



GEDDES RESOURCES LIMITED

WINDY CRAGGY PROJECT

INTRODUCTION

Geddes Resources Limited is proposing to develop a major copper mine on its Windy Craggy property in the northwestern corner of British Columbia.

The company submitted a Stage I Environmental and Socioeconomic Assessment Report in January 1990 under British Columbia's Mine Development Review Process. In addition a Revised Mine Plan was submitted in November 1990 in response to initial comments from agencies of governments of British Columbia, Canada, Alaska and the United States, and from a series of public information meetings held in nine B. C., Yukon and Alaskan communities in May 1990. Supplementary to the formal submissions and public information meetings, the company sponsored a series of public seminars in November 1990 on key technical aspects of the mine proposal.

At the present time, the company is awaiting a report from the Mine Development Steering Committee which will summarize the comments from reviewing agencies and will provide terms of reference for Stage II studies and reporting.

PROJECT HISTORY

The Windy Craggy Project is located in the Haines Triangle of British Columbia, 190 kilometres southwest of Whitehorse, Yukon Territory. It lies in the Alsek Range bordering the St. Elias Mountains. Peaks and ridges rise up to 2,200 metres above sea level from valley floors at an elevation of 800 - 1,000 metres. At this latitude and elevation, the upper portions of most valleys are occupied by glaciers.

Prospectors for Frobisher Exploration Limited (now Falconbridge) discovered the Windy Craggy mineral deposit in 1958. Geddes Resources optioned the property in 1981 and acquired full ownership, subject to a 22.5% net proceeds interest, in 1983. Major shareholders of Geddes Resources are Northgate Exploration Ltd. of Toronto (40%) and Cominco Ltd. of Vancouver (20%).

In 1987, excavation of an adit was started and baseline environmental studies were begun. The adit, driven into Windy Craggy Mountain at an elevation of 1400 metres, enabled underground diamond drilling to be carried out starting in 1988. Exploration to the end of 1990 included 4,139 metres of underground development on the 1400-metre level, 61,076 metres of drilling in 47 surface and 146 underground drill holes, and bulk sampling. To date, approximately \$45 million (CDN) has been spent on exploration, engineering, environmental and socioeconomic studies.

GEOLOGY AND RESERVES

The Windy Craggy mineral deposit is situated within interbedded calcareous, locally sulphidic argillites and basic volcanic rocks. The deposit contains three massive sulphide zones, a North Zone, a South Zone and a newly discovered Ridge Zone. Tabular to irregular in shape, the zones together extend over a known horizontal distance of 1.5 kilometres, range vertically at least 600 metres and can be up to 200 metres wide. Chalcopyrite is the predominant copper mineral and occurs with pyrrhotite, pyrite and sphalerite (zinc mineral). Gold, silver and cobalt are present with the sulphides.

Geological reserves amount to 297 million tonnes (327 million tons) grading 1.38% copper, 0.07% cobalt, 0.2 grams of gold per tonne and 3.8 grams of silver per tonne. Exploration is continuing and the potential for increasing reserves is considered to be excellent.

PROJECT DEVELOPMENT

A preliminary mining plan proposes two open pits, one for the North Zone and one for the South Zone, and underground mining commencing in the South Zone in the 10th year of operation. An ultimate waste to ore ratio of 1.9:1 is expected. Mining will commence in the North Zone on the northeast ridge of Windy Craggy Mountain.

The combination of open pit and underground mining will have the effect of reducing the quantity of waste rock to about 50% of what would be generated by full-scale open pit mining. Waste rock capable of generating acid drainage will be trucked to a tailings impoundment for permanent disposal under water. The balance of the waste rock, which will be acid consuming, will be trucked to disposal heaps near the minesite, mainly on glaciers.

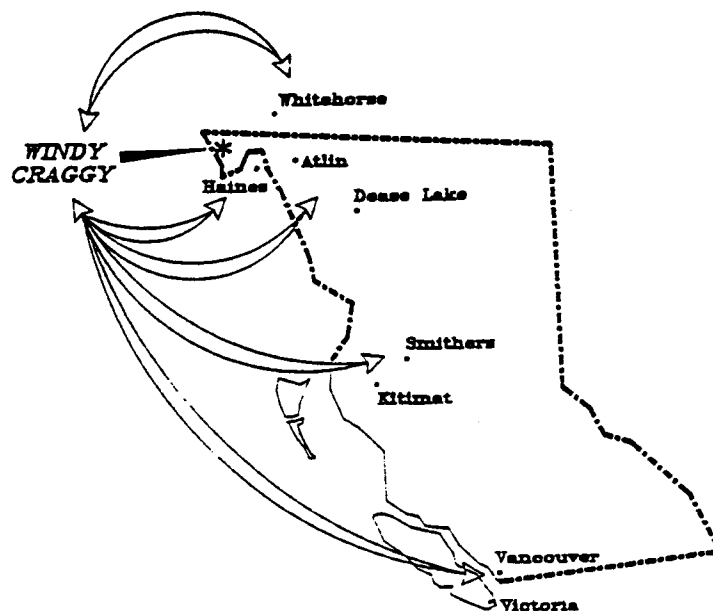
Semi-mobile crushers in the pit will feed underground ore passes leading to the 1400-metre level. The ore will then be conveyed to the adit and processed through a grinding plant. A slurry pipeline will transport the ground ore 13 kilometres to a flotation plant near Tats Lake.

Metallurgical testwork indicates that a flotation concentrate containing 28% copper and some gold and silver values can be produced with recovery of 88% of the copper. After fine grinding, the copper minerals will be separated from the iron sulphide minerals by four stages of flotation. Mill tailings will be disposed of in an impoundment area which will be water-covered at all times to prevent acid generation. Waste water will be reclaimed for reuse in the mill. In the future the company will consider recovering cobalt and zinc from those portions of the deposit which contain sufficient amounts of these metals.

The copper concentrate will be transported to Haines, Alaska by a slurry pipeline. In Haines the concentrate will be dewatered and stored prior to loading into ocean-going ships for transport to smelters for further processing. The slurry water will be treated prior to discharge to Lutak Inlet via a submerged diffuser.

Windy Craggy will produce 140,000 tonnes of copper per year, or about 1% of annual world production, for at least 20 years. It will be the second largest copper mine in B.C., after the Highland Valley Copper mine.

DISTRIBUTION OF BENEFITS



ECONOMIC BENEFITS OF THE PROJECT

The Windy Craggy Project is planned as a fly in-fly out operation from Whitehorse, Yukon as well as Smithers and possibly other communities in northern B.C. Northern and native recruitment will be considerations in staffing the project. A workforce resident in Haines, Alaska will operate the port facilities and transportation system for concentrate, fuel oil and supplies.

The project will provide approximately 500 jobs during the three-year construction period and during the mine operation. This employment will replace jobs lost due to the forecast closure of other British Columbia mines as their ore reserves are depleted during the mid 1990's.

The major supply route will be from Vancouver by marine transport to Haines, Alaska, benefiting suppliers, distributors and transportation companies in both Canada and Alaska.

SOCIOECONOMIC DATA FOR THE WINDY CRAGGY PROJECT (UNESCALATED)

• INITIAL CAPITAL INVESTMENT	-	\$550 M
• ONGOING CAPITAL	-	\$20 M/YR. AVERAGE
• OPERATING EXPENDITURES	-	\$130 M/YR. AVERAGE
• EMPLOYMENT	-	500 JOBS AVERAGE
• DIRECT TAX BENEFITS TO BRITISH COLUMBIA: (20 YEARS)		
• PERSONAL INCOME TAX	-	\$ 95 M
• MINING TAX	-	\$260 M
• CORPORATE INCOME TAX	-	\$245 M
• SALES TAX:		
FUEL	-	\$ 65 M
SUPPLIES	-	\$ 55 M

ENVIRONMENTAL ISSUES

The primary environmental issues prompted by the Windy Craggy Project are the wilderness values of the Taishenshini area and the potential for Acid Rock Drainage.

The wilderness values ascribed to the area relate to remoteness, the presence of wildlife, particularly Dall's sheep and bears, and the perceived effect on the river rafting businesses of the access road required for development and operation of the project. The company believes the road will provide a net positive impact by providing access for alternate recreational activities in addition to rafting. Wildlife habitat and migration will be minimally effected by the proposed road considering the light traffic that is required during the mine operation.

Acid Rock Drainage must be prevented during the operation of the mine and after closure. Tailings and waste rock will be disposed of in a submerged impoundment; a method of disposal known to be safe in the long-term. As the waste rock is mined it will be separated so that the potentially acid generating rock will be placed in the impoundment and only the waste rock which is acid consuming will be put on waste heaps on glaciers.

Other environmental questions at Windy Craggy; water quality, seismic conditions, glacier movements, weather, etc. are being studied to gather the information with which engineering can provide secure, effective controls for the project.

Alaskan concerns related to large scale trucking operations have been mitigated by the proposed pipeline system for concentrate and fuel oil.

REVIEW PROCESS

The new Mine Development Assessment Act, which was enacted in August 1991, will formalize the review process and provide for an assessment panel which will conduct a public inquiry into the proposal. The panel which will be jointly appointed as part of the B.C. review process and the Canadian Environmental Assessment and Review Process will recommend to government the conditions under which the project should be approved.

Permit applications for facilities in Alaska will be submitted to U.S. federal, state and local agencies to initiate their environmental review process.

The B.C. review process, the Canadian Federal review and the review of the Alaskan components by Alaska and the United States will ensure that a complete technical review of the environmental and socioeconomic aspects of the project occurs and that the interests and concerns of the public are fully considered.

INFORMATION

Additional information on the Windy Craggy Project can be obtained from:

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If you are in favour of the Windy Craggy Mining Project and wish to see it proceed, please phone your M.L.A. and write to the following committee.

Mine Development Steering Committee
c/o Resource Management Branch
Mineral Resources Division
Ministry of Energy, Mines & Petroleum
2nd Floor, 525 Superior Street
Victoria, B.C.
V8V 1X4

Attention: Mr. Norm Ringstad

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TO

THE B.C. ECONOMY AND

TO

YOUR FUTURE!