

Silence is Golden, Leaden and Copper

Financial Disclosure of Material
Environmental Information in the North
American Hard Rock Mining Industry



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Commission for Environmental Cooperation



EXECUTIVE SUMMARY

Preface

The views and opinions expressed in this executive summary do not necessarily state or represent the views, opinions or the stated policies of any of the project participants identified, nor does mention of those project participants, their trade names or logos imply nor constitute an endorsement of the views herein expressed.

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The full report is available from the Yale School of Forestry and Environmental Studies: <http://www.yale.edu/forestry/publications/fespubfiles/repetto/report.html>

Building on a decade of work by UNEP and OECD, among others, the CEC's work on finance and the environment focuses on exploring established and innovative ways of involving the financial service sector in the environmental agenda. Such involvement takes various forms. It can include greater awareness among credit-risk managers about environment risks and liabilities, interest among investors about opportunities in the environmental area, and more specific project finance opportunities involving the environment.

In New York in 2003, the CEC in collaboration with UNEP-FI held the second North American meeting on Financing and the Environment: Disclosure of Environmental Information. At this meeting, experts discussed the disclosure of financially material environmental information in three environmentally sensitive sectors—oil and gas, electric utilities, and pulp and paper—as well as preliminary research on the mining sector. These presentations showed that although the potential bottom-line impacts of proposed environmental regulations are highly differentiated across companies, most companies are not reporting on these potential impacts. In addition, while companies with less exposure than their competitors to the impacts of proposed environmental regulations could benefit from disclosing, these companies do not disclose more than others (see <http://www.cec.org/files/PDF/ECONOMY/NYC-cec-uneppi_en.pdf > for details).

Foreward

CEC and Environment Canada commissioned this report to deepen the analysis of disclosure in the mining sector in Canada and the United States by using ten retrospective case studies to determine whether material environmental information in the mining sector has been reported to investors in a timely fashion.

The financial service sector is the fuel of our economies and could have considerable impact on the way business incorporates environmental concerns. Currently, however, many security analysts do not use environmental information disclosed by companies to rate companies they will invest in, due to information gaps, lack of data comparability, and the difficulty of linking corporate environmental programs and activities to business strategies and financial performance, metrics, or models.

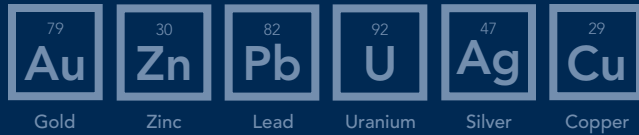
The CEC's work has also focused on how can environmental agencies help provide information in a format useful for analysts to make better informed decisions and for securities agencies to better enforce existing environmentally-related securities regulations in the three NAFTA countries (these regulations are summarized in http://www.cec.org/files/pdf/ECONOMY/env-disclosure-25-03-02_en.pdf).

Chantal Line Carpentier

Head, Environment, Economy and Trade Program
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Full disclosure of material information¹ by publicly owned companies is obviously crucial for the efficient functioning of capital markets and for the protection of investors, as recent corporate scandals have underscored, and therefore has long been the foundation of US and Canadian securities law and regulation. It has also long been recognized that some environmental information is material and must be disclosed. Disclosure can forestall attempts by corporate managers to boost short-term profitability by measures that are not in the long-term interests of shareholders, including efforts to conceal environmental liabilities or to pursue risky environmental policies. There are increasing demands from shareholders, including large institutional investors, for fuller disclosure of environmental information. Securities regulators, environmental protection agencies and other government bodies have also expressed concern about the inadequacy of such disclosures.

In the securities laws of both the United States and Canada, the fundamental rule is that all material information must be promptly disclosed. In both countries, existing law requires disclosure in the Management Discussion and Analysis sections of financial reports of risks and uncertainties known to management that would be reasonably likely to cause future financial results and conditions to differ materially from those currently reported. In addition, there are specific requirements for the disclosure of material environmental information, including the current and future financial impacts of environmental regulations and environmental risk factors that might have a material effect on the enterprise. Environmental liabilities, such as the future costs of closure and reclamation of mining sites, must be disclosed unless the firm can make



a determination that such expenditures are not reasonably likely to be necessary or, if necessary, not financially material. In disclosing such liabilities, firms must reveal a probable range of costs even if no single figure can be determined.

These environmental disclosure rules are particularly applicable to hard rock mining companies because their operations typically have significant environmental impacts and require extensive reclamation when concluded. In the past, mining companies have understated environmental risks and liabilities, such as closure and reclamation costs, and have declared bankruptcy when mining has ceased, leaving costly environmental clean-up operations to the public sector.

The study reported here investigated the adequacy of Canadian and US mining companies' disclosures of material environmental information. The methodology of the study consisted of the following steps:

First, a number of recent events were identified that

- ① occurred to publicly-traded mining companies listed on US or Canadian stock markets;
- ② had material² financial significance for those companies and their investors or creditors;
- ③ were related to the companies' environmental exposures, performances, obligations, or liabilities.

Second, the financial filings and press releases of the company involved in each event before, after, and at the time of the event were examined to learn what the company had disclosed about each of the events. For US companies, this involved reviewing 10-K, 10-Q and 8-K forms. For Canadian companies, it involved reviewing annual information forms, press releases and other periodic and special disclosures.

Third, the background and context of each event was investigated to learn what the company involved knew or was in a position to know about the event when and after it happened and what it was in a position to know about the possibility or likelihood of the event before it occurred. This phase was carried out by examining reports, studies and other material prepared by government agencies, consultants or other experts that would have been available to the company and other parties at specific times. Summaries of the case studies carried out with this methodology are given below.

In all but one of the case studies, disclosures were found to be deficient, especially in the disclosure to investors of known material environmental risks and liabilities. This finding lends weight to recent calls for stricter enforcement by securities regulators of existing environmental disclosure requirements and for better compliance by publicly listed companies of current environmental disclosure rules.

Summary of Case Studies

Canyon Resources, Inc. The Kendall Mine, Montana, United States

The Kendall gold mine in Lewiston, Montana, is owned and operated by Canyon Resources, Inc. The company's \$1.86 million reclamation performance bond had existed since 1989. In October 1999, the Montana Dept. of Environmental Quality, after reviewing the costs of cleaning up the cyanide leach pad and other mine works, increased the required bond to \$8.3 million. This increase was a material amount for the company relative to its total and current assets of \$81.8 and \$13.6 million at the end of 1998. On August 21, 2000, the DEQ raised the bond amount to \$14.2 million. Prior to October 1999, Canyon Resources knew that its reclamation bond was under review by the Montana DEQ, so company management was aware of the possibility that the required bond might be raised by an uncertain material amount prior to the event, and needed to disclose this under Item 303(d).

The company did disclose this material uncertainty in its 1998 10-K filing on 7 April 1999. The report's MD&A section stated: "The DEQ requires the Company to maintain a \$1,869,000 Reclamation Bond to ensure appropriate reclamation. The DEQ is currently reviewing the adequacy of the bond amount and the Company anticipates that the DEQ will require a bond increase, but cannot presently predict the amount of any such increase."

Hecla Mining Company Coeur d'Alene Basin Idaho, United States

Moreover, in the company's third quarter 10-Q filing, dated 30 September 1999, it promptly disclosed the increased bond amount. Next year, in its quarterly 10-Q filing for 30 September 2000, the company stated: "In August 2000, the DEQ further revised the bond amount to approximately \$14.2 million. The company believes the DEQ bond amount exceeds the cost of remaining work and has filed an administrative appeal to the DEQ's actions."³ In subsequent disclosures through the third quarter of 2003, the company discussed its ongoing controversy with the DEQ over reclamation at the Kendall mine, including information that in February 2002 the DEQ had decided that a comprehensive Environmental Impact Statement would be required to guide the remaining reclamation, which the company said would needlessly delay work and increase costs. In conclusion, Canyon Resources did promptly disclose material information, as required, and provided the required warning regarding a material uncertainty known to management.

A century's mining and smelting by many companies in Idaho's Coeur d'Alene basin resulted in such extensive metals pollution that a 21 sq. mile area was made one of the nation's first Superfund sites in 1983. In February 1998 EPA started to study whether a much bigger area should be included in the site, which a federal court affirmed in June 2000. EPA's draft Remediation Investigation/Feasibility Study, describing clean-up options in the larger area with costs ranging from \$194 to \$2,600 million, was released for comment in June 2000 and finalized in July 2001. In September 2001 EPA's Record of Decision chose an option with a present value cost of [approximately] \$360 million, excluding the costs of cleaning up the original smaller site. Meanwhile, in March 1996, the Dept. of Justice sued the company for recovery of clean-up costs and natural resource damages over the entire basin. In September 2003, the first phase of the trial was decided, assigning Hecla a 31 percent liability for whatever damages were subsequently determined.

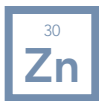
Although Hecla disclosed material events related to the Coeur d'Alene/Bunker Hill Superfund site as they occurred and warned investors that these events may have material adverse effects on the company, disclosure fell short on three counts.

First, after the court assigned a 31 percent liability to Hecla, the EPA's Record of Decision with respect to clean-up costs in the wider basin (Operating Unit 3), and the estimated costs of cleaning up the Bunker Hill "Box" (Operating Units 1 and 2), it was implausible that the potential liability of \$18 million that the company disclosed was as likely as any other figure or that the range of \$18 to \$58 million captured the company's potential liability, for the following reasons:

- ① Within Operating Units 1 and 2, the total clean-up expenditures were estimated in a GAO study at about \$212 million, most of which was borne by state and federal agencies and is included in the amounts the government seeks to recover in part from Hecla based on its 31 percent liability.
- ② The EPA's Record of Decision estimated a \$359 million discounted present cost for the preferred remediation option for Unit 3, of which 31 percent is \$111 million.
- ③ Though the trial judge opined that the plaintiffs had exaggerated natural resource damages, the alleged damages exceeded a billion dollars, based on contamination in a 1,500 square mile area over a period extending decades into the past and decades into the future. It is questionable that the most likely trial outcome is that damages will be found to be negligible.

Second, current regulations require a company to explain the assumptions underlying its liability estimates. Hecla has not done this with respect to the liability it has accrued for the Coeur d'Alene site.

Third, from the time that the government sued the company for damages and cost recovery in 1996 to the court's assignment of substantial liability to Hecla in 2003, events indicated the company's increasing financial exposure to the basin's problems. These events included a court's affirmation that the wider basin could be included in the CERCLA action, the release of the EPA's draft RI/FS report with its range of costs, the Record of Decision indicating a discounted present cost of \$360 million for the preferred option, and finally the decision of the first phase of the trial assigning Hecla 31 percent liability. As seen through the eyes of management, this increasing financial risk to the company must have been obvious, given the efforts it made through negotiation, legal and political channels to limit the company's exposure. Nonetheless, the Management Discussion and Analysis sections of financial reports over this period provide little such guidance beyond an indication that unfavorable outcomes could have material adverse consequences.



Anvil Range Mining Corporation

The Faro Mine

Yukon, Canada

In 1994, Anvil Range Mining Company purchased the Faro zinc and lead mine in the Yukon from a receiver for the assets of Curragh Resources, which went bankrupt in 1992. Anvil operated the mine into 1997 but declared bankruptcy in April of 1998,⁴ though in the fall of 1997 the company had declared assets of \$162.5 million and liabilities of \$93.8 million. However, the present value cost of closing and cleaning up the Faro mine had been estimated in 1993 at \$124 million, against which Anvil held a Reclamation Securities Trust containing \$12.5 million in 1998. In November 1994 Anvil Range had agreed to fund the Trust from operating revenues with contributions varying with the net price of zinc. In October 1995, Anvil Range had also recognized a liability of \$43.5 million for environmental remediation on the property, having adopted Curragh's assumptions that reprocessing of tailings and lower reclamation standards would bring the costs well below those estimated in 1993.

Under this arrangement, falling zinc prices lowered the company's contributions to the Reclamation Security trust at the same time that the reprocessing of tailings became less economical, raising the company's reclamation liabilities. The company never made this risk clear as zinc prices fluctuated nor did it disclose a current estimate of

the environmental liability in the event that reprocessing of tailings proved infeasible. By 1998, when the company declared bankruptcy, inflation and the increased volume of waste materials had raised the previous estimated cost of \$125 million to the \$145–150 million range, more than enough to make the company insolvent.

The company consistently stated in its financial disclosures that it expected the amounts accumulating in the RST to be adequate to meet its closure and reclamation obligations at Faro. Thus, up to the brink of bankruptcy, Anvil Range continued to maintain that it had adequately provided for reclamation of the Faro mine and failed to disclose its increasing liability as its strategy for funding the reclamation disintegrated.

Manhattan Minerals Corporation The Tambogrande mine

Peru

Manhattan Minerals Corporation is a Canadian mining company devoted internationally to the exploration and development of mining properties. Its shares trade on the Toronto Stock Exchange. Its principal asset was a concession to develop a gold mine in Tambogrande, Peru, acquired in 1997 from President Fujimori by supreme decree. There was persistent opposition to the mine in Tambogrande since deposits lie under the town itself and mining operations were thought to be a potential threat to profitable commercial agricultural production. A company-funded Environmental Impact Study and discussions between the company and community organizations over several years failed to overcome opposition. On 11 October 2002, the local government announced that a popular referendum would be held and on 2 June 2002, the residents of the town where the mine would be located duly conducted the referendum on the question whether the mine project should go forward. Over 93 percent of those participating voted “No.”

Manhattan Minerals stock price fell by approximately 30 percent in the following days. Moreover, in September 2002, the company announced that due to “volatility in equity markets” the company was postponing a private placement and re-pricing significantly downwards share purchase warrants that it had issued a year earlier. This increased the company’s difficulties in demonstrating to the Peruvian government that it had the financing to develop the concession property, a question then at issue. In December 2003, this is-

sue formed the announced basis for the government’s decision that Manhattan Minerals had not fulfilled the financial requirements of the project and had forfeited its concession rights. Therefore, the referendum was clearly a material financial event for the company.

Throughout 2001 and 2002 the company’s press releases and financial reports discussed its consultations with the community and progress in carrying out the Environmental Impact Assessment. However, the first mention of the referendum came in a press release dated 14 February 2002, in which the company declared:

On 10 February 2002, the Ministry of Energy and Mines published in the official gazette its resolution to enforce existing laws in Peru that prevent local municipalities from calling referendums on issues which conflict with National laws. Specifically, the Government of Peru has now publicly stated their legal findings that a referendum on mining in the District of Tambo Grande is not legal and that the Government will enforce the existing laws against such a referendum through the National Prosecutor if necessary.

No indication was given in that release that the popular referendum constituted a material risk to the company’s project or plans or a risk to investors.

Cambior The Omai Mine Guyana

The company's disclosures did not mention the impending resolution again until 2 June 2002, the day of the voting, when it issued a press release attacking the referendum and re-emphasizing its illegality. Results were not disclosed until the following day.

In summary, the strong local opposition to Manhattan Mineral's project in Tambogrande, culminating in an overwhelmingly negative vote in the community referendum in June 2002, was a material risk and a known uncertainty in the months leading up to the voting. The overwhelmingly negative vote in that poll resulted in a significant loss to shareholders and contributed to the challenge facing the company in attracting the capital needed to meet the financial conditions in its concession agreement. The company's disclosures in the months prior to the referendum did not disclose this risk adequately to investors.

Overnight, between 19 and 20 August 1995, the tailings dam failed at Cambior's Omai gold mine in Guyana, releasing approximately four million cubic meters of cyanide-laden mine waste into the Omai river, which feeds into the Essequibo, which eventually runs through the capital city of Georgetown. Cambior's stock plummeted 23 percent from Friday, 18 August 1995, to Monday, 21 August 1995. Trading volume went from about 27,000 on 18 August to about 3.7 million on the 21st. Moreover, the dam remained closed for months while the failure was investigated and a new tailings impoundment was constructed, resulting in substantial loss of income and additional costs for the company.

At the time of the failure the amount of fluid in storage was eight times larger than the maximum allowable amount specified in the project's 1991 Environmental Impact Statement, which was the only operating plan in existence for the Omai mine project, and its cyanide content was many times higher than permitted in releases to the river.

In addition, according to the report⁵ of the Dam Review Team to the Guyana Geology and Mines Committee, appointed to study the dam failure, the failure resulted from flaws in the design and construction of the dam:

It is our current judgment that failure of the dam was caused by massive loss of core integrity resulting from internal erosion of the dam fill, a process also known as piping. This means simply that finer particles from one soil moved freely under the influence of seepage forces into and through the interstitial voids of adjacent coarser soil due to excessive disparity between particle sizes of the two soils, allowing cavities and tunnels to develop within the dam.

In basic terms then, the rock fill adjacent to the filter sand was simply too coarse to prevent the sand from washing into and through it, and both potential and actual problems this produced appear to have gone unrecognized or uncorrected throughout the sequence of design and construction until the failure occurred.

The Dam Review Committee thus found that the failure was caused primarily by faulty design and construction that went unrecognized or uncorrected. Evidence from other sources indicates that the problems were not unknown but remained uncorrected. The Commission of Enquiry quoted from faxes between the resident engineer supervising the company's employees constructing the dam and the engineering firm's head office in September 1992, when the first stage of the dam was under construction. The resident engineer pointed out that with respect to the grades of rock fill adjacent to the filter sand: "It is fairly certain that the selected run of mine

waste will not satisfy this specification. Is there room for coarsening the specification?" The reply came back: "...basically we will accept the finest of the run of mine muck which should be fairly close to spec (i.e., some coarsening of spec is acceptable)."⁶

The Review Team also found that a corrugated steel diversion conduit through the dam had leaked, contributing to the dam's internal erosion. Again, the Commission of Enquiry cited communications between the project engineer and his home office during dam construction discussing whether to grout and reinforce the conduit with cement. The decision was not to do so but to accept the risk that the culvert would collapse.

Cambior disclosed the dam failure and subsequent events in a series of press releases and financial reports starting in 1995. However, prior to the event, there was no mention in any of the company's Management Discussion and Analysis filings that the build-up of liquid behind the dam to volumes many times greater than its design capacity, combined with known flaws in the design and construction of the dam, constituted a known material risk or uncertainty. Since the company had known as early as 1992 and 1993 that flaws in the construction of the dam posed risks of failure, it is hard to imagine that those risks, combined with the large volumes of liquids with high cyanide concentrations in storage, did not appear through the eyes of management to pose material risks to the company and its investors.

Royal Oak Mining Ltd.

The Giant Mine

Northwest Territories, Canada

Royal Oak Mining Ltd. declared bankruptcy in April 1999, citing low gold prices, although Royal Oak's third quarter 1998 report listed assets totaling \$840.3 million and liabilities totaling \$645.8 million.⁷ The latter excluded the cost of dealing with 240,000 tons of highly toxic arsenic trioxide buried in underground mining vaults in its Giant Mine in Yellowknife in the Northwest Territories, leaching arsenic into ground and surface waters. Recent engineering estimates of the costs of closure and remediation are approximately \$200 million, against which the government held a \$0.4 million performance bond for water quality reclamation.

The Giant Mine went into production in 1948 using a roasting operation to extract gold from its arsenopyrite ore, producing arsenic trioxide dust as a waste product. The arsenic trioxide dust that was collected was blown underground into mined out and some specially constructed chambers for storage 20 to 75 meters below the surface. After 50 years of mining operations, approximately 240,000 tons of arsenic trioxide dust had accumulated underground and about 10-13 tons were added every day over the last few decades.

Royal Oak Mines acquired ownership in 1990 and operated the mine from then until April 1999, when it went into bankruptcy. At low gold prices, Giant mine became a break-even operation. Royal Oak Mines went into receivership in April 1999 with no provisions to deal with the arsenic trioxide problem, which was left to the federal government. Extracting it would be difficult to accomplish without endangering workers' health, since arsenic trioxide can be lethal if inhaled or absorbed through the skin and extraction would leave open the question of suitable long-term surface storage. At present, after ten years of engineering studies, the government is supporting a plan to freeze the arsenic underground and let the arctic permafrost hold it in place, at a discounted present cost of about \$100 million. Under this scenario, the pumps would have to keep running until the arsenic has leached out of backfilled chambers and vaults, which would add an additional \$100 million in discounted present costs to the bill.

Royal Oak never recognized a liability for reclamation of the stored arsenic trioxide nor did it discuss the problem in its financial reports. It did provide for reclamation of the surface area under the terms of its lease. According to language in its 1997 and 1998 an-



Boliden Ltd. **The Los Frailes Mine** Aznalcóllar, Spain

nual financial filing: "... the Company believes that it has made adequate financial provisions for the costs associated with mine closures and reclamation, and is of the opinion that any changes to environmental laws and regulations in the future should not have a material effect on the Company." Royal Oak did refer to the arsenic trioxide problem in its Water License Annual Report for 1998 but made no estimate of financial liability on the grounds that studies of various remediation options were still underway.

In other words, in its public disclosures, investors would find no reference to or estimate of the very large financial liability that the stored arsenic trioxide represented, a liability that had been valued at over \$120 million in 1993 and subsequently has been estimated in the \$200 million range. Were these estimates disclosed, the true state of Royal Oak's balance sheet would have been clear well before its declaration of bankruptcy in April 1999.

On 24–25 April 1998, a large tailings pond dam failed at Spain's Los Frailes mine, which was owned by the Canadian mining company Boliden Ltd. A slab of soil beneath the dam, 20 meters wide, slid downhill approximately one meter. The dam cracked and abruptly broke. Between five and seven million cubic meters of acidic, metals-laden water and slurries spilled through the gap. Three rivers were affected, along with 11,000 acres of farmland.⁸ Damage was also caused in the Doñana National Park, a UN World Heritage Site.

The dam failure prompted a 28-percent decrease in the value of Boliden Limited's stock on the Toronto Stock Exchange in the five days after it was reported.⁹ The event also triggered other material consequences. Boliden has spent at least \$12 million dollars cleaning up the Los Frailes spill.¹⁰ On 2 October 2000, Boliden Ltd. announced that its subsidiary, Boliden Apirsa, had filed a court application for commencement of bankruptcy proceedings and that the company would not continue the development of the Los Frailes mine after October 2001. A class action lawsuit was filed by the Canadian law firm Klein Lyons on behalf of Boliden's shareholders. The lawsuit alleges negligence on Boliden's part and claims millions of dollars in damages as a result of Boliden's failure to disclose the risk of the dam breach.¹¹ Moreover, on 16 November 2002, Boliden was sued for \$89.9 million by the Andalusian regional government. Though

this case was dismissed on 2 January 2003, the regional government is now trying to recover the money through administrative channels. On 2 August 2002, the Spanish Council of Ministers demanded that Boliden pay \$45 million in penalties for the spill. Boliden refused and this demand is still pending. The Spanish Government has spent over \$275 million cleaning up after the spill.

The principal cause of the Los Frailes accident has been established as deficiencies in the design and construction of the tailing dam by Boliden's contractor, *Dragados y Construcciones*, and its associated engineering firms, Itecsa and Geocisa.¹² These deficiencies, coupled with the fragility of the clay soil and the high pressures of the water on the clay foundation,¹³ are said to have triggered the dam failure. Essentially, with the weight of tailings behind it, a segment of the dam slid downhill on its slick clay base. The flow of tailings that escaped through the breach caused a rupture of a 50-meter section of the embankment.

The company knew of these risks. Following complaints in 1995 from the company's own engineer and a Spanish environmental group regarding seepage through the dam and possible instability and a 1996 report from engineering consultants that sliding surfaces were forming in the clay underlying the dam, Boliden and the regional authorities undertook a series of studies of seepage and the dam's stability, installed

monitors within the dam to detect movement, and strengthened seepage containment works. These steps convinced the authorities to permit Boliden to raise the dam to accommodate more tailings from Los Frailes, despite the fact that according to a report by Geocisa, a civil engineering firm hired by Boliden, deformations of the inclinometers had been observed in 1997, indicating movement in the dam.

Nothing in Boliden's annual reports or interim financial statements prior to the dam failure mentions any possibility of structural problems in the Los Frailes tailings dam. The company's Management Discussion and Analysis prior to the event did not treat the risk of a dam failure as a material uncertainty known to management. Subsequent to the event, Boliden admitted in a press release, dated 26 February 1999, that the tailings dam was ill designed and blamed its contractor *Dragados y Construcciones* and its associated engineering firms, Itecsa and Geocisa for the failure. Their "incorrect interpretation of the geotechnical properties of the Margas Azules (Blue Clay) Formation [...] facilitated the failure of the tailings dam."¹⁴ Faced with claims from Spanish authorities for recovery of damages and restoration costs, Boliden warned of possible adverse financial consequences. In October 2002, Boliden's Spanish subsidiary, Boliden Apirsa, sued the construction company *Dragados y Construcciones S.A.*, for a minimum of 107 million euros.

Dakota Mining Company The Gilt Edge Mine South Dakota, United States

Gilt Edge Inc., the company eventually reorganized as Dakota Mining Company in Canada, was granted a state mining permit in 1986 for the Gilt Edge Mine, a gold heap leach project, and finished mining the original reserves in 1992. Despite existing evidence of acidity and the presence of sulfide rocks, the original cash bond for reclamation was based on mining non-acid generating rock and totaled \$1.2 million. During operations waste rock containing enough sulfide minerals to generate acid was mined. Acid drainage from the waste dump was detected in 1993.

On 19 April 1993, in response to the acid problem the South Dakota Dept. of Environment and Natural Resources issued the company a notice that required it to develop a mitigation plan. On 16 March 1995, the Board of Minerals and Environment approved the plan. The acid drainage problem raised the 1995 estimated cost of reclamation and reclamation bond to \$8.4 million. The company was able to provide only an additional \$1.0 million cash bond, with a \$6.2 million demand note to cover the rest.

In 1996 the state approved the company's permit to mine an adjacent site in order to generate cash for the reclamation program. However, part of the new site was on National Forest land and the Forest Service did not grant approval of the company's environmental impact statement despite two applications. Consequently, the company stopped contributing to the reclamation fund, which

then contained \$6.2 million, and in May 1998 informed the state government that it had no money to maintain the site or operate the water treatment plant to prevent acid drainage. Instead, it filled all the mine pits with 130 million gallons of acidic wastes. By then, estimated reclamation costs had reached \$13 million.

Although the governor of South Dakota sued the company to force it to maintain the site and operate the plant, the company's credit was exhausted and in July 1999 it declared bankruptcy. The state had the mine listed as a Superfund site in 1999 and has already spent \$27 million on cleanup with an estimated \$18 million more needed for completion.

From 1996 through its 1999 bankruptcy filing, Dakota Mining consistently underestimated its reclamation liabilities at the Gilt Edge mine, even relative to the surety required by the state of South Dakota, which itself was considerably less than the actual reclamation cost. For example, in statements repeated in filings throughout 1997 the company stated: "The ultimate amount of the reclamation obligations to be incurred is uncertain; however, the Company estimates these costs to be \$6.9 million at Gilt Edge Mine..." According to a government official familiar with this case, although it was faced with the problem for years at Gilt Edge, Dakota Mining downplayed its potential liabilities from acid mine drainage in order to avoid scaring off potential investors.¹⁵

Newmont Mining Corporation

The Midnite Mine

Washington, United States

The Midnite Mine was an open-pit uranium mine on the Spokane Indian reservation in Washington State. The site contains pits filled with hundreds of millions of gallons of contaminated waters, waste rock and tailings. The mine was owned and operated by Dawn Mining Company, of which Newmont Mining is majority owner. In April 1998, the EPA began an Expanded Site Inspection (ESI) that confirmed the elevated level of contamination. In February 1999, the EPA proposed that Midnite be added to the National Priority List as a Superfund site. This proposal carried important financial implications for Newmont, the parent company, because CERCLA's provisions for joint and several liability greatly increased the likelihood that it, as the majority owner of Dawn Mining, would be held liable for remediation costs at the Midnite mine and possibly the entire cost. A Remedial Action/Feasibility Study was begun. Data collections continued from the fall 1999 to spring 2000. On 11 May 2000, EPA listed the Midnite Mine site on its Superfund National Priorities List.

Newmont has promptly disclosed material events at the Midnite mine as they occurred. As the federal government moved toward listing the Midnite mine as a Superfund site, Newmont noted the various phases. In its 1998 10-K report, after EPA had proposed the site for the National Priorities List on 16 February 1999, the company disclosed: "In early 1999, the EPA proposed that the mine be

included in the National Priorities List under CERCLA. If asserted, the Company cannot reasonably predict the likelihood or outcome of any future action against Dawn or the Company arising from this matter."¹⁶ In its 10-K report the following year, the company mentioned that the RI/FS had begun and moderated its position as to liability: "In mid-2000, the mine was included on [the] NPL [National Priorities List] and EPA has initiated a RI/FS under CERCLA to determine environmental conditions and remediation options at the site. The EPA has asserted that Dawn and the company are liable..."¹⁷

A year later, the company's annual report further modifies its potential liability at the Midnite mine: "The environmental standards that may ultimately be imposed at this site as a whole remain uncertain and there is a risk that the costs of remediation may exceed the provision Newmont's subsidiary has made for such remediation by a material amount. Whenever a previously unrecognized remediation liability becomes known or a previously estimated cost is increased, the amount of that liability or additional cost is expensed and this can materially reduce net income in that period."¹⁸

However, in subsequent filings through 2003, the company has maintained that since remediation requirements at the Midnite have not been finally decided, it cannot estimate its potential liability and



Teck Cominco The Red Dog Mine Alaska, United States

intends vigorously to contest claims against it. Since the EPA had not completed its RI/FS by the end of 2003, even to the extent of releasing the estimated costs associated with its retained remediation alternatives, and had not issued a Record of Decision, Newmont could plausibly claim that it could not estimate its potential liability. However, when the Midnight Mine was put under CERCLA's provisions, the company became subject to specific SEC and FASB disclosure requirements. Those requirements prohibit the company from deferring disclosure until a single cost estimate had been established and required it to provide a range of possible liabilities if such a range could reasonably be estimated. Newmont had not provided even a range of potential reclamation costs. In late 2003 an asset management company filed a shareholder resolution with Newmont calling for fuller disclosure of environmental liabilities.

On 15 July 2002, the Kivalina Relocation Planning Committee of the village of Kivalina, a small traditional Inuit community, notified Teck Cominco Alaska, operator of the Red Dog Mine that they were going to sue the company under the citizens' suit provisions of the Clean Water Act for up to \$88 million in penalties for more than 3,000 violations of the Clean Water Act at the mine and the associated port facility. The suit charges that the mine regularly violated its discharge permits regarding effluents of cyanide and total dissolved solids and also discharged excessive quantities of heavy metals. The case was dismissed on the grounds that the plaintiff was not a "person" but the six individual members have filed a new suit making similar claims.

The Red Dog Mine site is in the western Brooks Range, approximately 600 miles north of Anchorage and 55 miles inland. It is the largest zinc mine in the world, producing 1.2 million tons of lead and zinc concentrates annually. These are then transported by road to a port site storage facility. Teck Cominco Alaska, a subsidiary of Teck Cominco,¹⁹ operates the mine under an agreement with Northwest Alaska Native Association Regional Corporation (NANA), which owns the land where the mine and port are located.

The Red Dog Mine has a history of water quality problems, which baseline geologic and engineering studies done in the 1980s foretold. In July 1997, Cominco Alaska settled a federal government

suit alleging hundreds of violations of the Clean Water Act through exceedences of permitted levels of metals and pH at its wastewater pit. In the settlement, Cominco paid a \$1.7 million fine, upgraded its water treatment plant, and agreed to spend more than \$3 million on long-term ongoing monitoring and ecological studies. These studies showed that mine effluents had no incremental adverse impacts on water quality in Red Dog Creek, given that high background contaminant levels had made it already unfit for aquatic life.

However, water quality problems continued at the mine. The two-year compliance record available online at EPA's Office of Enforcement and Compliance Assurance shows that Red Dog Mine was non-compliant with provisions of the Clean Water Act in all eight quarterly periods from October 2001 through September 2003. Concentrations of total dissolved solids exceeded permitted levels by 1800 percent in the last quarter of 2001 and cyanide concentrations exceeded permitted levels by 100 percent in 2002. During this period the company operated under a compliance order under consent, while it negotiated with EPA for a much less stringent permit level for total dissolved solids and an alternative method for estimating cyanide concentrations, both of which were granted in 2003.

A June 2001 study for the Alaska Department of Fish and Game Restoration found that effluents from the Red Dog Mine over the period from 27 June 1996, to 27 June 1997, had high concentrations of sulfate ions (1800–1900 mg/l), high concentrations of calcium ions (590–665 mg/l), high concentrations of total dissolved solids (2700–2740 mg/l) and that on balance the effluent was highly acidic—all at levels that would have been toxic to salmon and other aquatic organisms had they existed in the 10-mile stretch downstream of the mine.

In June 2001, a study for the National Park Service found elevated levels of lead, zinc and cadmium along the road leading from the mine to the port through a national park. The company subsequently addressed emissions from the hauling trucks. In September 2001, the Alaska Community Action on Toxics released information that monitoring of the port site in the period from 1990 to 1996 had found lead concentrations in soils as much as 36 times the state of Alaska's threshold for remediation requirements and more than twice as high as the threshold for zinc contamination.

In short, Teck Cominco was aware of its environmental problems at the Red Dog mine and its history of record of permit violations over the decade preceding the suit because of its mandated monitoring

and reporting programs, the monitoring by outside bodies, and records of noncompliance by government environmental agencies. It also knew that operating under a compliance order by consent did not shield it from citizen lawsuits under the Clean Water Act.

Teck Cominco took note of the lawsuit in the Environment, Health and Safety section of its 2002 annual report: “A committee from the community near the Red Dog mine brought proceedings against Teck Cominco alleging violations of the Clean Water Act and the mine’s water discharge permits. The vast majority of the alleged incidents were permitted through compliance orders issued by the EPA and Teck Cominco Alaska has worked closely with the regulatory authorities and NANA to meet the concerns of the community of Kivalina.”

Prior to the time that the suit was announced, none of the company’s filings give any indication that the pattern of noncompliance extending over a period of years might create a financial risk or exposure. For that matter, the company’s disclosures do not reveal ongoing non-compliance. Neither the Management Discussion and Analysis nor the Environmental Matters sections of the company’s reports treat the issue as a risk or uncertainty known to management. The company holds that the lawsuit was not a material event, although in the five-day window surrounding its announcement, the price of the company’s stock fell by 10 percent.

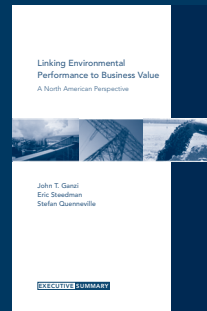
1. Information is material according to Canadian and US law, if reasonable investors would find it relevant to their investment decisions.
2. Material events included those involving bankruptcies, abrupt and large percentage movements in the company’s stock price, denials in operating permits to exploit important properties, or increases in financial liabilities and obligations that were significant in the context of the company’s overall balance sheet. The financial magnitude of the events selected for investigation left little doubt of their materiality.
3. Canyon Resources, Inc., 10-Q report, third quarter, 20 September 2000, notes to CFS, commitments and contingencies: (a) Site Restoration Costs, p.11.
4. Mining Watch Canada and The Sierra Club of Canada. *TOXICanada: Thirteen good reasons to establish a Clean Canada Fund*. 1 July 2001. Available online: <http://www.miningwatch.ca/publications/toxic_13.html>. Accessed 23 November 2003.
5. *Technical causation of the Omai tailings dam failure*. Submitted to Guyana Geology and Mines Commission by Dam Review Team, 16 November 1995.
6. Report of the Commission of Inquiry, p.40.
7. Royal Oak Mines Inc. *Quarterly report*. US Securities and Exchange Commission. 16 November 1998: <www.sec.gov>.
8. Eriksson, N. and P. Adamek. *The tailings pond failure at the Aznalcollar Mine, Spain*. United Nations Environment Programme. Mineral Resources Forum. Available: <<http://www.mineralresourcesforum.org/incidents/Losfrailes/>>.
9. Coleman, Thomas W. and Ana Perales. *Boliden Apirsa, Los Frailes tailings incident*. United Nations Environment Programme. Mineral Resources Forum. Available: <<http://www.mineralresourcesforum.org/incidents/Losfrailes/>>.
10. Diehl, Peter. *The Los Frailes tailings dam failure*. World Information Service on Energy, Uranium Project. 10 November 2003. Available: <<http://www.antenna.nl/wise/uranium/mdaff.html>>.
11. *ibid*.
12. Principa-EQE report (1999). *Structural stability of the Aznalcollar tailings dam*. One of several studies presented as evidence in the investigation as to the cause of the dam failure.
13. Bolaños, A. (8 April 2000) *El País* newspaper: A report was prepared by Antonio Gens and Eduardo Alonso, from the Polytechnic University of Catalonia in Barcelona.
14. Boliden news release, 26 February 1999.
15. Personal communication from Mike Cepak, SD Dept. of Environment and Natural Resources, 6 February 2004.
16. Newmont 10-K annual report 1998: CFS, Note #18 Commitments and contingencies, p.32.
17. Newmont 2000 10-K annual report: CFS contingencies.
18. Newmont 2001 10-K annual report: “Remediation costs for federal Superfund law liabilities may exceed the provisions we have made.” p. 13.
19. Teck Cominco was formed in 2001 through the merger of the Teck Corporation and Cominco Ltd., the previous operator of the mine.

Financing and the Environment

The purpose of the CEC's work on financing and the environment is to explore established and innovative ways of involving the financial service sector in the environmental agenda. Such involvement takes various forms. It can include greater awareness among credit-risk managers about environment risks and liabilities, interest among investors about opportunities in the environmental area, and more specific project finance opportunities involving the environment.

Indeed, one of the crosscutting issues that the CEC and environmental agencies encounter is how to harness the power of private financial markets in creating and sustaining financing for the environment. The question of financing is of direct relevance to a number of other CEC projects as well: opportunities for small and medium-size enterprises in environmental goods and services; work on renewable energy, energy efficiency, and shade-grown coffee; encouraging sustainable tourism; and trade in sustainable palms.

The financial service sector is the fuel of our economies and could have considerable impact on the way business incorporates environmental concerns. Currently, however, many security analysts do not use environmental information disclosed by companies to rate companies they will invest in, due to information gaps, lack of data comparability, and the difficulty of linking corporate environmental programs and activities to business strategies and financial performance, metrics, or models.



Also available as part of the CEC's financing and the environment work:

Ganzi, John T., Eric Steedman and Stefan Quenneville. *Linking Environmental Performance to Business Value: A North American Perspective—Executive Summary*. Commission for Environmental Cooperation. Montreal. October 2004.

http://www.cec.org/pubs_docs/documents/index.cfm?varlan=english&ID=1617