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GEDDES RESOURCES LIMITED

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October 23, 1989

Mr. Ray Crook
Manager, Development Approvals and MDSC
Ministry of Energy Mines & Petroleum Resources
Engineering and Inspection Branch
Room 105 - 525 Superior Street
Victoria, B.C.
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Dear Mr. Crook:

I am writing to enclose a copy of my speech of Thursday October 12, 1989 together with a list of attendees at our dinner and tour of the Windy Craggy Project.

I am sorry you were unable to attend, however; your Ministry was ably represented by Mr. Ralph McGinn and Ms. Karen Koncohrada, with whom I had some interesting discussions.

We are tentatively planning another program early in 1990 and perhaps you can attend at that time.

Yours truly,

Dr. Gerald Harper
President

Presentation on Windy Craggy at the

Edgewater Hotel

Whitehorse, October 12, 1989

by

Gerald Harper

President & CEO of Geddes Resources Limited

Good evening. Most of you are familiar with the name Windy Craggy and have some idea of what it is. Tonight I want to tell you more about it, dispel some myths and discuss the future.

The discovery was made in 1958 by geologist J.J. MacDougall and prospectors employed by Frobisher Limited, now part of Falconbridge. Large mineralized boulders were discovered in the moraine of East Arm Glacier and followed up to source. That follow up crossed the divide onto the Frobisher Glacier where more mineralized boulders were found directly below a north cliff face on which mineralization was found in place. Outcrops of copper mineralization were traced from the north face over the top of Windy Craggy Mountain and down the southeast spur. They all suggested a very large deposit of copper and iron sulphides. It is now our belief that the original boulder discoveries could not have come from Windy Craggy but indicate the presence of other deposits in the district. The present characterization of Windy Craggy as a "massive sulphide" type of deposit suggests that it is not alone and that the district will yield several deposits when thoroughly explored. If the size of Windy Craggy is any measure then this district may surpass the Noranda and Flin Flon massive sulphide districts and rival the Brunswick district.

How big really is Windy Craggy? Mapping, geophysics and limited surface drilling by Falconbridge prior to 1981 had traced mineralization intermittently over a length of 1,500 metres (4,900 ft.). But that company's priority then was nickel exploration and

Windy Craggy sat, undefined until 1981 when visionary Geddes Webster approached Falconbridge with a joint venture proposal. As soon as the ink was dry Geddes Resources financed a major surface drilling program which not only demonstrated incredible lengths of copper mineralization but also associated cobalt, gold and silver. By the end of 1982 the company had earned a 49% interest in the property and renegotiated the agreement with Falconbridge whereby Geddes Resources was able to gain a 100% interest in the property subject to a 22.5% net profits interest on future production after recovery of all costs with interest. The mountain topography and short summer season made it impractical to try and define the detailed dimensions of the deposit by surface drilling. A bold but expensive concept was developed; to drive a 1.8 Km tunnel into the mountain and drill off the deposit from underground, immune from the elements. The specific target for the tunnel was determined to be an area of very high gold values identified by one of the surface holes (#83-14; 61m at 9.2g/t Au or 201 ft at 0.3oz/t Au). If this represented part of a substantial tonnage of gold ore then a relatively low capital cost "fly in" gold mine might be established to finance the much greater cost of the ultimate mine.

The combination of flow through financing and a junior bull market in 1987 provided the opportunity for Geddes to embark on its ambitious program. After constructing an airstrip, mining equipment was flown in and the tunnel started in May 1987. Ten months later the access tunnel was completed and side tunnels extended to drill stations. The results of the first six drill holes directed up at the gold target were frustrating as they intersected a faulted area which caused serious deviation of the holes away from the target area but into the massive sulphide with remarkable core lengths of consistent copper and cobalt values.

For the next fourteen months, until May 1989, drills worked round the clock to trace out the dimensions of the massive sulphide deposit. At that point we had enough understanding of the deposit to identify the broad range of development options available for the major massive sulphide resource. The pace of activity increased, with drilling now focused on detailing the reserves, more tunnelling for metallurgical samples, geo-technical studies, surface trenching, engineering, surveying, air photography, seismology and environmental studies.

We now know that there are at least two major massive sulphide bodies, the North and South, which extend over a horizontal length of at least 1,900 metres (6,250 ft.) reach a maximum width of at least 220 metres (720 ft.) and have a vertical extent of at least 700 metres (2300 ft.). The ultimate horizontal and vertical extents are wide open and there are several hints that there will be parallel zones. Within the limits of the closer - spaced drilling, geological reserves of the massive sulphides are now estimated at over 150 million metric tonnes (165 million short tons) grading 1.64% Cu 0.09% Co, 0.19% g/t Au and 3.02 g/t Ag. Within this are probable reserves (at a 1.5% Cu cutoff) of 93 million tonnes grading 2.17% Cu. The 150 million metric tonnes represents a resource of 930,000 troy ounces of gold, 14.8 million troy ounces of silver, 300 million pounds of cobalt and 5.5 billion pounds of copper. For comparison, using only proven & probable category reserves, those at Windy Craggy contain 4.4 billion pounds of copper while the largest copper mine in Canada, Highland Valley Copper in southern British Columbia, at the end of 1988 stated proven and probable reserves of 6.75 billion pounds of copper. Windy Craggy's ultimate potential reserve is clearly as big as any deposit in Canada.

Can this tremendous resource be translated into an economic asset? I believe the answer is yes and I would like to spend the next few minutes outlining how it might be achieved. I caution you that I am going to describe a scenario which is not cast in stone and neither should it be at this time as a lot of areas require more investigation and study.

Our consultants have examined an extensive range of options for mining, milling processes and locations, tailings waste disposal, diesel and hydro electric power, access, transportation and staffing. From this we have identified twelve combinations which have been examined in sufficient detail to rank them by quantitative financial analysis and qualitative parameters including technical risk and environmental sensitivity. This has allowed the twelve options to be narrowed to a short list of four all of which had similar "scores". These four are basically the same except for limited differences in a few of their component modules. For example diesel versus hydro electric power would be a trade - off of capital versus operating costs. More engineering and testwork is required to determine finally which of these four is the best.

The overall development anticipates initial operation at a scale of 20,000 tonnes per day or 7 million tonnes of ore per year. At this rate present reserves are sufficient for more than 20 years of operation. Even if production is subsequently expanded, future reserve additions are likely to give an ultimate mine life of more than 30 years. Open pit mining would provide mill feed for at least the first 15 years, at which time a transition to underground mining would be contemplated. Milling would utilize conventional crushing, grinding and flotation techniques to provide maximum recovery of copper (estimated at 88%) in the form of a concentrate grading about 28% Cu with some gold and silver. This would be

trucked to the port of Haines, Alaska for shipment to offshore smelters. Subject to further testwork, additions to the mill could be contemplated to increase recoveries of gold and silver and to produce separate marketable products containing cobalt and possibly magnetite and zinc.

For the first five years the average grade of ore mined would be almost 2% copper and the waste stripping ratio less than 1.4:1 (tonnes of waste per tonne of ore). Output would therefore average 450,000 wet tonnes of concentrate per year or 120,000 tonnes of contained copper metal. For comparison, 1988 production of copper by other major Canadian producers was:

Falconbridge	172,000 tonnes
Highland Valley	170,000
Inco	116,000
Westmin	26,000
Gibraltar	19,000

Truck transportation over the 255 Km road distance to Haines would require 25 - 30 loads per day, a frequency of slightly more than one load per hour.

Mining would be a conventional truck and shovel operation with non acid generating waste rock being trucked out of the pit to dumps; mill feed and low grade, potentially acid-generating rock would be dumped into shoots in the pit floor which would drop the rock down to the level of the present exploration tunnels. Here it would be crushed and fed onto a conveyor system for transport along an enlarged version of the present tunnel to the mine entrance. Low grade material would be stacked in special storage areas designed for reclaim and acid water run-off control. Mill feed would be ground to a slurry consistency suitable for transport by pipeline 11 Kms to the mill located in the upper Tats Creek Valley. Eight

Kms of this pipeline would be on the Tats Glacier. This portion would require special engineering with a thick gravel pad on the ice surface, insulating the ice, accommodating the minor movement and supporting an access/service road as well as pipelines for slurry and returning water. One of the competitive alternatives to this surface route is a deeper, longer tunnel and conveyor which would have a higher capital cost but lower operating risk.

The waste material or tailings from the mill would be discharged into a dammed off area in the Tats Creek valley. Neutralizing limestone will be added and the quality of in and outgoing water will be monitored. The dam would be built high enough for the tailings to be permanently underwater thus eliminating further oxidation and production of acidic water. The constant head of water would also allow the overflow to be fed to a hydro electricity generating plant which would buffer the operation from fluctuating operating costs that could arise from total dependence on fossil fuels.

The capital cost of the concept outlined, including access road, port facilities in Haines and contingencies is estimated to be $400 million (in 1989 dollars). Operating costs at the mine (also in 1989 dollars) based on the average stripping ratio for the first ten years are estimated to be

$10.50 per tonne
or 34 cents per lb. of copper
or 28 cents U.S. per lb. of copper

Off-site cost of freight, smelting and refining add U.S. 30 cents per lb. of copper. Average annual pre tax mine net income at a copper price of U.S. $0.90/lb. would be Can. $85 million.

What would be the economic benefits to the area, British Columbia, Alaska and the Yukon?. Firstly there is obviously a major benefit from the construction project. Apart from some major items of machinery, western based companies exist that are capable of handling all of the required jobs. Because of the spread out nature of activities there would be more opportunities than usual on a major project to sub contract or subdivide construction requirements. Consequently there would be a wide range of opportunities for smaller, locally based contractors, native peoples companies, local suppliers etc.

A short term construction boom is one thing; but more important would be the sustainable benefits from the operating period and this is where Windy Craggy would have an impressive impact.

Firstly, the benefits would be long term.

Secondly, the direct employment will be about 600 people.

Thirdly, average annual operating costs would be in excess of $70 million. I see no reason why these expenditures won't be made almost entirely here in the west. I would point out that exploration expenditures to date exceed $35 million. We keep track of all expenditure geographically and the score is

Yukon (Whitehorse)	36%
Northern BC	13%
Lower Mainland BC	48%
Rest of Canada	3%
	100%

Finally, but not least, how compatible with the environment is the proposed Windy Craggy Project? All facilities related to the mine and process plant would be within a relatively small area of Tats Creek Valley out of sight and sound of all main travel corridors. The facilities would be designed, built and operated with state of the art environmental controls. For those of you who

have or will be visiting the property I think you will acknowledge our efforts to run a clean operation. The tiny garbage disposal area is all that remains of 85½ man years of employment from 1987 until now.

Our studies have identified the main areas of environmental concern as the road corridor and disposal of potentially acid-generating tailings.

Acid-generating tailings are not unique to this deposit, so we have been able to benefit from others experience. The contemplated system will reduce the chemical reactions generating acid water to a minimum and secondly will neutralize any acidity. The whole mine and mill complex areas will be contained within a single monitored and treatable drainage catchment area. Much of the neutralization will occur naturally as a result of directing the run-off into or over areas of soluble limestones. What can't be handled this way will be dealt with using quarried limestone of which there is an abundance at the site.

The impacts of the access road and its resulting frequency of trucking, will be on the wilderness recreation area and the wildlife habitats it passes through. Provided that access to the road is limited to mine-related vehicles, the frequency of use is unlikely to be sufficient to cause disruption to the wildlife habitats. We can also implement measures to protect and assist the wildlife populations.

The impact on the wilderness recreation area is a somewhat subjective effect. The area to be traversed by the road is not one of great scenic beauty or abundant recreational use. Nevertheless every effort will be made in locating the road route to keep it invisible from the Tatshenshini River other than at the bridge crossings. The section where the road route will be close to the

river but mostly out of sight extends for about 25 Kms from the confluence of the Tatshenshini and O'Connor Rivers to where the route turns up Tats Creek. Over this length the Tatshenshini River is in a broad valley with a river bed 1/2 a Km wide characterized by meandering channels, not fast-flowing rapids. This is not an area used by mountain climbing or hiking groups as it does not contain spectacular alpine terrain. It is frequented by rafters, mostly in commercial tour groups of American origin.

Rather than having only a negative impact the road could have the potential to provide a positive impact as it would provide an emergency exit route and an alternative for Canadian rafting groups that is not dependent on the United States and could therefore increase the Canadian benefits from rafting. The overall result could therefore be an increase in multiple uses and in particular wilderness recreational activities of the area as a result of development of the Windy Craggy Project.

Our major objective between now and year end is to complete the studies required for the Stage I environmental study of the Windy Craggy project for submission to the Mine Development Steering Committee of the British Columbia Government. They have an established process for reviewing proposed mine developments and their environmental impacts. We intend to continue to work with them through that process to confirm that Windy Craggy can be developed in an environmentally acceptable manner, to provide economic and social benefits and to create new wealth.

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Geddes Resources Limited

G.M. (Geddes) Webster
Director; Chairman of the Board of Directors

Dr. Gerald Harper
Director; President & C.E.O. Since May, 1989; Vice-President of Development of Northgate Exploration Limited since May, 1988. Prior to May, 1988 Chief Geologist of Northgate Exploration Limited.

J.D. (Doug) Little
Director; President from March, 1987 to May, 1989; President of Cassiar Mining Corporation from August, 1985 to March, 1987.

S.P. (Paddy) Boland
Director since May, 1989; Executive Vice-President & Chief Financial Officer of Northgate Exploration Limited.

J.P. (Peter) Foster
Director since 1984; President of Lechan Holdings Inc. (financial management consultants)

G.H. (Gordon) Montgomery
Director since 1989; Mining Consultant; prior to 1988, Executive Vice-President & General Manager, Mining Division, Westmin Resources Limited.

A. C. (Alan) Savage
Director since 1986; President of Southern Gold Resources Ltd.; President of CanaMin Resources Ltd.

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Karen Koncohrada
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