

# Whitehorse Copper Mines Ltd.

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## MEMORANDUM

Date: August 29, 1977

TO: V. Jutronich  
FROM: Dave Tenney  
RE: Whitehorse Copper Exploration Programme 1978

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During the past two decades exploration surveys have been carried out on cut grids over the length and breadth of the Whitehorse Copper Belt.

All the most promising target areas have been explored and if necessary drilled. Also deep holes have been drilled below all the main showings from Cowley Park to War Eagle, with the exception of Gem and Keewenaw, which from pit drilling appear to have no down dip potential. Excepting the discovery of the underground Little Chief-Middle Chief ore zone this drilling has met with no success in finding new ore deposits. However, numerous small mineralized zones, which were previously unknown, have been detected: none so far appears to have commercial potential. I think we may assume from this fact that the exploration policy we have been following has been correct.

Drilling on the basis of geology (elsewhere described perhaps incorrectly as "wildcat" drilling) has been and will continue to be expensive in terms of the results obtained, whilst drilling of geophysical (mainly magnetic and induced polarization) anomalies has eliminated all the more obvious targets. We must conclude that those geological and weak geophysical targets which do remain offer very poor prospects of finding ore. These targets are discussed in more detail in the appendix, along with those areas where additional surveys may bring to light worthwhile new anomalies.

I consider these new surveys rather more important than the drilling of those poor geological and geophysical targets that remain untested.

COSTSA) Work on Whitehorse Copper Property

1. "OJ" claims War Eagle (option and drilling)	\$ 7,800
2. War Eagle (I.P.)	\$ 3,000
3. Pueblo (I.P. and drilling)	\$ 5,800
4. McIntyre Creek (I.P.)	\$ 9,000
5. Pass Lake - McIntyre Showing (I.P.)	\$ 750
6. Cowley Lake (I.P.)	\$ 5,250
7. Cowley Park Grid (I.P. and drilling)	\$28,000
8. Cowley Park Extension (I.P. and line cutting)	\$19,750
9. Gravity test surveys - Cowley Park etc.	\$20,000
10. Drilling to test new I.P. anomalies	<u>\$14,000</u>
<u>Total Whitehorse Copper Property</u>	\$113,350

B) Work Adjacent to Whitehorse Copper Belt

1. Mapping geology Grey Mountain	\$ 2,000
soil sampling and analyses (1,000 samples)	\$ 4,000
2. Regional geochemical soil sampling north of War Eagle.	\$ 2,000
analyses (1,000 soil samples)	\$ 2,000
3. Lorne Mountain - analyse selected soil samples for gold and lead	<u>\$ 500</u>
<u>Total</u>	\$10,500

C) Outside Exploration

1. Hop Claims - Aishihik Lake - Thom Option	\$104,750
2. Area around Thom Option	\$ 50,000
3. Baird Option - Annie Lake	\$ 16,900
4. Hoboe Creek - assessment work	\$ 3,000
5. Property Examinations	\$ 20,000
6. Field Exploration - Southern Yukon - Northern B.C. ( 4 men - 3 months)	\$ 18,000
Transportation	\$ 10,000
Camp and equipment	<u>\$ 6,000</u>
<u>Total</u>	\$228,650

D) Miscellaneous

1. Thin section study of rocks from Copper Belt	\$ 3,000
2. Assessment applications	\$ 4,000
3. Assaying	\$ 1,000
4. Replace Scout	\$11,000
5. Meetings and symposia	<u>\$ 2,000</u>
<u>Total</u>	\$21,000

SUMMARY

W.C.M. Property	\$113,350
Adjacent to W.C.M. property	\$ 10,500
Outside Exploration, (includes Aishihik)	\$228,650
Miscellaneous	<u>\$ 21,000</u>
<u>Total</u>	\$373,500

Contingencies	<u>\$ 10,000</u>
	\$383,500

Dave Tenney  
Chief Geologist

*D. Tenney*

APPENDIX - Detailed Description of Exploration Projects

A) (1) WAR EAGLE

A small but prominent magnetic anomaly exists on line 192 N of the War Eagle Grid at 11+00 east. Readings range from - 1400 gamma to + 4,800 gamma where background is in the range 700-900 gamma. The anomaly is recognizable over a distance of about 100 feet and is somewhat irregular in shape. The area is one of generally high induced polarization readings (over 40 M/sec or about four times background). Since this anomaly lies on "OJ" no. 1 mineral claim, belonging to Paul S. White, we should attempt to arrange an option on this small claim group before drilling can be considered. The claims in which we would be interested are

"OJ"	# 1 (FR)	grant # Y-26020
"OJ"	# 2 (FR)	grant # Y-26021
"OJ"	# 3 (FR)	grant # Y-26022
"OJ"	# 4 (FR)	grant # Y-26023

Allow option payment	\$ 3,000
300' diamond drilling (1 hole)	<u>\$ 4,800</u>
<u>Total</u>	\$ 7,800

A) (2) War Eagle - Complete I.P. survey on lines

136N to 160N, baseline to 14 west. This area has been missed by previous surveys.

Allow three days @ \$1,000

\$ 3,000

A) (3) PUEBLO

The 1964 I.P. survey by Siegel and Associates located a weak chargeability peak of 5.9 milliseconds southwest of the Pueblo workings. The I.P. should be repeated to locate the anomaly and a detail done on it. As recommended by Siegel, the anomaly should be drilled.

Allow I.P. one day	\$ 1,000
Diamond Drilling 300'	<u>\$ 4,800</u>
<u>Total</u>	\$5,800

*Done*

A) (4) Best Chance Grid - McIntyre Creek

There is some question about the effectiveness of using a low power generator (1.5 K.W.) for an induced polarization survey over the Best Chance grid on account of the deep overburden. The suggestion of anomalies on lines 94 + 00 at 34 E and line 48 + 00S at 16E should be checked using higher powered I.P. generators (10 KW). Also a few areas not yet surveyed should be covered.

Allow 12 line miles. (@ \$750/mile)

\$ 9,000

A) (5) Pass Lake

The diorite contact on the Pass Lake grid is well exposed. However, the McIntyre showing, a small magnetite skarn with copper mineralization, indicates the area is one of limited interest. I.P. coverage is proposed over this showing, with emphasis on finding deeper ore.

Allow 1 mile I.P.

\$ 750

A) (6) Cowley Lake Grid

Part of the Cowley Lake grid on strike and to the east of Black Cub South has not been covered by I.P. surveys. This should be done.

Allow 7 miles I.P. @ \$750/mi.

\$ 5,250

Since graphitic and pyritic sediments are known to occur in this area the decision to drill will be based upon the nature of the I.P. anomalies found and their relationship to the diorite contact. Deep drill holes may also be considered where limestone is in contact with diorite and an exploration target exists on the buried limestone/quartzite contact.

A) (7) Cowley Park Grid

Holes C.P. 67, and 74 were drilled to test a limestone diorite contact on the south side of the Cowley Park grid. Hole 74 was abandoned still in limestone before either quartzite or diorite has been intersected. An attempt should be made to drill this hole again.

Allow 1,000' diamond drilling @ \$20/ft \$20,000

The large I.P. anomaly south east of C.P.71 should also be investigated by a hole at 100E 45S (drill north at - 60 degrees). The likely cause is pyritic quartzite.

Allow 400' @ \$20/ft \$ 8,000

A) (8) Cowley Park Extension Grids.

Complete the I.P. coverage of claims lying east of Cowley Park with particular emphasis on the diorite contact. This contact apparently coincides with a regional magnetic trend which passes through the area. Also of interest are two airborne E.M. anomalies one on flight line 122 south which coincides with Kookatsoon Lake, and another on flight line 128 south, which lies a few hundred feet east of our last cut lines near tie line 36 + 00N on the Cowley Park grid.

Allow line cutting	5 miles	\$ 1,500
I.P. surveys	25 miles	<u>\$18,250</u>
Total		\$19,750

B) (1+2) Soil Sampling - Whitehorse Area

A programme of systematically sampled lines is proposed for two contact areas around the Whitehorse Batholith. Lines should start at the edge of the glaciofluvial deposits infilling the Yukon River valley and end where exposed geology indicates there is no longer any significant chance of finding copper deposits. About two thousand soil samples should be collected over a period of two man/months in the two areas selected: Grey Mountain and north of War Eagle.

Allow	
labour	\$ 4,000
Geochemical sample assay	<u>\$ 4,000</u>
<u>Total</u>	\$ 8,000

C) (1+2) Aishihik Lake

Exploration on and around the Hop Claim group and the Thom Option is covered in a separate report.

Hop Claims expenditures \$104,750

Area around Hop Claims \$ 50,000

C 3) Baird Option

Recommended work on the Baird option at Annie Lake is covered in a separate report

Baird Option \$ 16,900

C 4) Hoboe Creek

Hoboe Creek is not an attractive place to work in view of the likely price of copper in the foreseeable future and we should try to option it off at the earliest opportunity. To hold the claims a limited amount of assessment work is required.

Hoboe Creek \$ 3,000

C) (5) Property Examinations

Property examinations are an important part of the work carried on by the exploration department. They offer the chance to get away from expensive grass-roots exploration and to work on known mineral occurrences, which must "a priori" offer greater chances of success. The results obtained on the Kreft and Thom options of course tend to confirm this statement. I believe that Whitehorse Copper's best chance to find a new orebody is to continue investigating established mineral properties with a view to optioning the more promising ones.

Also under the heading of property evaluations must be included the investigation of known or newly discovered mineral deposits which have not yet been brought to the development stage. Whitehorse copper may be able to obtain an equity or management interest in such deposits using our proven ability and equipment as bargaining tools

Allow

\$ 20,000

B) (3) Lorne Mountain Soil Sample Analysis

A large soil sampling programme was carried out on claims held by New Imperial during 1970. As most of these samples are still available they should be checked for gold, since a small gold/arsenopyrite showing exists in the vicinity.

Geochemical sample analysis

\$ 500