

MAP NO.	ASSESSMENT REPORT	X	DOCUMENT NO.:	092606
	PROSPECTUS		MINING DISTRICT:	Whitehorse
	CONFIDENTIAL	X	TYPE OF WORK:	Diamond drilling
105 D 10,11	OPEN FILE			

REPORT FILED UNDER: Whitehorse Copper Mines Ltd

DATE PERFORMED: 22-28 September, 1988

DATE FILED: 21 December, 1988

LOCATION: LAT.: 60 36'N,

AREA: Whitehorse

LONG.: 135 05'W

VALUE \$:

CLAIM NAME & NO.: EMILY 2 (75710); JIM 13 (85341)

WORK DONE BY: R. Stroshein

WORK DONE FOR: Whitehorse Copper Mines Ltd

DATE TO GOOD STANDING

REMARKS: #200 BEST CHANCE, #214 BLACK CUB

Work in 1988 consisted of 2 NQ drill holes totalling

144.8 m. Hole #BLC-5 on the BLACK CUB deposit intersected

massive magnetite-bornite skarn. The best intersection assayed

0.94%Cu, 5.5 g/t Ag and 0.38 g/t Au over 1.9 m.



092606

M.R. file no.
R.M.M.R. file no.
Date forwarded 23 Dec 1988

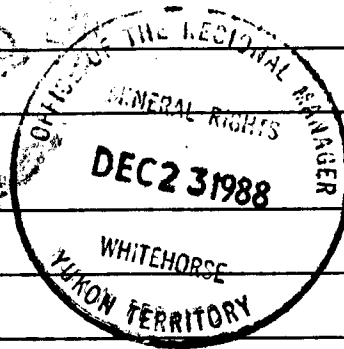
TRANSMITTAL FORM

From Mining Recorder at: *Whitehorse*

To Regional Manager, Mineral Rights at Whitehorse, Y.T.

For action are:

<input type="checkbox"/> NEW APPLICATION FOR PLACER LEASE TO PROSPECT	Name	
<input type="checkbox"/> RENEWAL APPLICATION PLACER LEASE TO PROSPECT	Name	Lease no.
<input type="checkbox"/> AFFIDAVIT OF EXPENDITURE ON PLACER LEASE	Name	Lease no.
<input type="checkbox"/> SECURITY DEPOSIT		
<input type="checkbox"/> FINANCIAL ABILITY		
<input type="checkbox"/> ASSIGNMENT OF PLACER LEASE NO.	From	To
<input type="checkbox"/> GROUPING APPLICATION UNDER SEC. 52(2) PLACER MINING ACT.	Owner	
<input checked="" type="checkbox"/> DIAMOND DRILL LOGS	Claims <i>EMILY @ (75710) Jim 13 85341 etc</i>	Claim sheet no. <i>105-D-10</i>
<input type="checkbox"/> QUARTZ ASSESSMENT REPORT	Claims	Claim sheet no.
	Type of report	Submitted by
	Cls. work performed on	\$ req. for ren. application



Signature

[Handwritten Signature]

REPLY ACTION

DD. Approved for costs and cards only.

Date returned

Signature

ASSESSMENT REPORT
OF
DIAMOND DRILLING
FOR
WHITEHORSE COPPER MINES
ON
EMILY 2 (75710)
JIM 13 (85341)
CLAIMS
YUKON TERRITORY



December 1988
R. Stroshein

Whitehorse Mining District
105 D 10/11

002600

T A B L E O F C O N T E N T S

	<u>PAGE</u>
1. Introduction	1
2. Location and Access	1
3. Personnel	1
4. Claim Ownership	1
5. 1988 Diamond Drilling Program	3
6. Results	3
7. Conclusions and Recommendations	3
Appendix I Review of Expenditures	6
Appendix II Diamond Drill Logs (BLC-56 & BC-49)	7
Appendix III Diamond Drill Assay Sheets (BLC-56 & BC-49)	8
Appendix IV Qualifications R. Stroshein	9

L I S T O F F I G U R E S

1. Location Map	2
2. Location Plan Bear Cub Grid	4
3. Location Plan Grafter - Spring Creek Area	5

1. INTRODUCTION:

The Whitehorse Copperbelt is a 30 Km long trend containing over 30 copper bearing skarn occurrences located on the western margin of the Whitehorse batholith. In the period 1967 to December 1982 Whitehorse Copper Mines milled 10,247,000 tonnes of ore from six open pits along the belt and an underground operation at the Little Chief deposit. The recovered metal grades were 1.20% copper, 0.69 gm/tonne gold and 8.7 gm/tonne silver.

Limited annual exploration programs have been on going since production ceased. The two drill holes completed between September 20 and 28, 1988 test separate targets from the south end of the belt and north of the Artic Chief deposits. The first hole was drilled to fill in on a section of the Black Cub north deposit and to obtain assay data on the gold content of the deposit. The second drill hole tested a spot magnetic anomaly high on the trend of a weak skarn zone north of the Best Chance deposit.

2. LOCATION AND ACCESS:

The Whitehorse Copperbelt is located in the Whitehorse Mining District (NTS sheets 105 D 10/11) within the city limits of Whitehorse. The skarn occurrences lie west of and roughly parallel the Alaska Highway between the Carcross cut off to the Rabbit's Foot Canyon area. Numerous roads and trails provide ready access to all of the known occurrences from the Alaska Highway.

3. PERSONNEL:

Drilling crew personnel were provided by the contractor; E. Caron Diamond Drilling Limited of Whitehorse, Yukon Territory.

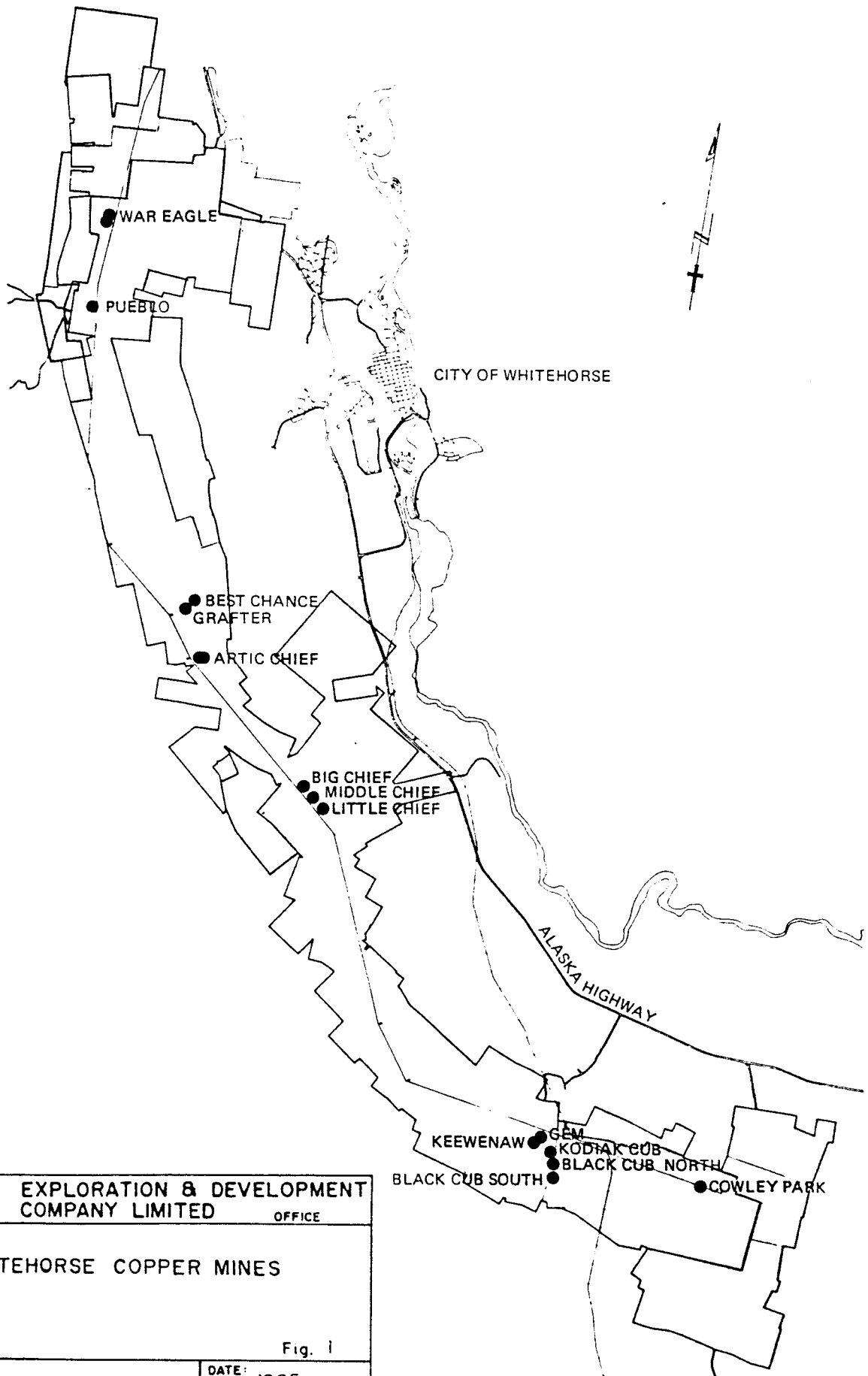
Geological supervision and report preparation is by Robert Stroshein employed by Hudson Bay Exploration and Development Company Limited. Galamb Geological provided geological logging of drill hole BC-49.

4. CLAIM OWNERSHIP:

The claim holdings of Whitehorse Copper Mines, a Wholly owned subsidiary of Hudson Bay Mining and Smelting Company, Limited consist of 491 quartz claims, 27 crown grants, 9 mineral leases and 5 surface leases.

Exploration services are provided by Hudson Bay Exploration and Development Company, Limited also a wholly owned subsidiary of Hudson Bay Mining and Smelting Company, Limited. The address for these companies is:

Box 1500
Flin Flon, Manitoba
R8A 1N9



HUDSON BAY EXPLORATION & DEVELOPMENT
WHITEHORSE OFFICE COMPANY LIMITED

WHITEHORSE COPPER MINES

Fig. 1

SCALE:

1 inch = 2 miles (approx.)

DATE: 1985

DRAWN BY:

5. 1988 DIAMOND DRILL PROGRAM:

The diamond drilling program was undertaken and completed from September 20 to 28, 1988. The core was logged, sampled and is stored at the H. Bostock core library on Range Road in Whitehorse. The total drilled footage for the two drill holes was 475 feet.

The two drill targets were selected to provide the optimum assessment coverage and were as follows:

1) Drill hole BLC-56. A fill in hole on the Black Cub North deposit on the Bear Cub grid. The hole was proposed to test at depth a mineralized intersection in BLC-15 of 103' @ 1.2% Cu. The mineralization intersected in BLC-56 would also provide data on the gold content of this occurrence.

2) Drill hole BC-49. This hole was laid out to test a point high magnetic anomaly along the trend of weak skarn zone which outcrops 1500 feet north of the Best Chance deposit.

6. RESULTS:

The two holes were successfully completed and fully tested the respective targets.

BLC-56: Intersected massive magnetite-bornite skarn in contact with medium grained diorite and locally cut off by fine grained dykes of andesite composition. The assay results were:

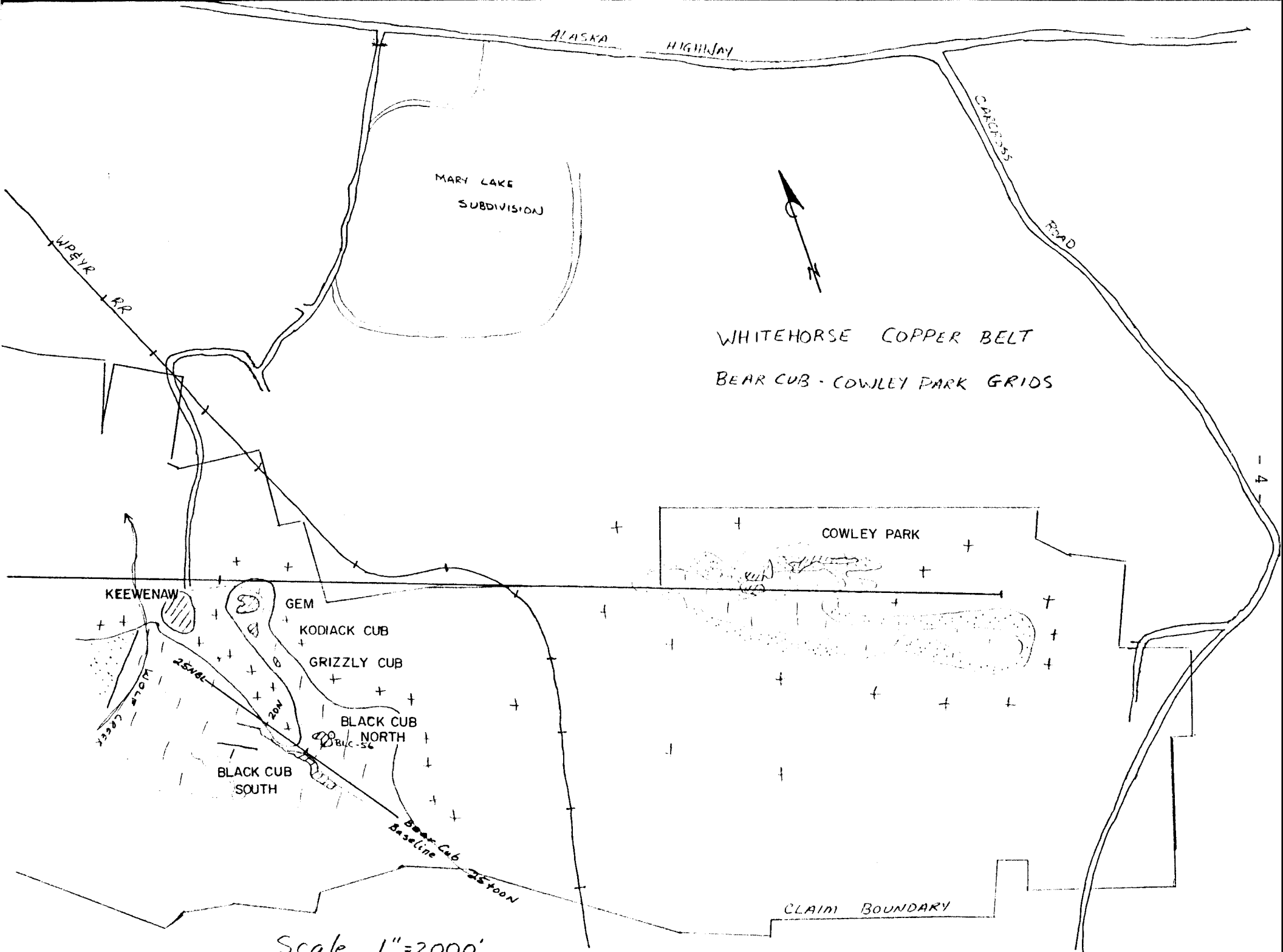
<u>Footage</u>	<u>Width(ft)</u>	<u>Au(opt)</u>	<u>Ag(opt)</u>	<u>Cu(%)</u>
67.9-78.0	10.1	.008	.22	.87
98.2-115.7	17.5	.006	.10	.58
or 98.2-104.0	5.8	.006	.12	.77
and 109.6-115.7	6.1	.011	.16	.94

BC-49: Intersected crystalline limestone with minor and weak recrystallization and epidote alteration. Narrow veinlets and stringers of magnetite and diorite occupy fractures within the limestone. Only trace amounts of sulphides were noted and no samples were assayed.

7. CONCLUSIONS AND RECOMMENDATIONS:

Additional diamond drilling on the known occurrences of the copperbelt is warranted to fully test the deposit limits. Several occurrences could develop into economic deposits with additional tonnages at present metal prices.

R. Stroshein



WHITEHORSE COPPER BELT
BEAR CUB - COWLEY PARK GRIDS

Scale 1"=2000'

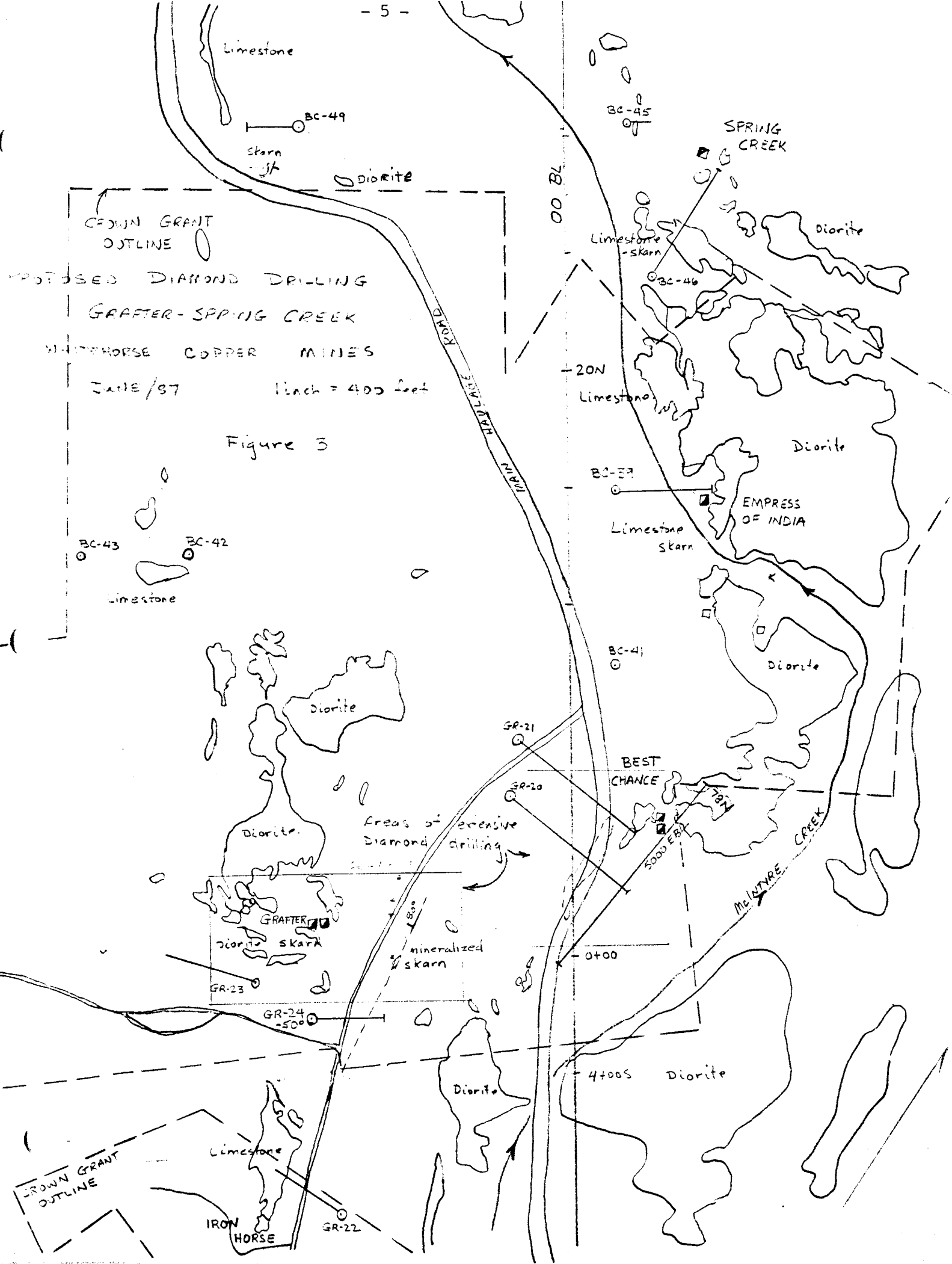


Figure 3

PROPOSED DIAMOND DRILLING
 GRAFTON-SPRING CREEK
 WHITE HORSE COPPER MINES
 JUNE/87 1 inch = 400 feet

CROWN GRANT
 OUTLINE

IRON HORSE

SPRING CREEK

McINYRE CREEK

EMPERESS OF INDIA

BEST CHANCE

Areas of extensive
 diamond drilling

mineralized
 skarn

GRAFTON
 DIORITE SKARN

GR-24
 -500

GR-23

Diorite

400S Diorite

Diorite

Diorite

Diorite

Limestone-skarn

Limestone

BC-38

Limestone skarn

BC-41

GR-21

GR-20

Skarn

Diorite

Limestone

CROWN GRANT
 OUTLINE

Limestone

GR-22

Limestone

00 BL

20N

5000 EBL

0+00

78N

APPENDIX I

REVIEW OF EXPENDITURES

DRILL HOLE

BLC-56

Caron Diamond Drilling Invoice #2555	
Drilling charges	\$6,214.50
Consumables	1,369.79
Bondar-Clegg & Co. Invoice #V053045	
Assaying 7 samples	159.25
Norcan Leasing #10963	
Truck Rental	333.50
Geological Supervision	
R. Stroshein, Logging, sampling and report	
4 days @ 190\$/day	760.00
TOTAL	<u>\$8,837.04</u>

BC-49

Caron Diamond Drilling Invoice #2555	
Drilling charges	\$9,518.00
Consumables	1,369.79
Tractor time	200.00
Norcan Leasing #10963	
Truck rental	222.34
Galamb Geological	
Core logging	250.00
Geological Supervision	
R. Stroshein, Supervision and report	
2 days @ 190\$/day	380.00
TOTAL	<u>\$11,941.13</u>

APPENDIX II

DIAMOND DRILL LOGS

BLC - 56

BC - 49

DIAMOND DRILL LOG

PROPERTY: Whitehorse Copper Mines	LOCATION: Black Cub North	
CLAIM No: Jim 13-85341	CORE SIZE: NQ	
HOLE No: BLC-56	ANGLE: -60°	DIRECTION: S
DEPTH: 205'	GRID No: BLC	CO-ORDINATES: 30+00E/28+00N
DATE STARTED: September 22, 1988	DATE FINISHED: September 25, 1988	
DRILLED BY: E. Caron Diamond Drilling	LOGGED BY: R. Stroshein	

DEPTH		DESCRIPTION OF CORE
From	To	
0.0	43.0	Overburden Glacial till. Clay, sand, and boulders.
43.0	46.0	Sheared light buff diorite. Core broken and oxidized with light rusty weathering and weak patchy malachite staining.
46.0	49.6	Dark grey green fine grained andesite. Angular inclusion of diorite @ 47'. Acute angled fractures at sub-parallel to 15° of core axis.
49.6	62.1	Sheared and broken light buff to light buff green medium grained diorite. Surface oxidation evident with rust and malachite staining along fractures. Core broken irregularly but distinct core angles of 65° and 35° recur along the section.
62.1	65.7	Dark grey green fine grained andesite. Irregular contact at 30° core angle. Prominent fractures throughout at 50° core angle. Surface oxidation evident on several fractures of rusty coloured surfaces.
65.7	72.9	Diorite, medium grained light buff coloured. Lower 2' of section is mixture of andesite stringers and skarnified sections. Scattered stringers of chalcopyrite and bornite. Sample No. 59001 67.9-72.9 Stringers of chalcopyrite and bornite.
72.9	78.0	Dark massive magnetite bornite skarn with minor disseminated pyrite and chalcopyrite, calcite, serpentine and epidote in patches and stringers. Core angle on sharp upper contact @ 65°. Lower contact @ 45°. 75.0-75.4: Andesite band. Sample No. 59002 72.9-78.0 Massive magnetite bornite skarn.

Hole No. BLC-56Page No. 2

DEPTH		DESCRIPTION OF CORE
From	To	
78.0	81.5	Medium grained buff green diorite. Locally sheared scatter chalcopyrite stringer. Fractures common @ 50°.
81.5	86.0	Fine grained grey green andesite. Porphyritic with rounded white phenocrysts. Upper contact irregular roughly perpendicular to core axis. Lower contact at 45° with irregular quartz string and blebs of pyrite.
86.0	95.0	Medium grained grey green diorite. Core badly broken from 89.0-95.0. Rare fine quartz stringers with chalcopyrite.
95.0	98.2	Fine grained dark green andesite with fine white porphyritic phenocrysts. Core broken with rusty weathering on fractures. Core angles on fractures @ 30°.
98.2	115.7	Massive dark purplish black magnetite bornite skarn. Minor chalcopyrite dissemination in patchy sections. Serpentine and calcite in patches and stringers. Upper contact irregular approximately perpendicular. Mineralization cored very well with, total recovery.
		105.0-109.6: Fine grained green andesite dyke.
		111.2-115.7: Interbanded magnetite bornite and serpentine.
		Sample No. 59003 98.2-101.0 Massive magnetite Bornite.
		59004 101.0-104.0 Massive magnetite Bornite chalcopyrite.
		59005 109.6-111.2 Massive magnetite Bornite.
		59006 111.2-115.7 Banded magnetite bornite.
rep. sample	103'	
115.7	116.3	Green medium grained diorite and endo skarn-magnetite, serpentinite, epidote.
		Sample No. 59007 115.7-116.3 Bands magnetite bornite.

Hole No. BLC-56

Page No. 3

DEPTH		DESCRIPTION OF CORE
From	To	
116.3	200.7	<p>Intermediate intrusive dyke (post ore) fine-medium grained light grey green locally porphyritic. Diorite becoming dark grey and more fine grained at 155.0. Core generally badly broken and blocky. Irregular fractures sub-parallel to core or near 40° c.a. Abundant but scattered rounded white phenocrysts in porphyritic sections. The lower section (andesite) very massive with only scattered white phenocrysts. Very fine white calcite stringers throughout commonly sub-parallel or at acute angle to core axis.</p> <p>Core very broken @ 174.5'-177.0'.</p> <p>Section 197.5-200.7 Fine grained diorite section (post ore).</p>
200.7	205.0	<p>Medium grained light grey green hornblende diorite. Andesite dyke 202.1-203.6. Light grey green, fine grained.</p>
	205.0	<p>END OF HOLE</p>


DIAMOND DRILL LOG

PROPERTY: Whitehorse Copper Mines	LOCATION: Best Chance
CLAIM No: Emily 2 (75710)	CORE SIZE: NO
HOLE No: BC-49	ANGLE: -50°
DEPTH: 82.3m (270')	DIRECTION: West
DATE STARTED: September 26, 1988	GRID No: BC-South
DRILLED BY: E. Caron Diamond Drilling	CO-ORDINATES: 28+25N/9+00W
	DATE FINISHED: September 28, 1988
	LOGGED BY: K. Galambos

DEPTH		DESCRIPTION OF CORE
From	To	
	(meters)	
0	3.17	Casing - (No Recovery). Left in hole.
3.17	3.35	Dark grey-green highly siliceous diopside skarn, (no sulfides).
3.35	10.67	Medium crystalline white limestone with numerous medium-dark grey, moderate-strongly silicified bands. 35+40° to C.A. Minor medium brown ankerite stained sections.
10.67	12.00	Medium brown soil. 27% recovery.
12.00	67.59	Medium crystalline white-buff limestone with extensive medium grey bands up to 40 cm wide. Often containing black stringers of non sulfide material (carbonaceous). Minor dolomite sections. Minor epidote + diopside stringers at 55° to C.A. Tr. py + cpy locally.
		@ 16.3m: 2mm magnetite veinlet with Tr. cpy.
		21.95-22.7: Moderate fracturing with some ground core, 60% recovery.
		27.12-27.76: 15% medium brown layers generally less than 2cm containing Tr-1% cpy + py. Layering 45-60° to C.A.
		@ 30.33m: 1cm calcite/ankerite vein at 25° to C.A.
		@ 30.35m: Low angle fault plane with slickensides plunging 55° from C.A.
		30.86-30.90: Medium brown clay gouge. *Buff limestone is moderately vuggy for 5cm either side of clay zone.

Hole No. BC-49

Page No. 2

DEPTH		DESCRIPTION OF CORE
From	To	
12.00	67.59	<p>34.90-35.43: Minor small 1-6mm brown veinlets following fracturing at 55° and 0° to C.A. Containing minor magnetite, py, cpy.</p> <p>ie: </p> <p>Tr py, cpy @ 37.34m 37.53m 38.58m 38.93m</p> <p>40.20-45.10: Fine to medium crystalline dolomite with very minor diopside halos around small calcite stringers.</p> <p>48.70-48.95: Minor epidote-diopside skarn.</p> <p>@ 50.5: 4cm wide dior. dyke, 20° to C.A.</p> <p>50.90-51.05: Rubble with rusty clay gouge.</p> <p>@ 52.35: Low angle calcite veinlet, 5° to C.A.</p> <p>Tr py, cpy @ 56.05m 59.45m 63.55m</p> <p>65.84-66.60: Moderate fracturing with some recrystallization of limestone.</p> <p>66.60-66.65: Grey clay gouge.</p> <p>66.65-67.59: Minor fracturing and recrystallization of limestone, minor epidote.</p>
67.59	70.71	<p>50-60% of limestone has been recrystallized and contains Tr-1% py, tr cpy. Banding is generally 40-55° to C.A. and quite often discontinuous or distorted.</p>
70.71	82.30	<p>Limestone (+ dolomite) similar to that prior to 67.59m. Minor recrystallized sections. Minor epidote halos on calcite stringers.</p>

Hole No. BC-49Page No. 3

DEPTH		DESCRIPTION OF CORE
From	To	
70.71	82.30	<p>@ 74.75: Fault plane 35° to C.A. . Slickensides plunge 85° from C.A.</p> <p>@ 76.0: Minor diopside.</p> <p>Tr py, cpy @ 77.72m 79.32m</p> <p>79.95-80.08: Disrupted calcite veining with Tr py, Tr cpy.</p> <p>80.08-80.80m: Rusty bleached rubble. 11% Recovery.</p> <p>80.80-82.3m: Ankerite stained limestone with minor rubble at end of section. 30% Recovery.</p> <p>@ 80.85: 3cm altered dior. dyke 25° to C.A.</p>
	82.30	END OF HOLE

APPENDIX III

DIAMOND DRILL ASSAY SHEETS

BLC - 56

BC - 49

DIAMOND DRILL RECORD

HOLE No. BC-49 DATE BEGAN September 26, 1988 DATE COMPLETED September 28, 1988
 AREA Best Chance PROJECT No. 2301 DEPTH 270'
 CLAIM EMILY 2 (75710) CO-ORD 28+25N HORIZONTAL LENGTH 173'
 GRID BEST CHANCE SOUTH 9+00W DIRECTION West
 SHEET No. 1 of 1 CORE SIZE NQ ELEVATION _____ ANGLE -50°

Ken Galambos.

Resident Geologist

DEPTH	NUMBER	WIDTH	ASSAY				AVERAGES					
			AU	AG	CU	ZN	WIDTH	AU	AG	CU	ZN	
0.0 - 10.4'	Casing	10.4'										
10.4 - 270.0'	Waste.	259.6										

REMARKS

Casing left in the hole.

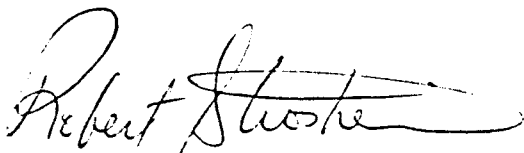
APPENDIX IV

QUALIFICATIONS

R.W. STROSHEIN

BOX 1500, FLIN FLON, MANITOBA, R8A 1N9

- 1973 B. Sc. (Geological Engineering) - University of Saskatchewan, Saskatoon, Saskatchewan.
- 1973 - 75 Field Geologist - Hudson Bay Exploration and Development Company Limited.
- 1975 - 81 Project Geologist - Hudson Bay Exploration and Development Company Limited.
- 1981 - 1987 Senior Exploration Geologist - Hudson Bay Exploration and Development Company Limited.
- 1987 - Regional Representative - Mingold Resources Inc.



R.W. Stroshein