004776

HUDSON BAY EXPLORATION AND DEVELOPMENT COMPANY LIMITED
PROGRESS REPORT - WHITEHORSE COPPER MINES
JULY 1987

1. Results of Drill Program:

The results have been presented in the Assessment Report filed with the Whitehorse mining recorder. The report includes a brief description and summary of the program with drill logs and assay sheets. Copies of the report are included.

In summary the results are:

(1) KC-21 intersected 15.2 feet grading 2.90% copper, 0.013 opt gold and .62 opt silver. This is an extension of the Kodiak Cub ore reserves. The last section (75 feet east of the present drilling) included in the ore reserves was 22 feet grading 1.13% copper.

(2) GR-24 intersected 13 feet of massive magnetite bands within garnet diopside skarn. The geochem results yielded maximum values of 164 ppm copper, 10 ppb gold and .1 ppm silver. These results are low but the intersection confirms the predicted northerly trend to the mineralization previously drilled. The intersection is also at a relatively shallow depth.

(3) RF-4 intersected a clay zone at the contact of the sediments and diorite which explains the VLF-EM anomalies in the area. Marblized limestone yielded slightly anomalous copper values (330 ppm).

The three holes are located along 20 kilometers of the copper belt this arrangement was required to provide the assessment coverage in the disparite areas. The proposed $30,000.00 budget for 1987 has been expended. See Appendix Summary of Expenditures.

2. Assessment Application;

A total of 255 claim years renewal has been requested with the mining recorder. This includes requests of 2 years for 106 claims and 1 year for another 43 claims. This leaves 3 fractions in the Little Chief area and 8 claims and fractions between the Pueblo and Best Chance areas which can be maintained by payment in lieu of assessment work by January 1, 1988. See

attached appendix. There are 53 additional claims fringing the War Eagle area which should be allowed to lapse.

The assessment applications will provide a 1990 anniversary date for the central portion of the belt (Spring Creek to Black Cub) and the north end of the belt (Pueblo to Rabbit's Foot). A total of 110 claims will require assessment during 1988 in the Best Chance North grid area and around Cowley Park.

If further exploration was carried out in the Best Chance area the fees in lieu of assessment would not be required and additional 2 or 3 years could be added to all claims in the area.

3. Exploration Summary:

The Black Cub grid area contains reserves in several deposits (GEM, KODIAK CUB, BLACK CUB NORTH). These deposits have been extensively drilled but little data is available on the gold content of the deposits. Hureau (1982) estimated an average grade of .02 opt gold for the deposits. Mienert (1985) reported values of .03 and .07 opt for two samples assayed from the Black Cub deposit. He indicated that the deposit types were favourable for enriched gold mineralization.

The core available from the deposits in the Black Cub grid area has been skeletonized but spot analysis of mineralized core would provide indications of gold potential. The results of the KC-21 drill hole indicates a consistent gold content unaffected by the copper values. The results conform to Hureau's estimate.

The Spring Creek - Best Chance area includes some minor reserves and several mineralized occurrences. The results of GR-24 indicate a southern extension to the GRAFTER mineralized zone. See figure section 6+00W. The earlier drilling GR-1, 2, 8, 10, 12 intersected a mineralized zone along a 200 foot strike length and to a depth of 900 feet. The intersections were drilled along strike but calculations of true widths are 3.7' - 19.0' with average grades of .51 to 3.14% copper. Average gold values of .026 to .06 opt. were reported. Drilling on sections to the west of section 6W also intersected mineralization that could not be correlated; this requires follow up. The mineralization is open

in all directions with the indication for a size potential similar to the Little Chief deposit (4.5 million tons). See figure.

Surface sampling on the Grafter, Best Chance, Spring Creek and Empress of India was undertaken of selected outcrops to assess the gold potential. See figure Simplified Geology. Traces of gold were returned from the Empress of India and Spring Creek samples. The best results of .068 opt gold with 7.28% copper was of outcrop above the Spring Creek adit. Drill hole BC-46 intersected 5.5 feet grading .036 opt gold at a depth of 200 feet. The best assay from the Best Chance occurrence yielded assays of 2.24% copper and .004 opt gold. The relationships of higher copper values with increased gold content and the gold to silver raios are those suggested by Meinert (1985).

A small magnetic anomaly coincides with a surface skarn zone located near the dolomitic limestone and massive limestone contact at approximately 28N. This is an important lithological control for typical copperbelt mineralization. The near parallel trend of the lithological units to the interpretated contact with the diorite intrusion is also an important control to significant mineralization.

A coincident magnetic - copper soil geochemical anomaly occurs along a ridge near 6+00E on lines 136S-144S. See figure Best Chance Grid.

A possible structural embayment (or pendant) bas been interpreated 1000' west of the baseline near 150S from surface magnetic surveys and downward continuation programming. There is very limited outcrop in the area and geological interpretations require extensive projections.

4. Recommendations:

A geological evaluation of the deposits in the Black Cub grid area is recommended in conjunction with available sampling to determine possible structural geological and mineralogical controls to gold distribution. This activity could be done in preparation for 1988 exploration program. At least one drill hole is required to provide assessment prior to Jan. 1, 1989. Overburden depths in the area preclude caterpillar trenching.

The Spring Creek-Best Chance grid area offers interesting exploration targets. A drilling program is recommended to follow up on the Grafter mineralized zone and to test other anomalies in the area. The program includes diamond drilling on the Grafter zone to better establish the orientation of the skarn mineralization and to locate the footwall diorite contact.

These holes should be drilled along sections 1+00S and 3+00N to intersect the zone at a depth of 250-300 feet. See Appendix Proposed drill program.

Extensive fill in and step out reverse circulation drilling is recommended to follow the two diamond drill holes. Eight holes would test the extension of the zone at 300-500-700 foot levels on 200 foot section. This would provide the numerous intersections to determine the grade distribution and thickness of the mineralized zone.

Reverse circulation drilling is recommended to test the other targets in the Best Chance grid area. The drilling in these areas would require road building and site preparation with a caterpillar.

This drilling program or portions of it could be carried out this season if funding was made available from flow through shares or if a joint venture partner would be interested in the project. Promoting the gold potential and a potential near surface zone could renew interest in the copperbelt from parties who had previously turned down the joint venture proposal. The recent increasing trend in copper prices should help to revive interest in this property at the present time.

The drilling costs for the rotary drilling are quoted from the 1985 drill program. Footages of greater than 5000 feet would undoubtedly have lower drilling cost rates.

WHITEHORSE EXPLORATION OFFICE:

1. Dempster Project

Payment in lieu of assessment was made to the Dawson District Mining Recorder to maintain the OG claims in good standing to August 14 and 27, 1988.

The 12 claims presently held are OG 1-8, 13, 15, 17 and 19.

2. Tom Valley Project

Drafting and collating of pertinent data is being undertaken of the geological evaluation completed from 1980-82 in preparation for the proposed GSC research project. The plans and sections for the property have never been completed. The GSC study will concentrate on the drilling completed in 1980 and therefore these necessary sections will be completed by early August.

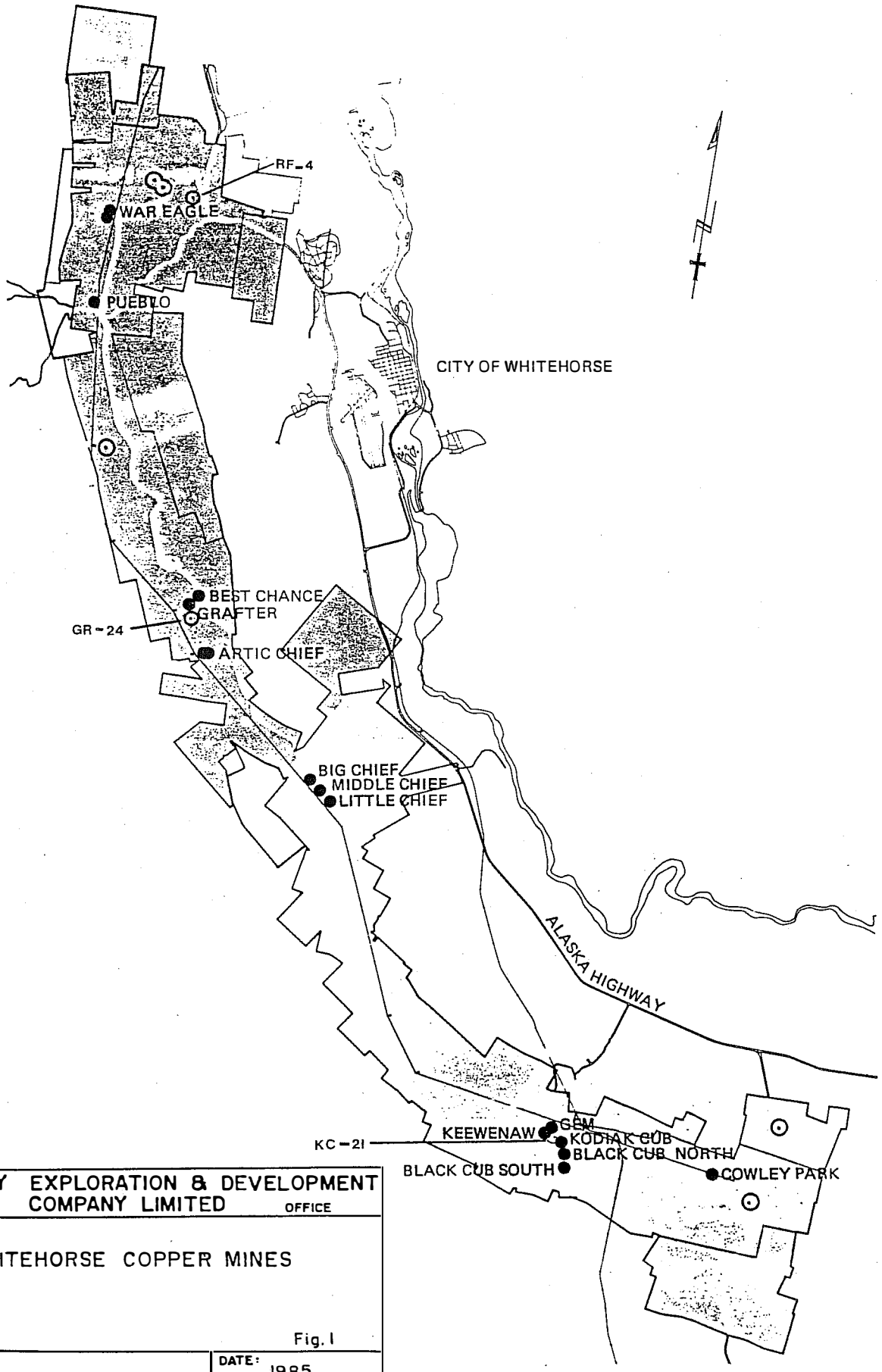
3. Whitehorse Office

The Exploration office of Hudson Bay Exploration and Development Company Limited was closed on July 14, 1987. The office had been in Whitehorse continually since May 1, 1969. The exploration files and office furniture have been stored in the warehouse at the Whitehorse Copper Mine site. Excess furniture and equipment has been and will continue to be sold. The files of geological data should be consolidated in a working environment before the passage ot time causes serious detioration.

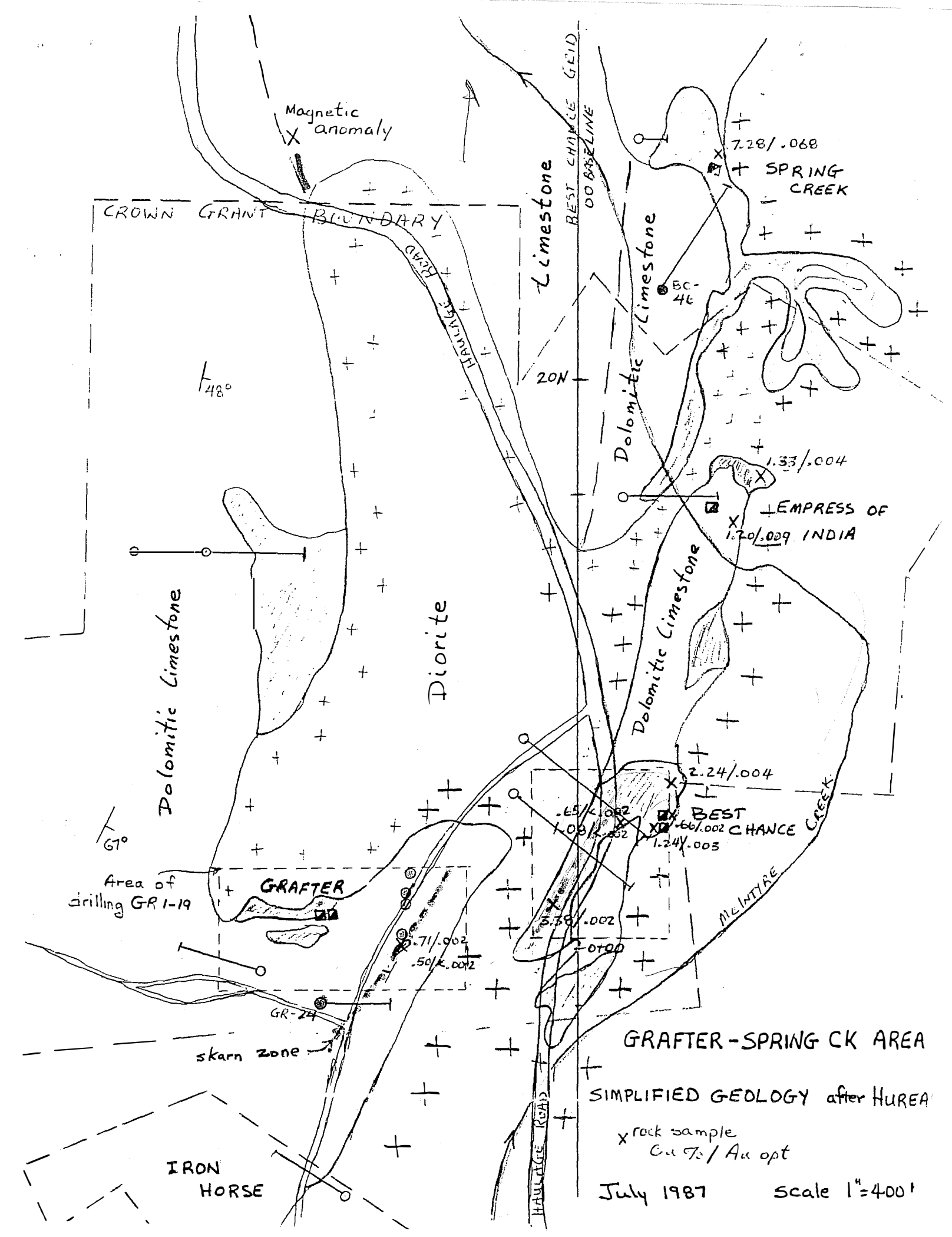
The files on the exploration of the Whitehorse Copperbelt are also stored in the warehouse site and should remain until a serious geological investigation is renewed on the property. The local Northern Affairs program has expressed a desire to store the core at a site off the property where it can be maintained in good condition. The present condition of the core storage facilities is poor and detiorating steadily. The governments attemt to preserve the core should be assisted where possible.

R. Stroshein is on intermittent time off during this period and for the forseeable future.

copies ET
PLM
AAW
EMV File



HUDSON BAY EXPLORATION & DEVELOPMENT COMPANY LIMITED	
WHITEHORSE OFFICE	
WHITEHORSE COPPER MINES	
Fig. 1	
SCALE: 1 inch = 2 miles (approx.)	DATE: 1985
	DRAWN BY:

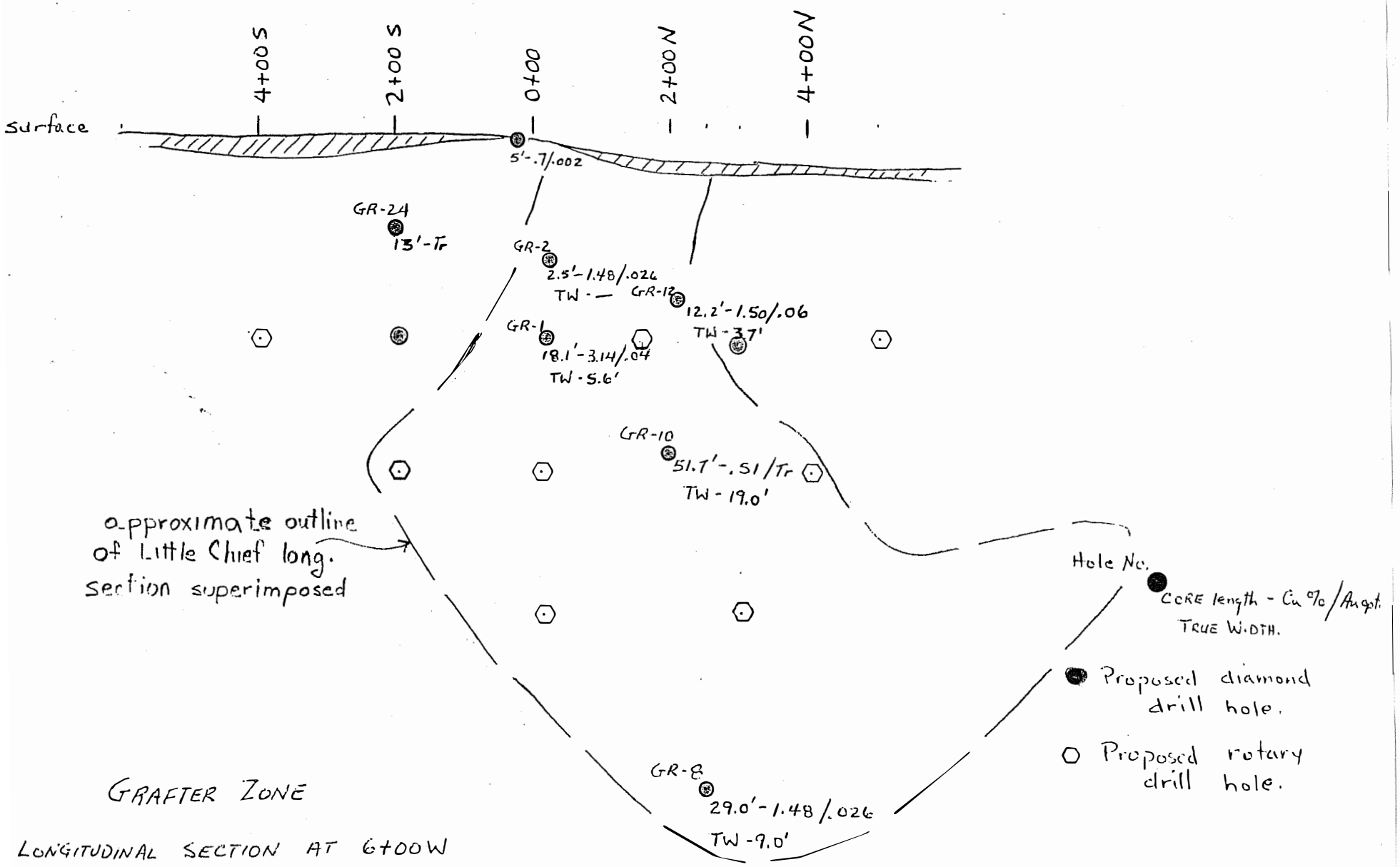


GRAFTER - SPRING CK AREA

SIMPLIFIED GEOLOGY after HUREA

x rock sample
Cu %/ Au opt

July 1987 Scale 1"=400'

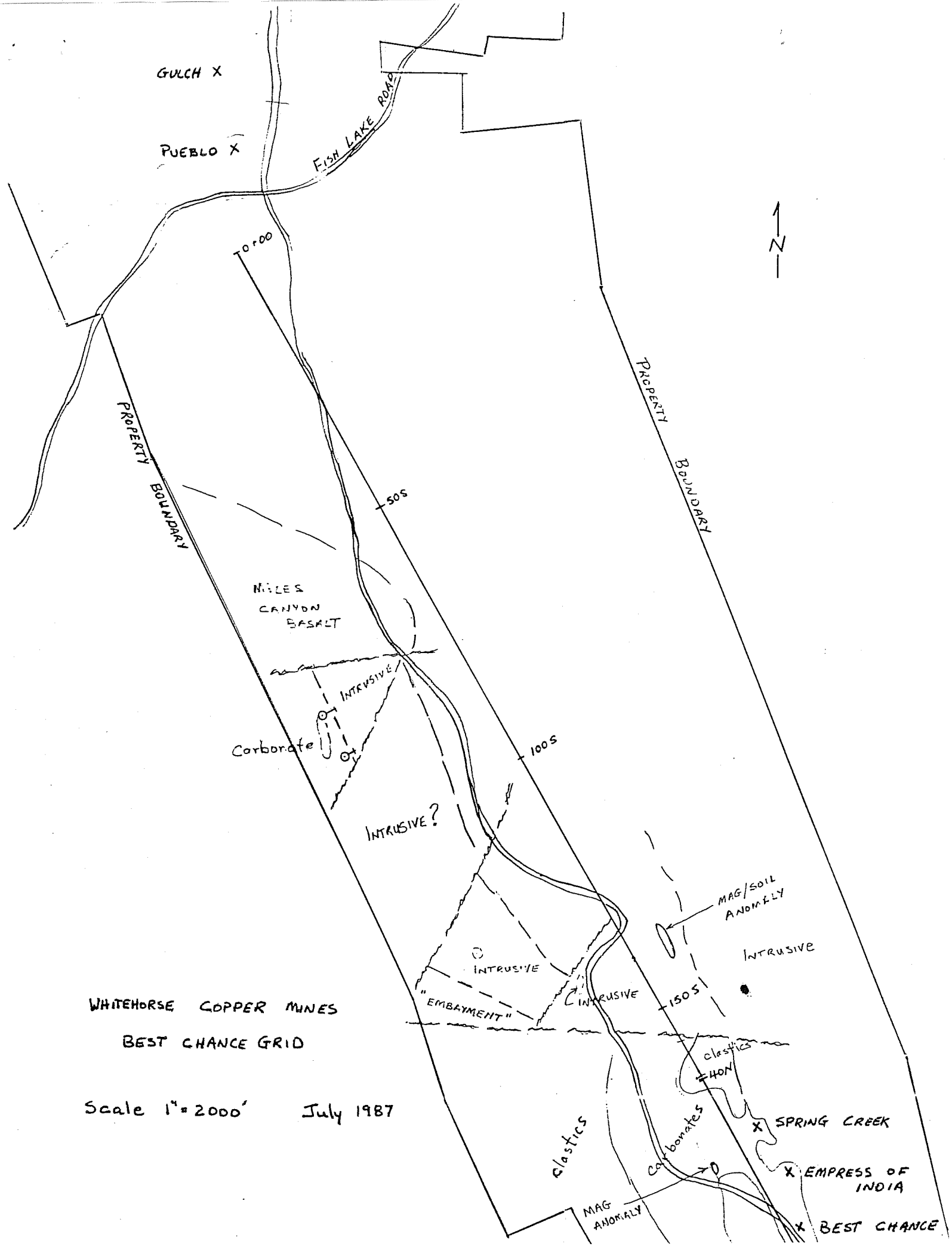


GRAFTER ZONE

LONGITUDINAL SECTION AT 6+00W

Looking West

Scale 1"=200' July 1987



WHITEHORSE COPPER MINES

BEST CHANCE GRID

Scale 1" = 2000' July 1987

Appendix

Summary of Mineralized Intersections GR 1-19 by Section.

SECTION 4+00 W

GR - 9 No mineralization

GR - 17 No. mineralization

SECTION 5+00W

GR - 16 No mineralization

			% Cu	opt Au	opt Ag
SECTION 6+00 W					
GR-1	352.2 - 370.3	18.1'	3.14	.04	1.10
GR-2	227.5 - 230.0	2.5'	1.55	Tr	Tr.
GR-8	1109.0 - 1138.0	29.0'	1.48	.026	.38
GR-10	515.3 - 567.0	51.7'	.51	—	—
GR-12	273.3 - 285.5	12.2'	1.50	.05	1.2
SECTION 7+00 W					
GR-3	35.0 - 41.9	6.9'	3.55	Tr	Tr
GR-15	320.4 - 326.9	6.5'	.66	—	—
SECTION 8+00 W (old workings)					
GR-4	No mineralization				
GR-14	136.7 - 149.4	12.7'	.83	—	—
SECTION 9+00 W					
GR-5	579.8 - 597.0	17.2'	1.69	.018	.56
	627.6 - 648.0	20.4'	3.95	.047	1.04
GR-13	317.0 - 319.8	2.8'	8.83	.140	2.40
GR-18	616.0 - 635.5	19.5'	2.34	.017	.59
	795.0 - 800.0	5.0'	6.86	.009	1.39
SECTION 10+00 W					
GR-6	369.0 - 404.0	35.0'	.33	—	—
GR-19	457.0 - 465.5	8.5'	.72	.009	.19
SECTION 11+00 W					
GR-7	No mineralization				

Appendix

Summary of Selected Mineralized Intersections
BEST CHANCE DEPOSIT

		% Cu.	Mineralogy (by abundance)
BC-1	8.0' @	3.02	magnetite chalcopyrite bornite
	9.5' @	1.85	magnetite chalcopyrite bornite
BC-3	5.0' @	2.40	bornite chalcopyrite epidote
BC-4	19.7' @	1.84	magnetite chalcopyrite bornite epidote
BC-5	7.5' @	3.15	chalcopyrite bornite chalcocite epidote
BC-6	10.2' @	1.72	magnetite chalcopyrite
	9.7' @	3.13	bornite magnetite chalcopyrite
	15.0' @	1.92	bornite magnetite Chalcopyrite
	9.7' @	2.00	chalcopyrite bornite magnetite
BC-10	10.3' @	3.58	magnetite chalcopyrite bornite
	10.0' @	3.45	bornite chalcopyrite
	34.0' @	2.56	bornite chalcopyrite
BC-12	7.0' @	1.90	magnetite chalcopyrite bornite
BC-13	5.0' @	1.50	bornite chalcopyrite epidote
BC-14	15.3' @	2.10	bornite chalcopyrite magnetite chalcocite epidote
	5.2' @	2.22	magnetite chalcopyrite
BC-15	30.0' @	2.39	magnetite chalcopyrite
	5.0' @	4.10	bornite chalcocite epidote
BC-16	5.0' @	12.85	chalcocite bornite cuprite chalcopyrite
BC-18	39.2' @	1.62	bornite chalcopyrite chalcocite
	5.0' @	2.90	bornite magnetite chalcocite.
BC-19	5.0' @	2.40	chalcocite
	5.0' @	4.00	chalcocite bornite malachite
BC-23	14.5' @	4.15	bornite chalcocite native cu. epidot
	6.2' @	1.89	chalcopyrite chalcocite bornite
	7.5' @	2.11	chalcopyrite native cu.
BC-24	36.7' @	4.29	chalcopyrite bornite chalcocite
	5.4' @	3.04	magnetite chalcopyrite
BC-32	9.1' @	3.78	chalcopyrite pyrite serpentine
BC-34	5.0' @	2.82	bornite epidote
BC-37	46.0' @	1.74	magnetite chalcopyrite bornite epidote

APPENDIX

REVIEW OF EXPENDITURES

Drilling Charges	$ 23,370.00
Assaying	568.00
Truck Rental	1,010.00
Barry's Auto Centre	105.00
Miscellaneous - Fuel, Photocopying, typewriter rental, estimate	150.00
Secretarial - 12 hrs @ $12.50/hour	150.00
Salary R. Stroshein 26 days @ $145/day (includes time for office move and administrative duties)	3,770.00
Assessment fees	1,340.00
Total -	$ 30,463.00

APPENDIX

Claims to PaY in Lieu - January 1, 1988

75757 - 75759	PRINCE 2, 4, 6
85273 - 85274	DELLA 15 - 16
Y12212	KOHLER 4 Fr *
Y 18699	IT 11 Fr *
Y 29688	PRINCE 11 Fr
Y 50382	JEAN 44 Fr
Y 50389	DELLA 18
Y 52478	GENO 18 Fr *

* Little Chief Area

APPENDIX

PROPOSED DRILLING PROGRAM

DIAMOND DRILL HOLES	
2 @ 650 feet for 1300 feet @ 25$/ft.	$ 32,500.00
ROTARY (REVERSE CIRCULATION DRILLING)	
GRAFTER ZONE	
3 @ 500 feet @ 15$/foot	22,500.00
3 @ 700 feet @ 15$/foot	31,500.00
2 @ 900 feet @ 15$/foot	27,000.00
SPRING CREEK	
2 @ 600 feet @ 15$/foot	18,000.00
MAG-GEOCHEM ANOMALIES	
1 @ 500 feet @ 15$/foot	7,500.00
2 @ 500 feet @ 15$/foot	15,000.00
PENDANT NORTH WEST BEST CHANCE	
4 @ 350 feet @ 15$/foot	21,000.00
Cat Work for Road Construction and Contingencies on Drilling	10,000.00
Total Drilling Charges -	$ 185,000.00
Assaying Charges	30,000.00
Geological and Reporting	12,500.00
Assessment Fees & Drafting Supplies	3,500.00
Assaying Black Cub Area	2,000.00
Total	$ 233,000.00
Contingencies	17,000.00
Grand Total	$ 250,000.00

LIST OF REFERENCES

HUREAU, H.; 1985, Potential for Gold Exploration, Whitehorse Copper Belt, Yukon, Hudson Bay Exploration and Development Company Limited.

MEINERT, L. D.; 1986, Gold in Skarns of the Whitehorse Copper Belt. In Yukon GEOLOGY Volume 1-1984.

MORRISON, G.; 1981, Setting and Origin of Skarn Deposits in the Whitehorse Copper Belt, Yukon. PH. D. Thesis.

TENNY, D.; 1981, The Whitehorse Copper Belt: Mining, Exploration and Geology (1967-1980).

WATSON, P. H.; 1984, The Whitehorse Copper Belt - A Compilation; Exploration and Geological Services Division - Yukon, Indian and Northern Affairs, Canada, Open File, 1:25,000 scale map with marginal notes.