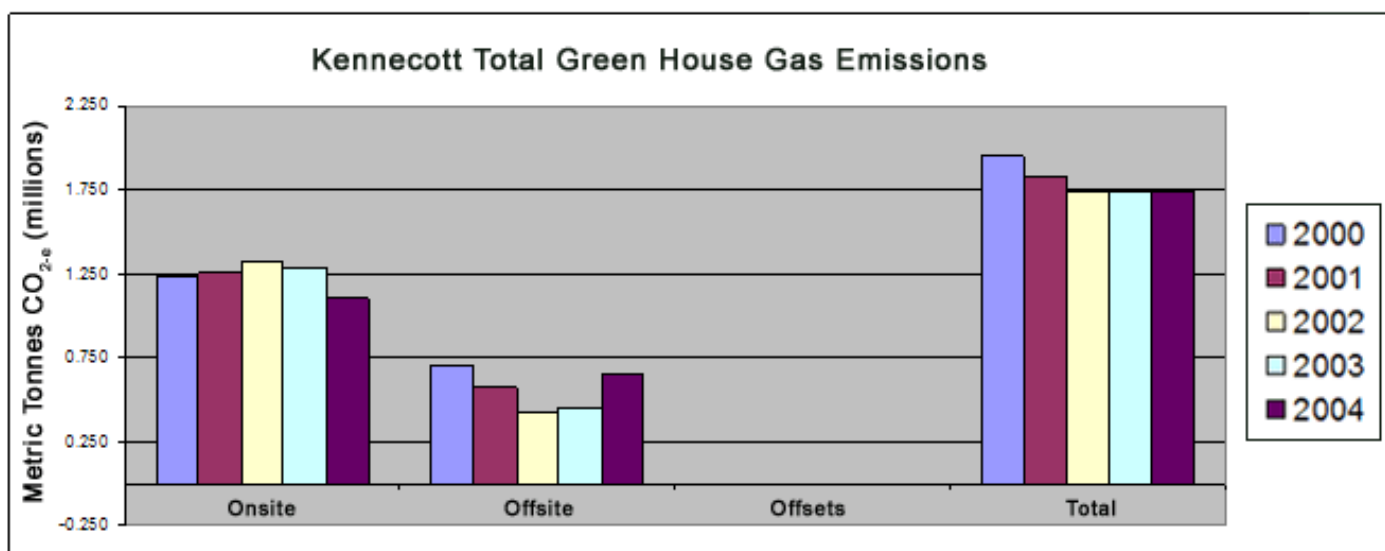


## Greenhouse Gas Emissions and Energy Consumption

At Kennecott, energy consumption is the largest contributor to greenhouse gas (GHG) emissions associated with our operations. Onsite and offsite electrical generation accounts for a majority of GHG emissions, followed by burning fuel for smelting, mining, and other purposes. Offsite GHG emissions refer to emissions from purchased electricity. Other indirect GHG emissions, such as those from third party transport of Kennecott's products, are not included in the total reported emissions. Offsets, as reported here, are reductions against Kennecott's total GHG emissions that provide carbon storage achieved through planting trees and grasses as part of Kennecott's reclamation activities. The small amount of offset is based on the amount of land revegetated by Kennecott during the year.

### Total GHG Emissions

As shown in the chart below, during the period of 2000 to 2004, Kennecott's total (onsite and offsite) GHG emissions decreased by approximately 10.8%, going from 1.95 million tonnes CO<sub>2</sub>-equivalent (CO<sub>2</sub>-e) in 2000 to 1.74 million tonnes CO<sub>2</sub>-e in 2004. In 2004, total combined onsite and offsite GHG emissions (1.742 million tonnes) were slightly higher than 2003 GHG emissions (1.739 million tonnes). The reason for the slight increase was mainly due to accounting methodologies for smelter cogeneration power sent offsite.



Although the total onsite and offsite GHG emissions for 2005 are projected to increase to 1.80 million tonnes CO<sub>2</sub>-e, the normalized level of GHG emissions should be reduced assuming production rises as targeted. The increase in the total GHG emissions level is attributable to an expected increase in diesel use at the mine in preparation for the expansion of the open-pit, increased electrical use at Copperton mill for higher throughput and harder ore, and changes in the mix of the electrical supply.

### Emissions Per Tonne of Product

An increase in cathode production from 230,650 metric tonnes in 2003 to 246,725 metric tonnes in 2004 resulted in lower GHG emissions per unit of production (metric tonnes CO<sub>2</sub>-e / metric tonne copper cathode; herein "normalized GHG emissions ratio") in 2004 (7.06) compared to 2003 (7.54). However, the normalized GHG emissions ratio fell short of the 2004 target of 6.49 because the projected target was based on cathode production of 276,331 metric tonnes. Had cathode production met budget, the normalized GHG emissions ratio would have been approximately 6.3, meeting the 2004 target of <6.5. Cathode production was down from target because of unplanned smelter outages and lower than planned copper content in the concentrate received from the mill.

The normalized target for 2005 is 6.9 tonnes CO<sub>2</sub>-e per metric tonne copper cathode. This target for 2005 is lower than the actual 2004 normalized GHG emissions ratio of 7.1 tonnes CO<sub>2</sub>-e per metric tonne cathode.

<b>Greenhouse Gas/ Energy Indicators</b>				
	<b>2003 Actual</b>	<b>2004 Target</b>	<b>2004 Actual</b>	<b>2005 Target</b>
Annual Total Greenhouse Gas Emissions (million tonnes CO <sub>2</sub> equivalent)	1.74	< 1.79	1.74	< 1.80
Annual Average Greenhouse Gas Emissions/Unit product (tonnes CO <sub>2</sub> equivalent / metric tonne cathode)	7.5	< 6.5	7.1	< 6.9
Operation-Wide Energy Efficiency Electrical & Fuel Usage (Gigajoules / metric tonne cathode)	78.9	65.5	70.0	69.9

### **Energy Efficiency**

Through efficient use of energy, we benefit the environment and society, as well as reduce our production costs. From an environmental standpoint, reduced energy consumption means lower greenhouse gas emissions and lower emissions of air pollutants, such as nitrogen oxides. As noted in the above table, for 2004, our energy consumption translated to 70 Gigajoules per metric tonne of cathode. That was above our target of 65.5 Gigajoules per metric tonne of cathode because our copper production was below expectations. For 2005, our target for energy consumption is 69.9 Gigajoules per metric tonne of cathode production.

## Water Management

Kennecott strives to continually improve the way it manages water. The majority of water used in Kennecott's operations is recycled, and fresh water is only a small component of overall water use. "We recognize that conserving and recycling water is essential, not only to sustain our day-to-day operations but to fulfill our strategic objectives of sustainable development into the future," said Steve Schnoor, superintendent of water management. "We can't take it for granted."

The concentrator is Kennecott's biggest consumer of water because it slurries all the tailings for transport to the tailings impoundment. The concentrator uses water from two recycle circuits: one that circulates water within the concentrator, and a larger external loop that brings the water used to slurry the tailings back up hill from the impoundment to the concentrator. Kennecott is currently looking at ways to improve the efficiency of both circuits.

KUCC's fresh water consumption for 2004 was 1,094 million gallons (US), which is under target and reflects improved water management for the year. A new fresh water well came on line in 2004 that allowed Kennecott to intercept fresh water before it was compromised in the waste rock. The variables that cause fresh water use to fluctuate from year to year include how effectively Kennecott intercepts precipitation as well as the amount of runoff and the rate of production.

Between now and 2008, Kennecott is aiming for an overall reduction of fresh water usage. This will primarily be achieved by decreasing the pumping rate of the clean water well. To date, the well has supplied water to operations but, in the future, poor quality water will replace the fresh water used in operations.

Water Indicator			
	2004 Target	2004 Actual	2005 Target
Total Fresh Water Consumption <sup>1</sup> (U.S. = millions gallons)	1,172 (US)	1,094 (US)	1,140 (US)

<sup>1</sup>Fresh Water is defined as TDS < 1,500 mg/L

## Waste Management

Waste management engineers prepared to implement Rio Tinto Environmental Standards in 2005. Facility Environmental Engineer Tom Nannini did an analysis to identify any differences or "gaps" between the new Rio Tinto standards and Kennecott's existing ones. "There are no major gaps identified in the analysis, just the need to formalize related documents" Nannini said.

On another front, in 2004 Kennecott made significant progress towards auditing all of the vendors who handle its waste. "The purpose is to ensure they are employing best waste management practices," said Bob O'Neill, senior advisor to the environmental department.

The companies audited recycle Kennecott products including tires, used oil, lead acid batteries, fluorescent and mercury vapor lamps, antifreeze and scrap metal. Kennecott also relies on land disposal companies that transport and process contaminated debris and waste. Among other things, auditors looked to see if the materials were handled properly and wash/recycle products were used according to specifications.

Looking ahead to the future, Nannini said Kennecott is considering recycling packaging material such as pallets or cardboard. "We have minimized our waste just about as much as possible but will continue to evaluate additional waste minimization opportunities," he said.

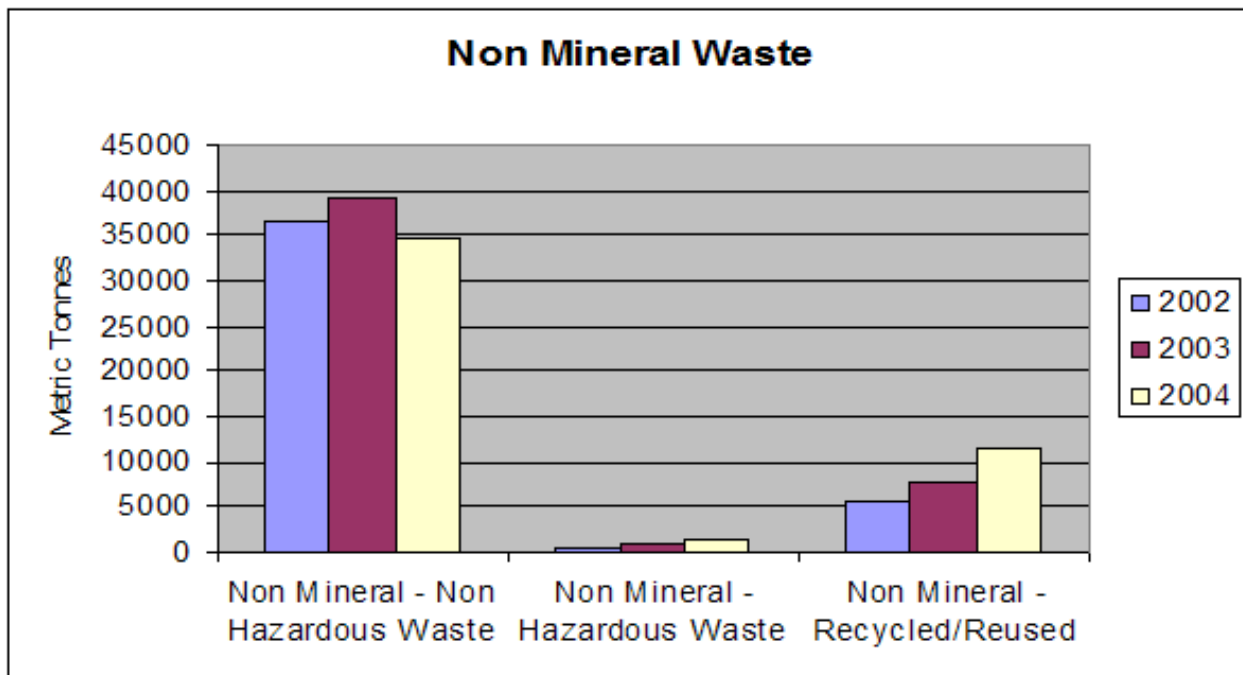
As part of its routine business practices, Kennecott also renewed its four landfill permits, which it does on an annual basis, and continued training its employees on safety, non-hazardous and hazardous waste management.

The following data shows that the volume of our non-mineral, non-hazardous waste has decreased over the past three years while our non-mineral, hazardous waste has increased. Our recycling, reused waste has increased steadily.

These figures reflect the fact that through waste minimization programs Kennecott has reduced much of its non-mineral waste streams and the variations are due to fluctuations in production and maintenance. Generally, the higher the production, the harder machines are run and as a result, the more maintenance is required. Maintenance is the largest generator of hazardous waste. The amount of waste produced also varies when special projects are undertaken, which accounts for the variation in waste produced from year to year.

More specifically, the non-mineral hazardous waste increase can be linked directly to the addition of refinery acid gas scrubber liquid as a waste. Kennecott began shipping the refinery acid gas scrubber liquid as a hazardous waste in November 2002 as the result of elevated selenium concentrations in the process/system. In 2002, the refinery acid gas scrubber liquid accounted for approximately 40% of the non-mineral hazardous waste shipped off-site or 166 tonnes of the total 414 tonnes. In 2003, the refinery acid gas scrubber liquid accounted for approximately 73% of the non-mineral hazardous waste shipped off-site or 747 tonnes of the total 1,021 tonnes. In 2004, the refinery acid gas scrubber liquid accounted for approximately 76% of the non-mineral hazardous waste shipped off-site or 1,156 tonnes of the total 1,511 tonnes. Without the refinery acid gas scrubber liquid, the increase would have been approximately 10% from 2002 to 2003 and 30% from 2003 to 2004. These moderate increases are a result of increased maintenance and modifications at the Smelter.

The largest generation of waste in 2003 and 2004 was directly related to smelter shutdown activities. During these shutdowns, maintenance and modifications are completed that cannot be done while the smelter is operating. A 17-day shutdown is scheduled for May 2005 that will require, at its peak, an additional 1,000 laborers on site per day. The 2006 forecast shows a major shutdown which is scheduled to last 45 days and will require, at its peak, an additional 1,500 laborers on site per day.



Non Mineral - Non Hazardous Waste consists of general refuse (office refuse, lunchroom refuse, packing material, etc), clean concrete, tires, coal ash, waste lubrication material, greases, etc.

Non Mineral - Hazardous Waste consists of land disposed (Refinery acid gas scrubber fluid, Smelter process dust contaminated debris, etc) and incinerated hazardous waste (waste corrosive liquids, etc).

Non Mineral - recycled/reused consists of scrap metal, used oil, hazardous waste incinerated as a fuel, non hazardous waste used as a fuel and universal waste (i.e. fluorescent lamps, thermostats and batteries).

## **Compliance & Significant Environmental Issues/Incidents**

Kennecott has a standing goal of having no "significant" environmental incidents. However, in 2004, Kennecott identified three issues that were classified as significant environmental incidents because of the frequency of occurrence, though none resulted in harm to the environment. All issues and incidents were reported to regulatory officials as required, in a timely manner.

One of the issues involved opacity exceedances at the acid plant resulting from start-up and shut-downs that were corrected with repairs to the particular equipment. Major repairs to the acid plant scheduled for 2005 are anticipated to minimize this issue in the future. Another of the issues involved exceedances of the smelter main stack three hour SO<sub>2</sub> limit (552 lbs/hr) and main stack six minute average opacity limit (20%) as a result of startups and shutdowns, though the annual average SO<sub>2</sub> emissions of 161.5 lbs/hr were well under the annual limit of 211 lbs/hr.

The other "issue" involved two separate releases of process water; one from a transfer pump station and the second from a failed steel pipeline near the Kennecott power plant. Necessary cleanup and repairs occurred promptly.

---

### ***Product Stewardship***

*We will operate our product stewardship program to promote the safe and environmentally responsible use of our products. Health, safety and environmental research are priorities in planning for all existing and new products and processes.*

---

#### **Copper's Benefits**

Through the International Copper Association, Kennecott collaborates with other producers and fabricators to promote and defend copper in its markets. Two projects the ICA is currently working on are antibacterial properties of copper and creating a more energy efficient motor.

#### **Copper Alloys Stem Spread of "Superbugs"**

New research shows that using copper alloy surfaces in hospitals can stem the spread of so-called "superbugs" or MRSA, which are resistant to all  $\beta$ -lactam antibiotics (e.g., penicillins, ampicillins, cephalosporins). The bugs can cause skin, bone and life-threatening blood infections, as well as pneumonia. Infection often occurs among persons in hospitals and healthcare facilities, where it is typically transmitted by medical staff, patients and by contact with heavily contaminated equipment and environmental surfaces around infected patients.

For full story link to the Copper Development Association:

[http://www.copper.org/about/pressreleases/2005/pr2005\\_01\\_13\\_5.html](http://www.copper.org/about/pressreleases/2005/pr2005_01_13_5.html)

#### **More Efficient Motors**

Higher-efficiency electrical motors could one day reduce our dependence on foreign oil, lower greenhouse gas emissions and help manufacturers stay economically viable by reducing energy costs, according to the Copper Development Association (CDA), which is leading the charge to improve electrical motor efficiency in the USA and abroad.

Copper motor rotors create less resistance than aluminum, which is typically used nowadays, and therefore reduce both electrical loss and heat by approximately 20%, which doubles the life of a motor.

For full story link to:

[http://www.copper.org/about/pressreleases/2005/pr2005\\_01\\_20.html](http://www.copper.org/about/pressreleases/2005/pr2005_01_20.html)

## Product Stewardship Guideline

Kennecott's product stewardship program, for years has included partnering with industry groups, scientists and customers to research the benefits and drawbacks associated with everyday use of copper and other metals on our environment and health.

Kennecott continues to improve and expand its product stewardship program through other efforts including life cycle assessments on our products and the implementation of formal systems to ensure we are managing product health, safety and environmental issues proactively. In an effort to provide a formal framework for its Product Stewardship Program, a cross-functional steering committee headed by the Vice President for Sales and Marketing in 2004 developed a Product Stewardship Guideline. The guideline, which was approved by senior management, identifies issues and opportunities and outlines an implementation plan. It also assigns accountabilities, describes the agreed upon method of tracking product stewardship work and establishes a system to report on progress.

The steering committee includes other product sales and transportation specialists as well as experts from the environmental, sustainable development, scientific, occupational health and industrial hygiene departments. The Product Stewardship Program was established several years ago as a cornerstone to Kennecott's Sustainable Development Program.

The guideline's implementation plan includes the following components:

- **Life Cycle Assessment:** using life cycle methodologies where appropriate to gain value and to understand the benefits and impacts of our products along the full value chain. Also, to explore where shared responsibility exists beyond the production gate.
- **Eco-Efficiency:** assuring that our processes are as eco-efficient as possible and the mineral and metal resource is used wisely. This involves focusing on continuous improvement on environmental performance.
- **Product Disclosure:** disclosing information on product health and environmental effects as well as providing information on safe methods of handling and disposal.
- **Customer/Supplier Engagement:** engaging with our customers and suppliers to identify opportunities and to assess and manage risks. This knowledge can be used to better meet the needs of customers and, where the risks are justified, protect existing markets, grow sales, develop new markets and leverage supply arrangements.
- **Market Protection/Development:** participating in scientific, regulatory and political arenas to influence policy and regulation that have the potential to limit market access or restrict product uses in ways that constrain sustainable development. Groups Kennecott supports include the International Copper Association (ICA), the Copper Development Association (CDA) and the International Molybdenum Association (IMOA).
- **Research & Knowledge Base Development:** identification and filling data gaps on issues related to product and process health and environmental effects.

## ENVIROMENTAL STEWARDSHIP GOALS & TARGETS

---

### 2005 Goals

- ▶ Reduce air emissions at power plant through equipment upgrade to reduce opacity exceedances by approximately 10%.
- ▶ Minimize emissions of sulfur dioxide and sulfur trioxide resulting from process gas leaks by upgrading the smelter acid plant. The goal is a 25% reduction in opacity.

### 2004 Achievements

- ▶ **Goal:** Sustain ISO 14001 EMS Registration.  
**Performance:** Successfully sustained Kennecott's ISO 14001 Environmental Management System (EMS) Registration having successfully completed the third-party surveillance audit in 2004.
- ▶ **Goal:** Identify opportunities (operational or supply chain) for improving Product Life Cycle Assessment Results.  
**Performance:** Identified opportunities focusing on energy efficiency improvements and improving data quality for water usage.



---

### **Management Structures and Systems**

*We will utilize appropriate management systems, structures, incentives, performance measures and other applicable governance systems in our business to effectively contribute to sustainable development.*

---

### **Personal Responsibility**

In continued demonstration to its commitment to environmentally responsible production, Kennecott received an ISO 14001 registration for its environmental management system (EMS) in December 2003. In 2004, Kennecott passed a third party surveillance audit conducted by NSF-International Strategic Registrations (NSF-ISR).

The four ISO 14001 targets in 2004 included 1) reclaiming 100 acres at the mine waste rock disposal areas; 2) reducing fuel lost to the environment through spills while fueling at Code 80; 3) developing and implementing a dust control plan for the emergency ore stockpile at the Copperton Concentrator, and; 4) reclaiming dust on tailings impoundment. All but number 3 were completed. A dust control plan for the emergency ore stockpile at the concentrator has been written and tested and a standard operating procedure (SOP) is expected to be completed by May 2005.

Kennecott continues to embed its EMS in operations through ongoing training, communications, internal audits and management reviews. Since its development and implementation, "Employees are taking a more active role in Kennecott's environmental performance on a day-to-day basis," said EMS Director Leonard Wolff. "Everyone recognizes that 'I' am responsible for Kennecott environmental performance."

---

### **Business Ethics:**

*We are committed to high standards of corporate governance and conduct our business with honesty, integrity, fairness and transparency. Consistent with this approach, we subscribe to the principles embodied in the Rio Tinto Statement of Business Practice – the "Way We Work".*

---

### **Core Values**

Fairness, integrity, transparency and accountability are at the core of Kennecott's business practices. To ensure employees understand the company's commitment to these values, each new employee receives a copy of the booklet "The way we work," which outlines these corporate standards. In addition, all salaried employees have to complete computer-based training on business ethics.

"The way we work," covers nine policies on: communities, employment, environment, human rights, land access, occupational health, political involvement, safety and sustainable development. They all stress Kennecott's commitment to the highest level of business practices globally.

Underlying all of Kennecott's operations is a focus to develop its core business while also providing a safe working environment for its workers, protecting the natural environment to the fullest extent possible and contributing socially and economically to its surrounding communities and stakeholders.

For more information about "The way we work," visit [www.Kennecott.com/pdf/waywework.pdf](http://www.Kennecott.com/pdf/waywework.pdf).

## CONTACT US

---

### **for more information please contact us**

---

Through this Sustainable Development Report our aim is to provide a comprehensive account of our economic, social and environmental programs and performance. We would appreciate your help in assessing whether we have accomplished this by contacting us with feedback or questions on any aspect of our performance. Please write:

Vania Grandi

Senior Communications Advisor, Sustainable Development

[grandiv@kenecott.com](mailto:grandiv@kenecott.com)

Louie Cononelos

Director of Public and Government Affairs

[cononell@kenecott.com](mailto:cononell@kenecott.com)

Marcelle Shoop

Director of Sustainable Development

[shoopm@kenecott.com](mailto:shoopm@kenecott.com)