

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 GRAND 49-162 CLAIMS

(GRAND 49-162, YA 85284-85397)

WHITEHORSE MINING DISTRICT

105 F 15, 105 K 2

62°00'/132°45'

YMA 85284-85397 1985
The Regional Manager
Mineral Rights
Whitehorse
Yukon Territory

The Regional Manager
Mineral Rights
Whitehorse
Yukon Territory

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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 \$ 11,400.00.


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

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1.0 INTRODUCTION:

The Grand 49-162 claims were staked between August 24 and 29, 1984 to cover an area of acid to felsic volcanic rocks within the Tintina Trench. Exploration on the claims consisted of geological mapping, prospecting and geochemical sampling.

2.0 LOCATION AND ACCESS:

The claim group is located immediately south of the Robert Campbell Highway between the Lapie River and Grew Creek (Figure 1). A poor trail (passable by 3-wheel Honda) leads from the Robert Campbell Highway (west side of Danger Creek) to a fire road in the central part of the claims (see Figure 3). The area is located below the treeline with elevations varying between 800 and 990 m.

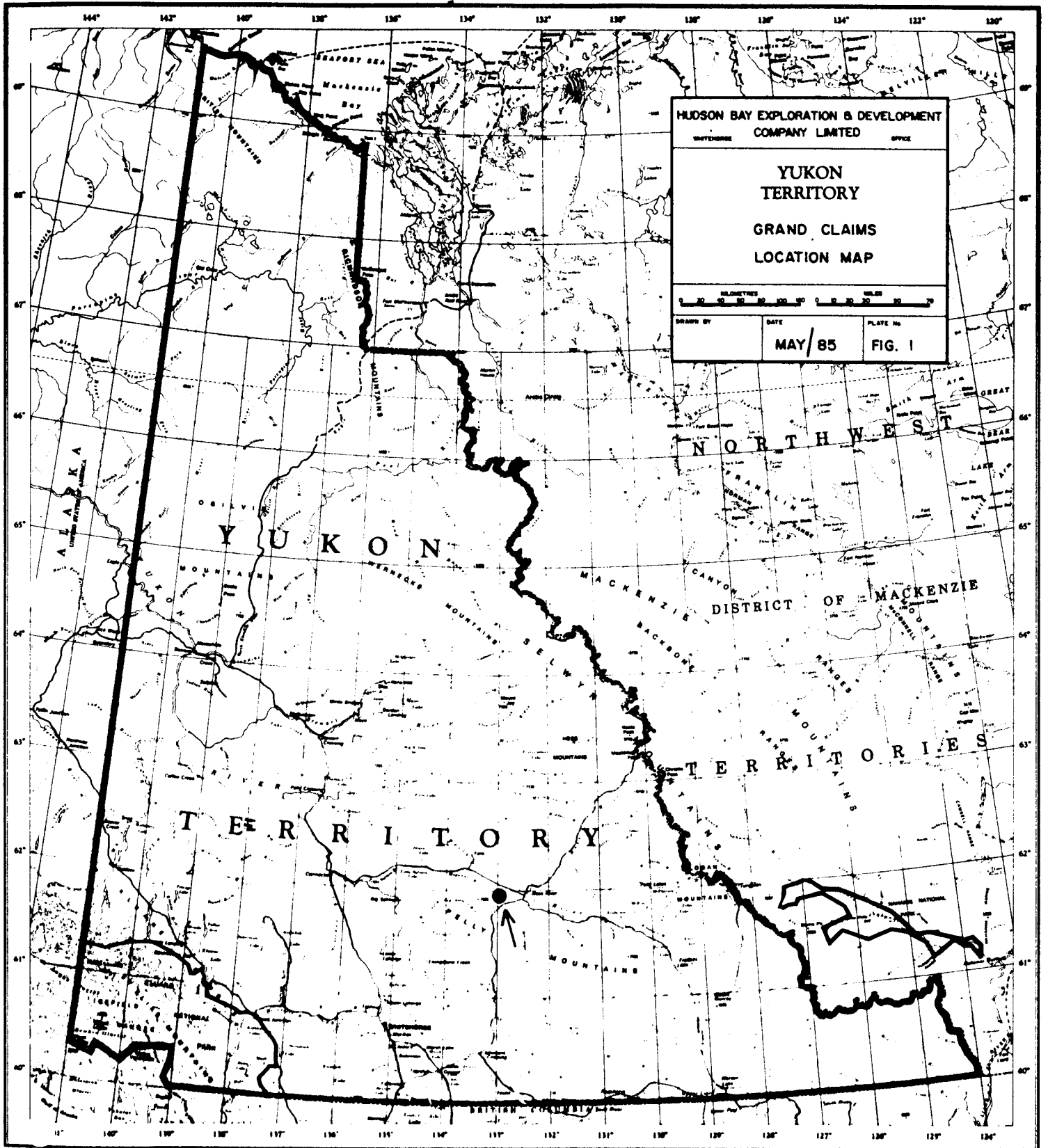
3.0 CLAIM OWNERSHIP:

The Grand 49-162 claims consist of 114 quartz claims (YA85284-397) within the Grand 1-162 claim group (Figure 2). The claims are in the Whitehorse Mining District on claim sheets 105 F/15 and 105 K/2 and are wholly owned by Hudson Bay Exploration and Development Company, Limited of 100-10 Burns Road, Whitehorse, Yukon Territory.

4.0 PERSONNEL:

The following personnel were employed by Hudson Bay Exploration and Development Company, Limited on the Grand 49-162 claims:

T. Garagan	Project Geologist
A. Doherty	Project Geologist
P. Allen	Geologist
K. Galambos	Geologist
S. Tufford	Geological Technician
V. Celuszak	Geological Technician
J. O'Rourke	Prospector



MAP 47 - YUKON

This map was obtained from the Yukon Map Office, Department of Energy, Mines and Technical Surveys, Ottawa, Ontario, Canada.

5.0 GEOLOGY:

5.1 Regional Geology

The Grand claims lie within the Tintina trench; a large (>1000km long, 2-12 km wide) transcurrent fault system developed between Cretaceous and Tertiary time. Right lateral movement along the fault ranges between 400 and 450 km (Tempelman-Kluit, 1972; Hughes and Long, 1980). Block faulting similar to the step block faulting within the East African system occurs in the area. According to Tempelman Kluit (op-cit), up to 1500 m of dip slip movement occurs along the block faults. At least 4 major faults are present in the claim area and these are called from south to north respectively; the Buttle Creek, Grew Creek, Danger Creek and Lapie River faults. Permian limestones and basalts are faulted against Hadrynian to Silurian metasediments and metavolcanics in the outer faults. Late Cretaceous to Early Tertiary basic to acid (predominantly felsic to acid) volcanics and fine to coarse clastic rocks are preserved within the central faults (Grew and Danger Creek faults). Gold mineralization found to date is located within the volcanic package.

5.2 Geology of the Claim Block

The Grand 49-162 claims are located between the Grew and Danger Creek faults and are underlain by Tertiary sediments and volcanics. The volcanics are located south of, and are in fault contact with the sedimentary units and consist of quartz eye porphyritic rhyolites with local flow banding and/or columnar jointing (eg, east of Danger Creek). Rhyolites are interbedded with thin units of andesitic and basaltic tuffs and flows and are cut by several thin (0.5 to 5 m thick) dykes of diabase, gabbro and diorite. The dykes are presumed to be feeders for the basic rocks. The sediments consist of interbedded shales, siltstones, sandstones, polymictic conglomerate and minor coal and are steeply dipping as a result of tilting adjacent to the major faults (Hughes and Long: op-cit). Permian limestones and basalts are located north of the Danger Creek fault and Permian chert and phyllite is located south of the Grew Creek fault.

The volcanics and sediments are unconformably overlain by between 1 and 50 m of glacial till.

5.3 Mineralization and Alteration

The rhyolites are locally sericitized and are partly silicified adjacent to some of the mafic dykes. No other alteration or mineralization has been found in the area.

6.0 EXPLORATION:

6.1 Introduction

Exploration has consisted of prospecting and geochemical sampling. A total of 20 rock and 48 soil samples were collected on the Grand claims. In addition, a reconnaissance helicopter survey was carried out on May 29, to try and locate outcrop and colour anomalies.

6.2 Geochemistry

Soil samples were collected at 50 m intervals on 2 lines (located 1 km apart) across rhyolite flows on the west end of the claims. In addition, talus fine samples were collected at 30 m intervals below outcrops of rhyolite in the Danger Creek area and east of Danger Creek. In both cases, the samples were analysed for gold and silver and the talus fine samples were also analysed for Hg and As. Rock samples were collected in areas of alteration and potential precious metal mineralization and were analysed for gold and silver. Several samples were also analysed for Hg and As. The sample locations are plotted in Figure 3 and the results are shown in Appendix B. All metal values are at or close to background levels.

7.0 CONCLUSIONS AND RECOMMENDATIONS:

No precious metal mineralization has been located to date and the economic potential of the Grand 49-162 claims appears to be low. Large areas of the property are covered in glacial till and would be costly to explore. This would not be justified until the economic potential of the Grew Creek area itself has been properly assessed.

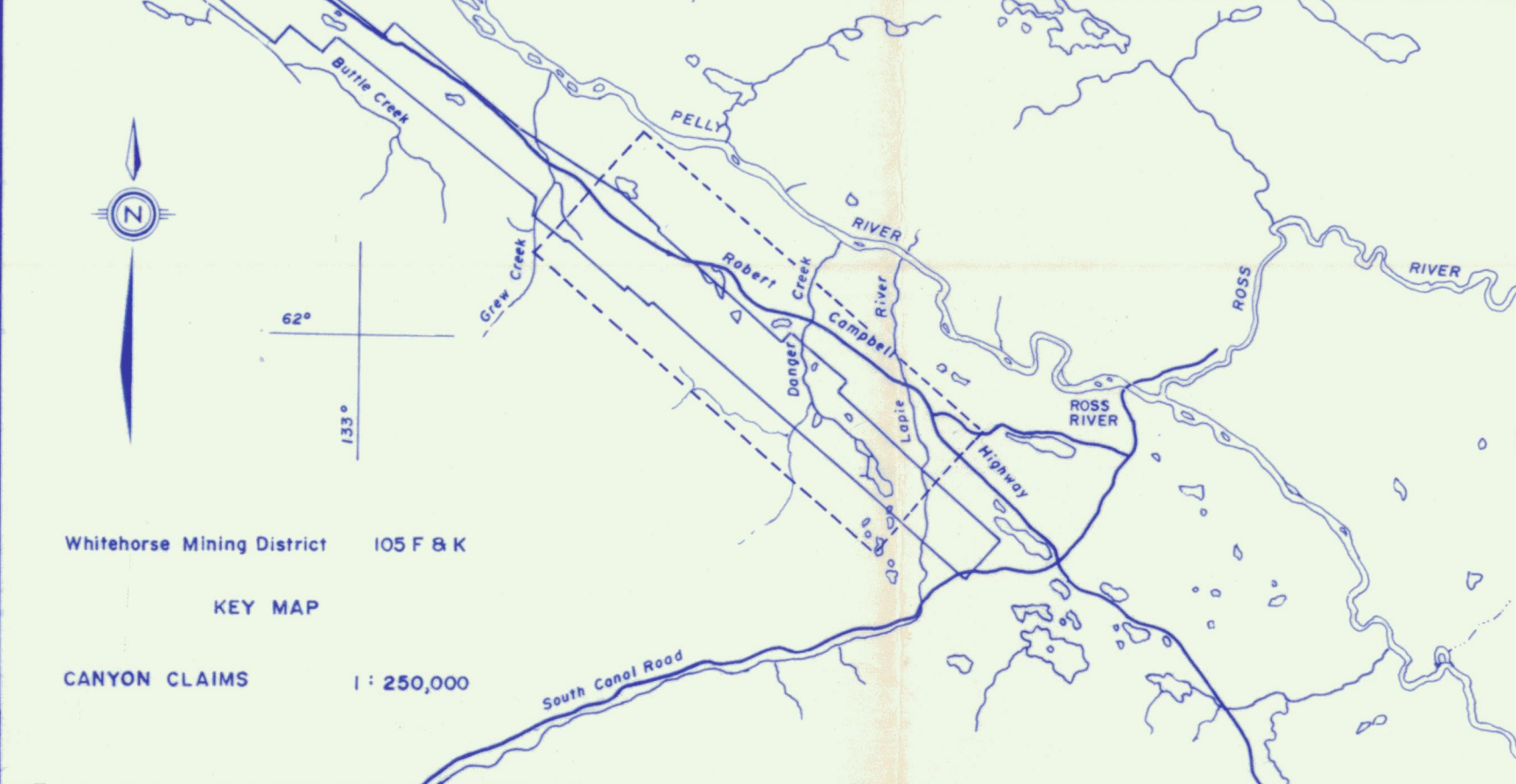
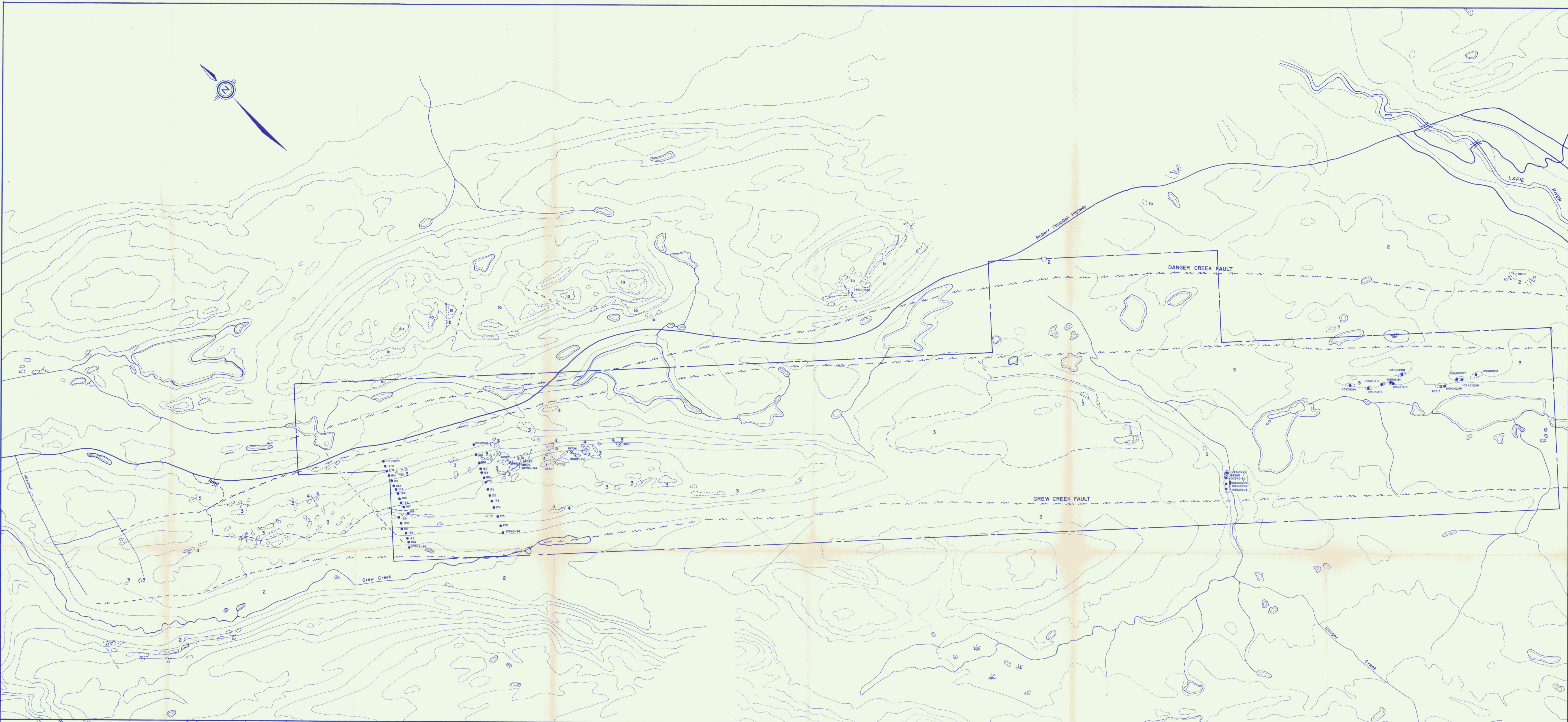
8.0 REFERENCES:

- Hughes, J D. and Long, D. G. F 1980: Geology and Coal Resource 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.

Figure 2

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LEGEND

- TERTIARY**
- 5 Sandstone, conglomerate, shale, coal
 - 4 Gabbro, basalt and diorite dykes, basaltic tuff
 - 3 Rhyolite
- PERMIAN**
- 2 Chert, phyllite, metavolcanic
 - 1 Limestone (1a) and basalt (1b)

SYMBOLS

- Outcrop
- ~ Fallation (inclined, vertical)
- ~ Bedding (inclined, vertical)
- ~ Jointing (inclined, vertical)
- ~ Fault
- Soil sample location
- × Rock sample location
- - - Approximate claim boundary

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HUDSON BAY EXPLORATION & DEVELOPMENT COMPANY LIMITED
 WHITEHORSE OFFICE

GREW CREEK GRAND CLAIMS 49-162
 Geology and Geochemistry

DRAWN BY: WM	DATE: SEPT, 1985	PLATE No.
FIELD WORK BY: T.G. & CREW	REVISED BY:	SCALE: 1:12,500
		0 100 200 300 400 500 METERS

APPENDIX A

ANALYTICAL METHODS

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

Silver is analysed using atomic absorption techniques, the sample is dissolved in hot aqua regia. A background correction is required for silver.

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

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

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 GRAND CLAIMS

<u>SAMPLE NUMBER</u>	<u>SAMPLE TYPE</u>	<u>Au</u>	<u>Ag</u>	<u>As</u>	<u>Hg</u>
39627	Grab	< 5	< .2		
98315	Grab	< 5	< .2	< 2	45
98316	Grab	< 5	< .2	< 2	20
98317	Grab	< 5	< .2	2	25
98525	2 m chip	< 5	< .2	5	40
98526	Grab	< 5	.2	5	25
98528	Grab	< 5	< .2	5	50
98529	Grab	< 5	< .2	6	160
98530	Grab	< 5	.5	-	-
98531	Grab	< 5	< .2	-	-
98532	Grab	< 5	< .2	-	-
98703	Grab	< 5	< .2	5	120
98704	Grab	< 5	< .2	5	130
98705	Grab	< 5	< .2	< 2	235
98706	Grab	< 5	< .2	< 2	20
98707	Grab	< 5	< .2	3	15
98708	Grab	< 5	< .2	< 2	45
98709	Grab	< 5	< .2	< 2	50
98710	Grab	< 5	< .2	3	< 5
98711	Grab	< 5	< .2	< 2	< 5
01200	Talus Fines	< 5	< .2	10	30
01201	Talus Fines	< 5	< .2	11	10
01202	Talus Fines	5	< .2	< 2	20
01203	Talus Fines	< 5	< .2	11	25
01204	Talus Fines	< 5	< .2	8	20
01205	Talus Fines	< 5	.2	10	75
01206	Talus Fines	< 5	< .2	< 2	15
01207	Talus Fines	< 5	< .2	< 2	70
01208	Talus Fines	< 5	< .2	2	75
01209	Talus Fines	< 5	.2	< 2	195
01210	Talus Fines	< 5	< .2	3	40
01211	Talus Fines	< 5	< .2	< 2	45
01212	Talus Fines	< 5	< .2	< 2	40
01213	Talus Fines	< 5	< .2	< 2	50
01214	Talus Fines	< 5	< .2	< 2	30
21164	Soil	< 5	.4		
21165	Soil	< 5	< .2		
21166	Soil	< 5	< .2		
21167	Soil	< 5	< .2		
21168	Soil	< 5	< .2		
21169	Soil	< 5	< .2		
21170	Soil	< 5	< .2		
21171	Soil	< 5	.2		
21172	Soil	< 5	< .2		
21173	Soil	< 5	< .2		
21174	Soil	< 5	.3		
21175	Soil	< 5	< .2		
21176	Soil	< 5	< .2		
21177	Soil	< 5	< .2		
21178	Soil	< 5	< .2		
21179	Soil	5	< .2		

<u>SAMPLE NUMBER</u>	<u>SAMPLE TYPE</u>	<u>Au</u>	<u>Ag</u>	<u>As</u>	<u>Hg</u>
21180	Soil	<5	<.2		
21181	Soil	<5	<.2		
21182	Soil	<5	<.2		
21183	Soil	5	<.2		
21184	Soil	<5	<.2		
21185	Soil	<5	<.2		
21186	Soil	<5	<.2		
21187	Soil	<5	<.2		
21188	Soil	10	<.2		
21189	Soil	<5	<.2		
21190	Soil	<5	<.2		
21191	Soil	<5	<.2		
21192	Soil	<5	<.2		
21193	Soil	<5	<.2		
21194	Soil	<5	<.2		
21195	Soil	<5	<.2		
21196	Soil	<5	<.2		

APPENDIX C

GRAND 49-162: STATEMENT OF COSTS

GEOCHEMICAL SAMPLING:

Sixteen rock samples analysed for Au, Ag, As, Hg 16 samples @ 20.25/sample	324.00	
Four rock samples analysed for Au, Ag 4 samples @ 12.00/sample	48.00	
Fifteen soil samples analysed for Au, Ag, As, Hg 15 samples @ 17.90/sample	268.50	
Thirty three samples analysed for Au, Ag 33 samples @ 9.65/sample	<u>318.45</u>	958.95

LABOUR:

T. Garagan: Project Geologist - Supervision, Geological Mapping, Report Writing 6 days @ 160.00/day	960.00	
A. Doherty: Project Geologist - Geological Mapping 3 days @ 160.00/day	480.00	
P. Allen: Geologist - Geological Mapping, Geochemical Sampling, Map Preparation, 13 days @ 130/day	1,690.00	
K. Galambos: Geologist - Geological Mapping, Geochemical sampling 12 days @ 130/day	1,560.00	
S. Tufford: Geological Technician - Prospecting 1 day @ 130/day	130.00	
V. Celuszak: Geological Technician - Prospecting, Geochemical sampling 8 days @ 110/day	880.00	
J. O'Rourke: Prospector - Prospecting, Geochemical sampling 2 days @ 110/day	<u>220.00</u>	5,920.00

FOOD COSTS: 45 man days @ \$25/man day 1,125.00

HELICOPTER COSTS: 2.1 hours on May 29, with Trans Am Helicopters
Ltd. Invoice #5904 @ 1597.20 x 114 (total claims
for assessment ÷ 420 (total claims in
property) = 433.53

CAMP COSTS: Includes lumber, radio phones, drafting and field
supplies.
Total of invoices for June to August 1985 =
7009.01 x 114/420 = 1,902.45

TRANSPORTATION: Includes 2 4x4 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 114/420 = 3,081.51

TOTAL COSTS APPLIED FOR ASSESSMENT - \$ 13,421.44

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.

