

ASSESSMENT REPORTS

WHITEHORSE M.D.

MAP No. 105 K 3 **TYPE OF WORK:** GEOLOGICAL, GEOCHEMICAL


REPORT FILED UNDER	HUDSON BAY EXPLORATION AND DEVELOPMENT CO. LTD.	
DATE PERFORMED	May - September 1985	DATE FILED: 20 September 1985
LOCATION - LAT.	62°10'N	
	LONG. 133°02'W	
CLAIM Nos.	CANYON 301-320	YA85406-YA85425
WORK DONE BY	HUDSON BAY EXPLORATION AND DEVELOPMENT CO. LTD.	
WORK DONE FOR	HUDSON BAY EXPLORATION AND DEVELOPMENT CO. LTD.	
REMARKS		
091673		

70x 85 p.151

Rotary and diamond drilling, geological mapping, geochemical soil sampling, linecutting, trenching and rock sampling were done in 1984 and 1985.

Geochemical soil and rock chip sampling was carried out in a reconnaissance manner over the property. Samples were analyzed for Au, Ag, As, Hg, Cu, Pb, Zn and U. Anomalous zones of limited extent, were encountered which analyzed as high as 380 ppb Au and 2700 ppm Cu.

An integrated electromagnetic and magnetic geophysical survey covered 117 line km. The most significant anomalies coincided with the Grew Creek and Danger Creek fault zones.





HUDSON BAY EXPLORATION AND DEVELOPMENT
COMPANY, LIMITED



ASSESSMENT REPORT OF GEOLOGICAL MAPPING AND GEOCHEMICAL
SAMPLING ON THE CANYON 301-320 CLAIMS

(CANYON 301-320, YA 85406-85425)

WHITEHORSE MINING DISTRICT

105 K 3
62°10' 133°2'

MAY TO SEPT. 6, 1985

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091673

This report has been examined by
the Geological Evaluation Unit
under Section 53 (4) Yukon Quartz
Mining Act and is allowed as
representation work in the amount
of \$ 3,000.⁰⁰.

A handwritten signature in black ink, appearing to be 'D. J. ...', written over a horizontal line.

Regional Manager, Exploration and
Geological Services for Commissioner
of Yukon Territory.

TABLE OF CONTENTS

1.0	INTRODUCTION
2.0	LOCATION AND ACCESS
3.0	CLAIM OWNERSHIP
4.0	PERSONNEL
5.0	GEOLOGY
	5.1 Regional Geology
	5.2 Geology of the Claim Block
	5.3 Mineralization and Alteration
6.0	EXPLORATION
	6.1 Introduction
	6.2 Geochemistry
7.0	CONCLUSIONS AND RECOMMENDATIONS
8.0	REFERENCES
	APPENDIX A ANALYTICAL METHODS
	APPENDIX B GEOCHEMICAL ANALYSIS: CANYON 301-320 CLAIMS
	APPENDIX C CANYON 301-320 CLAIMS: STATEMENT OF COSTS
	APPENDIX D STATEMENT OF QUALIFICATIONS
	FIGURE 1: CANYON 301-320 CLAIMS: LOCATION MAP
	FIGURE 2: CANYON CLAIMS: DISTRIBUTION
	FIGURE 3: CANYON 301-320: GEOLOGY AND GEOCHEMISTRY

1.0 INTRODUCTION:

The Canyon 301 to 320 claims were staked on August 23 and 27, 1984 to cover an area of Tertiary sediments and volcanics between the Grew and Danger Creek faults on strike with the Canyon Au showing. Exploration was carried out between May 29 and August 25, 1985 and consisted of geological mapping, prospecting, geochemical sampling and airphoto interpretation.

2.0 LOCATION AND ACCESS:

The claim group is centred around the Robert Campbell Highway immediately west of the Blind Creek road approximately 11 km southeast of the Faro turnoff and 13 km southeast of Faro (figure 1). The area is bounded on the north by the Pelly River, is forested and has fairly flat topography.

3.0 CLAIM OWNERSHIP:

The Canyon 301 to 320 claims consist of 20 quartz claims (YA85406-85425) within the Canyon 1-116, 131-158, 175-274, 293-356 claim group (Figure 2). The claims are in the Whitehorse Mining District (claim sheet 105 K3) and are part of the Canyon Option Agreement between Hudson Bay Exploration and Development Co. Limited of 100-10 Burns Rd., Whitehorse and Al Carlos of Whitehorse.

4.0 PERSONNEL:

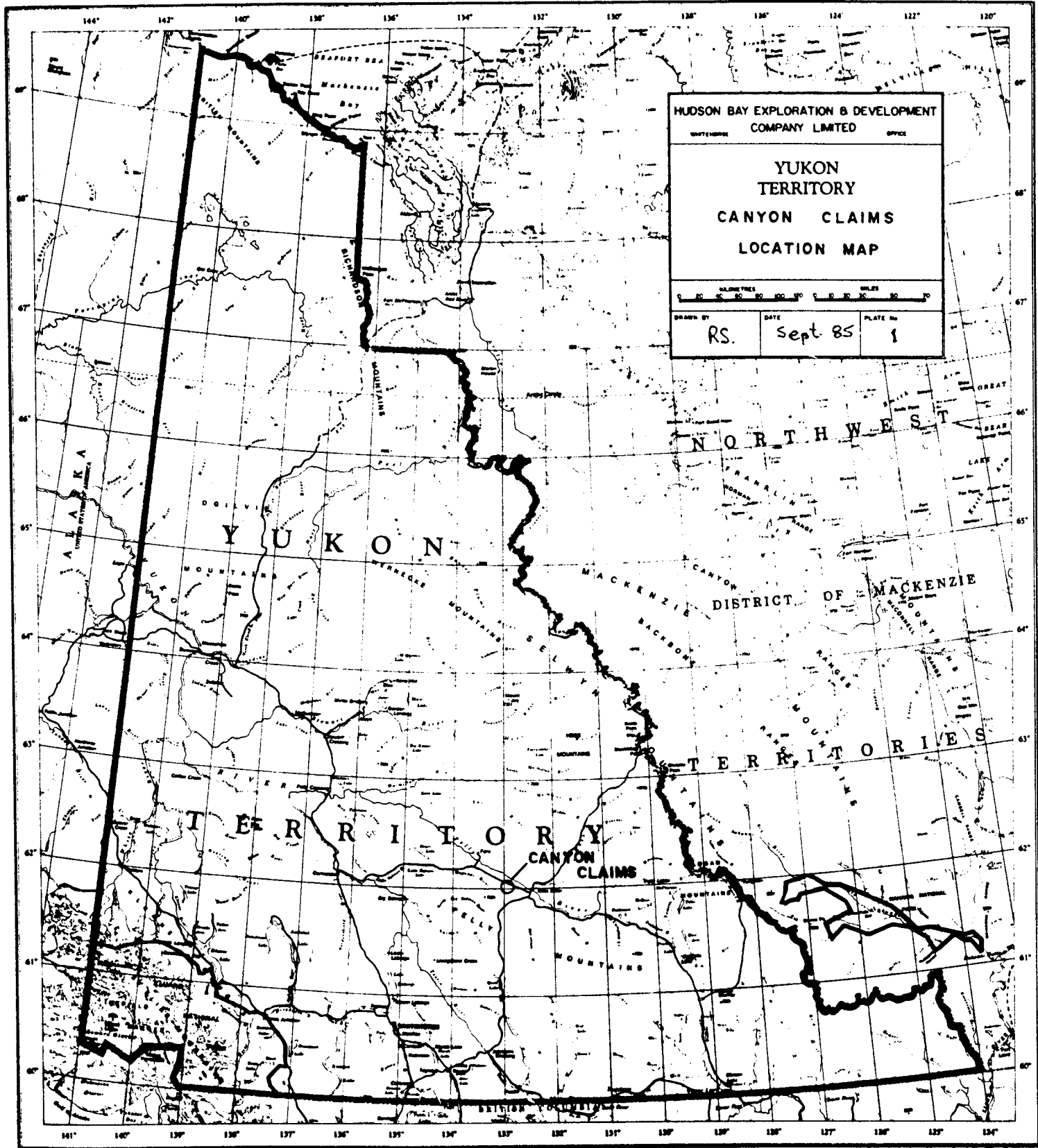
The following personnel were employed by Hudson Bay Exploration and Development Co. Limited on the Canyon 301-320 claims:

T. Garagan	Project Geologist
A. Doherty	Project Geologist
P. Allen	Geologist
K. Galambos	Geologist
S. Tufford	Geotechnician
J. O'Rourke	Prospector

5.0 GEOLOGY:

5.1 Regional Geology

The Canyon claims lie within the Tintina trench, a large (>1000 km long, 2-12 km wide) transcurrent fault system developed between Cretaceous and Tertiary time. Right lateral movement along the fault ranges



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 COMPANY LIMITED

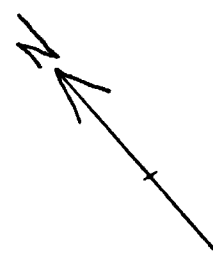
DRAFTSMAN

OFFICE

YUKON
 TERRITORY
 CANYON CLAIMS
 LOCATION MAP

0 10 20 30 40 50 60 70 80 90 100
 METRES MILES

DRAWN BY	DATE	PLATE No
RS.	Sept 85	1



133° 10'

52° 10'

133° 5'

PELLY RIVER

ROBERT CAMPBELL HWY.

CANYON PROPERTY

309	310								
YAB5414	YAB5465								
307	308	319	320						
YAB5412	YAB5413	YAB5424	YAB5425						
305	306	317	318						
YAB5418	YAB5411	YAB5422	YAB5423						
303	304	315	316						
YAB5408	YAB5403	YAB5420	YAB5421						
301	302	313	314						
YAB5406	YAB5407	YAB5418	YAB519						
SA10 TO ADJOIN		311							
		YAB5416	YAB5417						
		SA10 TO ADJOIN							

DISTRIBUTION
 CANYON CLAIMS 301 to 320
 SHEET 10SH-3 WHITEHORSE M.O
 SCALE 1: 31,680

Figure 2

between 400 and 450 km (Tempelman-Kluit, 1972; Hughes and Long, 1980). Block faulting occurs throughout the area and at least 1500 m of dip slip movement (Tempelman-Kluit op-cit) occurs along these faults. In the Grew Creek area, offset within glacial till indicates that the block faulting continued into Pleistocene time. At least 4 major faults are present in the area and these are called from south to north respectively; the Buttle Creek, Grew Creek, Danger Creek and Lapie River faults. Cretaceous intrusives and Tertiary felsic to rhyolitic volcanics and fine to coarse clastic rocks are faulted against Permian metasediments, limestones and basalts and are preserved between the central faults (Grew Creek and Danger Creek faults). Gold mineralization found to date is located within the Tertiary package of rocks.

5.2 Geology of the Claim Block

The Canyon 301-320 claims cover an area between the Grew and Danger Creek faults and 0.5 to 1 km north and south of the faults (location based on airphoto interpretation). The area between the two faults and north is largely covered by glacial till and the only exposures of Tertiary and Cretaceous rocks are on the eastern edge of the claims and around the large lake 1 km east of the claims. The Cretaceous (?) rocks consists of a fine grained to medium grained locally quartz eye porphyritic chlorite altered quartz monzonite to monzonodiorite. East of the lake, the rock grades into a coarse grained equigranular biotite quartz monzonite. The intrusive rock is in fault contact with Tertiary fine grained to coarse grained poorly sorted sandstone and polymictic conglomerate similar to those found in the Lapie River area (Hughes and Long op-cit). The Permian rocks south of the Grew Creek fault consist of metamorphosed chert, phyllites and metabasalts. They are tightly folded and the foliation developed parallel to folding (a ial planar) dips between 05° and 70° S (usually between 05° and 30°). The Permian limestones north of the Danger Creek fault are exposed 5 km east of the claims.

5.3 Mineralization and Alteration

Minor amounts of quartz veining developed parallel to the foliation within the metavolcanics were found southeast of the claims. The veining was found to be slightly enriched in gold (220 ppb). The metavolcanics extends into the claims and a small malachite-quartz showing was found along the highway in similar rocks. The showing consists of malachite staining of quartz veining developed parallel to the fabric. The veining is too thin to have any economic potential.

The intrusive rock at the east end of the claims are strongly propylitized, but no mineralization has been found in the area.

6.0 EXPLORATION:

6.1 Introduction

A total of 29 rock samples, 8 soil samples and 5 stream sediment samples were taken in and around the Canyon 301-320 claims. Prospecting was carried out throughout the area. A helicopter reconnaissance survey to locate outcrops was flown on May 29.

6.2 Geochemistry

Grab samples (rock) were taken in and around the property in areas of potential gold mineralization and soil samples were collected in areas of veining. Five stream sediment samples were collected in the only creek draining the propylitized intrusive rock. All samples were analysed for gold and silver and several samples were also analysed for arsenic, mercury, copper, lead, zinc and uranium. The sample locations are shown in figure 3 and the results are plotted in Appendix B.

A soil sample taken below a hill containing metavolcnics with quartz veining contained 220 ppb gold. Several rock samples taken on this area was unable to locate the source of the gold in the soil. The mineralization is assumed to be limited.

One grab sample taken in the altered granite containd 380 ppb Au. The mineralization appears to be limited in this area and no other sampling is necessary. The grab samples from the malachite showing contains up to 2700 ppm copper, but the mineralization is also limited in this area. The uranium results have not yet been received and will be sent in at a later date. All other values are low.

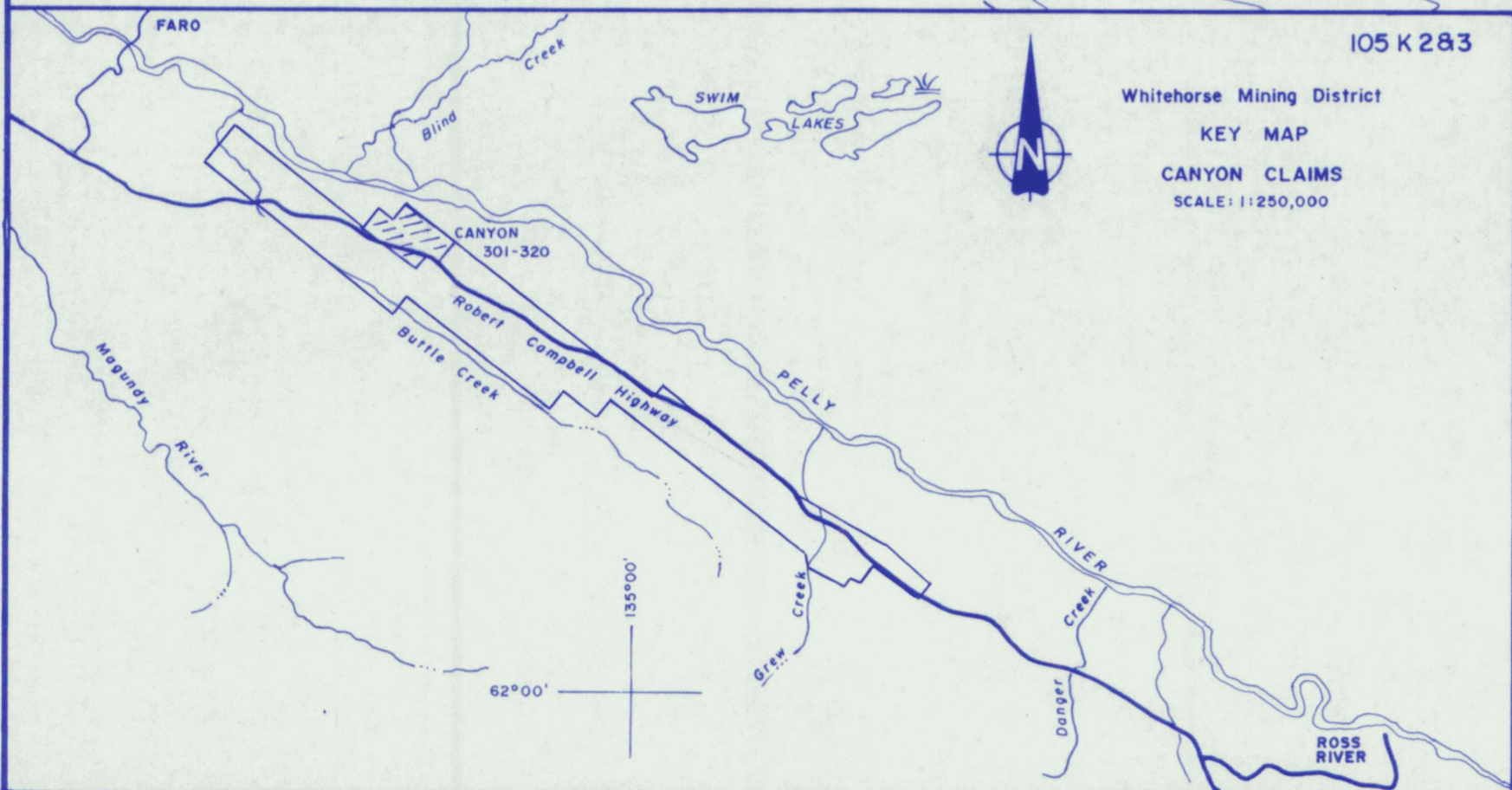
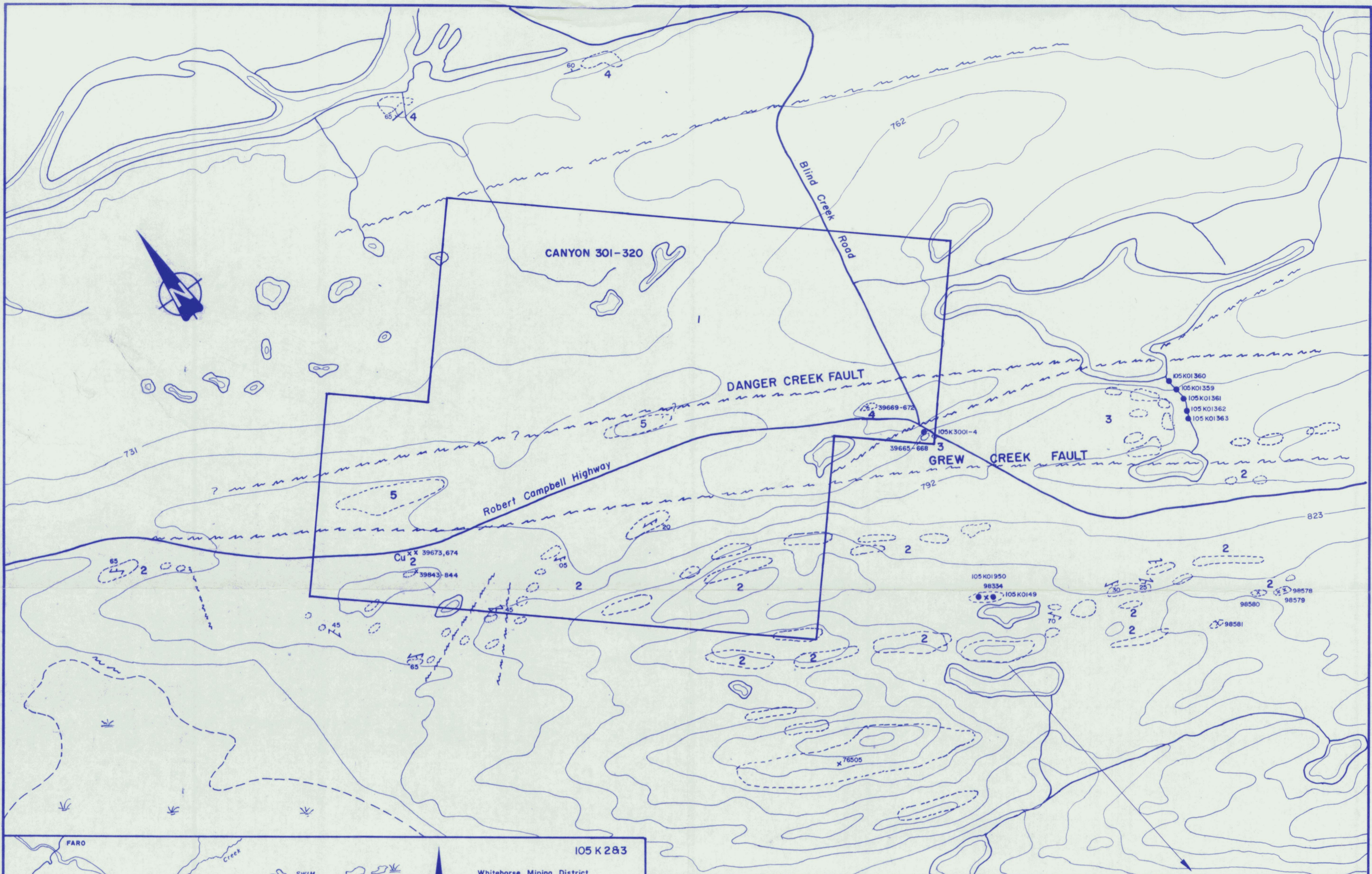
7.0 CONCLUSIONS AND RECOMMENDATIONS:

The economic potential of the Canyon 301 to 320 claims appears to be low and further exploration should be delayed until the economic potential of Grew Creek showing can be assessed.

8.0 REFERENCES:

Hughes, J. D. and Long, D. G. F., 1980: Geology and Coal Resources Potential of Early Tertiary Strata along Tintina trench, Yukon Territory.
G. S. C. Paper 79-32

Tempelman-Kluit, D. J., 1972: Geology and Origin of the Faro, Vangorda and Swim Concordant Zinc-Lead Deposits, Central Yukon Territory.
G. S. C. Bulletin 208.



LEGEND		SYMBOLS	
5	PLEISTOCENE Glacial till drumlins		Fault
4	TERTIARY Polymictic conglomerate, sandstone, shale		Outcrop
3	CRETACEOUS-TERTIARY Fine grained chlorite altered monzonite hypabyssal intrusion		Foliation (inclined)
2	PERMIAN Chert, phyllite, metavolcanics		Bedding (inclined)
1	Marble, basalt		Claim boundary
			39673 rock location sample
			105K01360 soil and silt sample location
			Cu: copper showing

FIG.3 091673

HUDSON BAY EXPLORATION & DEVELOPMENT
WHITEHORSE COMPANY LIMITED OFFICE

CANYON CLAIMS 301-320
Geology and Geochemistry

SCALE: 0 100 200 300 400 500 METERS	DATE: SEPT. 1985
FIELD WORK BY: T.G.	DRAWN BY: WM

APPENDIX A

ANALYTICAL METHODS

Soil and stream sediment samples are dried and sieved to minus 80 mesh. Rock samples are pulverized and a split of the minus 100 mesh fraction is analysed.

Copper, lead, zinc and silver are analysed by atomic absorption techniques; the sample is dissolved in hot aqua-regia. Silver analyses require a correction for background; values greater than 4.0 ppm are checked using a nitric acid digestion.

Mercury analysis is by flameless atomic absorption spectrophotometry after sample digestion.

Arsenic analysis is by perchloric-nitric acid digestion and colourmetric determination.

Uranium analysis is by fluorometric techniques following hot nitric acid digestion.

Gold analysis is by fire assay techniques using a 20 gram sample, but after preparation of the lead bead, the bead is dissolved in acid and the gold content determined by atomic absorption spectrophotometry.

APPENDIX B

GEOCHEMICAL ANALYSIS CANYON CLAIMS

<u>SAMPLE NUMBER</u>	<u>SAMPLE TYPE</u>	<u>Au</u>	<u>Ag</u>	<u>As</u>	<u>Hg</u>	<u>Cu</u>	<u>Pb</u>	<u>Zn</u>	<u>U</u>
76505	Grab	60	<.2	4	15				
76506	Grab	5	<.2	4	10				
RA01	Soil	220	<.2	5	25				
RA02	Soil	20	<.2	5	90				
RA03	Soil	10	.6	4	90				
RA04	Soil	<5	.8	5	70				
98334	Grab	<5	.2	3					
98335	Grab	15	<.2	5					
98336	Grab	<5	<.2	2					
98578	Grab	<5	<.2	5					
98579	Grab	<5	<.2	6					
98580	Grab	<5	.2	3					
98581	Grab	<5	<.2	3					
98582	Grab	<5	<.2	2					
98583	Grab	<5	<.2	3					
98584	Grab	10	<.2	3					
98585	Grab	<5	<.2	2					
98586	Grab	<5	<.2	2					
98587	Grab	<5	<.2	3					
98588	Grab	<5	<.2	3					
98589	Grab	<5	<.2	3					
01359	Stream Sediment	35	<.2	11	70				
01360	Stream Sediment	<5	<.2	<2	35				
01361	Stream Sediment	<5	<.2	10	60				
01362	Stream Sediment	<5	<.2	10	45				
01363	Stream Sediment	<5	<.2	2	90				
3001	Soil	<5	<.2			15	28	69	
3002	Soil	<5	<.2			8	25	76	
3003	Soil	<5	<.2			14	23	67	
39665	Grab	380	.7			5	26	45	
39666	Grab	10	<.2			7	21	96	
39667	Grab	<5	<.2			8	21	98	
39668	Grab	<5	<.2			5	25	79	
39669	Grab	<5	<.2			10	10	36	
39670	Grab	<5	.2			11	13	40	
39671	Grab	<5	<.2			11	15	39	
39672	Grab	<5	<.2			13	14	50	
39673	Grab	<5	.5			380	14	72	
39674	Grab	20	5.8			2700	54	670	
39843	Grab	<5	<.2			19	12	83	
39844	Grab	<5	<.2			24	14	85	
3004	Soil	<5	<.2			17	44	96	

APPENDIX C

CANYON CLAIMS: STATEMENT OF COSTS

GEOCHEMICAL SAMPLING:

Two rock samples analysed for Au, Ag, As, Hg 2 samples @ 20.25/sample	40.50	
Fifteen rock samples analysed for Au, Ag, As 15 samples @ 15.75/sample	236.25	
Twelve rock samples analysed for Au, Ag, Cu, Pb, Zn, U 12 samples @ 18.50/sample	222.00	
Four soil samples & 5 stream sediment samples analysed for Au, Ag, As, Hg 9 samples @ 17.90/sample	161.10	
Four soil samples analysed for Au, Ag, Cu, Pb, Zn 4 samples @ 12.65/sample	<u>50.60</u>	710.45

LABOUR:

T. Garagan: Project Geologist - Supervision, geological mapping, prospecting, geochemical sampling, Report Writing 4.5 days @ 160/day	720.00	
A. Doherty: Project Geologist - Geological mapping, Prospecting, Geochemical sampling 1 day @ 160/day	160.00	
P. Allen: Geologist - Geological Mapping, Prospecting, Geochemical sampling, Map preparation 3 days @ 130/day	390.00	
K. Galambos: Geologist - Geological mapping, Prospecting, Geochemical Sampling. 1 day @ 130/day	130.00	
S. Tufford: Geotechnician - Prospecting 1 day@130/day	130.00	
J. O'Rourke: Prospector - Prospecting 1 day @ 110/day	<u>110.00</u>	1,640.00

FOOD COSTS: 11.5 days @ 25/man day 287.50

HELICOPTER COSTS: 2.1 hours on May 29, with Trans Am Helicopters
Ltd. Invoice #5904 @ 1597.20 x 20 (total
claims for assessment) ÷ 420 (total claims
in property) = 76.06

TRANSPORTATION:

Includes 4x4 pickup trucks on lease from Norcan Leasing
and gasoline for the trucks and repairs on the trucks
Total invoices for June to August 1985=11352.94 x 20/420= 540.62

Total Costs Applied for Assessment \$ 3,254.63

APPENDIX D

STATEMENT OF QUALIFICATIONS

TOM GARAGAN

EDUCATION: B. Sc. Honours: Geology
University of Ottawa
Graduation in 1980

MEMBERSHIPS: Associate Member: Geological Association of Canada
Member: Mineralogical Association of Canada

EMPLOYMENT: 1980 - Jan. 1984: AGIP Canada Ltd.
Project Geologist: Supervision of base
and precious metal exploration programs on
reconnaissance and property scale in the
Yukon.

Feb. 1984 - Sept.
1984: IDRC: Gore-Gambella project
Geologist: Training Ethiopian geologist in
geological mapping, geological mapping and
advising Ethiopian geologists in gold
exploration camps.

Oct. 1984 - March
1985: D & S Petroleum Consulting
Geologist: Oil exploration and field
evaluations.

April 1985 to
present: Hudson Bay Exploration & Development Co. Ltd.
Project Geologist: Supervision of property
scale gold exploration programs in the
Yukon.

