Tom Schweto

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The Windy Craggy Report

A copper deposit of world significance and its potential value to British Columbia, Yukon and Alaska

GEDDES
RESOURCES LIMITED

GRL **GEDDES RESOURCES LIMITED**

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February 1, 1993

M.E.M.P.R.
Mineral Resources Division
#159 - 800 Hornby St.
Vancouver, B.C.
V6Z 2C5

Attention: Mr. Tom Schroeter

Dear Mr. Schroeter,

I am pleased to provide you with an advance copy of a report on the Windy Craggy Project which Geddes Resources Limited is releasing to the public. The report will be forwarded to a wide audience in Canada and the United States interested in the project and influential in forming public opinion about the project.

The report explains current plans for development of the project; numerous drawings and pictures show the conditions in the area and the details of these plans. It describes the measures planned to protect the environment and the wildlife in the Alsek/Tatshenshini area and minimize impacts on the wilderness and other users of the area.

The report also describes the significant economic benefits which will be created by the project in British Columbia, Yukon and Alaska; jobs for northerners, business for suppliers and contractors and tax revenue for governments.

In a short time the government of British Columbia will decide the future of the Windy Craggy Project. I invite your review of this report and would be pleased to hear your comments.

Yours truly,

GEDDES RESOURCES LIMITED

Keith L. Somerville, P.Eng.
President

The Windy Craggy Report

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PREFACE

The mine development known as Windy Craggy is a project of immense importance to communities in northwest British Columbia, Yukon and Alaska, and to the mining industry in this province.

At the same time, there is a high level of concern for the environment of the Alsek/Tatshenshini area of the Haines Triangle where the project is located. Geddes Resources Limited, the company proposing to develop the Windy Craggy mine, shares that concern. Development must be sensitive to environmental, wildlife and wilderness values, and to other users of the area.

Few persons have seen this largely inaccessible region. Few know the specific details of the Windy Craggy mining proposal. In forming opinions regarding Windy Craggy, most persons outside the region must rely on the reports of others.

Sometimes these reports are contradictory. Often they are incomplete. It is difficult to avoid bias; different interpretations can be given even to scientific data.

The intention of this document is to assemble current information regarding Windy Craggy and make it accessible to all interested persons and organizations. Although it has been prepared by Geddes Resources, care has been taken to present information accurately and objectively.

This report has been prepared for the general readership of all interested parties. For convenience, the principal issues are addressed in separate sections: *Economic Impact, Development and Operations, Environmental Protection, Sharing the Land* and *The Approval Process*. Readers may select the sections of particular interest to them. Those wishing a concise summary of all information in the document will find that in the section *Windy Craggy: An Overview.*

Additional studies are continuing on various aspects of development; further reports on engineering, the environment and socioeconomic issues will be completed as part of the permitting process. This report summarizes the Windy Craggy project and the issues that surround it at this stage of the process.

Vancouver, BC
January 1993

CORPORATE RESPONSIBILITY

Since the early 1980s, Geddes Resources Limited has conducted the exploration and development of the Windy Craggy property in northwest British Columbia. In these activities, Geddes Resources has recognized its responsibility to government regulators, to protection of all aspects of the environment, and to the interests of other users of the Alsek/Tatshenshini area.

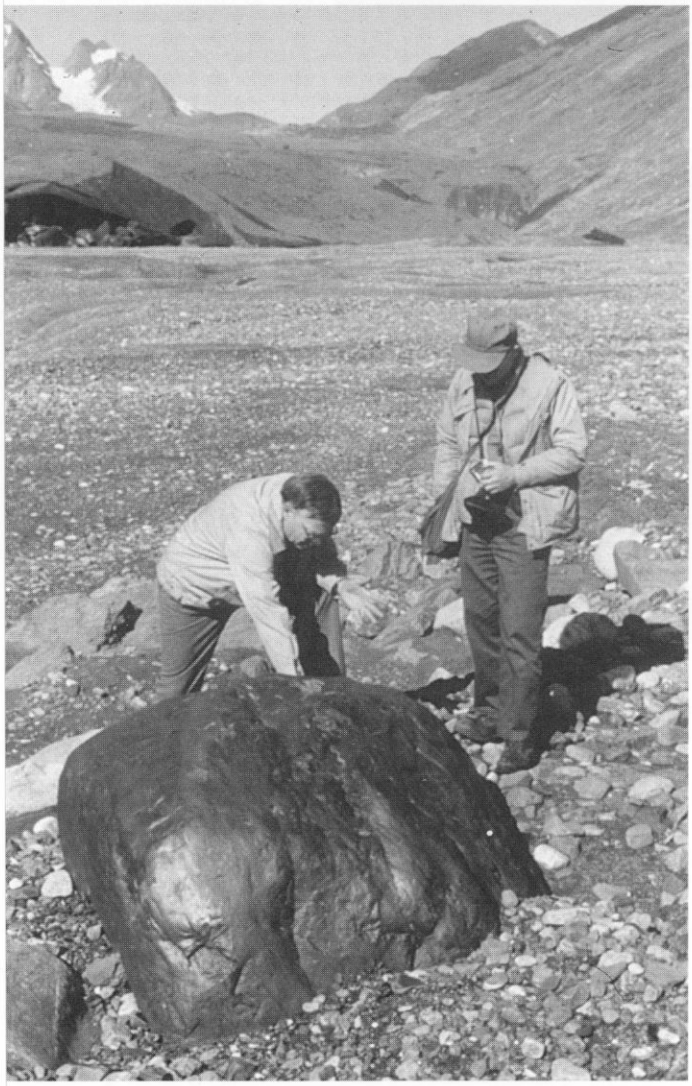
It is Geddes Resources' goal to develop, in an environmentally responsible manner, a mine which will supply the world with a significant amount of its copper needs for the next twenty years or more, bring economic benefits to northern communities, their citizens and governments, and provide an acceptable return to individual and institutional shareholders in Canada, the United States and other parts of the world.

The Geddes Resources team: Howard E. Cadinha, chairman; Keith L. Somerville, president; and Terrence A. Lyons, executive vice president and chief financial officer.

Working toward this goal, Geddes Resources will comply with all applicable legislation providing for the protection of its employees, the public, and the area's environment and biodiversity. On February 27, 1990, the board of directors of Geddes Resources endorsed and adopted the Environmental Policy of the Mining Association of Canada. This guideline policy commits Geddes Resources to diligent application of technically proven and economically feasible environmental protection measures and adoption of sound management practices in all exploration, mining, processing and decommissioning activities.

Geddes Resources will cooperate fully with all authorities in the examinations and studies required to assure an environmentally acceptable development and is prepared to participate in consultations with the public on issues related to development in the Alsek/Tatshenshini area.

Windy Craggy: An Overview



Prospector James McDougall (left) first identified sulphide boulders from the Windy Craggy deposit in 1958.

North America's Greatest Undeveloped Copper Deposit

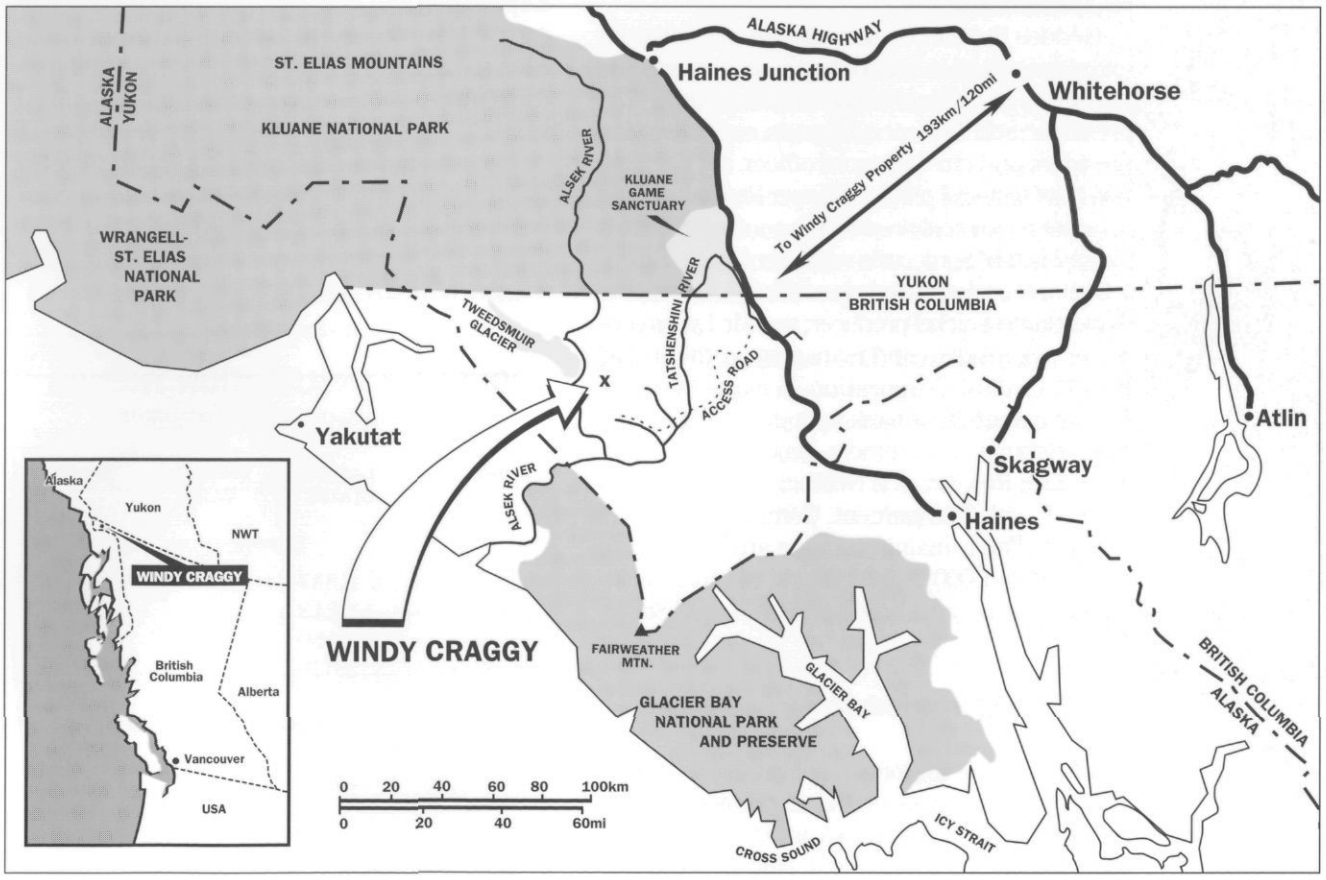
In northwest British Columbia, in a remote mountain area near the Alaska panhandle and Yukon, lies the greatest undeveloped copper deposit in North America: 300 million tonnes of copper mineralization from which 6.2 billion pounds of copper can be recovered.

This is Windy Craggy, a copper body able to supply one percent of the world's copper consumption annually for at least two decades.

World consumption is increasing. Despite competition from aluminum and fibre optics and increased recycling of copper, the demand for copper is greater than ever in automotive manufacturing, telecommunications, electrical transmission, construction and other industrial uses. Houses designed in the 1990s with an emphasis on electrically activated systems and increased use of electrical appliances require twice as much copper as houses built in the 1980s. And the 1980s were good years for copper producers: in that decade, copper consumption increased by 20 percent. Allan Robinson, mining reporter for *The Globe and Mail*, noted in *Report on Business* in July 1992 that "the demand for copper by the industrial economies of Asia's so-called four tigers — Singapore, Taiwan, South Korea and Hong Kong — has offset the economic weakness in North America." Shigeki Yabuta, general manager of the ore department of Mitsubishi Materials Corporation, speaking at a forum in Vancouver in September 1992, said, "Expansion in refined copper consumption is remarkable in developing countries, particularly in Southeast Asia, where the present growth rate of copper consumption stands at about six percent a year on average."

The growth in copper consumption is expected to continue at a rate between 1.5 percent and 2.5 percent annually over the next twenty years. In 1991, the US Bureau of Mines reported an estimated 11.3 million tons of primary and secondary copper consumed in 1990. Bureau analysts wrote, "Between 1990 and 2000, copper consumption is forecast to grow at nearly two percent per year in the United States and at 2.7 percent in the world." The price of copper averaged US $1.035 a pound during 1992 and, with the expansion of the world economy, is expected to rise. However, even at current market prices, the value of Windy Craggy's recoverable copper, gold and silver is estimated at $8.5 billion.

Windy Craggy can produce one percent of the world's copper every year for two decades



not true!

Near inaccessible, but minerally rich

First indications of the Windy Craggy deposit were discovered in 1958 by prospectors of the Ventures-Falconbridge group of companies working in an isolated area of the region known as the Haines Triangle. Journeying up the glaciers, they came upon a near inaccessible but minerally rich peak.

Windy Craggy, located on British Columbia crown land 24 kilometres (15 miles) from the US border, is a mountain few persons have ever seen. Its 2,041 metre (6,697 foot) peak, in common with the surrounding range, is relatively low, compared to mountains in Kluane and Glacier Bay parks to the north and south.

Because of Windy Craggy's remote location and the difficulty of access, limited exploration took place until the 1980s. In 1980, Geddes Resources joined with Falconbridge in a renewed exploration program. Three years later, Geddes Resources acquired the Falconbridge holdings and in 1987 began a major program of underground development, surface and underground drilling, and sampling. To date, Geddes Resources has invested close to $50 million in exploration, development and environmental studies.

"This kind of project has been a mainstay of BC's economy. It pays the bills."

Geddes Resources, a public company, has its executive offices in Vancouver. Senior officers are Howard E. Cadinha, chairman; Keith L.Somerville, president; and Terrence A. Lyons, executive vice president and chief financial officer. Mr. Cadinha was chief financial officer of Kaiser Resources Ltd., a former major coal producer in southeast British Columbia; Mr. Somerville was a senior mining operator and project developer with INCO Ltd., the world's largest nickel producer; and Mr. Lyons continues as president and managing partner in BC Pacific Capital Corporation, a major western Canadian merchant bank with particular expertise in resource development. Majority shareholder in Geddes Resources is Northgate Explorations Limited, with 39.3 percent. Cominco holds 17.7 percent. The remaining shares are held by approximately 1,000 individual and institutional investors, primarily in Canada and the United States.

The Endangered Industry

Windy Craggy is important not only to the world copper market, but also to the economies of British Columbia, Yukon and Alaska, and to the continuance of the mining industry in British Columbia.

Mining is British Columbia's third largest industry, after forestry and tourism. It produces 4.9 percent of the province's gross domestic product. In 1991, mining companies spent $3.1 billion in British Columbia. They paid $98 million in direct taxes and $36 million in property taxes. Payments to governments related to employment totaled $237 million. Taxes collected by all levels of government as a result of mining activity in BC and its economic spinoffs approach $1 billion a year.

But mining in British Columbia is an endangered industry. Currently, only 20 metal and coal mines operate in the province, following closures of eight mines between 1990 and 1992. Only one new mine has opened this decade, and another six are expected to close before 2000. This would leave BC with only 14 operating mines as it moves into the next century. Of these, half would be coal producers, assuming that the recently closed southeast coal mines are reactivated.

Employment has fallen significantly. In 1990, the mining industry provided direct employment for 14,345 workers and indirect jobs for double that number in BC and elsewhere in Canada. In 1991, the number of direct jobs fell to 12,587, a decline of 12 percent

In 1991, after writedowns, the British Columbia mining industry lost $485 million from operations. Exploration and development expenditures decreased by 80 percent from 1990 levels. Brian Kierans of *The Province* described the mining industry as "a sector of our economy on bruised knees."

Copper has been the most important metal in BC's mining industry; but, as *Vancouver Sun* columnist Judy Lindsay reported on June 9, 1990, "Within BC, copper mines are dwindling. New sources have to be found."

COPPER CONSUMPTION TRENDS

Thousand metric tons copper consumed

Period	United States	Western World	World
	COPPER CONSUMED		
1950 —	1,337	2,502	2,774
1988 —	2,213	8,299	10,549
1990 —	2,150	8,920	11,257
2000 —	2,620	11,100	14,630
	ANNUAL GROWTH RATES		
1950-1988 —	1.34%	3.20%	3.60%
1990-2000 —	1.97%	2.30%	2.66 %

SOURCE: U.S. BUREAU OF MINES, JUNE 1991

The major new source that has been found is Windy Craggy. With a mine life of at least twenty years, Windy Craggy would provide jobs (operations, maintenance, technical and administration) for 500 people and indirect employment for another 1,500. A three-to-one multiplier for indirect jobs is assumed for the Windy Craggy project because of higher than normal transportation and support services required due to the remoteness of its location. It would spend $550 million on initial development and $150 million a year during operations on wages, supplies and services.

Over two decades, Windy Craggy would deliver $720 million in tax revenues to British Columbia and $545 million to Canada, with additional tax payments to Alaska. These figures exclude tax revenues that would be realized by governments at all levels from indirect employment and spin-off economic activities stimulated by the project.

Windy Craggy is a crucial development for the future of the mining industry in British Columbia. "This kind of project," wrote columnist Lindsay, "has been a mainstay of BC's economy from the earliest days of colonial settlement. It pays the bills."

Economic Benefits for the North

Communities in northern British Columbia, Yukon and Alaska are keenly aware of Windy Craggy's economic potential. Unemployment in BC's resource dependent north measured 14 percent in June 1992, significantly higher than the unemployment rate in the Vancouver area. Granisle, Houston and Stewart, faced with more mine closures, expect to see unemployment grow even more severe. Haines, Alaska is another northern community which stands to benefit from Windy Craggy. Senator Frank Murkowski of Alaska has spoken of Windy Craggy as an opportunity for "positive economics in Haines, a town with an extremely high unemployment rate."

Haines, Alaska; Whitehorse and Haines Junction, Yukon; Granisle, Houston, Stewart, Smithers, Terrace, Atlin and Dease Lake, British Columbia: all of these communities would benefit economically from the development of Windy Craggy.

The work force at the minesite would be drawn primarily from the corps of experienced mining and forestry personnel in northern BC towns and Whitehorse and from the native communities of Atlin and Dease Lake in British Columbia and Haines Junction, Yukon.

Crews would be flown in and out in rotation and paid the higher-than-average wages of the mining industry. In 1991, the average salary and benefits for mining industry workers was $60,100, a five percent increase over the 1990 level.

Supplies and Services

The project campsite would be self-sufficient, with accommodations, power source, water supply, communications facilities, fire fighting force, paramedic and ambulance service.

A development of global significance on 1/10 of one percent of the land in the Haines Triangle

The intended main source of supplies for the Windy Craggy project is British Columbia's lower mainland, with lesser quantities to come from Prince Rupert and Bellingham, Washington. Commodities would be carried by ocean transport to Haines, Alaska, then trucked to the minesite. Windy Craggy's operations plan calls for an average of 75 tonnes of supplies a day.

Perishable goods would come from Whitehorse and Smithers, with some supplies carried across the Alaska Highway from other parts of western Canada.

ECONOMIC BENEFITS

Reserves: 297 million tonnes @ 1.4% copper (using 0.5% copper cutoff grade)

Investment: $550 million for initial development
Mine life: +20 years for present mining plan
Annual expenditures: $150 million/year average
Gross metal value recovered: $8.5 billion (at current metal prices)

Employment:
Direct: 500 jobs in BC, Yukon and Alaska
Indirect: Approx. 1,500 jobs for contractors, suppliers and other support

	BC	CANADA	TOTAL
Direct tax benefits (first 20 years)*			
Personal income tax	$ 95 M	$190 M	$285 M
Mining tax	260 M	–	260 M
Corporate income tax	245 M	355 M	600 M
Sales tax: Fuel	65 M	–	65 M
Supplies	55 M	–	55 M
	720 M	545 M	1,265 M

Indirect tax benefits
Prorata additional amounts, Provincial and Federal

* Alaska tax benefits not included

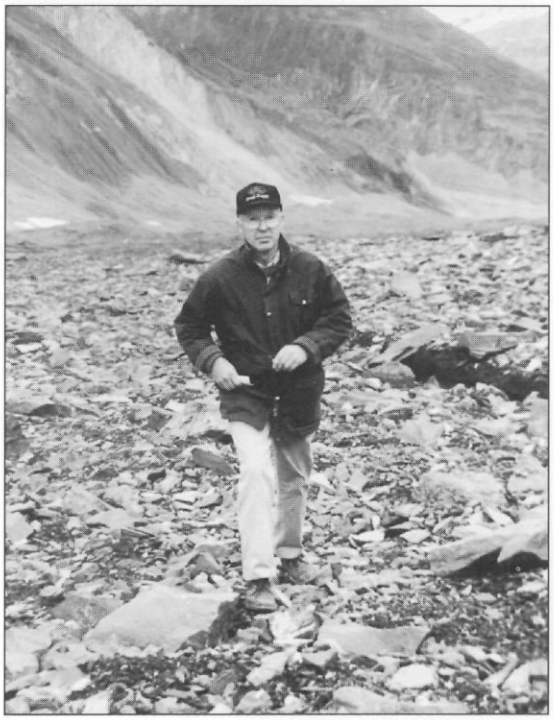
Port facilities for storage and loading of copper concentrate would be built at Haines. If the final decision on development confirms transport of concentrate by pipeline, dewatering facilities also would be constructed. Trucking services for transportation of supplies from Haines to the project would be contracted locally.

Alaskan operations would be staffed by Haines residents. Discussions related to the development and operation of the marine terminal have been held with West Coast Stevedoring Corporation, a subsidiary of Klukwan Inc., a village corporation established under the Alaskan Native Claims Settlement Act.

A Major Development with Minimal Environmental Impact

From the start of development, the economic impact of Windy Craggy will benefit not only families and communities in adjacent areas of British Columbia, Yukon and Alaska, but also suppliers, distributors and transportation companies over a much broader area of Canada and the US. This powerful economic story has received insufficient attention. As the *Vancouver Sun* wrote, Windy Craggy has become "an environmental story — while the economic benefits of mining are virtually ignored."

Concerns of environmental groups regarding Windy Craggy development have included acid rock drainage into the Alsek/Tatshenshini river system, seismic risk, disturbance of wildlife, interference with river rafters, and impact on the network of northern parks.



Keith Somerville, Geddes Resources President, on Tats Glacier moraine.

All of these concerns have been addressed by Geddes Resources. Proposed solutions are described in the sections *Environmental Protection* and *Sharing the Land.* Environmental studies will continue, as Geddes Resources works towards obtaining requisite permits for development. Current plans for environmental protection and shared land use are summarized below.

Acid rock drainage (ARD)

This is a naturally occurring phenomenon, the result of the exposure of rocks containing sulphides to air and moisture. At Windy Craggy, mine waste which is potentially acid-generating and tailings from the processing plant will be stored in an impoundment submerged under three metres (10 feet) of water. This is a method of disposal shown to prevent acid rock drainage effectively. Drainage water at the mine and in other operating areas which comes in contact with ARD conditions will be collected in the impoundment and used in processing operations. Process water will be recycled to the impoundment, with the excess discharged following treatment, if necessary. Discharge water will meet the quality standards necessary to protect fishery resources.

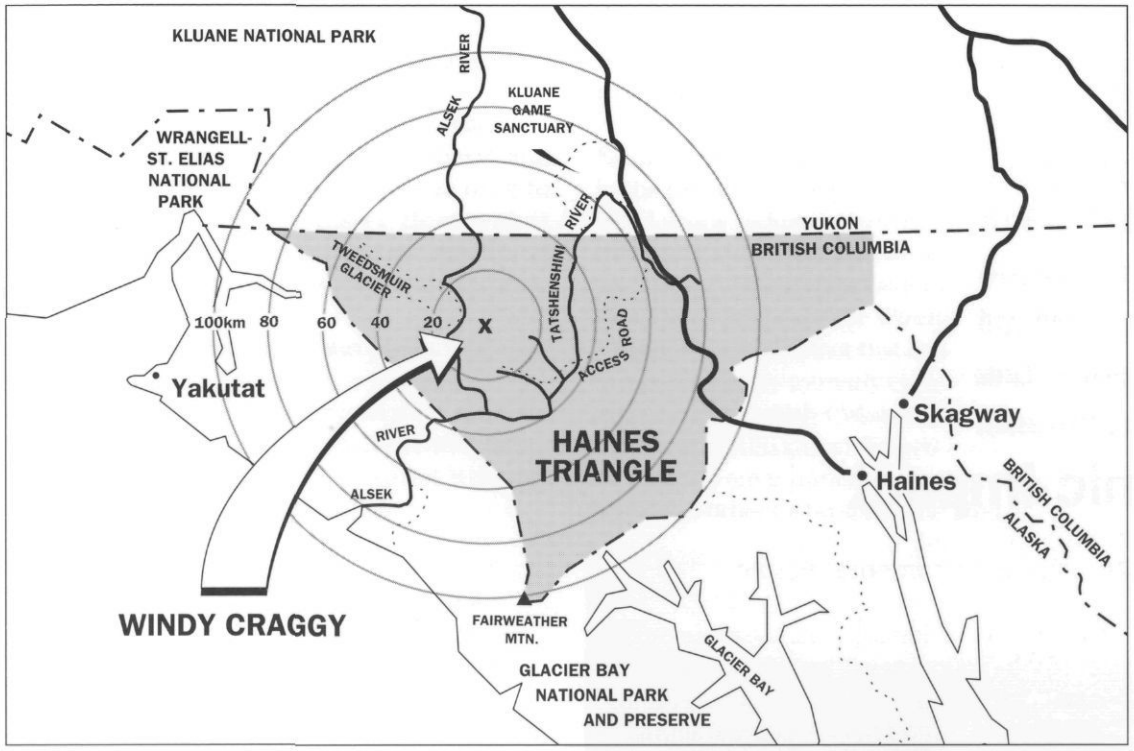
Seismic risk

The Windy Craggy site is located in a seismic area similar to others along the Pacific Rim, including coastal British Columbia. This area has been given a Zone 6 rating by the National Building Code of Canada.

Analyses of geological conditions and the probability of seismic events will establish design criteria which would be met in impoundment dams and other structures at Windy Craggy. Large dams have been successfully designed and constructed in high seismic zones throughout the world. An impoundment dam at El Infiernillo in Mexico, similar to the dams planned for Windy Craggy, has withstood at least two major earthquakes, including one registering 8.1 on the Richter scale.

Disturbance of wildlife

The Chilkat Bald Eagle Preserve is 160 kilometres (100 miles) from the proposed minesite. Operations would have no effect on this preserve. Mining activity which might create disturbances for wildlife would be conducted several kilometres from the nearest sightings. Light traffic on the



Windy Craggy development would require only one-tenth of one percent of the 1.1 million hectare (2.5 million acre) Haines Triangle.

access road, a benefit of the proposed pipeline system and controlled access, would have no significant effect on wildlife.

Interference with rafters

As the minesite is 30 to 40 kilometres (18 to 25 miles)from the Tatshenshini River, no mining activities would be seen or heard. Rafters would pass briefly under a bridge for the access road and occasionally, over a 20 kilometre (12 mile) distance, might glimpse short sections of roadway about one kilometre away. Tree cover along the river would screen rafters' view of the roadway. Controlled access on the road could, in fact, make rafters' use of the area more practical and economic.

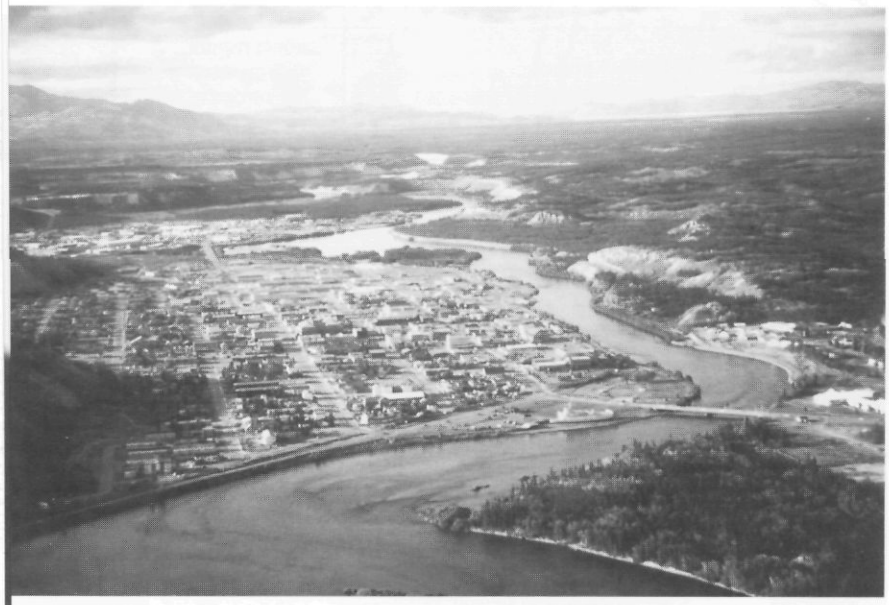
Impact on northern parks

Glacier Bay National Park and Preserve is located in Alaska, 72 kilometres (45 miles) to the southwest. Kluane National Park is 32 kilometres (20 miles) north in Yukon and Wrangell-St. Elias Park in Alaska is 96 kilometres (60 miles) in the same direction. Apart from these parks, Windy Craggy is surrounded by undeveloped, unpopulated crown land. The project site is located above the treeline and currently is accessible only by air. The proposed mining development, including access road and all ancillary facilities, would require no more than one-tenth of one percent of the 1.1 million hectare (2.5 million acre) region known as the Haines Triangle.

Windy Craggy mountain, upper left, with Tats Glacier at its base.

Windy Craggy is a development of global importance planned for minimal environmental impact, while bringing vital economic benefits to the people of British Columbia, Yukon and Alaska.

Economic Impact



Whitehorse, Yukon—one of several northern communities that would draw major economic benefits from the Windy Craggy project.

Critical Project for Mining in British Columbia

"People who drill holes in blank-faced rock looking for precious metals and industrial minerals live in a precarious world."

Stephen Hume of the *Vancouver Sun* wrote those words from Nugget Mines, south of Salmo in the Kootenays. Noting that the value of metals production in British Columbia has fallen each year since 1988, Hume pointed to the steady decline of a critical industry responsible for thousands of jobs and a substantial portion of provincial revenues.

A Price Waterhouse review of the mining industry, released in July 1992 by the Mining Association of British Columbia, revealed 1991 to have been a very bad year, with net revenues the lowest since 1986 and a total industry loss of $485 million. Price Waterhouse reported, "Before writedowns, 1990 industry earnings were $152 million. In 1991, before writedowns, the industry reported losses of $148 million." Exploration and development in 1991 decreased by 80 percent. That means, wrote Hume, "we're now using up our mineral wealth faster than we are finding new reserves. You don't have to be a rocket scientist to see where that trend leads."

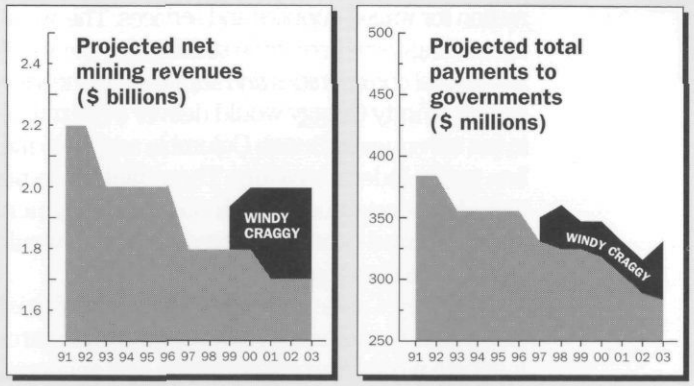
Needs of the North

Meanwhile, unemployment increases in the resource dependent north. In British Columbia communities like Granisle, Houston, Stewart, Smithers and Terrace, the June 1992 unemployment rate ran as high as 14 percent, significantly worse than unemployment in the Vancouver area. With more closures forecast, the jobless rate is expected to rise.

The economy is no healthier in Haines, Alaska. John Schnabel of Alaskans Inc. reports 27 percent unemployment. Walt Wilcox, former Haines city administrator, said "the council's top priority is jobs, jobs, jobs." In Yukon, interest is focusing on the wish to decrease dependency on federal government funding and a single major mining operation.

The Windy Craggy development would bring benefits to all these areas. During construction, an investment of $550 million would provide revenue for consultants and contractors, manufacturers and distributors of materials and equipment, transportation companies, and their employees. During the three-year construction period, 1,500 person-years of work would be required; then, over 20 years or more of operation, the mine would provide direct employment for 500 workers. Another 1,500 related jobs would be created by the development's high service and transportation requirements.

The future, with and without Windy Craggy



The workforce would be drawn primarily from experienced mining and forestry personnel in northern BC, Yukon and Alaska. Workers would remain resident in their home communities, commuting by aircraft to the minesite, so that existing communities would be supported and strengthened. Among these workers would be members of native bands from Atlin and Dease Lake, British Columbia, and Haines Junction, Yukon. Local employment, training programs to qualify workers for employment and upgrade skills, and opportunities for community businesses would be priorities of the Windy Craggy project.

Bulk supplies for Windy Craggy would be carried by ocean transport from BC's lower mainland, with lesser quantities from Bellingham, Washington and Prince Rupert. Perishables would be carried by commuter aircraft from Whitehorse and Smithers. Some supplies from other parts of western Canada would be trucked over the Alaska Highway. Trucks would deliver about 75 tonnes of supplies daily to the minesite.

Positive Economics

Alaska Senator Frank Murkowski has said the Windy Craggy mine would mean "positive economics in Haines." An important addition to the Haines economy would be the marine terminal for storage and shipping of copper concentrate. Talks regarding development and operation of the terminal have taken place between Geddes Resources and West Coast Stevedoring Corporation, a subsidiary of Klukwan Inc., a village corporation established under the Alaska Native Claims Settlement Act.

Windy Craggy's estimated annual expenditures over more than two decades of operations are $150 million for wages, supplies and services. This would mean long-term economic stability for the workforce, local communities and suppliers. In the same period, Windy Craggy would deliver $720 million in tax revenues to British Columbia and $545 million to the federal treasury. These figures do not include tax revenues from indirect employment and increased economic activities which would result from development of Windy Craggy.

Geoffrey Castle of the University of British Columbia Sustainable Development Research Institute wrote "through taxation and economic spinoffs, much of the wealth created by this project...would support schools, hospitals and other worthy endeavors."

In the financial community, the Windy Craggy development has a significance reaching beyond its direct economic benefits. It is regarded as the potential leader of investment recovery in British Columbia's mining sector.

Judy Lindsay, writing in the *Vancouver Sun*, summed up the importance of Windy Craggy to the province. "This kind of project," she wrote, "has been a mainstay of BC's economy from the earliest days of colonial settlement. It pays the bills."

Development and Operations

Geologist examining drill core at Windy Craggy.

Preliminary Concepts

Plans for development of the Windy Craggy project are at the preliminary feasibility stage consistent with the progress in permitting to date. Exploration programs have delineated a substantial mineral deposit, geological and geostatistical estimates have determined reserves. Various mining concepts have been evaluated and a mining plan based on open pit mining with supplementary underground mining has been adopted. Initial plans for material transport, ore processing, waste impoundment, mine reclamation and closure have been developed and submitted for regulatory review. Following a provincial land use review and concurrent with the final stage of permitting, detailed engineering plans, control methods, mitigation measures and impact assessments will be completed. These data, along with the information requested by government reviewing agencies, will form the content of Geddes Resources' final application for a Mine Development Certificate.

Exploration and Reserve Calculations

Exploration programs at Windy Craggy have defined three mineral zones; the north and south zones, which extend over a minimum strike length of 1.6 kilometres (one mile) with a vertical extent of at least 600 metres (1,970 feet) and width up to 200 metres (657 feet), and the ridge zone to the northeast, with a possible strike length of 400 metres (1,313 feet). Diamond drill, bulk and chip sampling have provided the database for reserve calculation. Drilling programs have tested the surrounding waste rock and include geotechnical drilling in the impoundment site, investigation of Tats and Marie glaciers, and testing of a limestone deposit for future lime production.

Reserve estimates have been determined by traditional sectional polygon and geostatistical methods. In the geostatistical study, a computer block model has been constructed with blocks 20 metres x 20 metres x 12 metres (66 feet x 66 feet x 40 feet), including mineable material and surrounding waste rock. By ordinary kriging, each block is characterized by rock type, metal value, specific gravity and acid base accounting values. The reserve estimate has been classified into the traditional proven, probable and possible categories, using cut-off grades of 0.5 percent, 1.0 percent and 1.5 percent copper.

WINDY CRAGGY RESERVES

(Geostatistical at 0.5% copper cut-off)

	CATEGORY	METRIC TONNES	% COPPER
ALL ZONES:	PROVEN	29,430,000	1.75
	PROBABLE	162,410,000	1.59
	POSSIBLE	80,650,000	1.02
	SUB-TOTAL	**272,490,000**	**1.44**
NOT ASSIGNED TO ZONES:			
		24,949,000	0.72
	TOTAL	**297,439,000**	**1.38**

FROM MONTGOMERY CONSULTANTS LTD., NOVEMBER 1991

Mining

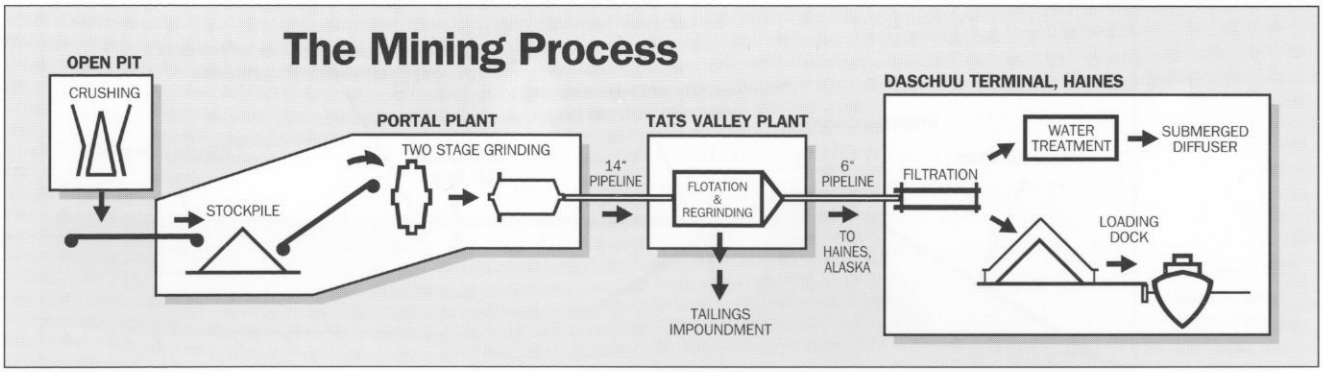
The most recent development plan was completed in November 1990, following studies by Fluor Daniel Wright, Steffen Robertson Kersten Inc. and other engineering firms. The mining section of this plan was revised in November 1991, following completion of the updated geostatistical reserve estimate.

Mining would begin with pre-production stripping and open pit mining in the north pit, followed by development and operation of the south pit. Initial daily production of ore would be 20,000 tonnes, increasing to the optimum rate of 30,000 tonnes in the fourth year of operation. Underground production of ore would begin in the tenth year. By combining open pit and underground mining, an overall waste to ore ratio of 2:1 would be achieved, substantially reducing the quantity of potentially acid-generating waste rock requiring disposal.

During pit operations, direct sampling and analysis of all production material, together with geological examination prior to load-out and transport, would be routine. Delineation of ore and waste is common at all pit operations; at Windy Craggy, additional determinations would categorize waste rock as either potentially acid-generating or acid-consuming. Potentially acid-generating waste rock would be crushed and disposed of in the impoundment. Acid-consuming waste rock would be placed in dumps on glaciers near the open pit, ultimately to become part of the moraine.

Transport and Ore Processing

Semi-mobile crushers positioned on the pit rims would crush ore and potentially acid-generating waste rock separately, feeding the crushed materials into passes leading to the 1,400 metre



(4,597 foot) exploration horizon. Ore and waste would be transported by conveyor to separate stock piles at the portal.

Ore would be fed from the portal stock pile to autogenous grinding mills at the portal plant. Process water for the grinding circuit would be provided by mine drainage water and recycled water from the impoundment. The ground ore slurry would be transported by pipeline along Tats Glacier to the flotation plant in Tats Valley. At the Tats Valley plant, primary flotation, regrinding and several flotation cleaning stages would produce a final concentrate, containing 28 percent copper, with 88 percent recovery. This concentrate would be thickened to 60 percent solids in preparation for slurry pipeline transport to Haines, if the pipeline option is chosen. The alternative transportation method would require dewatering at the minesite and trucking to Haines.

Potentially acid-generating waste rock stockpiled at the portal would be loaded into tractor-trailer trucks and hauled along Tats Glacier to the impoundment. The road on the glacier would be a double-lane route, with graded and compacted aggregate to maintain efficient year-round traffic. In the impoundment, waste rock would be dumped and spread in lifts off the south dam and submerged by subsequent rises in water elevation.

Tats Valley, with impoundment site in upper center.

Tailings and Waste Rock Impoundment

An impoundment would be constructed in Upper Tats Valley for submerged disposal of potentially acid-generating waste rock and tailings from the flotation process. Preliminary evaluation indicates that soils and bedrock in this location are suitable for control of seepage and for construction of impoundment dams that would maintain structural integrity under seismic risks.

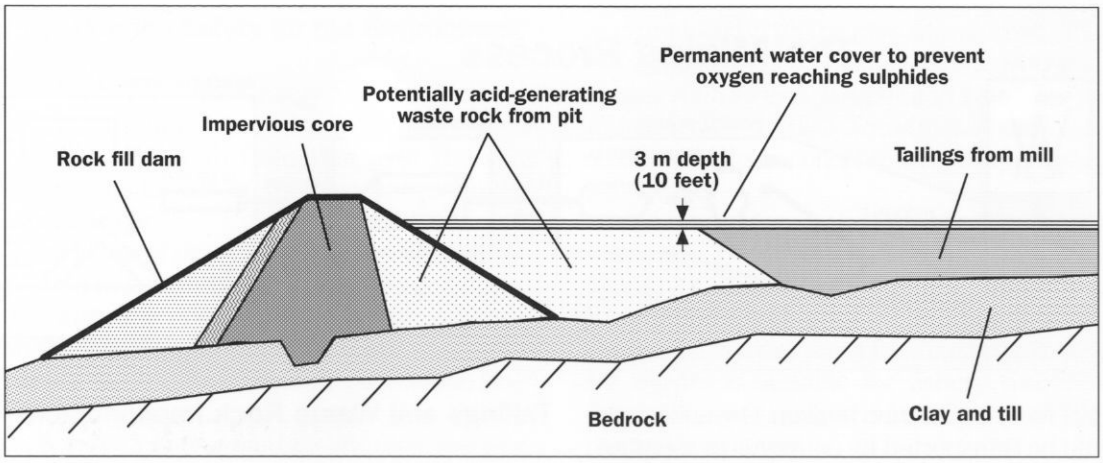
The water management system would provide for collection of all water which might be affected by acid rock drainage. Mine drainage would be used as process water, with recycling practiced to the greatest extent possible, and water discharged only from the impoundment. This discharge would be monitored and treated, if required, to meet established water quality requirements. Maintenance of water cover over potentially acid-generating waste rock and tailings has been shown to prevent acid rock drainage effectively. At Windy Craggy, water cover would be three metres (10 feet) deep.

Mine drainage would be used as process water, with recycling practiced to the greatest extent possible

Construction Schedule

Construction of the Windy Craggy mine would take place over a three-year period, following receipt of a Mine Development Certificate and requisite federal, provincial, state and local permits.

Year 1 Access road and bridge construction. Road access would be required from the Haines Highway to the minesite for delivery of materials. The preferred route, 104 kilometres (65 miles) long, would reach from Tats Creek Valley to the highway via Tatshenshini Valley, O'Connor/Shini Creek and Scottie Pass. The narrow road (five metres or 15 feet in width) would be built to Forestry Road Class V standard.



The impoundment storage would prevent acid rock drainage by submerging waste materials under water.

Year 2 Road grading and surfacing; site preparation; foundation construction; initial mine development; initial construction of Tats Valley infrastructure. Infrastructure facilities would include airstrip, workers' residences, diesel generating plants, administration and shop buildings, warehouse and change house, fuel storage, drinking water supply, and sewage disposal system.

Year 3 Installation of equipment and mechanical and electrical facilities; construction of waste impoundment structure; open pit and underground mining development; construction of pipeline from minesite to Haines, Alaska; and construction of marine storage terminal, dewatering and water treatment facilities at Haines.

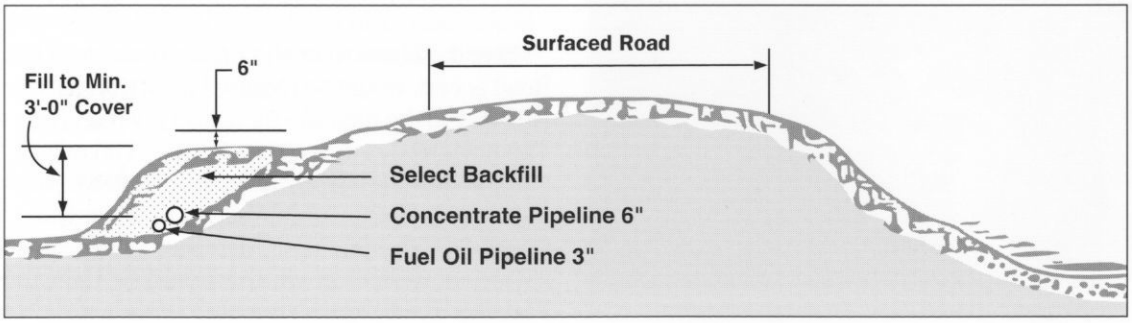
The marine terminal at Haines would store copper concentrate for shipping. Concentrate slurry would be dewatered, with surplus water treated to meet environmental specifications, and discharged into Lutak Inlet through a submerged diffuser.

Initial plans had called for transportation of concentrate to Haines by truck, but it is believed a pipeline system would satisfy a number of environmental concerns. Pipelines have been used successfully for long distance transport of copper concentrate at the Escondida project in Chile and the Grasberg project in Indonesia, and for many other commodity transport facilities in the United States. Buried pipelines (7.6 and 15.2 centimetres or three and six inches in diameter) would reach 250 kilometres (156 miles) between the minesite and Haines, carrying concentrate to Haines and fuel oil to the mine. The pipeline system would follow and be serviced from the access road and the Haines Highway. Use of pipelines would permit reduction of the access road to a one-lane roadway with pass-outs. Traffic would be restricted to three to four trucks a day during mine operations.

Because of the remote location, the camp site would be made entirely self-sufficient. Crews would travel by air from their home communities. There would be no commuter traffic on the access road. Workers' activities outside the campsite would be restricted, to avoid disturbance of wildlife and interference with other users of the area.

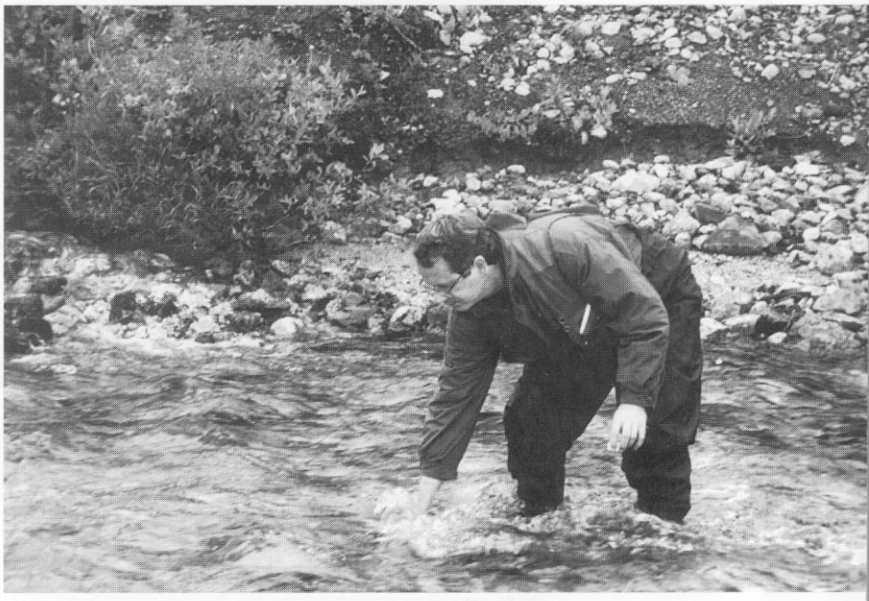
Reclamation

At the conclusion of operations, equipment and all facilities except the impoundment structure and water treatment system would be removed. Entrances to underground work areas would be sealed, snow and water would accumulate permanently in the open pit, and the area would return to a natural state.



Buried pipelines would carry fuel oil to the minesite and copper concentrate to Haines.

Environmental Protection



Norecol Consultants environmental scientist sampling water in Upper Tats Creek.

First Priority: Safety for the Environment

Although the Windy Craggy copper mine could be the most important mineral resource development in British Columbia over the next decade, its impact on the environment would be negligible.

Its physical presence would be all but unnoticed in the northwest vastness. The entire project, including minesite, camp and access roads, would require less than one-tenth of one percent of the 1.1 million hectare (2.5 million acre) Haines Triangle.

Windy Craggy mountain is a rock and talus slope with no vegetation, surrounded by glaciers. Tats Valley is a glacial outwash area, with scrub vegetation. Normal annual precipitation in Tats Valley is 1,880 millimetres (74 inches). At the minesite, it is 50 percent higher. In the valley, 70 percent of precipitation is snow; at the minesite, snowfall is 90 percent of the precipitation. Temperatures are affected significantly by elevation. Mean annual temperature in Tats Valley is about -5° celsius (+23° fahrenheit), falling to -10° celsius (+14° fahrenheit) at the minesite. Wind and temperature data are being collected by automatic monitoring stations at the minesite to aid project design.

Windy Craggy mine would be located far from areas of great environmental sensitivity

Within this unpopulated, undeveloped region, the Windy Craggy mine would be located far from areas of great environmental sensitivity. It would be 30 to 40 kilometres (18 to 25 miles) from the Tatshenshini River, 160 kilometres (100 miles) from the Chilkat Bald Eagle Preserve, and 60 kilometres (37 miles) by water from the Alaska border.

The limited area required for the Windy Craggy project would be protected by advanced technology developed for environmental controls and fail-safe systems designed following comprehensive risk analyses.

Geddes Resources adheres to the Environmental Policy of the Mining Association of Canada. The Windy Craggy operations plan, equipment and personnel training program would hold environmental safety as a first priority.

Acid Rock Drainage and Water Quality

Acid rock drainage (ARD) is a naturally occurring process which involves the oxidation of sulphide minerals exposed to air and moisture. Sulphuric acid produced in this process can adversely affect water quality. Acidic solutions can dissolve heavy metals such as iron, copper and zinc from surrounding rocks and soil. These metals, carried into streams in excess concentration, can be toxic to aquatic life.

ARD generation can be prevented by exclusion of oxygen. This is achieved effectively by maintaining the sulphide minerals under water. A water treatment process using lime can neutralize acidic solutions and precipitate metals so that water quality is suitable for fishery resources. Precipitates are separated from the effluent and permanently stored.

At Windy Craggy, Geddes Resources intends to prevent the occurrence of ARD during mining operations and after closure. Steffen Robertson and Kirsten, the consulting firm responsible for developing the Windy Craggy waste management plan, has received an award from the Consulting Engineers of British Columbia for its design.

Exploration diamond drilling has provided extensive information on rock types and mineral occurrences in the ore body and surrounding waste rocks. A total of 1,247 samples has been analyzed for acid base accounting parameters and the large numbers of samples collected for analysis of the ore body have established a data base to classify the waste rock. An ARD test program has been carried out at BC Research Laboratory since 1990 to determine acid-generating characteristics of waste rock and to predict the quality of drainage water from waste piles. Test pads at the Windy Craggy minesite are determining weathering experience under actual site conditions. This test work and analysis will establish criteria for determining which types of waste rock are potentially acid-generating and which are acid-consuming. Expenditures on the laboratory test program alone have totaled $500,000.

The first step in preventing ARD during mining operations would be separation of waste rock types, based on established criteria, during load-out operations. Acid-consuming waste rock would be placed on conventional dumps near the minesite. Mine waste which is potentially acid-generating and tailings from the process plant would be stored in an impoundment submerged under three metres (10 feet) of water, a method of disposal shown to prevent acid rock drainage. Drainage water at the mine and water in other operating areas which comes in contact with ARD conditions would be collected in the impoundment and used in the milling process. Process water would be recycled to the impoundment, with the excess discharged, following treatment,

if necessary. As processing operations require strong alkaline conditions, water used in the system would not be toxic, nor expected to require treatment before discharge.

Acid rock drainage has been taking place naturally at Windy Craggy for millions of years. However, lime rich rocks in the area and glacier water systems effectively neutralize the acidity to protect water quality and fishery resources. The large quantity of lime rich minerals in the rocks, soil and stream sediments provides a great natural buffering capacity as a contingency measure to protect water quality in the Windy Craggy area.

Stability and Security

The Windy Craggy site is located in a seismic area similar to others along the Pacific Rim, including coastal British Columbia. This area has been given a Zone 6 rating by the National Building Code of Canada.

Windy Craggy lies between two major fault systems: Fairweather, 50 kilometres (31 miles) southwest, and Denali, 50 kilometres northeast. Two lesser faults, Hubbard and Border, lie parallel to the Fairweather fault 10 and 20 kilometres (six and 12 miles) from the site; the Tats/Noisy Fault Zone, which preliminary studies indicate may be inactive, is found in Tats Valley. Seismograph readings taken intermittently at the Windy Craggy project site between 1987 and 1990 recorded no tremors greater than 2.5 on the Richter scale. An earthquake registering 5.6 and centred in the Glacier Bay area, 51 kilometres (32 miles) distant, occurred on July 11, 1990.

Large dams and other engineered structures have been successfully designed and constructed in high seismic zones throughout the world. Analyses of geological conditions would confirm the suitability of the foundations for the impoundment dams and comprehensive studies of the geology and seismic hazard would determine the design standard. Given this information, design and construction of an impoundment at Windy Craggy is technically feasible and within the current state of the art of dam technology.

BC Hydro has prepared guidelines for selecting seismic design criteria for dams. The rock fill type chosen for Windy Craggy has inherently good seismic resistance because of the high strength and free-draining characteristics of the rock fill. The 100 metre (328 foot) Windy Craggy dam is similar to one at El Infiernillo in Mexico which has withstood at least two earthquakes, including one registering 8.1, with its epicentre 60 kilometres (37 miles) away.

Studies of glaciers surrounding Windy Craggy were conducted during the 1989 and 1990 field seasons. These studies included determinations of snow accumulation and loss, surface velocities, sub-glacial water systems, and assessments of surge behavior.

Significant shrinkage of glaciers in the project area occurred during the study period. From analyses of data on Tats and Frobisher glaciers, it was concluded that Tats Glacier is not a surge type glacier. While additional data for Frobisher Glacier is needed to reach a conclusion, the evidence indicates that it, too, is not a surge type. Glacier behavior would be influenced more by climate changes than by waste rock from mining operations.

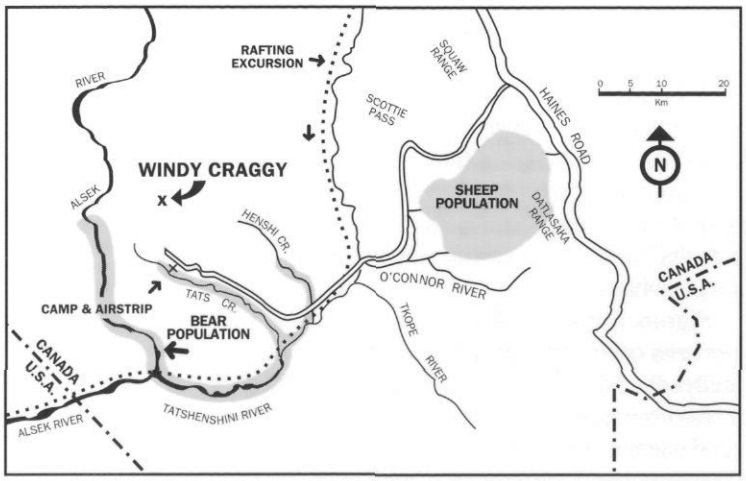
Protecting the Wildlife

The Tatshenshini River, the largest tributary of the Alsek River, supports commercial salmon species and other salmonids. Juvenile salmonids, including Dolly Varden char and the three main salmon species, are known to inhabit the lower five kilometres (three miles) of Tats Creek. In the immediate project area, Upper Tats Creek supports a moderate density of Dolly Varden and the lower reaches of Noisy Creek support some fishery resource; however, no fish have been observed in Frobisher Creek. Along the road corridor, limited fish habitat exists at the Tatshenshini crossing, along Shini Creek and Parton River, and at the upper Tatshenshini crossing.

Dams have been successfully designed and constructed in high seismic zones throughout the world

Mitigation of the impact of the impoundment on Upper Tats Creek will be addressed in the Mine Development Certificate application. Other fisheries resources in the area would be protected by appropriate controls on discharge and quality of effluent. Provisions would be made in construction and operation of the road and pipeline to protect fish habitat from siltation and road dust. Emergency response plans would be put in place for cleanup and remedial work.

Wildlife resources in the project area and along the road corridor include Dall's sheep, grizzly bears, mountain goats and, in lesser numbers, black bears and moose. Dall's sheep inhabit the Upper Parton and Datlasaka ranges, while goats have a general distribution throughout the study areas. Grizzly



Map indicates distance of Windy Craggy from wildlife areas.

bear observations are most frequent in Henshi and Tats valleys and in the Alsek Valley from the Tatshenshini to Tweedsmuir Glacier.

Mining activities which might have the greatest potential to disrupt wildlife would be conducted several kilometres from the nearest wildlife observations. The eight or nine probable bear denning sites along Tats Creek are generally one kilometre (0.6 mile) or more from the road route. Light traffic of only three to four truck loads per day during operations (contingent on the use of pipelines and controlled access) should have only minor impact on wildlife.

The Haines Highway passes through the Chilkat Bald Eagle Preserve, 160 kilometres (100 miles) from the minesite. Light truck traffic associated with Windy Craggy mine development is not expected to have an adverse impact on the preserve. Long-term experience has been gained regarding the impact of vehicle traffic on the eagle population. Alaskans Inc., a Haines based group advocating environmentally sound development, has noted that a three-year study by the state of Alaska concluded that 40 to 60 trips by fuel and logging trucks daily through the preserve had no harmful effects on the eagles.

Archaeological Studies

The archaeological significance of the area is largely unknown, having become only recently a subject of interest. The proposed Windy Craggy minesite is a steep mountain side, with no potential for heritage resources. The plant site at the headwaters of Tats Creek would be situated on outwash gravel, which has low potential for archaeological projects. The access road has medium to high potential for archaeologically sensitive areas, particularly at the confluence of the O'Connor and Tatshenshini rivers.

Heritage studies of areas affected by the project will be carried out in compliance with the requirements of the Mine Development Assessment Process. Descriptions and guidelines for this work include the British Columbia Heritage Conservation Act and the Archaeological Resource Management Handbook.

Reclamation and Closure

When mining operations end, reclamation procedures would return the mine and valley sites to conditions similar to their present natural state.

With the removal of equipment and the sealing of entrances to underground workings, Windy Craggy mountain would closely approximate its current appearance. After removal of the pipeline system from Tats Glacier, the road materials would resemble a medial moraine, and, in time, would be deposited at the terminus of the glacier. Similarly, the waste heaps placed on Marie and Frobisher glaciers would ultimately become terminal moraine.

All facilities in the Tats Valley except the tailings and waste rock impoundment would be removed at closure. Water treatment facilities would remain, to treat impoundment supernatant water prior to discharge, if required, after closure.

The primary concern in closure of the site is long-term prevention of acid rock drainage. Details are presented in earlier sections explaining how ARD would be prevented during the operation of the project. Testing at BC Research showed greatly reduced ARD development at temperatures close to freezing. The majority of the sulphide deposit would have been removed by mining. The accumulation of snow, ice and water in the mine excavation and the combined effects of low temperatures and the exclusion of oxygen would act as a significant natural inhibitor to ARD in the mining area.

At the impoundment, normal run-off channels would be re-established and a permanent overflow structure constructed at the main dam. The dam structure would be rehabilitated and water treated, if necessary, until equilibrium is established. Monitoring would continue after closure to ensure that control measures remain effective.

Sharing the Land

Use of the Alsek/Tatshenshini area is limited to travelers by water, air, four-wheel drive vehicle and horseback.

Shared Land Use in Alsek/Tatshenshini

The Alsek/Tatshenshini region of northwestern British Columbia is remote and mountainous. Few persons have traveled through this steep, rugged country. At present, the only route into the Alsek/Tatshenshini is by water, air, four-wheel drive vehicle or horseback.

First Nations people in the area include the Champagne-Aishihik band, now largely resident at Haines Junction and Whitehorse, Yukon. Although the band's hunting and fishing activities in recent years have been concentrated in the Yukon headwaters, its interest in land includes a section of northwestern British Columbia that contains the Windy Craggy project area. Other coastal native bands fish at Dry Bay, Alaska.

The principal commercial use of the area is river rafting. Since the mid-1970s, up to 1,000 rafters a year have made the journey along the Tatshenshini and Alsek rivers. Kayakers and canoeists also use the rivers. In addition, an outfitter guides hunters by four-wheel drive vehicles and horseback from a camp off the Haines Highway into the Shini and Delores creek areas to shoot sheep, goats and bears.

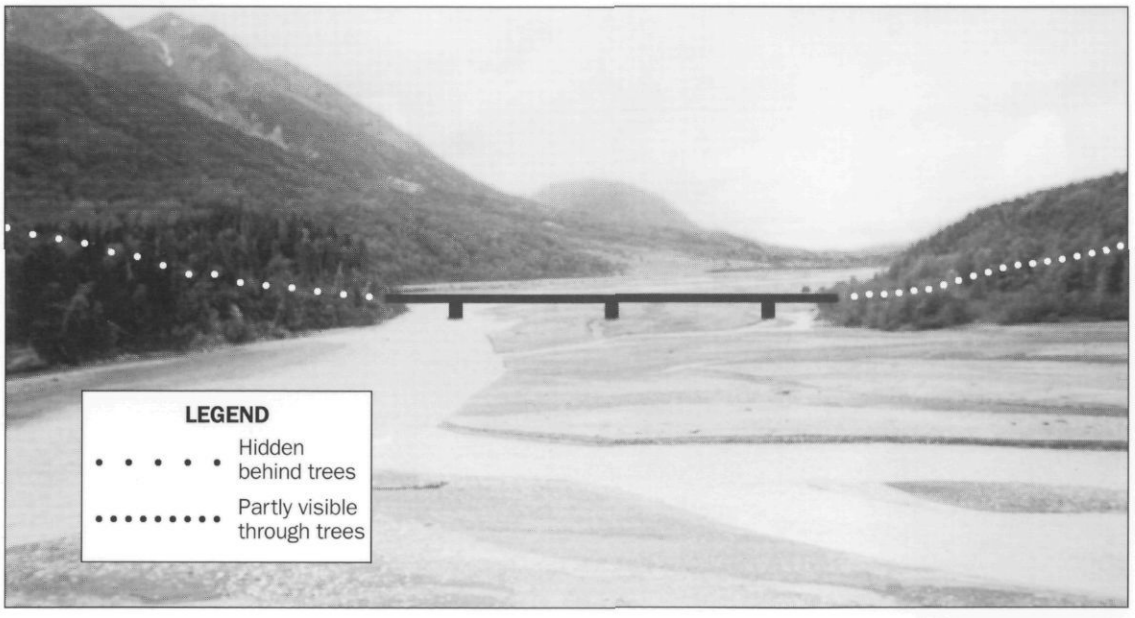
The mine would be 30 to 40 kilometres distant, invisible from the Tatshenshini

Major parks in the region include Glacier Bay and Wrangell-St. Elias in Alaska and Kluane in Yukon, ranging from 32 to 96 kilometres (20 to 60 miles) away. Apart from these, Windy Craggy is ringed by unpopulated, undeveloped, largely inaccessible crown land.There has been concern that Glacier Bay National Park might be threatened by the mine development. John Schnabel of Alaskans, Inc. has pointed out that "a map of the area shows mountains and glaciers separating the watersheds." To a suggestion that the mine also might threaten Haines, Schnabel responded: "To most of us who live here — 27 percent unemployed, shopkeepers and service businesses, etc. — the greatest threat to Haines is unemployment, which will reduce our population. Our tax base would be affected, which, in turn, would diminish our educational capabilities and other amenities we now enjoy."

Improved Access for Recreation and Wildlife Management

What effects would the Windy Craggy project have on other uses of the Alsek/Tatshenshini? Minimal adverse effects, and some that could be beneficial. Windy Craggy operations would not significantly alter the river rafters' experience. Rafters would pass briefly under an access road bridge and might glimpse short sections of roadway along a 20 kilometre (12 mile) section of the route through the Tatshenshini Valley. But the mine and its workings would be 30 to 40 kilometres (18 to 25 miles) away, invisible from the river.

In fact, the Windy Craggy development could enhance the tourism potential of the area by improving access. Geddes Resources' construction of a road to the confluence of the Tatshenshini and O'Connor rivers could lead to an alternate river rafting experience, allowing rafters to travel the upper Tatshenshini and complete their



River rafters would pass briefly under an access road bridge and might glimpse short sections of roadway.

expedition in Canada. Or, they could enter the river at O'Connor and travel only the lower, more scenic portion of the route to Dry Bay.

The access road, a 105 kilometre (65 mile) link between the Windy Craggy project and Haines Highway at Mile 84, would be built to Forestry Road Class V standard. By providing controlled road access to the Tatshenshini River, it could assist both outfitters and wildlife management teams.

The environmental protection program planned for the Windy Craggy project is described in detail in the section *Environmental Protection.* The program includes waste management, water quality control, and protection of habitat, with special care for the fishery and wildlife.

Satisfying Concerns of the Majority

The Honorable Anne Edwards, Minister of Energy, Mines and Petroleum Resources in British Columbia, spoke to the Mining Association of British Columbia shortly after her appointment. Ms. Edwards told the miners that proper decisions can be made only through a land use strategy that recognizes a wide range of values and their impact on the province as a whole.

Geoffrey Castle of the University of British Columbia's Sustainable Development Research Institute wrote that decision makers in the public sector "must go beyond the traditional 'jobs or the environment' thinking and explore the fertile middle ground in this polarized debate. There may be an area of overlap between the range of acceptable alternatives from an environmental perspective and the range of acceptable alternatives from an economic viewpoint. It is imperative to find that overlap; if we cannot, there are dangerous implications for the future of our species and the others that share the planet.

"While a safe compromise might draw fire from embittered extremists on the left and right, it might satisfy the concerns of a majority who are interested in economic development and the integrity of the environment."

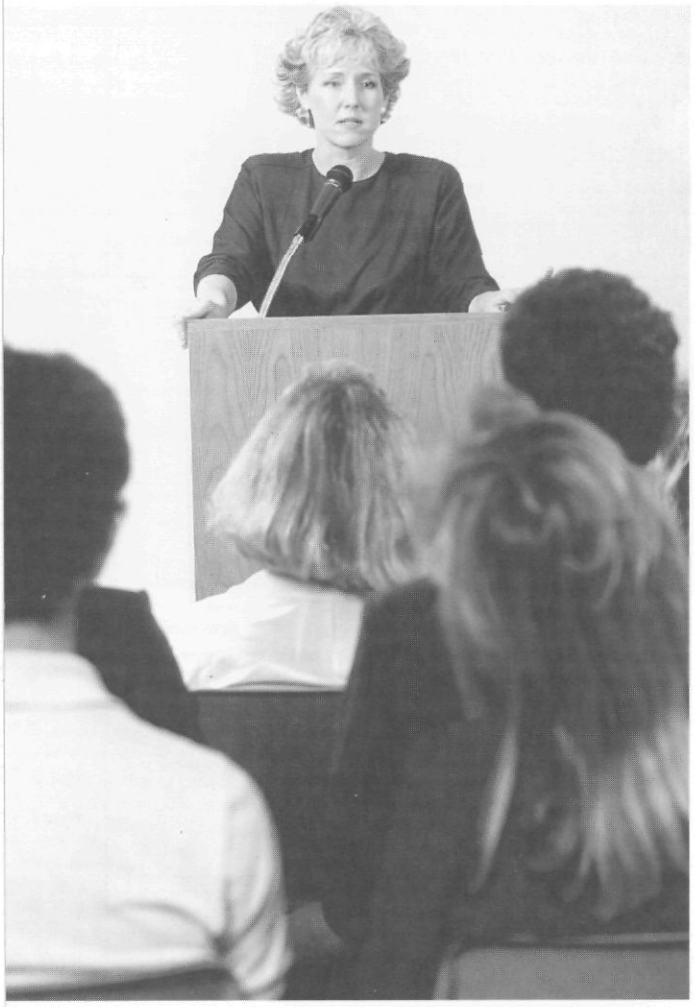
"There is a lot at stake"

Castle continues: "To allow Windy Craggy to go ahead without proper environmental safeguards would be unconscionable. On the other hand, to reject the project without fully exploring the possibilities for safe development would be wrong.... Projects similar to the proposed copper mine at Windy Craggy contribute significantly to the high standard of living that Canadians have come to enjoy, even expect."

A development that can bring prosperity to BC, Yukon and Alaska while protecting the environment and respecting the interests of others

The World Commission on Environment and Development, in the Brundtland Report, identified a new industrial/environmental strategy: sustainable development. This is what Geddes Resources proposes for Windy Craggy — development that can bring prosperity to many communities in British Columbia, Yukon and Alaska, while protecting the environment and respecting the interests of others who share the land.

The Approval Process



Public consultation meetings are a required part of the approval process.

The Approval Process

The stringent approval process required for the Windy Craggy project by the government of British Columbia is comprehensive, incorporating baseline studies, impact assessments, technical reviews, and opportunities for public consultation and comment. A corresponding review process is required by the Canadian federal government. Alaska components of the project will be reviewed under Alaska state and US federal processes.

Geddes Resources has emphasized its readiness to provide required information to all regulatory agencies and to participate fully in agency and public reviews. The steps toward Windy Craggy development approval are summarized here.

May 1988 Project Prospectus filed with the British Columbia Mine Development Steering Committee (MDSC). This prospectus described the initial concept for development.

July 1988 Preliminary Road Corridor Assessment filed with MDSC. This report reviewed the need for an all-weather road from the Haines Highway to the minesite. It examined all possible road corridors, rating them on geotechnical, environmental and engineering considerations.

April 1989 Stage I Work Program for environmental baseline studies in the project area submitted to MDSC.

May 1989 Road Justification and Corridor Assessment filed with MDSC. This assessment identified the Scottie Pass route as the preferred corridor, for ease of construction and maintenance and for safety from avalanches.

January 1990 Stage I Environmental and Socioeconomic Impact Assessment (Volumes I-V) filed with MDSC. This report describes the proposed mining, processing and transportation processes, outlines environmental baseline conditions, and contains detailed baseline data.

May 1990 Public consultation meetings conducted in nine British Columbia, Alaska and Yukon communities.

November 1990 Stage I Revised Mine Plan submitted to MDSC. This plan significantly reduces the quantity of waste rock, segregates rock that has acid generation potential, and disposes of potentially acidic wastes in a submerged impoundment. The plan incorporates the most advanced and effective technology for prevention of acid rock drainage.

Technical seminars held in Whitehorse, Yukon; Haines, Alaska; and Smithers, BC.

Public consultation meetings conducted in Whitehorse and Haines Junction, Yukon, and Haines, Alaska.

January 1991 Draft permit applications for the terminal in Haines, Alaska, submitted to the US Corps of Engineers, the Federal Environmental Protection Agency, and various Alaska state agencies. The application was accompanied by the following reports: Project Description for the Daschuu Terminal, Socioeconomic Impacts of the Windy Craggy Project on Haines, Alaska, and Environmental Evaluation for the Daschuu Terminal, Windy Craggy Project.

March 1991 Application for utility permit (pipeline) submitted to Alaska Department of Transportation and Public Facilities.

Public consultation meeting held in Haines, Alaska.

June 1991 Notification given MDSC that a pipeline system is proposed for copper concentrate and fuel oil transport between the minesite and Haines.

August 1991 Mine Development Assessment Act is enacted by the government of British Columbia to provide a Mine Development Certificate for mining projects approved for development.

July 1992 Summary of Outstanding Issues and Terms of Reference for an Application for a Mine Development Certificate issued for the Windy Craggy Project, accompanied by detailed review comments on Stage I reports.

BC government assigns the Commission on Resources and the Environment

(CORE) to conduct a land and water use review for the Alsek/Tatshenshini area. Review process for the Windy Craggy project awaits completion of this study.

The Next Step

When the review process resumes, Geddes Resources will undertake the necessary field work and engineering, environmental and economic studies for its Mine Development Certificate application. The application will include all information required by agencies of British Columbia and Canada.

The Windy Craggy Environmental Impact Statement will be reviewed by agencies of BC, Canada, Alaska and the United States. It will be examined by a joint provincial/federal review panel, and will be submitted for public and native group review. When successful reviewing of the development proposal is completed, a Mine Development Certificate will be issued, followed by completion and issuing of specific permits for the project's development.

Applications for permits related to the Alaska components of the project will be submitted to appropriate state and federal agencies. The principal agency will coordinate the National Environmental Policy Act process, leading to preparation of an Environmental Impact Statement and permit documents. Following agency and public review, the required federal, state, and local permits will be issued, approving development of the Alaska facilities.

Agencies and organizations that have reviewed Windy Craggy plans include:

Government of Canada
- Energy, Mines and Resources Canada
- Environment Canada
- Fisheries and Oceans
- Indian and Northern Affairs Canada
- Transport Canada

Government of British Columbia
- Ministry of Energy, Mines and Petroleum Resources
- Ministry of Aboriginal Affairs
- BC Environment, Lands and Parks
- Ministry of Tourism and Ministry Responsible for Culture
- Ministry of Forests
- Ministry of Agriculture, Fisheries and Food
- Ministry of Economic Development, Small Business and Trade
- Ministry of Municipal Affairs, Recreation and Housing
- Ministry of Social Services
- Ministry of Health
- Ministry of Advanced Education, Training and Technology

Government of the United States of America
- Environmental Protection Agency
- Department of the Interior
- Department of Commerce

Government of Alaska
- Department of Fish and Game
- Department of Environmental Conservation
- Department of Transportation and Public Facilities
- Department of Natural Resources
- Division of Governmental Coordination

Yukon Territorial Government

Native Groups
- Champagne-Aishihik Band
- Haines, ANB/ANS Camp #5
- Council for Yukon Indians

Environmental interest groups
- Tatshenshini Wild
- National Parks and Conservation Association
- Sierra Club - Alaska
- National Wildlife Federation
- The Wilderness Society
- Probe International
- Lynn Canal Conservation Inc.
- Friends of Yukon Rivers
- Yukon Conservation Society
- American Rivers
- National Audubon Society
- Wilderness Journeys
- Sierra Club of Western Canada
- World Wildlife Fund
- The Sockeye Society
- Southeast Alaska Conservation Council

Geddes Resources welcomes this continuing scrutiny, in order to demonstrate that the Windy Craggy project can bring substantial economic benefits to British Columbia, Alaska and Yukon with minimal environmental impact.

APPENDIX 1: CHRONOLOGY OF WINDY CRAGGY PROJECT

1958 Initial discovery (Ventures-Falconbridge) 3.2 km north of Tats Lake; Red Creek patches.

1965 Twenty-five drill holes and geophysical surveys established continuity of sulphide mineralization.

1980 Geddes Resources Ltd. incorporated; joint venture formed with Falconbridge.

1981 Aerial geophysical survey; 2,542 m diamond drilling.

1982-83 Major exploratory drilling of 5,506 m, geophysical surveying, geological mapping and sampling.

1983 Significant gold intersection located. Geddes Resources assumed 100 percent of Falconbridge holdings.

1985 Airstrip constructed.

1987 Major underground exploration program began.

13 km road constructed from airstrip over Tats Glacier to portal on SW slope of Windy Craggy Mountain.

Construction of 40 person camp.

Mining equipment and supplies delivered to airstrip, then over glacier road to portal.

Commencement of data collection for baseline environmental conditions; e.g., water quality, weather, wildlife populations.

1987-89 Adit, North and South drifts and crosscuts completed - 4,139 m

200 t bulk sample collected from sulphide zones.

Regional and detailed geological mapping of Windy Craggy Mountain and adjacent area.

1989-90 Geological reserve estimates determined by Derry Michener Booth and Wahl Consultants and Montgomery Consultants.

Baseline glaciology data collected by Schmok and Maxwell, including snow accumulation and loss, surface velocities, sub-glacial water systems, and assessment of surge behavior.

1990 Preliminary feasibility study completed by Fluor Daniel Wright with additional information from Steffen Robertson and Kirsten Inc. and other consulting firms. This study developed the mining and waste management plans.

1991 Updated geostatistical reserve estimate determined by Montgomery Consultants.

Mining plan revised by Steffen Robertson and Kirsten Inc. to include the latest updated reserve estimate.

1991-92 Field work and engineering studies suspended until final stage of permitting commences.

1992 Seismicity study completed by Bruce Geotechnical Consultants to evaluate previous seismic work and determine additional requirements.

1993 Commission on Resources and Environment review of Alsek/Tatshenshini land and water use continues.

APPENDIX 2: GEOLOGY OF WINDY CRAGGY

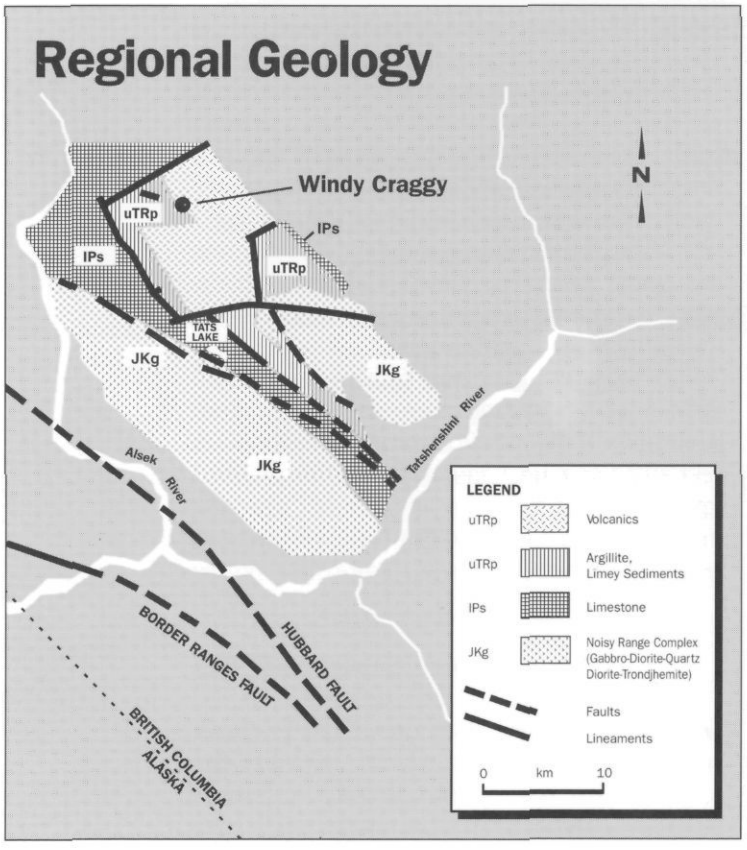
Physiographic Location of Project Area

Windy Craggy Mountain is in the Alsek Ranges of the St. Elias Ranges in the Tatshenshini map area (NTS 114P) in northwestern British Columbia. The Alsek Ranges extend southeastward from the Alsek River and are east of the Fairweather Ranges. While generally lower than the Fairweather Ranges, they have serrate peaks sculptured by cirque action and carry a smaller mantle of snow and ice. The major valleys have been strongly modified by glaciers. The creeks and rivers are heavily charged with sediments from melting glaciers, and the low timberline and general lack of vegetation in many parts give the appearance of a land only recently emerged from the Pleistocene Ice Age.

Windy Craggy Deposit

The Windy Craggy deposit is a volcanogenic massive copper-gold-silver-cobalt sulphide deposit. Regionally, it is within the fault-bounded Alexander Terrane. Lithologies include Paleozoic carbonates and clastics and Triassic marine clastics and volcanics; these are intruded by Jurassic-Cretaceous granitoid stocks and batholiths.

The deposit is hosted by Triassic clastic sediments and mafic flows and sills. Massive sulphide mineralization occurs near the transition from a predominantly clastic host to overlying volcanic assemblages. The clastic sediments comprise calcareous, carbonaceous and sulphidic units. Intermediate to mafic volcanic units are carbonate and chlorite altered. Metamorphic rank is greenschist. Major faults dip steeply, strike northwesterly, and trend subparallel to contacts between enclosing lithologies. Isoclinal and open folds occur in both the massive sulphides and host rocks.



Sulphides

The deposit has characteristics in common with both Besshi and Cyprus type massive sulphide deposits. The principal sulphide minerals in the deposit are pyrite, pyrrhotite and chalcopyrite, with lesser sphalerite.

The gold content of the massive sulphides averages 0.22 gpt, and exists in part as native gold. Cobalt content of the massive sulphides averages about 0.09%.

Mineralogy and Distribution

Mineralization at Windy Craggy is complex. The deposit would appear to be the result of both primary and secondary processes. There are a variety of host rocks, with and without sulphide mineralization, all of which have been affected by alteration, deformation and intrusion of other rock types. As well, there are areas of supergene enrichment.

The deposit, as currently defined, includes three bodies: the north and south, which trend over a minimum strike length of 1.6 km with a vertical extent of at least 600 m and width up to 200 m, and the ridge zone to the northeast, with a possible strike length of 400 m. A sulphide stringer stockwork composed of irregular sulphide veins within pervasively chlorite and silica altered wallrock is developed around the northern body and intermittently around the southern body.

The north zone is dominated by pyrite containing gold and silver, and the south zone by pyrrhotite containing cobalt. The relationships

indicate that the gold, silver and cobalt are associated in part with iron sulphides rather than copper sulphides. Zinc, as sphalerite, occurs in parts of the north zone with associated silver enriched values.

Gangue components include silica, iron carbonates, magnetite, chlorite and calcite. Surface portions of each zone demonstrate supergene copper sulphide enrichment overlaid by gossan caps enriched in gold and silver.

Geological mapping from Tats Lake to the Frobisher Glacier shows the lithologic units to the west to be limestone and calcareous argillite and to the east to be mafic and intermediate volcanic, gabbro and interbedded calcareous argillite, siltstone and limestone. The volcanics range from weak to strongly calcareous. Massive limestone occurs on the ridge behind Tats Lake. The Windy Craggy deposit occurs within a major carbonate basin of calcareous argillites, limey sediments and limestone. These rock types outcrop over a large area and form bedrock for Frobisher and Tats creeks.

The mineable portion of the deposit is largely of mixed volcanic and sedimentary sequences of Triassic age, comprising argillites and intermediate to mafic volcanic flows, sills and dikes. Small ultramafic bodies are presumed to intrude the sequence.

Mineral Potential

In addition to the Windy Craggy deposit and extensions to it which undoubtedly will be discovered, reconnaissance in the surrounding area has identified a favorable mineral environment. Showings of base metal mineralization, along with geochemical, geophysical and structural conditions, all point to the potential for additional mineral deposits.

SUMMARY EXPLORATION STATISTICS

Total Drilling: 221,128 feet (67,417 metres)

Diamond: 215,243 feet (65,623 metres)

Windy Craggy Deposit

Ventures: .....2,116 feet in 25 surface holes
Geddes: .....208,720 feet in 192 holes
surface: 50,057 feet in 45 holes
underground: 158,663 feet in 147 holes

Tats showing: (1,136 feet in 4 holes)
Tailings area: (1,033 feet in 2 holes)
Limestone: (2,238 feet in 5 holes)

Geotechnical: 5,885 feet (1,794 metres)

Overburden: .....(2,391 feet in 17 holes)
Glacial: .....(3,494 feet in 6 holes)

Total Adits, Drifts, Cross Cuts: 13,580 feet (4,139 metres)

Adit: .....6,200 feet (1,890 metres)
North Drift: .....3,429 feet (1,045 metres)
North Cross Cut: ....1,474 feet (449 metres)
South Drift: .....1,509 feet (460 metres)
South Cross Cut: ...968 feet (295 metres)

Total Bulk Samples: 478,865 lbs

Metallurgical: .....444,524 lbs
Column Leach: .....33,665 lbs
Other: .....675 lbs

Total Analyses

Assays: 23,995
ICP: 21,730
ABA: 1,247

APPENDIX 3: TECHNICAL CONSULTANTS

Consulting groups which have participated in the development of the Windy Craggy project include the following:

British Columbia

Beckett Geological Services
geology

BC Research Corporation
laboratory testing

Bruce Geotechnical Consultants
seismic evaluation

Delcan Corporation
road engineering

Derry Michener Booth and Wahl Consultants
mineral reserve calculation

Fluor Daniel Wright
project engineering and financial evaluation

Lakefield Research
metallurgical testing

Montgomery Consultants Ltd.
mineral reserve calculation

Norecol Environmental Consultants Ltd.
environmental assessment

J. Schmok & M. Maxwell
glaciology

Steffen Robertson and Kirsten
waste management planning

Alaska

The McDowell Group
socioeconomic analysis

James M. Montgomery, Consulting Engineers, Inc.
environmental assessment

Peratrovich, Nottingham & Drage, Inc.
marine terminal design

APPENDIX 4: CORPORATE DATA

Geddes Resources Limited is a public company, listed on the Toronto Stock Exchange. At the end of 1992, 33,192,928 shares were issued and outstanding. Registered and unregistered shareholders totaled approximately 1,000. Shareholders are resident in eight Canadian provinces, Yukon and 37 American states. Small numbers of shares are held by investors in the United Kingdom and France.

Principal shareholders are Northgate Exploration Limited of Toronto, Ontario, with 39.3 percent and Cominco Ltd. of Vancouver, BC, with 17.7 percent.

Directors and officers of Geddes Resources include Howard E. Cadinha, chairman and director; Keith L. Somerville, president and director; Patrick D. Downey, executive vice president and chief financial officer of Northgate Exploration, director; John O. Kachmar, president of Northgate Exploration, director; Terrence A. Lyons, executive vice president, chief financial officer and director; Lorna D. MacGillivray, secretary and general counsel of both Geddes Resources and Northgate Exploration; and Anthony J. Williams, controller of both Geddes Resources and Northgate Exploration.

Geddes Resources' executive offices are located at:
1400-700 West Pender Street,
Vancouver, BC, V6C 1G8.
Telephone 682-2392; Fax 682-7047.

To receive continuing reports on Windy Craggy, complete and mail coupon.

GEDDES RESOURCES LIMITED

1400-700 West Pender Street, Vancouver, British Columbia, Canada V6C 1G8

Please add my name to your mailing list for continuing information regarding Geddes Resources Limited and the Windy Craggy Project.

NAME _____

ADDRESS _____

CITY _____

STATE/PROVINCE _____ POSTAL /ZIP CODE _____

I am particularly interested in:

- ❑ business/employment opportunities
- ❑ public consultation/approval process
- ❑ environmental studies
- ❑ other _____

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