

# KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

824658

To W. M. Sirola From J. C. Lund  
Subject RADIOACTIVE BLACK SANDS IN MALLOY AND VOWELL CREEKS, BUGABOO AREA, B. C. Date April 4, 1974

## INTRODUCTION

Tapin Copper Mines Ltd. of 307-475 Howe Street, Vancouver hold 21 placer leases on Malloy and Vowell Creeks in the Bugaboo area of southeastern B. C. They lie between elevations 5000 and 5500 feet in picturesque alpine terrain 60 miles east of Revelstoke. Vowell and Malloy Creeks originate in the Bugaboo Batholith which underlies part of the Bugaboo Mountains.

This is a placer deposit in which the main economic minerals are  $U_3O_8$  and  $Cb_2O_5$ . Considerable work has been done since its discovery in the 1950's and the present owner, Tapin Copper Mines Ltd. have had J. M. Black, P. Eng. and the consulting firm of Dolmage Campbell and Associates complete reports on its economic potential. I have used the results of their work to arrive at my own conclusions.

## ORE RESERVES

There is a drill indicated reserve of approximately 25,000,000 cu. yds. of gravel grading 0.039 lbs.  $U_3O_8$ , 0.22 lbs.  $Cb_2O_5$ , 0.09 lbs.  $ThO_2$ , 13.5 lbs. magnetite and 1 lb. ilmenite. In addition there are small amounts of Rare Earths which are essentially economically unimportant. This ore calculation was made by J. M. Black, consultant to Dillingham Mining Corporation in 1968-1969.

Preliminary metallurgical tests indicate recoveries for uranium and columbium at 80% and 75% respectively. The recoverable average grade therefore of the two minerals would be 0.031 lbs.  $U_3O_8$  and 0.16 lbs.  $Cb_2O_5$  or \$.84 per cu. yd. of gravels. The price used for  $U_2O_3$  of \$20/lb. is the price for delivery in 1980; the present price of \$1.40/lb. has been used for  $Cb_2O_5$ .

## MINING COSTS

C. R. Saunders of Dolmage Campbell and Associates estimates mining costs at between 30 cents and 70 cents per yard mined. J. M. Black states that cost estimates in 1970 were approaching 50 cents/yd. Using the figures of 50 cents as a reasonable cost for today and a cost escalation factor of 12%/year the mining costs by 1980 would be about 87 cents. If we use 50 cent costs for 1970 and 12% increase/year by 1980 the mining cost would reach \$1.36/yd.

\* Should be  $U_3O_8$

# KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

To W. M. Sirola From J. C. Lund

Subject RADIOACTIVE BLACK SANDS IN MALLOY AND VOWELL CREEKS, BUGABOO AREA, B. C. Date April 4, 1974

-2-

## MARKETABILITY OF THE CONCENTRATE

$U_3O_8$ : Future energy requirements will bring an increased demand for  $U_3O_8$  and a market therefore could likely be established at some future date.

$Cb_2O_5$ : The major uses for columbium is in the steel industry and heat-resistant corrosion-resistant alloys used in jet engines, missiles and s.s. aircraft. The demand is increasing and the metal is likely marketable.

Thorium: Markets for thorium appear to be far in the future as a fuel for "breeder type" nuclear power plants. The Blind River uranium deposits contain North America's largest reserve of thorium and future demands would likely be met by by-product thorium during the course of mining uranium.

Rare Earths: Markets for Rare Earths are variable and uncertain.

Magnetite and Ilmenite: Questionable market - possible outlet to coal mines where it is used as a heavy media for coal washing plants.

## CONCLUSIONS

1. There is a drill indicated reserve of some 25MM cu. yds. of black sands containing a recoverable grade of 0.031 lbs.  $U_3O_8$  and 0.16 lbs.  $Cb_2O_5$  per cubic yard.
2. At the 1980 delivery price of  $U_3O_8$  of \$20/lb. and  $Cb_2O_5$  at \$1.40/lb, the recoverable value would be 84¢/cu. yd.
3. Projected cost of mining by 1980 when uranium price reaches \$20 would be between 86¢ and \$1.36/cu. yd. According to my calculations the costs will exceed the recoverable value.

If the consultant's figures of gross value of \$1.20/cu. yd. is used, which assumes that the thorium, magnetite and ilmenite are marketable, the margin of profit would be small or none at all, and at an average recovery of 80% the recoverable value would be 96¢ which is still near or below cost of extraction.

# KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

To W. M. Sirola From J. C. Lund

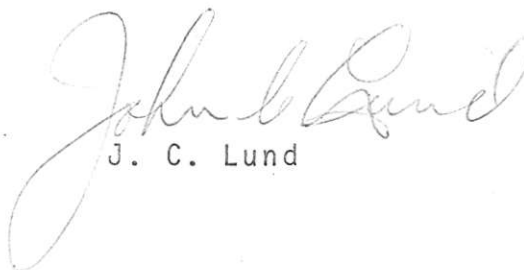
Subject RADIOACTIVE BLACK SANDS IN MALLOY AND VOWELL CREEKS, BUGABOO AREA, B. C. Date April 4, 1974

-3-

4. The claims are in a picturesque alpine valley and rigid mining and rehabilitation regulations could be expected which would add to the cost.

The deposit is not economic today or in the foreseeable future and I therefore recommend that Kerr take no further interest in the property.

JCL/rb

  
J. C. Lund