

PROSPECTUS
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RE - EVALUATION OF ORE RESERVES
AT
THE CARCROSS MINE
OF
ARCTIC GOLD AND SILVER MINES LTD.

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Vancouver. B.C. April, 1976.

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702 Stope Outline with Assays.

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INTRODUCTION

Mr. R. Hughes, President of Arctic Gold and Silver Mines Ltd., asked the writer to examine the underground workings at the company's Carcross Mine and to update the tonnage figures, primarily with a view to determining whether there is a quantity of ore in the mine with sufficient value to warrant shipping it to the Mt. Nansen Mines mill 30 miles from Carmacks, Y.T. for concentration.

The company established an eight man trailer camp at the mine last year and re-habilitated the #700 level. The 702 stope was made accessible and some development carried out.

The writer visited the property from September 29th, to October 1st, and October 12th to 15th, 1975, and roughly mapped the stope outline in 702 stope and sampled all the sub drifts in this stope. The writer also sampled pillars on 850 level above the stope and a subdrift in 735 stope.

This report is based on the writers work on the property in 1975, and on reports as listed in the references.

SUMMARY

2.

The 702 stope at the company's Carcross Mine is now completely developed with 500 feet of sub-drifts and fully accessible. The re-calculated reserves for the stope and pillars above the stope on 850 level total 2,221 tons grading 0.72 oz. Au/T. and 25.6 oz. Ag/T.

The 735 Stope tonnages were re-calculated, but the grade gave values less than \$80.-/Ton, and this is thought to be a minimum figure for mineable material at the mine.

The majority of previously calculated reserves are also now below this figure due to decreases in the metal prices.

It is recommended that the feasibility of shipping ore for treatment at the Mount Nansen Mill at Carmacks be calculated when metallurgical test results are available.

It is further recommended that 2,000 feet of Diamond Drilling be carried out to try to locate the #1 and #2 veins to the east of the present mine workings. This exploration work is considered to have a high probability of success.

RECOMMENDATIONS

The writer recommended in his previous report that new ore reserve calculations should be carried out based on drill hole records and mine chip sample records. The survey and sample records of the mine appear now to have been lost, and a re-calculation of reserves will involve some re-surveying and an extensive re-sampling at considerable cost. Such re-calculation of reserves will in any case not give sufficient tonnage and grade to contemplate installing a portable mill. Before the reserves within the present mine workings become of value additional new ore must be located.

The recommendations will therefore be changed to as follows:
As the 700 level is now re-habilitated exploration drilling should be carried out here rather than on 850 level. This will involve longer holes than previously anticipated.

From Station #1 as marked on the plan:

<u>Hole No.</u>	<u>Inclination</u>	<u>Length</u>	<u>To Intersect</u>	<u>Direction on Section</u>
D.D. #1	0°	160'	#1 Vein	North
" # 2	+30°	440'	#1 & #2 Veins	"
" # 3	+50°	300'	"	"
" # 4	+75°	260'	"	"

Station #2:

D.D. #5	0°	240'	#1 Vein	"
" # 6	+30°	200'	"	"
" # 7	+50°	400'	#1 & #2 Veins	"

Total 2,000' of drilling recommended.

The feasibility of shipping ore for custom treatment at the Mt. Nansen mill at Carmacks, should be investigated when the metallurgical results are received. These are essential for net smelter return calculations.

ESTIMATED COSTS OF RECOMMENDATIONS

Ore Shipping feasibility study	\$ 1,000.
Preparation Cost	8,000.
2,000 feet Diamond Drilling @ \$14.-	28,000.
Camp and Supplies	6,000.
Supervision, Core Logging, and Sampling	2,000.
Assaying, Administration and Travel	5,000.
Contingencies	6,000.
	<u>\$ 56,000.</u>

ORE RESERVES

702 Stope: The tonnage calculations are based on measurements usually on three sides of the ore blocks. A specific gravity corresponding to 11 cubic feet per ton was used. The grade was arrived at by averaging the assays from the writers samples and expanding the width from vein width to three feet with the dilution carrying nil values. The grade was further treated by factorizing by 0.8 and subtracting expected mill losses of 0.04 oz. Au and 2.0 oz. Ag.

<u>Block</u>	<u>Tonnage Proven</u>	<u>Grade</u>		<u>Value at</u>	
		<u>oz. Au/T.</u>	<u>oz. Ag/T.</u>	<u>\$120.-/ozAu.</u>	<u>\$4.00/oz.Ag.</u>
1R	663	0.98	23.5	\$ 211.60	
2R	211	0.84	20.5	182.80	
2E	369	0.43	15.0	111.60	
3R	Waste				
1L	180	0.40	8.1	80.40	
2L	229	0.41	16.6	115.60	
3L	300	0.32	17.6	107.60	

Pillars on 850 Level:

A	33	1.12	232.4	1,064.00
B	18	1.43	96.2	556.40
C	91	1.32	52.5	368.40
D	127	1.32	52.5	368.40
TOTAL	2,221	.72	25.6	188.80
The Higher Grade Totals	1,143	1.03	35.7	266.40

735 Stope:

A Proven	686	.58	2.2	78.20
B & C Prob.	1,791	.56	1.6	73.60
D & E Poss.	4,509	No Grade		

The proven tonnage is that within 25 feet of a sampling point. All grades have been treated as outlined under 702 stope. The grades used are averages from Dolmage Campbell and Associates, and to a lesser extent the writers sampling.

Ore reserves in other parts of the mine as taken from reports by Dolmage Campoell and Associates Ltd., consultants and given in the writers report: An Evaluation of Ore Reserves at the Carcross mine of Arctic Gold and Silver Mines Ltd., dated March, 1975, show that at to-days prices of \$120.-/oz. Au. and \$4.00/oz. Ag. at an arbitrary cut-off of \$80.00, very little of past tonnage now reaches that value.

These tonnages were:

Ore Blocks Above 850 L	Tonnage		Treated Grade		Value at \$120/oz Au & \$4/oz. Ag.
	Proven	Prob.	Au	Ag	
#2 Vein	2,500		.26	11.3	\$76.40
		10,000	.21	7.8	56.40
#2 Vein West		7,645	.16	5.0	39.20
#3 Vein	2,000		.24	22.0	116.80
		2,100	.14	17.2	85.60
<u>Below 850L</u>					
#1 Vein	5,230		.44	0	52.80
		15,600	.44	3.6	67.20
#2 Vein (702 Stp.)	3,050		.57	31.2	193.20
		14,050	.20	5.3	45.20
#7 Vein .	20,175		.32	3.0	50.20

It can be seen that the ore on the #3 Vein - 4,100T - and on the #2 Vein, 702 Stope, below 850 level - 3,050 T - only are over \$80.-/Ton. The Tonnage in 702 Stope has been re-calculated for this report as the stope is now fully developed with some 500 feet of subdrifting. Due to the extensive sub-drifting the ore can be slashed out at an estimated width of 3 feet.

The tonnage in 735 stope has also been re-calculated. It is considerably lower due to stricter limits on ore extentions, and elimination of lower grade material. The grade is higher than previously, but still below an arbitrary cut-off of \$80.-/T.

Many of the Ore Blocks shown as being below cut-off value could undoubtedly be brought above this value by eliminating lower grade at of course, a considerable loss in tonnage.

The Total Tonnage above \$80.- value is:

6,321 Tons @ .38 oz. Au., 21.7 oz. Ag., valued at \$132.40.

Mt. Nansen Mines Ltd. 30 miles from Carmacks, Y.T. plans to open their mill this summer and Arctic Gold and Silver Mines Ltd., is desirous of shipping ore for treatment here. The cost of so doing is quite high. The company has received a quote on trucking cost of \$25.-/Ton. Mining costs, which will include much timbering to extract high grade pillars and difficult muck handling, may reach \$75.-/Ton. Milling charges have not been determined but it seems on first consideration that ore valued at, in excess of \$150.-/per ton only can be considered. Metallurgical testing is being done but as yet no results are available. Concentrate freight costs and net smelter return based on concentration ration and grade can't be calculated.

It seems likely, however, that about 1,000 Tons could be shipped and treated at a good profit.

FUTURE EXPLORATION

Past work at the mine has indicated that the ore in the mine does not extend much below 850 level, the main mine level. The ore in 702 stope is an exception to this and is probably lower than other ore in the mine due to down faulting. Ore in 702 stope extends about 50 feet below 850 level, and development at the bottom of the stope has limited the ore outline.

Development, Diamond Drilling, and Surface Geochemistry has shown decreasing vein persistence and vein values to the west.

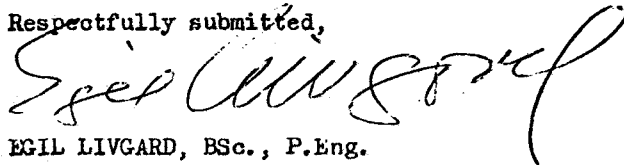
The two main veins in the mine terminated against a fractured zone to the east. No mine development or Diamond Drilling has attempted to pick up the veins east of the fractured zone although surface geochemical soil sampling indicates that such extensions are present. Other veins indicated by the soil survey have not been investigated.

The writer strongly recommends that underground diamond drilling be done to attempt to pick up easterly extensions of #1 and #2 veins.

Such drilling should employ large diameter bits and sludge should be collected for each 10 foot run and assayed.

The probability of picking up other high grade ore lenses is considered to be very high.

Respectfully submitted,



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