Cominco

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Memorandum
For Use Within The Company Only

To Chief Geologist, Evaluations (WRS) Date 19th June 1981
(Use Title if Possible)

From Co-ordinator, Computer Applications (JCD) File No.
(Use Title if Possible)

Subject FISH LAKE RESERVES Reference

SUMMARY AND CONCLUSIONS

A preliminary estimate for the ore reserves for Fish Lake has been prepared and is presented below. Two independent calculations were generated using GEORES and both sets of calculations were manually checked for correctness of method.

	METHOD 1	METHOD 2
Tonnage:	201,400,000	220,100,000
oz Au/tonne:	0.015	0.014
% Cu:	0.241	0.237
oz Ag/tonne:	0.036	0.034
Equivalent Cu:	0.591	0.561

The equivalent Cu grade is based on current D9 prices ($600 US for Au and $1.20 US for Cu). Assay results were reported originally in oz/short ton but have been converted to oz/tonne.

METHODOLOGY

Method 1 - 50 m benches - 49 holes

The Fish Lake deposit was composited over 50 m benches between elevations 1500 and 1150. Bench plans were plotted with Cu, Au and equivalent Cu and hand contoured at 0.35 Cu equivalent, 0.009 Au, and 0.15 Cu. For each bench these three outlines were comparable. The outlines for equivalent Cu on each bench were input to the GEORES system and reserves were calculated for benches with a thickness of 50 meters. Near the top of the deposit, the bench thickness was reduced in certain areas because of the presence of overburden. The tonnage factor used was 0.3703 cubic meters/tonne (density = 2.7) and the grades were calculated using a simple length weighted average of all composites within each bench. Because of the coarseness of the composites and bench heights, these reserves could include a dilution effect.

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Signed John C Dawes

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METHOD 2 - 100 m sections - 40 holes

As a check against the estimate calculated on benches, sections were used in an estimation of the reserves.

Coloured sections at 100 meter intervals were produced (between 9900 East and 10600 East). Three intermediate sections were drawn at 10150 East, 10250 East and 10350 East.

Outlines were generated for each section that correlated approximately to a 0.35% Cu equivalent cutoff. These outlines were entered and reserves were calculated on 100 meter thick slices (section 9900 East and 10600 East were only 75 m thick). Within each outline, composites were generated in each hole with a length of 25 meters.

The tonnage factor used was again 0.3703 cubic meters/tonne and the grades were calculated using a length weighted average of all composites within each outline.

STATISTICS

Basic first order statistics were run on the assay data for FISH LAKE. The populations are lognormally distributed with a fairly tight central peak and a long sparse tail of points. Cu and Au were compared visually hole by hole on each section and were found to compare very well in terms of mineralization location. This verifies earlier statistical tests that showed an overall correlation coefficient of 0.76 for the ore zone (as high as 0.95 for some holes). This correlation could indicate a benefit as Au may follow Cu in a concentrate.

In method 1, 49 drillholes were used in the calculation of the ore reserves. In method 2, 40 holes were used. None of T69 series (6 holes) were used as they were offsection and several other holes fell outside the limits of the outlines on sections.

JCD:bjs

Attach: App. 1, 2 & 3

Signed