

NORANDA

FROM CANADA TO PATAGONIA
A LIFE OF CRIME



ALBERTA

GREENPEACE

EXECUTIVE SUMMARY

One of the world's largest integrated mining and metals companies, the Canadian-founded Noranda, Inc. has left a trail of pollution across the Americas. Noranda has accumulated over US\$1.2 million of fines for breaching environmental regulations in Canada alone and in 1998 its arsenic and lead emissions were the highest in the country.

Dismal though Noranda's environmental record is, it continues to seek approval for what is likely to be one of its most destructive projects ever, a massive aluminum plant in the pristine wilderness of Patagonia in Chile. The Alumysa Project will involve the construction of six large-scale hydroelectric dams to power an aluminum smelter that will emit 1.5 million tonnes of gaseous and solid waste each year.

Noranda's proposed location for Alumysa is the densely forested region of Aysén, home to the endangered Huemul (South Andean deer) and the Colo Colo Pampas cat, among other threatened and rare species. Aysén is a landscape of glaciers, unpolluted lakes and rivers and a wealth of ancient forest. Its ecosystem supports a human population dependent largely on eco-tourism, fishing and farming for its livelihood. Wishing to preserve and expand their potential to live sustainably, its inhabitants have declared Aysén a *Reserve of Life*.

Noranda argues that Alumysa will bring jobs and economic prosperity to Aysén. In reality only ten percent of jobs created will be offered to local people. Of the US\$290 million per year the project is expected to generate, less than five percent will remain in the local economy, while Chile's Treasury will receive less than 18 percent.

Large-scale dams are well known to harm both the ecosystems and the communities where they are located. River habitats supporting a diversity of fish and bird life give way to relatively uniform reservoirs; migration routes are cut off, and species become isolated up- and downstream of the dam. Where biodiversity is particularly rich, local extinction rates may reach as high as 90%.

Globally, 40 to 80 million people have been displaced from their homes by large-scale dams. Research shows that for the majority, economic well-being and health decline after relocation. Those who live downstream from dams may find their livelihoods seriously damaged by the alteration of the natural floodplain and fisheries.



Patagonia is one of the world's major reserves of biodiversity. The Chilean government has not yet established any formal protection against the type of industrial development that Noranda's Alumysa Project would bring to Patagonia.

Given Noranda's track record, it is hard to imagine the Alumysa project's impact on Aysén's environment will be less than disastrous. This report catalogues a number of case studies related to companies which are, or have been, owned or part-owned by Noranda, including:

- Magnola plant, Quebec, prompted angry community protests after becoming Canada's single largest emitter of highly carcinogenic dioxin;
- MacMillan Bloedel's highly destructive clearcut logging practices in Canada's temperate rainforest led to a war in the woods between the company, environmental groups and First Nation communities;
- Strike-breaking companies were employed to disrupt labour strikes at Noranda's Murdochville Copper Mine and Falconbridge subsidiary;
- A twelve-year lawsuit with the US government over clean-up costs of Noranda's Blackbird mine resulted in a US\$60 million settlement;
- An attempt to mine for gold on the edge of Yellowstone National Park was blocked only after intervention from the former US President Clinton;

- Large numbers of local inhabitants were resettled to make way for the Antamina Copper and Zinc mine in Peru; protests mounted as local communities experienced environmental damage resulting from the mine;
- Emissions of sulphur dioxides have reached emergency levels and communities suffer respiratory problems at Noranda's Altonorte smelter in northern Chile.

More than once, Noranda has managed to persuade the Canadian governments to pick up the tab for the environmental mess it has created, by paying for new emissions control technology or by cleaning up polluted sites. However, as the financial costs of operating in North America have mounted, Noranda has shifted its focus towards countries where labour is cheaper and environmental regulations are more lenient. Even these lower standards are too much for Noranda. In a 2002 Prospectus, Noranda indicated that it may not be able to comply with Chilean environmental regulations at its global operations, and that to do so may "materially adversely affect our business, financial condition, liquidity and results of operations."



The 'Reserve of Life', proposed by the communities of Aysén, would provide essential protection for the Huemel, which is under threat of extinction.

Over time, Chile has become the heart of Noranda's investment strategy. Chile's eagerness for economic growth has led it to accept projects such as Alumysa, which would not be permitted elsewhere because of social and environmental concerns. However, in August 2003, following a visit to the Aysén region, the Chilean President Ricardo Lagos Escobar suggested that another site should be found for the project. A few days later, Noranda decided to "temporarily suspend" its official application for the Alumysa project, but would continue to work to overcome these new "obstacles."



Rich in forests, properties of local landholders would be flooded if the Alumysa Project is given approval.

While the future of the Alumysa project on the face of it looks uncertain, the reality behind the scenes is very different. Noranda continues to pursue its goal of building the Alumysa project in Patagonia by quietly working with the few allies it has within the Chilean government, and is a long way from dropping this project. Additionally the Chilean government has not yet established any formal protection against this kind of industrial development in Patagonia. Until these two issues are addressed, the future of this Patagonian ancient forest itself remains uncertain.

SECTION ONE: WHO IS NORANDA?

A BRIEF HISTORY

Noranda Inc. is one of the world's largest integrated mining and metals companies. Its principal business is the ownership and operation of mining and metallurgical assets.

Noranda is controlled by the Brascan Corporation. Listed as the 78th largest Canadian company,¹ Brascan's main activities are power generation, the real estate business and asset management. It currently holds US\$15 billion of owned assets and a further US\$5 billion under management.²

Noranda's history began in the 1910s, with prospector Ed Horne deciding that "good geology shouldn't end at the Ontario border". When a large, copper-rich ore body was found in the area he had staked out in Quebec, he and his investors sold out to an American syndicate, which incorporated Noranda.³

Only a few years after its incorporation, Noranda started investing in a variety of activities, including the acquisition of cable and wire manufacturing plants as well as activities in forestry, potash production and oil and gas exploration. The Brascan Corporation won control of Noranda in 1981 after paying CAN\$1 billion, in partnership with the investment company Caisse de dépôt et placement du Québec.⁴

In the late 1990s, Noranda sold its oil, wire and cable, and forestry assets to return to its metal mining activities.⁵ Its main products are now aluminum, copper, and zinc, which account for two-thirds of its global operations. Noranda is also active in the recycling of secondary copper, lead, and cobalt.

In 2002, the US was the principal market for Noranda's products, accounting for 43 percent of consolidated sales, followed by Canada with 19 percent. Today Noranda and its subsidiaries have offices and operations in 17 countries.⁶ Noranda Inc. owns 59.5% of Falconbridge Ltd.

Headquarters: Noranda Inc.
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Toronto, Ontario, Canada
M5J 2T3
Tel: + 416 982 7111
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Incorporated: 1922
Employees: 15,000

Product Sales Mix:

Aluminum	28%
Copper	26%
Precious metals	13%
Zinc	12%
Nickel	11%
Other	10%



Executive Chairman: David Kerr
President and CEO: Derek Pannell

Largest shareholder: Brascan Corporation (owns about 40% of Noranda)

2002 Sales: CAN\$6.1 billion

2002 Earnings: CAN\$700 million

Stock Symbol: NRD
Noranda is listed on the Toronto Stock Exchange (TSE) and the New York Stock Exchange (NYSE)

Market Distribution 2002:

United States	43%
Europe	24%
Canada	19%
South America	4%
Other	10%

TALKING THE TALK

"We will remain deeply committed to the environment, safety and health and will live up to the highest standards of fairness and ethical behaviour wherever we operate."

Noranda's Corporate 'Vision',
www.noranda.com

"As a result of the above, we aim to achieve at least a 15% return on equity and to double our share price within five years."

Noranda's Corporate 'Vision',
www.noranda.com

Noranda attempts to portray itself as a company that fosters relations with local communities, is openly concerned about the occasional problems it causes and readily supplies the public with critical information about its environmental and social performance, through its *Sustainable Development Reports*. In reality the impact of Noranda's operations are often far more controversial. This report aims to highlight the gulf between the rhetoric and the reality.

Noranda has a poor environmental record throughout the Americas, in its operations in Canada, the US, Peru and Chile.

In Canada, Noranda has accrued at least 87 environmental violations and fines surpassing US\$1.2million. These violations include: spillings and discharges of toxic substances; deficiencies in the storage of harmful wastes; atmospheric toxic emissions above the allowed limits, accidents caused by negligence; contamination of coastal waters and fishing activities; flaws in the installation of cleaning and anti-pollution equipment; and non-compliance with local laws.⁷

According to the Canadian Environmental Defence Fund, in 1998 Noranda was the second worst company operating mining smelters in Canada for air and river pollution, releasing a total of nearly 4,000 tonnes of toxic substances, including emissions from its Falconbridge plant. It had the worst record of arsenic and lead emissions and the second worst record for cadmium, mercury, and particulate material.⁸

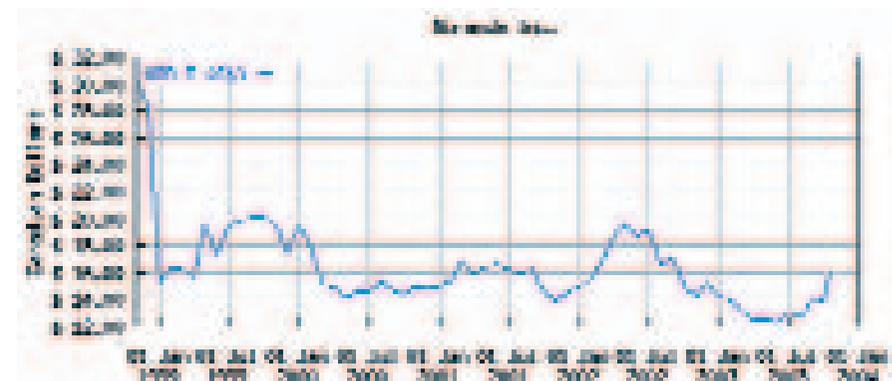
Noranda's recent financial performance is not very comforting for its shareholders. In the second quarter of 2003 Noranda announced a loss of CAN\$15 million⁹, after a net loss of CAN\$59 million for the previous quarter.¹⁰ In the year 2002 Noranda accumulated a total loss of CAN\$700 million.¹¹

Dismal though Noranda's environmental record is, the company is pursuing one of its most destructive projects ever – in one of the world's most valuable pristine ecosystems: the Patagonia wilderness of Chile.



The man at the top of Noranda, President and Chief Executive Officer (CEO), Derek Pannel.

Noranda's shares over the last 5 years (traded on the Toronto Stock Exchange)¹²



SECTION TWO: POLLUTING PATAGONIA

Rhetoric

“Noranda has prepared the Environmental Impact Study using the highest Chilean, Canadian, World Bank and corporate standards.”

Noranda fact sheet on Alumysa, August 21, 2001

Reality

Noranda indicated that it may not be able to comply with Chilean environmental regulations at its global operations, and that to do so may *“materially adversely affect our business, financial condition, liquidity and results of operations.”*

Quote from Noranda, Prospectus Supplement, June 18 2002



Aysén's landscape hosts a wealth of areas of ancient forest, wetlands and ice caps. The spectacular lakes, Tulton and Meulin, and the ancient forest which surround them, would be lost forever if Noranda's Alumysa project is given the go-ahead.

THE ALUMYSA MEGA-PROJECT

The Alumysa Project is a proposal to build a massive aluminum reduction plant in the pristine Aysén region of Chile's Central Patagonia wilderness. Requiring the construction of several hydro dams to generate the enormous amount of electricity needed for the aluminum smelter, Alumysa will be the biggest foreign

investment project in Chile's history. The cost currently stands at an estimated US\$2.75 billion.¹³

In recent years this mega-project has prompted an outcry from the local population and from organisations in Chile and overseas. While Noranda officials cite the creation of jobs and monetary wealth

as justifications for their latest project, many of the local communities who are threatened by it argue that the plant will not only have severe, irreversible environmental and social impacts in the region; it could also destroy local tradition, culture, and existing economies.¹⁴

AYSÉN – A TREASURE WORTH PRESERVING

“Patagonia is one of the planet’s largest reserves of biodiversity. If it is destroyed by incompatible projects or denied a clean environment, sooner or later the way of life and the economic growth of its inhabitants will be affected.”

Senator Antonio Horvath Kiss, Environmental Commission’s initiative, Diario de Aysén June 2, 2003

Aysén in Central Patagonia is an area of outstanding natural beauty, its landscape host a wealth of ancient forest, wetlands and ice-cap, most of which has remained intact from human intervention.

Known as Region XI of Chile’s thirteen regions, Aysén covers an area of around 11 million hectares (109,000 km²). Of this almost half – around five million hectares – is native forest, making Aysén the region with the largest expanse of native forest in Chile. According to a study by the World Resources Institute, about 36 percent of these forests are ancient, classified as mature forests or dense timberline forests that are intact or only slightly altered.¹⁵ Two million hectares of Aysén’s forest are safeguarded by Chile’s Protected Areas National System.¹⁶

In addition to forest, this area of Patagonia is characterized by glacially carved landscapes, rainy temperate climate, clean air, unpolluted lakes, rivers, fjords and glaciers. Aysén sustains more than one million hectares of wetlands, and almost two million hectares of glaciers. It contains 30 percent of all lakes – mostly formed through glacial activities – and 29 percent of all rivers in Chile. Two ice fields covering an area of about 18,000 km² still influence the region’s climate and topography. Aysén’s unique geographical features have created a network of diverse ecosystems rich in biodiversity, supporting many rare and endemic species.¹⁷

Aysén’s human population of 91,492¹⁸ is largely dependent on sustainable livelihoods, such as tourism, fisheries, and farming, all of which rely on an intact environment. According to the 1997 *National Income and Product Accounts*, tourism, fishing, and farming/forestry together make up approximately 30 percent of the income of the local people.¹⁹ The low population density enables the continuation of local traditions and cultures that have been practiced for thousands of years.

Due to its outstanding attributes, the inhabitants have declared Aysén a *Reserve of Life* and are supporting an alternative strategy for the region, promoting sustainable activities such as tourism, fishing, and organic farming.



Aysén’s fragile environment contains nearly one third of all lakes and rivers in Chile. The region sustains more than one million hectares of wetlands and almost two million hectares of glaciers. Local communities have self-declared Aysén a ‘Reserve of Life’ in an effort to preserve and expand their potential to live sustainably.

ALUMYSA: THE FACTS

The Alumysa Project, proposed for Chile's Aysén region, consists of an aluminum smelting facility, which requires six purpose-built hydroelectric dams in three largely undisturbed watersheds. This involves:

- An aluminum smelter with a production capacity of approximately 440,000 tonnes per year. The production requires the importation of approximately 846,000 tonnes of alumina, 146,000 tonnes of calcinated coke, and 43,500 tonnes of tar. Other primary materials will be aluminum fluoride, diesel, and liquefied gas;²⁰
- Three hydroelectric projects on the Cuervo, Condor, and Blanco rivers, totalling six dams producing 758 megawatts (MW) of electricity, with dam heights ranging from 15m to 116m;²¹
- The flooding of 9,598 hectares of native forests and farmland by the dams;²²
- 79.2 km of transmission lines of 220 kilovolts (kV) with 40m-tall towers;
- 95 km of access roads to the hydro plants and the smelter;
- A port on the coast south east from the Port of Chacabuco with a loading dock of 185m length and 40m width;
- docking of ships up to 45,000 tonnes dead weight on the exterior quay and ships of up to 20,000 tonnes of dead weight on the interior quay.²³



Noranda's proposed Alumysa smelter would require building hydroelectric dams in three largely undisturbed watersheds which would flood around 10,000 hectares of largely intact temperate rainforest, fragile riparian areas and farmlands.

WHAT DOES ALUMYSA MEAN FOR AYSÉN?

The Alumysa Project will involve the flooding of 9,598 hectares in an ecologically important landscape, inhabited by a range of species including five endangered, twelve vulnerable, and three rare species. In the Blanco River and Caro Lake, for example, it will reduce the habitat of the Huemul (*Hippocamelus bisulcus*, the South Andean Deer), and the Colo Colo Pampas cat (*Lynchailurus colocolo*), which are both endangered.²⁴

The Alumysa smelter will also produce approximately 1.5 million tonnes of gaseous and solid waste per year. Solid waste products would contain fluorides, cyanide, and other toxic elements such as arsenic, depending on the origin of the raw materials. It will also generate emissions of polycyclic aromatic hydrocarbons (PAHs), fluorides, carbon coke powder, pitch, sulphur anhydrides (precursor to acid rain), carbon dioxides, and nitric acids, 24 hours a day for 365 days a year. Particulate fluorides and particulate organic matter are highly carcinogenic. These emissions will destroy vegetation and wildlife habitat, inhibit vegetation growth and result in the accumulation of toxic chemicals in the food chain, and acid rain. It will also contribute to the greenhouse effect and climate change.²⁵

The impacts of dams are not limited to environmental problems. Often local

communities are victims and are involuntarily relocated to make space for the dams. In the great majority of cases, the economic well-being and health of those affected decline after relocation. Existing communities have been uprooted, often dispersed, causing people to lose their social support networks, as well as their livelihoods and ways of life.

Large dams have displaced between 40 to 80 million people globally, according to an estimate by the World Commission on Dams, in probably the most detailed review of their environmental impacts ever undertaken (all of the dams of the Alumysa project would be considered large dams). The report concludes that “*millions of people living downstream from dams – particularly those reliant on natural floodplain function and fisheries – have also suffered serious harm to their livelihoods and the future productivity of their resources has been put at risk.*” The report warns that “*the poor, other vulnerable groups and future generations are likely to bear a disproportionate share of the social and environmental costs of large dam projects without gaining a commensurate share of the economic benefits.*”²⁶

Given Noranda’s track record and the problems that occurred when people were resettled for its Antamina mine in Peru (see Case 8: Peruvian Mega-Project), it is hard to imagine how the Alumysa project, for which 40 families²⁷ will have to relocate,



Over 40 families living in the impact zone of the large dams would have to relocate if the Chilean government decides to approve Alumysa.

will be different. The construction of Alumysa will also result in considerable damage to small-scale economic activities such as fishing and eco-tourism through possible contamination of coastal waters. In particular, the increase in large cargo traffic loaded with raw materials for Alumysa, and the discharge of ballast water will have negative impacts on water quality. There is also a high risk of accidents and shipwrecks to these cargo vessels due to the very complex navigational zone in the Patagonia region,

noted for its extreme weather conditions. It is unlikely that the Aysén region’s infrastructure will be able to cope with the increased population during peak construction time, when up to 8,100 jobs will be created. Of these jobs, only 10 percent will be offered to local people. Of the US\$ 290 million per year in direct benefits that it is claimed the project will generate, only US\$13.5 million will remain in the area and only US\$52 million will go to the government’s Treasury through a 15 percent tax rate.²⁸

DAMMING EVIDENCE

Dams have a long history of negative environmental impacts. They have been responsible for the flooding of roughly 400,000 km² of land world-wide. The land that is lost upstream of the dam is usually of particular importance, as it includes river habitats, and terrestrial habitats on floodplains and riverbanks. These are often among the most diverse ecosystems in the world. They are replaced by a relatively uniform reservoir, which will usually provide habitat for a much smaller range of species.²⁹

A report on behalf of IUCN for the World Commission on Dams, looking at the impact of dams on biodiversity, found that of the molluscs in the reservoirs behind the dams, *“an average of 70 percent of species were lost. Extinction or extirpation rates of up to 50 percent or even 90 percent are reached in rich faunas.”* The overall fish diversity in reservoirs has generally been found to decline. Biodiversity was also affected below the dams: negative impacts on downstream fish populations were found in 73 percent of the dams studied.

The same report notes that *“many of the populations of 160 species of water-birds [were] down to a fraction of their historical numbers”* downstream of the dams, while the *“diversity of waterfowl tends to be higher on natural water bodies than reservoirs”* (even though it is possible for reservoirs to increase populations).³⁰

Perhaps the most significant environmental consequence of dams, however, is that

they tend to fragment river ecosystems, isolating species populations living up and downstream of the dam, and cutting off migrations and other movements.³¹ Dams also have a detrimental effect on the water quality by affecting the river temperature, the nutrient load, and the concentration of heavy metals and minerals. According to Canadian scientists, in every case studied, the concentration of mercury in fish increased after the construction of the reservoir.³²

Noranda's major shareholder, the Brascan Corporation, knows all about dams. In North America, Brascan owns and operates 38 hydroelectric power plants, generating nearly 1,700MW of electricity.³³ When the province of Ontario started deregulating power production in May 2002, Great Lake Power, a subsidiary of Brascan (which was the biggest corporate donor to the future Premier in an election that preceded the deregulation) was first in the line to buy four hydroelectric stations on the Mississagi River.³⁴

During the hot summer, electricity prices rose steadily as demand increased. Great Lake Power was the only company at the time that was able to hold back electricity production, by controlling the level of the reservoir. Tom Adams, a power industry analyst with the watchdog group Energy Probe, stated that those *“plants put Brascan in a very special situation, they are the only non-OPG (Ontario Power Generation)”*³⁵ *producer positioned to set power prices at times of peak demand in Ontario. They can hold power back, let the price climb, then let 'er rip.”*³⁶



When the price had climbed significantly, Brascan virtually drained the lake within a very short time. Great Lake Power was *“quick to show profit is its motivator, never mind the vacationers, the tourist operators or the environment of the lake.”*³⁷

Dams have been responsible for the flooding of roughly 400,000 km² of land world-wide.

A CHAIN OF EVENTS – THE DEVELOPMENT OF THE ALUMYSA PROJECT IN AYSÉN

July 12, 1987: Proyectos de Aysén S.A. (a closed, joint stock company) is founded in Santiago. Working under the abbreviation Proaysén S.A.³⁸

March 21, 1988 –December 26, 1989:

Proaysén is granted non-water consumption rights to Lake Condor in Aysén and the Cuervo river. DGA Water Head Office Resolutions N° 99, 465 and 498.³⁹

June 18, 1990: After a similar contract falls through earlier in the same year, a contract for the sale of 16,125 hectares of land in Lago Yulton, XI Region, is drawn up between the government and Proaysén for the construction of a hydroelectric plant. Ministerial Decree N° 119.⁴⁰

May 2, 1991: In order to obtain external financing, Proaysén offers to pay the outstanding balance and a 10 percent surcharge on the purchase price to eliminate the mortgage. They also request the abolition of the specific measures for flora and fauna protection in return for a general commitment on their part to respect forest management and preserve natural resources.⁴¹

September 4, 1992: Proaysén is granted water consumption rights to the river Cuervo with an eventual continuous use of 29 m³/s. (surface and flowing waters). DGA Resolution N° 381.⁴²

September 4, 1992: Proaysén is granted water consumption rights to the river Cuervo with a permanent continuous use of 60 m³ /s (surface and flowing waters). DGA Resolution N° 379.⁴³

October 9, 1992: Supreme decree N° 411 is granted when Proaysén is in non-compliance with the terms agreed in 1990. According to Alumysa the environmental restrictions have prevented the company from obtaining international financing for a more powerful hydroelectric plant and aluminum smelter. Instead of using its right to terminate the contract, the Treasury issues a Supreme Decree invalidating, modifying and replacing several of the original environmental clauses. It draws up a new contract with much less rigorous environmental restrictions.⁴⁴

January 8, 1993: Proaysén is granted water consumption rights to the River Cuervo with a permanent continuous use of 50 m³/s (surface and flowing waters). DGA Resolution N° 5.⁴⁵

January 25, 1994: Proaysén purchases 4,540 hectares of land from the state in the flood zone of the dam serving the Meullín power station in the area of Los Coigues, Las Tepas and Los Riscos. Supreme Decree N° 82.⁴⁶

January 20, 1995: Proyecto Alumysa Ltda. is founded in Santiago. Working under the abbreviation Alumysa Limitada, its shareholders are: Noranda Holding Limited and Alumysa Joint Venture Limited. Its business is the development of the Alumysa Project in XI Region and includes carrying out studies and implementing projects related to the construction of a hydroelectric power plant, an aluminum smelter, harbour facilities and the necessary related infrastructure. Capital: US\$5,000,000, with the Alumysa Joint Venture contributing US\$4,999,500 and Noranda Holding Limited adding US\$500.⁴⁷

January 27, 1995: Alumysa Limitada purchases the 16,125 hectares from Proaysén that had been acquired in 1990. The price paid is CLP153,278,000 (about US\$237,000). An additional 1,234 hectares are purchased from private individuals. Over half the land Alumysa has bought is exempt from land tax. Alumysa Limitada also purchases the water rights from Proaysén and acquires the Alumysa trademark.⁴⁸

November 8, 1995: In statement N 4303, Minister Adriana Delpiano states that a report by the Catholic University defining the terms of reference of the Environmental Impact Study's terms of reference has been financed by the Regional Council through the National Regional Development Fund (FNDR). The terms of reference are accepted by Alumysa.⁴⁹

May 26, 1999: Alumysa Limitada is granted specific non-consuming water rights to the river Blanco. DGA Resolution N° 418.⁵⁰

January 7, 2000: Alumysa Limitada is granted consuming water rights to the Candelaria river for the permanent continuous use of 50 liters/second. DGA Resolution N° 27.⁵¹

August 29, 2001: Sociedad Chilena Alumysa Ltda. presents Alumysa's Environmental Impact Study to COREMA (the Regional Environmental Commission) of XI Region.⁵²

September 1, 2001: COREMA receives the Environmental Impact Study for evaluation.⁵³

September 7, 2001: COREMA publishes the approved Extract of Alumysa's Environmental Impact Evaluation in the *Aysén News*. It announces public submissions can be made within 60 working days from the date of publication. A number of individuals and organisations subsequently lodge objections to the project.⁵⁴

November 10, 2001: the Union of Aysén's Artisan Fishermen and Shellfish Divers lodges an appeal against COREMA's endorsement of the Extract which, in the Union's opinion, threatens their constitutional rights.⁵⁵

November 21, 2001: The Appeals Court rejects the above appeal as "*untimely*".⁵⁶

December 24, 2001: Representatives of Alumysa send a letter to COREMA requesting the suspension of the Environmental Impact Study (EIS) procedure in order to reply to the submissions and objections.⁵⁷

December 24, 2001: COREMA agrees to suspend the Environmental Impact Evaluation procedure and gives Alumysa eight months to reply to the objections to its EIS.⁵⁸

August 31, 2002: Final date for the completion of the evaluation of Alumysa's EIS. Noranda requests more time to answer the observations.⁵⁹

October 30, 2002: Noranda presents its first *Addendum*.⁶⁰

November – December 2002: The environmental and health services submit further observations to the *Addendum*.⁶¹

January 6, 2003: COREMA requests a second *Addendum* in order for Alumysa to clarify, rectify and complete the information presented which is judged to have insufficiencies. The date for the submission of the second *Addendum* is set for November 2003 after Noranda's had request more time.⁶²

August 1, 2003: Chilean President Ricardo Lagos Escobar voices his concerns about Alumysa, stating: "*There is room for everyone here but we must be sensible.... In my opinion Chacabuco Bay is not the most suitable place for Alumysa. However, alternative ports exist where the project, which will reduce the region's high energy costs, can be more conveniently located.*"⁶³

August 14, 2003: Noranda decides to "*temporarily suspend*" its work on the Alumysa project. Unidentified "obstacles" are given as a reason for this decision, but the company asserts that it will continue to work to overcome these obstacles.⁶⁴

August 19, 2003: Robert Biehl, Alumysa's Managing Director and the representative of Noranda in Chile, writes to the local environmental authorities, announcing the project's suspension. He explains that the decision is a result of the government's announcement that a new location

should be found for the smelter, and those new criteria for the division of the region's coastal zone should be established.⁶⁵

September 10, 2003: News reports suggest that the government will create a technical committee to analyse the situation. The committee will be headed by the Secretary General, Francisco Huenchumilla and the Minister of Economy and Energy, Jorge Rodriguez. The analysis is to be the government's last word on the Alumysa project.⁶⁶

October 14, 2003: Noranda's Vice President for Communications, Denis Couture says in a Reuters Article: "*The President...said it should be built elsewhere and we have to take note of that. We didn't say we would not build it. We said we are suspending the work and asking the environmental agencies not to continue evaluation until we have determined that this is all appropriate.*"⁶⁷

SECTION THREE - NORANDA'S LIFE OF CRIME

Rhetoric

“Environmentally our performance was again well within the high standards we set for ourselves”

Noranda, Sustainable Development Report, 1998

Reality

“Together, Inco and Noranda account for 55 percent of the arsenic and 27 percent of the lead released into the atmosphere of North America.”

Pollution Probe. February 2003. Sulphur Dioxide and Toxic Metal Emissions from Smelters in Ontario, referring to 1998 emissions.

Throughout its history Noranda has had to pay a significant amount of fines for non-compliance with environmental or safety and health regulations. In many cases however the authorities did not prosecute the violations.

In a 1998 report by the Canadian Environmental Defence Fund (CEDF), Noranda was placed second on a list of Canadian mining companies ranked according to the amount of toxic substances released into the air and water.⁶⁸ According to a report by *Pollution Probe*, Noranda was the company with the highest emissions of arsenic and lead in all of North America.⁶⁹

In 1998 Noranda and Inco, another Canadian mining and metals company, together accounted for 55% percent of the arsenic and 27 percent of the lead released into the atmosphere in North America⁷⁰ and Noranda's Magnola Metallurgy facilities were reported to be the biggest source of dioxins in Canada.⁷¹

The Magnola plant also provides a lesson to local people in how quickly Noranda's concern for their employment diminishes when fluctuating markets take a downturn. Starting production in 2000, the plant was indefinitely idled just three years later due to unfavourable market conditions.

As the case studies in this section show, Noranda's 80-year corporate history has been filled with conflict. At times, however, it has managed to persuade governments to pay for environmental upgrades of its own polluting facilities.

Noranda's Horne smelter was responsible for a large portion of the total 1,098,000 tonnes of SO₂ emitted in the Rouyn-Noranda district during 1980. In 1982, a survey conducted by the government's *Environment Quebec*, revealed that the smelter had an impact on surrounding lakes up to a distance of 125 km.⁷² In 1982, the magazine *Quebec Science* described the area as “an open wound in the northwest ecosystem: dead lakes, defoliated forests where even the humus has disappeared.” The same year, the Quebec Ministry of the Environment ordered Noranda Mines to cut its emissions by 40 percent.⁷³

In 1984 a Noranda pamphlet entitled ‘*Acid Rain – Noranda's View*’ declared that “the Horne smelter cannot impose increased charges and remain competitive nor can it sustain additional operating costs and survive.” If Quebec's regulations were enforced, the company warned, the smelter would have to close and at least 3,600 people would lose their jobs. In 1987, the Canadian Federal and Quebec

governments agreed to contribute two-thirds of the cost for an acid plant to reduce sulphur dioxide at the Horne smelter.⁷⁴ Nonetheless, job cuts became a reality in October 2003 when Noranda announced it would reduce staff levels by nearly one third in order to “restore the smelter's profitability”.⁷⁵

A similar case occurred in Cutler in the Province of Ontario, Canada, at a 40-acre lakeshore area leased by Noranda Mines in the late 1950s. The site of a sulphuric acid plant that was closed in 1963, the area was oozing a red and yellow acid ‘soup’ into lake Huron's North Channel. A vile odour permeated the area and winds blew acid dust across the highway. The clean-up operation, which began in 1989, involved the removal of 9,000 truckloads of contaminated soil from the Serpent River Reservation. For this huge undertaking, the Canadian government paid US\$ 5,700,000, while Noranda offered to contribute a paltry US\$50,000. A subsequent health study of the Reservation found that young people there are twice as likely to have chronic diseases as their peers on other reservations.⁷⁶

CASE 1 THE BIGGEST SOURCE OF DIOXIN IN CANADA

Rhetoric:

“Noranda officials have acknowledged that Magnola releases ‘extremely small’ amounts of dioxins and furans, but say they have no significant impact on the environment or on health and safety of people.”

The Gazette (Montreal) March 19, 2002

Reality:

“The actual total dioxins and furans levels measured at Magnola in August and September put the plant at producing 2-4% of the national average, and make it the largest point source of dioxins and furans in Quebec.”

*Press release: Le Comite de Citoyens
Magnola: October 16, 2002*

MAGNOLA METALLURGY (80% NORANDA)

Location: Quebec, Canada

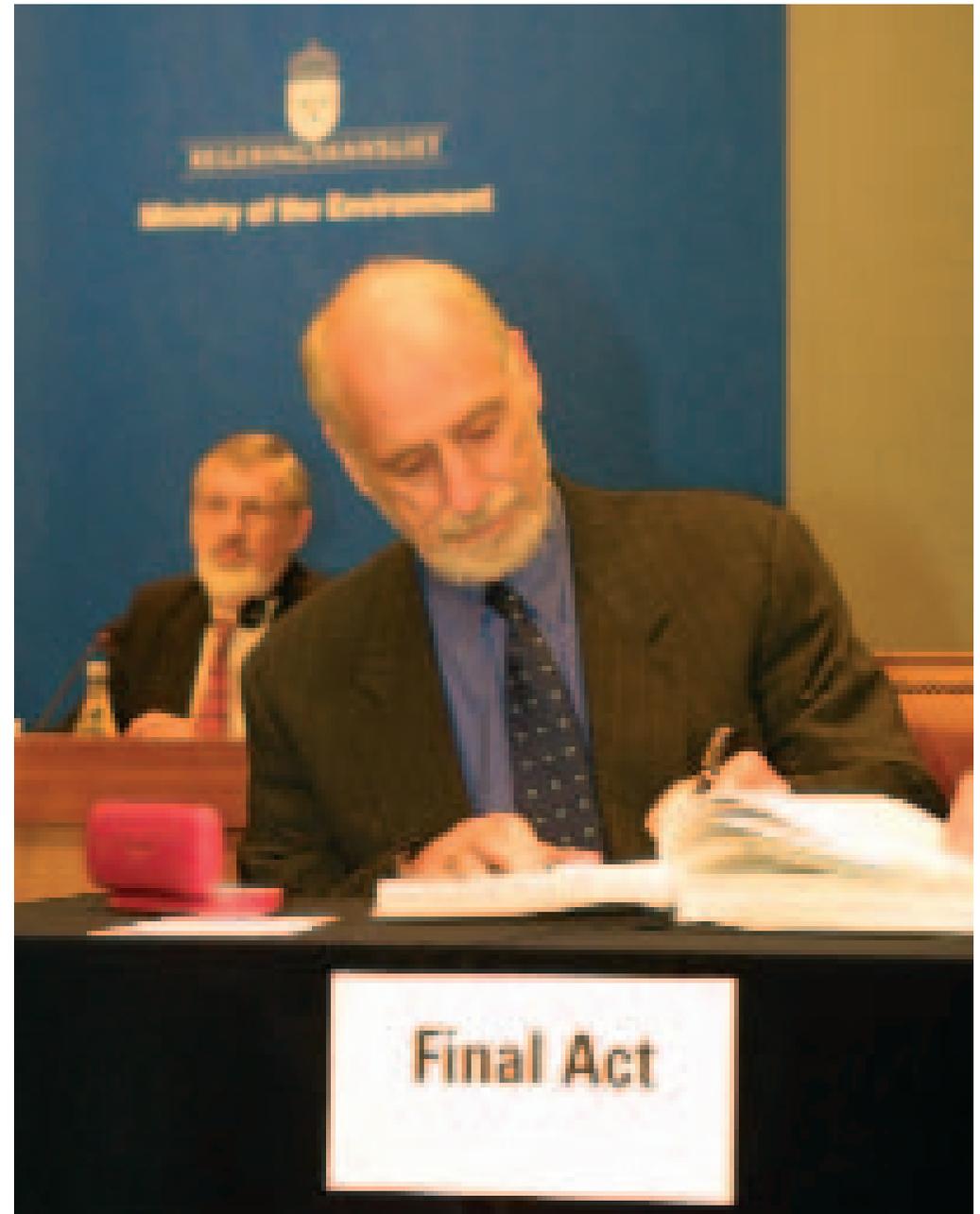
Products: magnesium

Production: indefinitely idled

Noranda’s production in the Magnola plant, located in Quebec, began in the year 2000. Magnola was designed to be the largest magnesium production plant in the world and the only one to use mining residues (from asbestos mining) to produce magnesium.⁷⁷ The by-products of this operation contain a whole cocktail of highly toxic chemicals including a range of Persistent Organic Pollutants (POPs) such as polychlorinated biphenols (PCBs), hexachlorobenzene, and dioxins and furans.⁷⁸

POPs are considered to be amongst the most dangerous substances on the planet for human health and the environment. Today some ocean mammals are so contaminated by PCBs that under guidelines of the World Health Organisation (WHO) they would have to be classified as highly toxic waste.⁷⁹

Despite having knowledge of the toxic substances that would be released, the Magnola plant was approved by the Quebec government, while the Federal government was simultaneously engaging in multilateral talks on their global elimination. On May 23 2001, Canada signed and ratified the Stockholm Convention on Persistent Organic Pollutants (POPs),⁸⁰ which aims to eliminate them and ban the worst identified



Canada’s Environment Minister, David Anderson signs the Stockholm Convention on the elimination of POPs, but will Noranda be able to comply?

'Dirty Dozen' list that includes PCBs, hexachlorobenzene, dioxins and furans.

On October 10, 2002, Noranda issued a press release presenting the results of its first monitoring tests of the Magnola plant. It admitted that the levels of dioxins and furans, which were measured at the roof vents, were higher than previously estimated in its own environmental impact study.⁸¹ The actual numbers for August and September showed that the total emissions of dioxins and furans into the environment were 57.7 and 32.2 times higher than predicted.⁸²

Additionally, the forms of dioxins and furans measured at the vents were not the forms they had actually predicted and were in fact more toxic forms.⁸³ The dioxin and furan levels measured at Magnola meant that the plant was the single largest point source of dioxins and furans not only in Quebec, as predicted, but in all of Canada.⁸⁴

When the local communities realised that the emissions from the plant could cause severe environmental problems, they started to organise protests. On May 26, 2002, The Collectif de Lutte aux Organochlores organized a demonstration that blocked the entrance road to Magnola. One of its members, Mr Roch Lanthier, was charged with obstructing the work of police officers. During the five-day trial Roch used a strategy of "defence of necessity" claiming he had no other choice than to take part in the blockade. Judge Danielle Cote listened to the testimony of



What goes up must come down. Smelters produce a cocktail of highly toxic chemicals such as Persistent Organics Pollutants (POPs), which are considered to be the most dangerous substances on the planet for human health and the environment.

a number of scientific experts who argued that the Magnola plant would produce unacceptable environmental and human health risks and should not have been permitted in the first place. In the end she judged that all charges against Roch Lanthier should be "unconditionally

dropped."⁸⁵ Another demonstration took place in November 2002, which was supported by the striking workers from Noranda's Horne smelter.⁸⁶

In April 2003, production at Magnola was idled for an indefinite period of time due

to market conditions.⁸⁷ While it is likely that environmental compliance reasons also played a part in this decision, it suggests that the fluctuating minerals market could result in other Noranda projects being closed at short notice. Alumysa will be no exception.

CASE 2 A DECADE OF RAINFOREST DESTRUCTION

Rhetoric:

"We have been environmental leaders for the past 30 years."

Alex Balogh, Deputy Chairman of the Board, Noranda, March 1995.⁸⁸

Reality:

"The landscape throughout British Columbia is scarred by soil erosion, avalanche tracks, landslides and burned-out areas, all directly related either to the removal of all forest cover on steel slopes in mountainous areas or to the building of wide logging roads."

Professor Audrey Diem, University of Waterloo, Ontario. 1992.⁸⁹

MacMillan Bloedel (49.3% Noranda – sold in 1993)⁹⁰

Location: British Columbia, Canada

Products: Timber, pulp and paper – mainly for exports

Production: sold

For more than a decade, war in the woods raged against logging companies clearcutting Canada's temperate rainforest on the westcoast of British Columbia (BC), as they shifted from watershed to watershed denuding vast tracts of this irreplaceable ancient forest. These rainforests have the highest biomass of any forest on Earth and are among the most diverse ecosystems in Canada.

From 1981 to 1993, Noranda controlled BC's largest forestry company MacMillan Bloedel (MacBlo),⁹¹ which held logging rights to over one million hectares of public and private lands. It was during Noranda's ownership that local environmental groups and First Nation communities started to condemn MacBlo's highly destructive clearcut logging practices in Clayoquot Sound, the largest remaining area of intact rainforest left on Vancouver Island.

For example, in 1984, the Tla-o-qui-aht First Nations declared Meares Island a 'Tribal Park' and, together with the local environmental group, Friends of Clayoquot Sound, mounted the first logging blockade in Clayoquot Sound to stop MacBlo logging on Meares Island. The BC government had issued cutting permits to MacBlo despite a three-year-long *Meares Island Integrated Planning Team* process



For more than a decade, war in the woods raged against logging companies like MacBlo, as they shifted from watershed to watershed denuding vast tracts of this precious rainforest.

that recommended substantial preservation of Meares Island. In 1985, the Nuu-chah-nulth Tribal Council, of which the Tla-o-qui-aht are members, was granted an injunction to halt MacBlo's logging of the Island.⁹²

On 9 February 1993 Noranda sold its 49.3 percent stake in MacBlo for Can\$931 million,⁹³ of which 2.1 million shares were sold to the British Columbia government making them the largest shareholder in the wake of Noranda's departure.⁹⁴ Just two weeks after the stock purchase, the government made its controversial *Clayoquot Sound Land Use Decision* behind closed doors. Two-thirds of the remaining pristine valleys in Clayoquot would be given the go ahead to logging, of which

MacBlo held more than half the area. The controversial decision was not made public until two months later in April. The summer that followed became known as *Clayoquot Summer* and nearly 900 people were arrested in protests against the decision.

As a result of international protests that followed, MacBlo became more progressive in the late 1990s, reaching agreements with the local First Nation communities and environmental groups to stop logging in pristine rainforest valleys, and to set up a small joint logging company with local First Nations. The logging operation is now eco-certified to the internationally respected Forest Stewardship Council standard. In January

2000 Clayoquot Sound was declared as a UNESCO Biosphere Reserve.

Listed here are only some of the violations the company was convicted of while it was controlled by Noranda.⁹⁵

Jan 29, 1982: Convicted for polluting fisheries waters; Fisheries Act, Section 33 (2)

Sept 25, 1982: Convicted for polluting fisheries waters; Fisheries Act, Section 33 (2)

Jan 14, 1987: Convicted for polluting fisheries waters; Fisheries Act Section 33 (2)

Aug 7, 1987: Convicted for polluting fisheries waters; Fisheries Act Section 33(2)

Oct 20, 1987: Convicted for water pollution; Environmental Protection Act, Section 13 (l) (d)

Oct 20, 1987: Convicted for failing to notify authorities of pollution event; Ontario Water Resources Act, Sections 16 (3)

Oct 24, 1988: Convicted for destroying fish habitat through negligent logging practice; Fisheries Act Section 3 (1)

May 31, 1989: Convicted for polluting Canadian fisheries waters; Fisheries Act, Section 33 (2)

Sept 15, 1989: Convicted for violating the terms of its pollution permit; BC Pesticide Act

Jan 26, 1990: Convicted for dumping logging debris into the ocean; Canadian Environmental Protection Act,

March 4, 1991: Convicted for violating terms of pollution permit; BC Waste Management Act, Section 24



In the 1980s, MacBlo (controlled by Noranda) clearcut large swaths of Clayoquot Sound on Canada's west coast. They attempted to log Meares Island, as part of their ongoing operations, but in 1985 the Nuu-chah-nulth Tribal Council was granted an injunction to halt the logging.

June 18, 1991: Convicted for polluting Canadian Coastal waters; Waste Management Act, Section 44

Oct 7, 1991: Convicted for polluting fisheries waters; Fisheries Act Section 33 (2)

Dec 9, 1991: Convicted for polluting fisheries waters; BC Waste Management Act, Section 33 (2)

June 23, 1992: Convicted in Ontario for water pollution; Ontario Water Resources Act, Section 16 (1)

Sept 18, 1992: Convicted for failing to report a chemical spill; BC Waste Management Act Section 5 (2)

Oct 14, 1992: Convicted for allowing hazardous waste to leave the property; Waste Management Act, Section 5 (2)

CASE 3 REPEAT OFFENDER

Rhetoric:

"We believe that our responsibility is to continually minimize the impact on the Earth's resources while improving our performance at all levels that affect our business and our communities interest."

Noranda Inc and Falconbridge Limited, Integrated Sustainable Development Report 2002

Reality:

"The four worst industrial violators for 2001, the 'Filthy Four', were Chinook Group Ltd with 354 violations, Stepan Canada Inc. with 341, Haley Industries with 82 and Falconbridge Ltd with 66 violations."

Sierra Legal Defence Fund 'Industry & municipalities continue to pollute Ontario's waters with impunity' Press Release from May 26, 2003

KIDD CREEK FACILITIES LIMITED (100% FALCONBRIDGE)

Location: Timmins, Ontario, Canada

Products: copper, zinc, indium, cadmium, silver and sulphuric acid

Production: 2.2 million tonnes of ore in 2002

Falconbridge's Kidd Creek Facilities started operations in Ontario, Canada in 1966. They are a good example of Noranda's frequent practice of presenting information about its performance and violations in its *Sustainable Development Reports* that conflict with reality.

For example, the 1995 report refers to only one waste water violation at its Kidd Creek Metallurgical Facilities and goes on to say that: "*Kidd's mining effluents are in compliance with MISA, with the exception of suspended solids.*"⁹⁶ This seems a very selective way of reporting that in fact there were a total of 23 violations against wastewater regulations at the mining site.⁹⁷ The report claims that "*work is underway to ensure compliance by the end of 1996*".⁹⁸ In fact, there were 37 wastewater violations recorded in 1996.⁹⁹

Falconbridge's Kidd Creek facilities committed a total of at least 144 violations against wastewater regulations between 1993 and 2001 (1993 – 1; 1995 – 23; 1996 – 37; 1997 – 10; 1998 – 10; 1999 – 10;¹⁰⁰ 2000 – 16;¹⁰¹ 2001 – 37¹⁰²) See the table on page 18 for detailed list of the violations in the year 2001.

When one tries to find evidence of charges laid against Falconbridge, or even fines the company had to pay, the information becomes much scarcer:

- November 29, 2000: between December 3, 1998 and March 3, 2000, Falconbridge faced 16 charges of exceeding the legal limits for concentrations of zinc and copper in effluents.¹⁰³

- June 10, 2002: Falconbridge was fined CAN\$16,000 for exceeding levels of process effluents, after pleading guilty to four counts under the Environmental Protection Act. On May 26 and October 11, 1999, the company reported to the ministry that its process effluent discharges exceeded the daily concentration limit for zinc. On November 3, 1999, the company also reported that both suspended solids and copper concentrations were above allowable limits.¹⁰⁴

- April 9, 2003: Falconbridge Ltd has been charged with permitting run-off to enter Three Nations Creek from its Kidd Metallurgical Division in Timmins. The run-off allegedly took place on April 17, 2001 and was likely to cause an "*adverse effect*", a contravention of section 30(1) of the Ontario Water Resources Act.¹⁰⁵

Falconbridge Kidd Creek violations 2001:¹⁰⁶

Date	Discharge Parameter	Frequency	MISA/Regulation	Quantity Discharge	Ministry of Environment Action
01/30/01	PH	Any	9.5	9.71	Director's /Control Order
02/01/01	PH	Any	9.5	9.65	
03/18/01	PH	Any	9.5	9.67	
04/11/01	Zinc	Daily	1	2.7	Director's /Control Order
04/12/01	Suspended Solids (SS)	Daily	30	58	Director's /Control Order
04/12/01	Zinc	Daily	1	17.6	
04/13/01	Copper	Daily	0.6	0.955	Director's /Control Order Issued
04/13/01	SS	Daily	30	333	
04/13/01	Zinc	Daily	1	32	
04/14/01	SS	Daily	30	52	
04/14/01	Zinc	Daily	1	5.15	
04/15/01	SS	Daily	30	187	Director's /Control Order
04/15/01	Zinc	Daily	1	4.09	
04/16/01	Zinc	Daily	1	15.28	
04/17/01	Copper	Daily	0.6	0.659	
04/17/01	SS	Daily	30	75	
04/17/01	Zinc	Daily	1	8.28	
04/22/01	SS	Daily	30	37	
04/22/01	Zinc	Daily	1	3.92	
04/23/01	Zinc	Daily	1	1.123	
04/24/01	Zinc	Daily	1	1.911	
04/27/01	SS	Daily	30	52	
04/27/01	Zinc	Daily	1	3.77	
04/30/01	SS	Monthly	15	40	Director's /Control Order
04/30/01	Zinc	Monthly	0.5	3.278	Director's /Control Order
05/21/01	PH	Any	9.5	9.59	
06/19/01	SS	Daily	30	70	
06/19/01	Zinc	Daily	1	6	
07/24/01	Toxicity-daphnia	Any	0	1	Director's /Control Order
08/01/01	Toxicity-trout	Any	0	1	Voluntary abatement
09/26/01	Zinc	Daily	1	1.25	Under Investigation /Brief being prepared/Director's/Control Order requiring modifications to sewage works by Dec 31, 2001
10/17/01	SS	Daily	30	42	
10/17/01	Zinc	Daily	1	2.867	Director's /Control Order
10/27/01	SS	Daily	30	33	
10/27/01	Zinc	Daily	1	2.05	
11/16/01	SS	Daily	30	31	
11/16/01	Zinc	Daily	1	1.66	

CASE 4 TAKE THE COPPER AND RUN

Rhetoric:

“Dialogue with communities is vital to the pursuit of a more sustainable development. At Noranda, we aim to strengthen our relationship with communities by applying lessons learned and dealing with issues head on.”

Noranda – Sustainable Development Report 2001

Reality:

“When you walk into a town like Murdochville – I mean I had to stop at a gate before I go into my home. Whatever road I take into Murdochville there were gates. I mean [Noranda] decided the year your house was going to be painted – and the color. So the minute you walked in there you felt squeezed.”

*Resident of Murdochville.*¹⁰⁷

MURDOCHVILLE COPPER MINE (NORANDA – CLOSED SINCE 1999)

Location: Murdochville, 600 km east of Quebec City, Canada

Products: copper

Production: closed

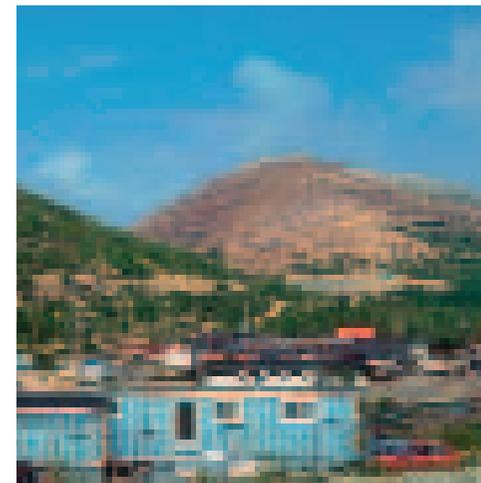
Before Noranda decided to develop a copper mine about 600 km east of Quebec City, there was no Murdochville. Construction of the mine started in 1952 and one year later the Murdoch mining camp became the town of Murdochville. The town was built and run by the Noranda mining company.

As copper production began, so did the attempts of the workers to organise themselves. Even though 95 percent of the miners voted to be represented by a union, Noranda resisted the establishment of a union.¹⁰⁸ In 1957 the miners entered a historic strike that was to last seven months. When the company hired ‘strike-breakers’ and the town experienced an increasing level of violence from both sides, the miners went back to work. It would take another eight years for a union to be established. However, the strike was successful in inspiring a new group of union leaders who later gained more rights for trade unions. Today the strike of Murdochville is described as one of the pivotal labor struggles in the province of Quebec, one that set the stage for activism on several fronts in the 1960s.¹⁰⁹

Nearly half a century later, things have changed. The copper has run out, the mine was shut down in 1999, and the majority of the people of Murdochville, left with nothing, have voted to abandon the town. Noranda, however, has long moved on to places and countries where labor is cheaper and where environmental regulations are more lenient, such as Peru and Chile. Recently the provincial Canadian government tried to revive the township by announcing plans for a CAN\$180 million windfarm project in Murdochville, which will generate up to 108MW of power.¹¹⁰

Murdochville is not the only labor dispute in Noranda’s history. In the last few years particularly, as Noranda has moved many of its operations overseas, its employees have become dissatisfied with the cuts in jobs and representation and with sometimes lacking safety and environmental standards.

February 2001: settlement was reached after a seven-and-a-half-month strike at the Falconbridge facility in Sudbury, Ontario. To manage the protest, Falconbridge had obtained the services of strike-breaking company AFI International. According to its website, AFI is “Canada’s largest supplier of labor dispute services” – services that include the recruitment of replacement workers.¹¹¹ The strike ended with an injunction that banned all but token picketing, and a threat by the company to undertake full-scale production with the use of hundreds of non-unionised workers imported from across Canada.¹¹²



The town of Murdochville was built and run by the Noranda. Nearly half a century later the copper ran out and the mine was shut down in 1999. The majority of the people left with nothing.

May 2002: After an 11-month strike, employees reached an agreement with the management of Noranda’s Horne smelter in Quebec’s Rouyn-Noranda and returned to work. Previously, the company had been ordered by the Quebec Labor Relations Commission to temporarily refrain from using one of its non-unionised replacement workers and one contractor in parts of their operations.¹¹³

CASE 5 FORCED TO PREVENT CATASTROPHE IN ABANDONED MINE

Rhetoric:

“Noranda believes that good ethics mean good business”

Noranda, Sustainable Development Report 2000

Reality:

“For over half a century, contamination from the Blackbird Mine has resulted in the elimination of the chinook salmon and degraded the environment.”

Assistant Attorney General, National Oceanic & Atmospheric Administration, US Government, Press Release May 1995.

BLACKBIRD COPPER AND COBALT MINE (NORANDA – CLOSED IN 1982)

Location: Idaho, USA

Products: Copper and Cobalt

Production: closed

Noranda ceased operations at the Blackbird Copper and Cobalt Mine in Idaho, USA, in 1982,¹¹⁴ but contrary to its stated environmental principles the company had to be forced by court order to stop chemicals leaching into nearby streams. The mine had been active since the early 1900s. Noranda got involved in 1979, when, together with Hanna Services Company, it created the Blackbird Mining Company, a limited partnership, whereby Noranda Mining became the general partner responsible for re-opening the mine.¹¹⁵ It also gained the responsibility for the environmental damage that had been caused by previous owners of the mine.

Numerous investigations regarding the sources, fate, and impacts of hazardous substances released from the Blackbird Mine site have been conducted since the late 1960s. They have found that waste rock piles were scattered for miles along the headwaters of several of the local creeks. Some waste piles were reported to be as large as two million cubic yards (about 1.5 million m³). In addition, the mining and processing of cobalt and copper had created a 12-acre unreclaimed surface pit, 10 miles of underground mine workings (tunnels), 4.8 million tonnes of waste rock, 2 million tonnes of mine tailings, and a number of

mine adits (entrances) and portals (structures surrounding the adit) located throughout the site.¹¹⁶

Acid was found to be leaching from these dumps and from mining tunnels and contributed to the poor water quality of the streams in the area. Water sampling in the early 1990s documented high levels of arsenic, copper, cobalt, and nickel in downstream surface water and sediments. Copper levels exceeded the EPA's Fresh Water Ambient Water Quality Criteria.¹¹⁷ In fact, 26 miles of the Panther Creek watershed had been contaminated. The population of the threatened spring and summer chinook salmon has virtually disappeared from one of the creeks that used to be a viable spawning and rearing habitat.¹¹⁸ But the mine was also found to be a potential health risk for people, especially for hikers and campers, who may have inadvertently drunk water from the creeks. Finally, in 1993, the EPA ordered Noranda to begin an emergency removal action to prevent a potentially catastrophic failure of the tailings (material removed from a milling circuit after separation of the valuable minerals) dam, which would have resulted in the release of tonnes of toxic heavy metals into surrounding creeks and rivers.¹¹⁹

In the end it took a 12-year-long lawsuit before a settlement between the US government, Noranda and two previous owners could be reached. The settlement, which would clean up the extensive contamination at the Blackbird Mine and attempt to restore the critical habitat for the spring and summer chinook salmon, was valued at more than US\$60 million.



For over half a century, contamination from the Blackbird Mine resulted in the elimination of the chinook salmon. 26 miles of the Panther Creek watershed had been contaminated.

Noranda and two other companies agreed to:¹²⁰

- Clean up the mine site;
- Make cash payments of over US\$7.5 million for past damage assessment costs and past response costs, and to fund future hatchery releases of salmon;
- Implement a plan to restore and maintain habitat in the affected streams and to reintroduce the salmon;
- Pay trustee oversight costs of up to US\$2 million.

CASE 6 PROJECT TO POLLUTE THE WORLD'S FIRST NATIONAL PARK

Rhetoric:

“From exploration to closure to recycling, we integrate sound environmental and social practices into our overall management and decision making processes, and we remain a committed global partner in sustainable development”

Noranda, Sustainable Development Report 2001

Reality:

“This is a company that persists in building a mine that few others want. As a nation, we have to draw a line and announce that some places are simply too valuable and too sacred to our history to be put at risk.”

Robert B Semple Jr., Pulitzer Prize Winner 1996 writing about Noranda's New World mine.¹²¹

CROWN BUTTE MINES (NORANDA – DISSOLVED IN 1999)

Location: Wyoming, USA

Products: gold

Production: project abandoned

In 1994 when Crown Butte Mines planned to open the New World gold mine in Wyoming, the company was immediately faced with widespread opposition to the project. Crown Butte Resources, was 60 percent owned by Canada's Hemlo Gold Mines Inc. Noranda owned 44 percent of Hemlo. On paper, this gave Noranda only a 26 percent interest in the Yellowstone mine, but Noranda's involvement and influence ran deeper. Crown Butte and Hemlo were former Noranda subsidiaries, spun off as separate corporate entities as the New World project took shape. With 60 years of mining expertise, Noranda played a key role in financing, exploring, developing and obtaining permits for the mine.¹²² It was believed that the mine stored up to 1.5 million ounces of gold, worth approximately US\$600 million, and in 1994 Noranda had already invested US\$35 million in exploration of the area.¹²³

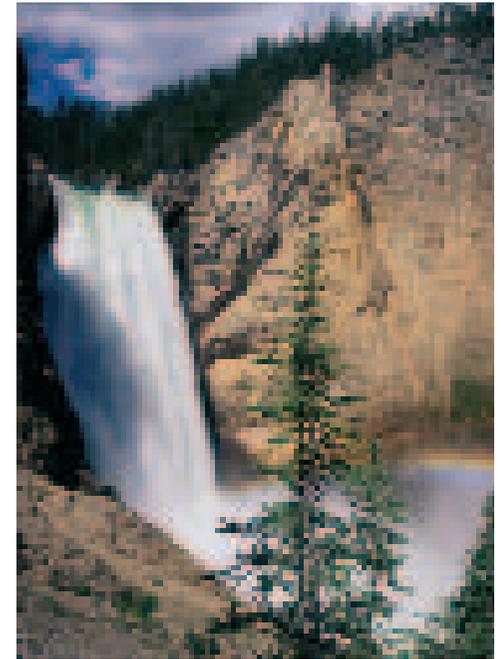
The company had been able to buy the land from the US Government for just US\$135 under a law dating back to 1872 which allowed the purchase of land for mining at a price of US\$5 per acre. This, coupled with the fact that the company was foreign and would not leave much of the generated profit in the communities, soon sparked local opposition.¹²⁴

The main reason for the resistance to the mine, however, was its location. Crown Butte planned to develop a mine only a few kilometers from Yellowstone, the world's first – and America's best known and most treasured – National Park. *Yellowstone* is considered critical habitat for the endangered grizzly bear and twelve other threatened or endangered species have been found in the area.¹²⁵ The mine was to be located in the headwaters – one of the most fragile parts of an ecosystem – of three streams, all feeding into or near Yellowstone. There was little doubt that the mine would have negative ecological impacts on the park.

Over the summer of 1995, the conflict between Crown Butte, its critics and the US Government intensified. Many private interest groups and environmental groups filed lawsuits against Crown Butte, hoping to stall the opening of the mine.¹²⁶

When President Clinton visited the area in the summer of 1995 he was so shocked by the proposed mine that he issued an executive order placing a two-year moratorium on the mining of 4,500 acres of federally owned land surrounding Yellowstone. Crown Butte's response, just days before the moratorium was issued, was to stake 38 new claims around the original mine, which were recorded in court before the moratorium was issued, and were therefore not subject to it.¹²⁷

Despite this aggressive attempt to operate a very controversial and environmentally dangerous mine, in the end Noranda had to back away from its intentions. Under



President Clinton was so shocked by the proposed Crown Butte mine that he issued an executive order placing a two-year moratorium on the mining surrounding Yellowstone National Park. Just days before the moratorium was issued, Crown Butte staked out 38 new claims around the original mine and avoided the moratorium.

immense public and political pressure they signed an agreement that turned the lands once scheduled for mining over to public ownership. In return, Noranda received US\$65 million in federal assets, of which approximately US\$22 million were to be invested in reclaiming and cleaning up the site.¹²⁸

CASE 7 FALLOUT FROM ALUMINUM SMELTER

Rhetoric

“A non-negotiable element of Noranda’s goal of improving returns for our shareholders is our focus on the safety and health of our employees, and our drive to improve our environmental performance. Without exception, we will not compromise on these issues in order to achieve financial goals.”

Noranda Website www.noranda.com¹²⁹

Reality:

“The cancer deaths are growing rapidly here, bronchitis, emphysema, allergies, sinus, itching, watering, smarting, red eyes & throats are becoming a daily plague. Our soil and water has an extremely high aluminium percentage. ...I am told that aluminum plant is owned by some outfit in Canada. ...”

O.S Bramlett (local resident), letter to US Representative Ed Jones. April 13, 1985.

NEW MADRID ALUMINUM SMELTER (100% NORANDA)

Location: Missouri, USA

Products: aluminum

Production: 220,000 tonnes

Noranda’s plans to build an aluminum smelter in New Madrid, Missouri, USA, were first announced in 1967 and production started four years later. In 1976, its capacity was doubled to 140,000 tonnes per year and after, another expansion in 1997, it reached its current capacity of 220,000 tonnes.¹³⁰

The New Madrid plant has a long history of failing to comply with legislation and upsetting the local community with its emissions.

On April 10 and April 13, 1985, two members of the local community, Charlotte Addock and OS Bramlett, sent letters to a number of politicians and local authorities complaining about the pollution that they observed coming from the Noranda smelter and the local electricity plant. Charlotte Addock, a pharmacist wrote on behalf of the Citizens of Lake County for Clean Air & Pure Water: *“The fallout from Noranda Aluminum and Power Plant settles over Lake County on our automobiles, on trees, on shrubs, houses, and without one doubt in our minds inhaled into our bodies – at times we even seem to taste it! Death of our loved ones, friends, and neighbours grows faster and faster! Lung cancer of non-smokers has reached an alarming rate. Age of the person seems not to be a*

*factor. We are duly worried about our children. We, Citizens of Lake County, ask that the necessary persons be contacted to put a stop to the emissions at the Noranda Aluminum Plant and Power Plant located at New Madrid, Missouri.”*¹³¹

Several authorities discussed the complaint and while one inspection by the Environmental Protection Agency (EPA) did not find any violations, on other occasions it was shown that Noranda’s air emissions were not always in compliance with environmental legislation.

On August 11, 1988, Noranda received a letter from the EPA stating that it had violated the Clean Air Act by *“failing to have proper monitoring equipment in place.”* The letter referred to an earlier date (January 27, 1987) when the EPA had asked Noranda to provide the Agency with a schedule for the installation of a second roof manifold for the testing of secondary fluoride emissions.¹³² As a result, a *Finding of Violation* was issued. A month later, the EPA received a letter from a lawyer acting on behalf of Noranda, informing them that Noranda did not intend to install the equipment.¹³³ Subsequently the EPA was forced to issue an order demanding that Noranda install the equipment.¹³⁴

In another incident the Department of Natural Resources conducted an inspection of the smelter on June 26 and 27, 1990. In a letter, the results of the inspection are deemed to be *“self-explanatory”*¹³⁵: there were 18 findings of equipment malfunctioning, not functioning

or operating in non-compliance. The findings included compressed air gauges not working, excess emissions and deteriorating seals. According to the inspector, six of the 18 findings could lead to excessive emission problems.¹³⁶ A notice of violation based on the inspection was issued on July 20, 1990.¹³⁷

June 26, 1992: Notice of violation (#3018) issued for excess emissions, but a number of other problems were found which *“could, if left unattended, result in future violations”*.¹³⁸

August 11, 1993: Notice of Violation (#1802) was issued. The reason for the notice was again excess emissions.¹³⁹

August 15, 1995: Notice of Violation (#0727) issued due to excess emissions.¹⁴⁰

March 25, 1997: Notice of violation (#6181) due to excess emissions.¹⁴¹

On October 7, 1997 the Department of Natural Resources found that Noranda emissions were bypassing a control device and that there were excess emissions. Two Notices of Violations (#2176SE and #2384SE) were issued and in subsequent negotiations Noranda agreed to pay US\$2,000 to the New Madrid County School Fund.¹⁴²

October 5, 1998: Notice of Violation (#SE 2180) for excess emissions.¹⁴³

October 29, 1999: Another notice of violation (#2335SE) was issued for excess emissions.¹⁴⁴

Three notices of violations from February 13, 2001 (#6269), April 9, 2001 (#6273) and September 5, 2001 (#6309) for excess fluoride emissions resulted in a settlement. Noranda paid US\$10,000 to the New Madrid School Fund.¹⁴⁵

July 24, 2001: A notice of violation (#2830 SE) was issued for failing to keep records in compliance with Operating Permits.¹⁴⁶

Notice of Violation #23KV1AP was issued to Noranda on March 21, 2003, when excess emissions for Potline 3 of the New Madrid smelter were recorded in four consecutive months from September to December 2002.¹⁴⁷

In a conference call between Noranda and the Department of Natural Resources a settlement of US\$40,000 was proposed, but when it was discovered that there were other excessive emission rates at Potline 1 (excess emissions in January, March and December) and Potline 2 (excess emissions in January, August, September, November and December 2002), a second *Notice of Violation* (#51KV1AP) was issued. During a meeting on June 19, 2003, a new Settlement Proposal was drawn up in form of a Supplemental Environmental Project (SEP) to the approximate amount of US\$ 80,000.¹⁴⁸ However, the SEP which Noranda proposed to undertake¹⁴⁹ did not satisfy the Attorney General. As of October 10, 2003 the Department of Natural Resources is waiting for Noranda to submit a new proposal for the Supplemental Environmental Project.¹⁵⁰



Smelters, such as the one proposed by Noranda in Aysen, generate harmful emissions that are a precursor to acid rain, which destroys the local vegetation and inhibits vegetation growth. The Alumysa smelter would produce around 1.5 million tonnes of gaseous and solid waste every year.

CASE 8 PERUVIAN MEGA-PROJECT:

Rhetoric:

“As Noranda looks further a field for new business opportunities it works with local communities to build trust and understanding. In this way, both the company and its host communities around the world mutually benefit from new developments. This element of social responsibility is a priority wherever Noranda is exploring.”

Noranda, Sustainable Development Report 2000.

Reality:

“The Antamina copper and zinc mine will level forever eight peaks in Peru’s highest mountain range. It is considered one of the largest mining operations in the world and has forced thousands of residents from their lands and livelihoods.”

NGO Working Group on the Export Development Corporation, 2001.¹⁵¹

ANTAMINA COPPER AND ZINC MINE (NORANDA 33.75 percent)

Location: 285 km north of Lima, Peru

Products: copper, zinc

Production: 111,600 tonnes of copper and 77,900 tonnes of zinc in concentrate

The Antamina copper and zinc mine is located at 4,300 meters above sea level about 300 km north of Peru’s capital city of Lima, right outside of Huascarán National Park. The extraction method utilizes open pit mining followed by conventional grinding and flotation. With a milling rate of 70,000 tonnes per day, Antamina is among the largest producers of copper and zinc concentrates in the world.¹⁵²

The mine is located under Laguna Antamina, which was drained to extract the ore. In addition to the mine, the project includes a network of pipes to transport the ore to a pier constructed near the coastal city of Huarmey.¹⁵³

Antamina is owned by three companies: Noranda (33.75 percent), BHP Billiton Group of Australia (33.75 percent), Teck Cominco Corporation of Canada (22.5 percent); and Mitsubishi of Japan (10 percent).¹⁵⁴

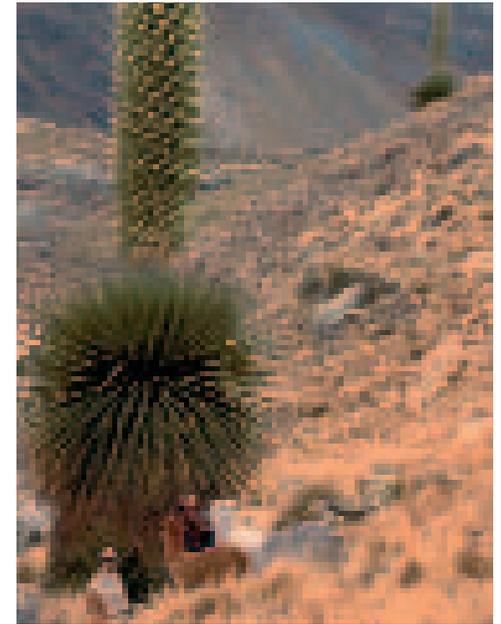
The problems with this project began long before copper production started, when a large number of people had to be resettled during the construction of the mine. The selection of the inhabitants to be resettled and the compensation awarded soon became particular areas of dispute. Traditionally, the livelihood of many of the

local residents was highly dependent on the land and the sea. Faced with involuntary removal and lacking adequate information about their rights, many residents complained that the resettlement plan was being implemented without taking into consideration their socio-economic and cultural reality.¹⁵⁵

Soon the company started to deal with people as individual landowners rather than as residents of a community. Instead of land schemes, which despite their social impacts can still offer a long-term future for those being removed, monetary offers became the standard form of compensation.¹⁵⁶ With little participation on the part of community members, who were left largely unaware of their rights and uninformed about the specifics of the text, the company unilaterally made a final and unrevocable offer, based predominantly on corporate interests.¹⁵⁷ Moreover, it did not take into account the complex land rights and resource use patterns of production and exchange customary in this high Andean community, resulting in some locals being left without land or compensation.¹⁵⁸

During construction, the community of Llata was isolated from the area’s farming communities because the mine had cut off its traditional access routes. This link traditionally facilitated transit between the Amazon region, the Andes and the coast.¹⁵⁹

Over time, the mistrust of the local population deepened and demonstrations and protests became a common sight. In May 2001, residents of twelve provinces in Peru’s Ancash department staged a



Just outside of Huascarán National Park, Antamina is one of the largest and highest mining operations in the world. It has forced thousands of residents from their lands.

regional strike to protest against the environmental damage caused by the Antamina copper-zinc mine. Police used tear gas and fired weapons into the air in an effort to clear demonstrators who were blocking roads. The strike was initiated by the provincial and district mayors, and by leaders of the National Coordinating Committee of Campesino Communities, to demand that the central government force the transnational company to repair the environmental damage done by its contractors in the area and to compensate those affected by the damage.¹⁶⁰ A month later, hundreds of local residents blocked Peru’s main north-south highway with boulders.¹⁶¹

CASE 9 NORANDA IN CHILE

Rhetoric:

“At the moment, [Chile’s military junta] seem to be restoring order to the Chilean economy in a way that is acceptable to a lot of people.”¹⁶²

Noranda’s Executive Vice President (former), Adam Zimmerman, 1991

Reality:

“There were no elections or legislature, and the press was strictly controlled. Between September 11, 1973, and March 1990, when Pinochet finally handed over power to the elected government of President Patricio Aylwin, 2,603 people were executed, died under torture, or ‘disappeared’.”

*Human Rights Watch, September 2003.*¹⁶³

Noranda made its first steps into Chile in 1964, when Chile Canadian Mines, 95 percent–owned by Noranda, was brought into production. Allende’s government seized the company in 1970, but it was partly returned two years after General Pinochet staged his coup in 1973. Forty-nine percent of the enterprise stayed in government control. A controversial joint venture between Noranda and the Pinochet government was formed for the development of the Andocollo copper deposit, Noranda owning a 49 percent stake.¹⁶⁴

Over time Noranda has increased its interests in Chile until the country has become the “heart of [Noranda’s] investment strategy”.¹⁶⁵ This has been facilitated by Chile’s eagerness for economic growth, which leads it (and other South American countries) to accept projects that would not be permitted elsewhere because of social and environmental concerns. The true costs of such projects, including clean-up costs and the loss of local sustainable economies, are seldom calculated.

ALTONORTE SMELTER (100 percent NORANDA-OWNED SINCE 1998)

Location: 25 km southeast of Antofagasta, Northern Chile

Products: Copper and sulphuric acid

Production: Concentrate treatment capacity of 820,000 tonnes; production capability of 290,000 tonnes of copper and 700,000 tonnes of sulphuric acid.¹⁶⁶

The Altonorte Smelter is located in the Black Area ‘La Negra’, an industrial sector 25 km



Situated in the middle of the Atacama desert in northern Chile, Antofagasta has become the mining capital of South America. Altonorte is located 25km outside Antofagasta.

outside of Antofagasta. Since February 2001, emissions of sulphur dioxides (SO₂) have, on several occasions, reached emergency levels due to technical problems in the production process. On March 5, 2001 when peak emissions reached 480 micrograms per cubic meter between 9 am and 1 pm, (the legal limit is 365 micrograms) local authorities notified Noranda of the violations.¹⁶⁷

When the corrective measures taken by the company proved ineffective, and the number of local residents suffering from respiratory problems increased, the installation of an additional pollution monitoring station in Antofagasta was required.¹⁶⁸ Even though the original problems were solved, the

situation did not improve as secondary pollution problems persisted. The Regional Management of the National Commission of the Environment (COREMA, II Region) sanctioned Noranda and fined them for non-fulfilment of the primary regulations of air quality.¹⁶⁹ Consequently, the company has undertaken to eliminate one of the furnaces, in an effort to reduce pollution to acceptable levels.¹⁷⁰

On another occasion, emissions from one of the Altonorte chimneys were so intense that, during an episode of thermal inversion, they not only caused respiratory problems among the population, but also caused poor visibility for traffic on the main highways.¹⁷¹

DOÑA INÉS MINING COMPANY OF COLLAHUASI SCM.

(Collahuasi Mine, 44 percent owned by Falconbridge)

Location: Region II, 120 km east of Antofagasta

Products: Open pit copper mine and solvent extraction (fourth largest copper mine in the world)

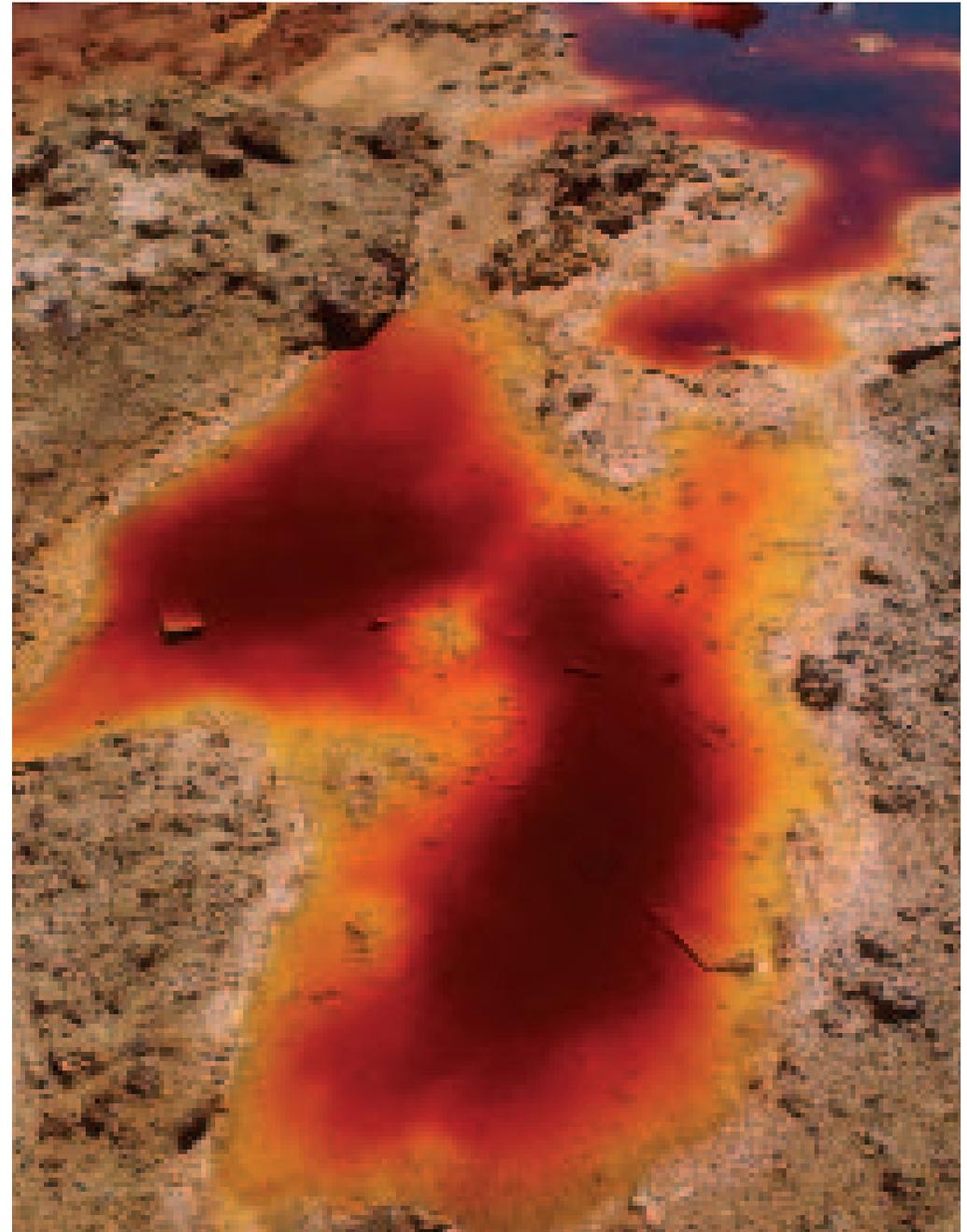
Production: In 2002, the Collahuasi mine produced 25 million tonnes of sulphide ore and 9.5 million tonnes of oxide ore. Falconbridge's share in the plants produced 158,300 tonnes of copper in concentrate and 26,700 tonnes of copper in cathode.¹⁷²

In January 1998, 8,000 miners from Inés de Collahuasi, the majority of them subcontractors, went on strike to protest their appalling working conditions. About 1,000 workers blocked the Pan-American Highway and a construction site at the company port. Several people were arrested or injured.¹⁷³

In 2001, there were further incidents related to the Collahuasi Mine. In January, a truck carrying sulphuric acid overturned near the village of La Tirana in the First Region; a similar accident had occurred previously on the Pan-American Highway near Pozo Almonte. As a result, Intercede, the company responsible for the accidents, was fined US\$12,700 by local environmental authorities.¹⁷⁴

Noranda's announcement in 2002 that an expansion of the Collahuasi facilities was underway (to be finished in 2004), met with strong objections from representatives of the agricultural sector. Farmers fear the expansion will have negative environmental effects on adjacent land.¹⁷⁵

However, the main concern from a variety of constituencies concerns the use of ground water supplies, which could negatively affect the flow of the springs. While the company claimed that it will mitigate the impact by artificially adding water to the springs, the matter was not discussed in the approval process of the Environmental Impact Study.¹⁷⁶



Noranda's plans to expand production at Doña Inés was met with strong objections by the agricultural sector who feared that the company's use of ground water could negatively affect the flow of water from the local springs.

SECTION FOUR: NORANDA'S HISTORY OF VIOLATIONS

"We are proud of our record with regulatory obligations"

Noranda, Sustainable Development Report 2001

Registered documents testify to at least 87 violations committed by Noranda in the course of its history, and it has accumulated fines approaching US\$1.2 million in Canada. In the USA, Noranda has been ordered to pay more than US \$1.9 million in fines for pollution and human health violations.¹⁷⁷

The violations include spills and discharges of toxics, insufficient record keeping, deficiencies in the storing of noxious residues, exceeding permitted levels, accidents caused by negligence, contamination of coastal fishing waters, failure in the installation of cleaning and anti-pollution equipment, and the failure to inform authorities of events or contamination accidents.¹⁷⁸

Below is an incomplete list of some of the more recent convictions. The list includes charges for Falconbridge and subsidiaries.

2002

- Altonorte copper smelter, Chile: convicted for exceeding daily SO₂ emissions, fined US\$20,500.¹⁷⁹
- Kidd Metallurgical facility, Ontario (Falconbridge): four charges under the Ontario Environmental Protection Act relating to three separate events involving effluent exceeding, fined CAN\$16,000.¹⁸⁰
- Kidd Creek Mine, Ontario (Falconbridge): charged under the Occupational Health and Safety Act in connection with a fatal accident to an employee, fined CAN\$225,000. On September 2, 2000, a worker was using a torch to cut a bolt from a coupling on an air pipe when the line blew apart. Falconbridge Limited pleaded guilty to failing, as an employer, to ensure the pressure in the air pipeline system equalled atmospheric pressure before the worker removed the coupling on the system. This was contrary to Section 56 of the Regulations for Mines and Mining Plants and Section 25(1)(c) of the Act.¹⁸¹
- Kidd Creek Mine, Ontario (Falconbridge): pleaded guilty under the Occupational Health and Safety Act in connection with an accident to an employee, fined CAN\$50,000.¹⁸² On July 31, 2000, a young worker drove away an 85-tonne truck without fully lowering the truck's box after dumping a load of waste. The box struck and tore down an overhead 138,000-volt energized electric supply line. The electrical contact blew out two tires on the truck. The worker escaped injury by staying in the truck as per procedure. Falconbridge Limited pleaded guilty to failing, as an employer, to ensure an object was not brought closer than three metres (9.8 feet) to an exposed, energized overhead electric supply line. This was contrary to Section 25(1)(c) of the Act.¹⁸³

2001

- 21 confirmed cases of Chronic Beryllium Disease (CBD)¹⁸⁴ at four locations. 34 sensitised workers. Sensitisation often progresses to CBD.¹⁸⁵
- Noranda Aluminum Primary Smelter, New Madrid, Missouri: Noranda paid US\$10,000 in a settlement for two violations of the Clean Air Act¹⁸⁶ concerning excess roof emissions.¹⁸⁷
- American Racing Equipment, Gardena, California: agreed to pay US\$18,000 for exceeding surface tension limits at chrome tanks.¹⁸⁸

2000

- American Racing Equipment, Gardena, California: fined US\$5,000 for inadequate record-keeping at aluminum melting furnace.¹⁸⁹
- American Racing Equipment, Gardena, California: fined US\$5,000 by the Environmental Protection Agency for failure to report on generation of nitrates¹⁹⁰ from nitric acid in the wastewater plant from 1995 to 1999.¹⁹¹
- American Racing Equipment, Gardena, California: Ordered to clean up Casmalia Disposal Site in Santa Barbara: Noranda paid US\$65,624.¹⁹²
- Noranda Aluminum, New Madrid, Missouri: fined US\$120,000 for violation of the Resource Conservation and Recovery Act. The complaint alleged that Noranda failed to conduct hazardous waste determinations on employees' personal protective equipment, accumulated hazardous waste at its facility without a RCRA permit or interim status for storage or treatment of hazardous wastes, and failed to clean up used oil spills at emulsion oil tanks and hydraulic tank areas at its facility. The company did not admit or deny the alleged violations contained in the complaint.¹⁹³

1997

- Noranda Aluminum, New Madrid, Missouri: excess visible emissions from its furnaces, fined US\$2,000.¹⁹⁴
- Noranda Heath Steele mine pleaded guilty to charges related to an accident that occurred at the mine in November 1996. One miner was killed, another seriously injured. The company was fined US\$25,000.¹⁹⁵
- Falconbridge Limited was fined US\$5,000 under the Ontario Occupational Health and Safety Act¹⁹⁶ in relation to the death of an employee.

1996

- Noranda Forest Inc. pleaded guilty to offences against the Pulp and Paper Mill Effluent Regulations. The Court fined Noranda Forest CAN\$20,000; CAN\$6,000 for each of the unlawful deposits and CAN\$2,000 for each of the reporting violations. The Court also ordered the company to pay CAN\$35,000 into a trust fund at Niagara College and a further CAN\$35,000 to the Niagara Peninsula Conservation Foundation.¹⁹⁷

- American Racing was unable to meet the South Coast Air Quality Management District's air restrictions and routinely incurred violations between 1994 and 1996. Fines in 1996 alone exceeded \$20,000.¹⁹⁸

1995

- Noranda Forest Inc, Ontario: fined CAN\$18,000 for discharging waste water or sewage causing the impairment of the quality of water.¹⁹⁹
- Noranda Forest Inc, Ontario: fined CAN\$14,000 for failing seven times to report discharge of toxic effluent (CAN\$2000 each).²⁰⁰

1993

- Montanore Mine, Montana: Noranda was caught violating state water quality criteria outlined in its exploration permit. Responding to the threat of a citizens' lawsuit under provisions of the Clean Water Act, the state acted, citing Noranda and forcing closure of the 4300 meter exploratory operation. Noranda pled *nolo contendere* and paid a fine of US\$157,000. Legal issues and low metals prices since 1992 have precluded Noranda developing the Montanore mine.²⁰¹

1983

- Grey Eagle Mine, California: on February 23, 1983, after the discovery of dam seepage, the California Regional Water Quality Control Board issued Cleanup and Abatement Order No. 83-27. The Board issued a Cease and Desist Order (No. 83-55) in September after five months of public hearings and monitoring, citing Noranda with discharging hazardous waste in violation of its original permit. On October 26, 1983, Noranda paid US\$8,233 in fines, in lieu of action by the State Attorney General. A new WDR permit, Order No. 84-49, was issued on May 31, 1984, deferring action on the previous Cease and Desist Order. On July 26, 1984, however, a new Cease and Desist Order was issued (No. 84-49), specifying new dates for controlling dam seepage. In July 1986, Noranda was fined US\$12,000 as part of an Administrative Civil Liability for its spill of June 8–9, 1986. In February 1987, Noranda applied to the Department of Health Services for a classification of its tailings as non-hazardous waste. The request was denied.²⁰²



*The proposed Alumysa project will result in habitat loss and fragmentation for threatened species such as the internationally protected Patagonian fox (*Pseudalopex culpaeus*).*

CONCLUSIONS AND DEMANDS

Greenpeace believes that Noranda's proposal to build a massive aluminum smelter in the pristine wilderness of Patagonia in Chile is in direct conflict with the Chilean government's international obligations under the Convention on Biological Diversity (CBD). As a government who has ratified the CBD, it has committed to the goal of significantly reducing the rate of loss of biodiversity by 2010.

Noranda's Alumysa Project would require the construction of six large-scale hydroelectric dams to power the aluminum smelter, flooding of 9,598 hectares in an ecologically important landscape, inhabited by a range of species including five endangered, twelve vulnerable, and three rare species. In the Blanco River and Caro Lake, for example, it will reduce the habitat of the Huemul (*Hippocamelus bisulcus*, the South Andean Deer), and the Colo Colo Pampas cat (*Lynchailurus colocolo*), which are both endangered.

The massive smelter is predicted to emit approximately 1.5 million tonnes of gaseous and solid waste per year, which would destroy vegetation and wildlife habitat and inhibit vegetation growth. These emissions would result in the accumulation of toxic chemicals in the food chain, and acid rain, and also contribute to the greenhouse effect and climate change.

Aysén's inhabitants, who are largely dependent on sustainable livelihoods in this intact environment of Patagonia, could

not withstand such impacts of this proposed mega project. The communities are promoting an alternative strategy for the region, promoting sustainable activities such as tourism, fishing, and organic farming. They have declared Aysén 'Reserve of Life' to defend their rights.

GREENPEACE CALL TO ACTION

GOVERNMENT OF CHILE

Greenpeace calls on the government of Chile to guarantee the ecological integrity of the Patagonia ecosystem, and the sustainability of the local communities which live in the region, by:

- **Implementing** an immediate moratorium on all industrial activities that threatens the remaining large intact areas in Chilean Patagonia.
- **Establishing** an extensive network of protected areas in Chilean Patagonia in cooperation with the local communities and by applying the ecosystem based approach to biodiversity protection.

NORANDA

Greenpeace calls on Noranda to withdraw any plan, or future plans, to build an aluminum smelter in Patagonia.

Greenpeace protest at the Chilean Ministry of Economy and Energy in October 2003. While the future of the Alumysa project on the face of it looks uncertain, Noranda continue to pursue its goal by quietly working with a few allies they have within the Chilean government including the Minister of Economy and Energy.



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www.miningwatch.ca

Halifax Initiative
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Short-term effects: excessive levels of nitrate in drinking water have caused serious illness and sometimes death. The serious illness in infants is due to the body's conversion of nitrate to nitrite, which can interfere with the oxygen-carrying capacity of the blood. This can be an acute condition in which health deteriorates rapidly over a period of days. Symptoms include shortness of breath and blueness of the skin. Long-term effects: nitrates and nitrites have the potential to cause the following effects from a lifetime exposure: diuresis, increased starchy deposits and haemorrhaging of the spleen.
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“Patagonia is one of the planet’s largest reserves of biodiversity. If it is destroyed by incompatible projects or denied a clean environment, sooner or later the way of life and the economic growth of its inhabitants will be affected.”

Senator Antonio Horvath Kiss, 2003

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