

HUDSON BAY EXPLORATION AND DEVELOPMENT

COMPANY LIMITED

ASSESSMENT REPORT OF GEOLOGY

AND GEOCHEMICAL SAMPLING

CANYON CLAIMS

**091843**

(216, 218-222, 311-312, 353-356)

(YA81335, YA81337-341, YA85416-417, YA92138-141)

WHITEHORSE MINING DISTRICT

105 K 3

62°10'/133°08'

JUNE 1986

**091843**

This report has been examined by  
the [ ] Unit  
under Section 5 (4) Yukon Quartz  
Act and is allowed as  
representation work in the amount  
of \$ 600.00.

*D. A. Emmond*

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

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INTRODUCTION:

A field examination of the Canyon Claims in the Blind Creek Road area was undertaken by the author on June 10, 1986. The purpose of the examination was to assess the area north of the lake where outcrop exposures were unknown. Several small outcrops were located and soil samples were collected along the Canyon 353-356 claim line.

Geochemical samples were also taken at a small altered exposure along the Robert Campbell Highway (km 411) from a shallow trench.

Several reconnaissance programs including electro-magnetic, magnetic, geochemical, geological and prospecting surveys have been conducted along the Canyon-Grand claims. The reports of these programs are listed in the reference appendix of this report.

LOCATION AND ACCESS:

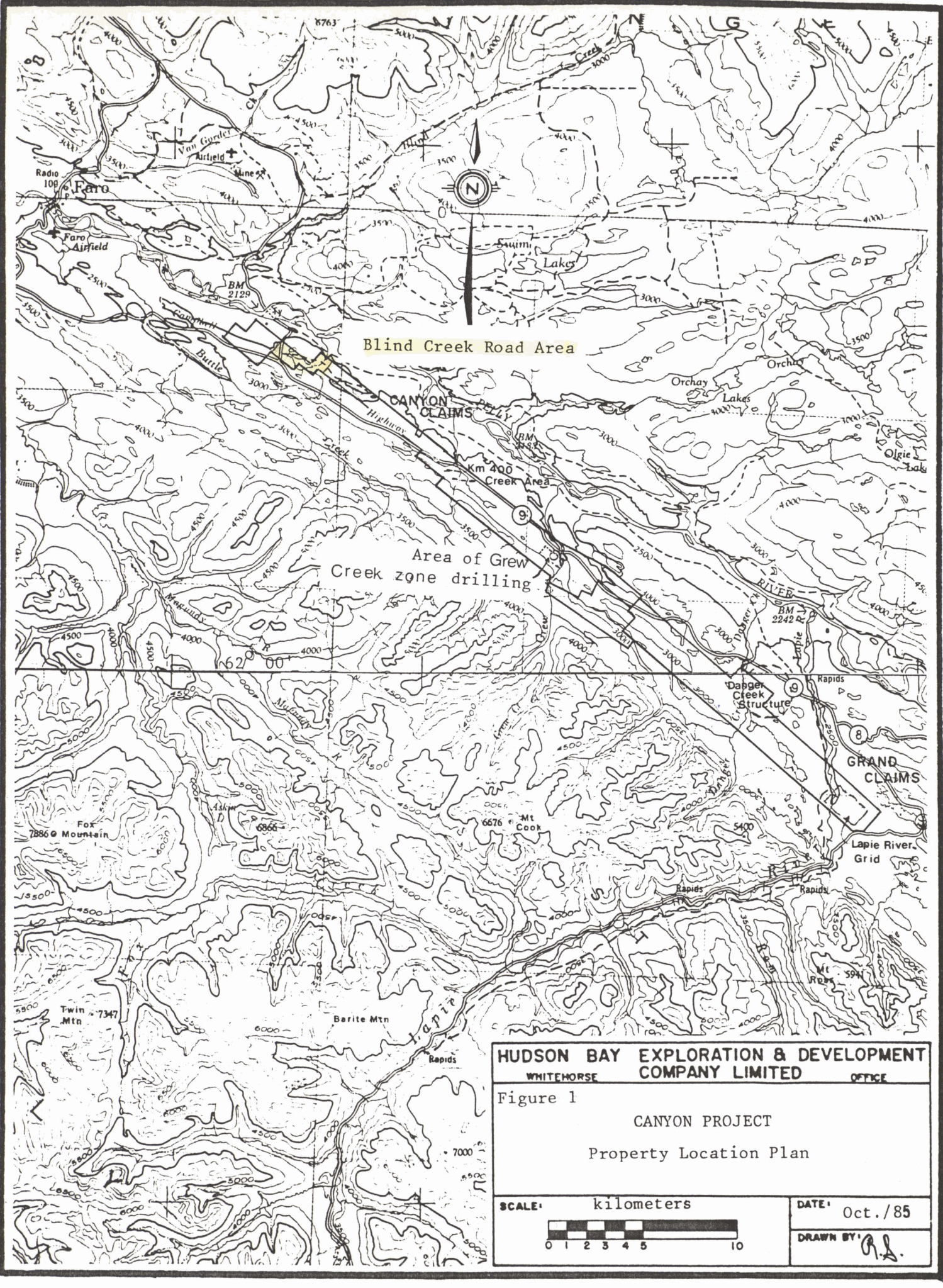
The Canyon Claims are located adjacent the Robert Campbell Highway near kilometer 410. The claims are readily accessible from the highway and various access roads all in good condition for two wheel drive vehicles.

CLAIM OWNERSHIP:

The Canyon claims are wholly owned by Hudson Bay Exploration and Development Company Limited of Box 4280, Whitehorse. The claims are subject to the terms of an option agreement with Mr. A. Carlos of Whitehorse, Yukon Territory.

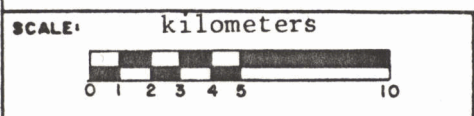
The claims in the Blind Creek Road area as covered in this report include:

CANYON 216	YA 81335
CANYON 218-222	YA 81337-341
CANYON 311-312	YA 85416-417
CANYON 353-356	YA 92138-141

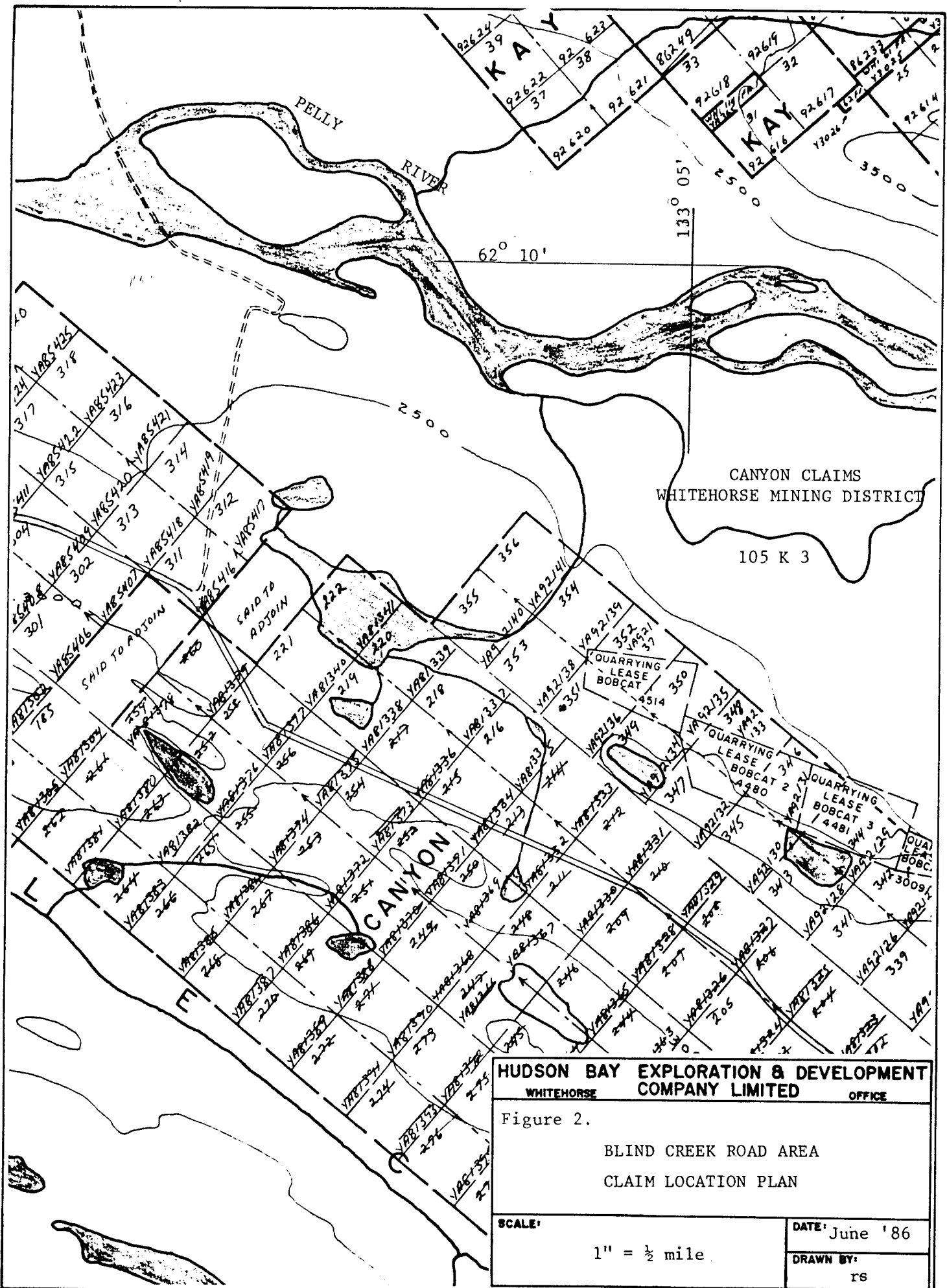


**HUDSON BAY EXPLORATION & DEVELOPMENT COMPANY LIMITED**  
 WHITEHORSE OFFICE

Figure 1  
**CANYON PROJECT**  
 Property Location Plan



DATE: Oct./85  
 DRAWN BY: R.S.



**HUDSON BAY EXPLORATION & DEVELOPMENT COMPANY LIMITED**  
 WHITEHORSE OFFICE

Figure 2.  
 BLIND CREEK ROAD AREA  
 CLAIM LOCATION PLAN

SCALE: 1" = 1/2 mile	DATE: June '86
	DRAWN BY: rs

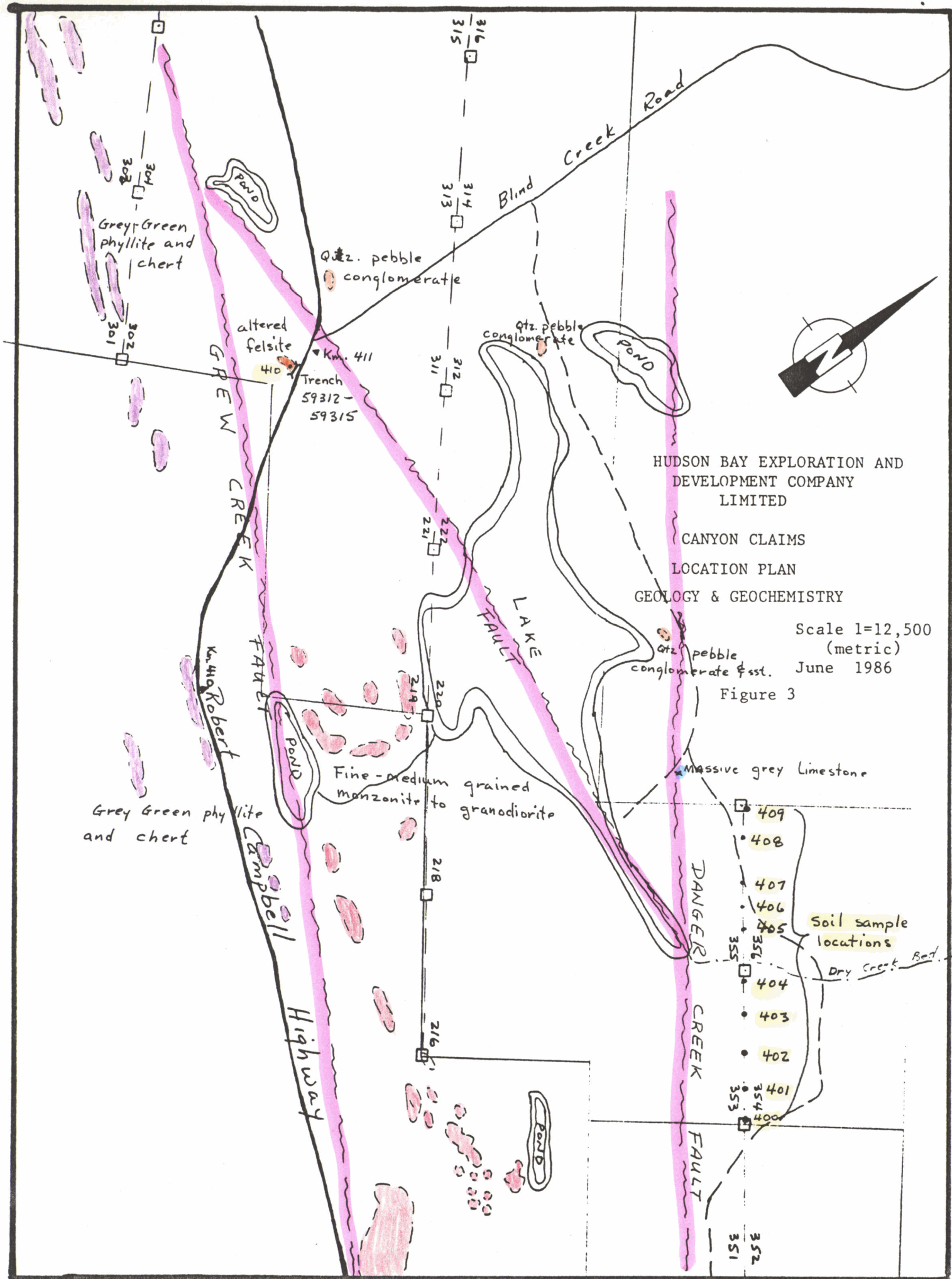
GEOLOGY:

The Canyon claims were staked along the trend of the Tintina Fault zone. The Tertiary age felsic volcanics hosting the gold mineralization at Grew Creek appear to be confined to a graben bounded by the Grew Creek fault on the southwest and the Danger Creek fault on the northeast.

Cretaceous to Tertiary rhyolite flows and intrusive rocks are flanked by carbonaceous silt to sand banded shales within the fault block. An intermediate to basaltic volcanic center occurs over several square kilometers west of Grew Creek where a smaller (700 m x 1000 m) felsic volcanic center has been localized by fault structures trending acutely to the major Grew and Danger Creek faults. Gold bearing quartz-chalcedony veins have been located in an area of pervasive clay alteration within the felsic volcanic rocks. The mineralization appears to be typical of an epithermal hot spring deposit.

The Grew Creek fault has been easily traced and located in the Blind Creek Road area. In this area the Grew Creek fault separates outcrops of foliated grey green phyllite and chert southwest of the fault from fine to medium grained monzonite to granodiorite outcropping northeast of the fault.

The location of the Danger Creek fault had been previously interpreted as crossing the south end of the small lake east of the Blind Creek Road but a small outcrop of quartz pebble conglomerate and chaotic sandstone has been located north of the lake near the access road. This quartz pebble conglomerate is interpreted as being deposited along the Danger Creek fault scarp during lake Cretaceous time. The massive grey limestone boulder rubble along the access road is similar to the Permian massive grey limestone that outcrops northeast of the Danger Creek Fault 2 km east of the area. The newly interpreted Danger Creek Fault location is indicated on figure 3.



HUDSON BAY EXPLORATION AND DEVELOPMENT COMPANY LIMITED

CANYON CLAIMS

LOCATION PLAN

GEOLOGY & GEOCHEMISTRY

Scale 1=12,500 (metric)

June 1986

Figure 3

quartz pebble conglomerate & sst.

Massive grey limestone

Soil sample locations

Dry Creek Bed.

Grey Green phyllite and chert

Fine-medium grained monzonite to granodiorite

altered felsite  
Trench 59312-59315  
Km. 411

quartz pebble conglomerate

quartz pebble conglomerate

GREW CREEK

LAKES FAULT

DANGER CREEK

FAULT

Highway

Kanig Robert

Campbell

- 409
- 408
- 407
- 406
- 405
- 404
- 403
- 402
- 401
- 400

- 316
- 315
- 314
- 313
- 312
- 311
- 222
- 221
- 220
- 219
- 218
- 216
- 352
- 351
- 356
- 355
- 354
- 353

The quartz pebble conglomerate outcrop north of the highway near the Blind Creek Road cutoff apparently represents an intermediate fault possibly cross cutting the Grew Creek-Danger Creek fault trend. The surface topography indicates an easterly trending orientation for a fault in this area.

The sheared and altered aphanitic quartz eye porphyry along the Highway near km 411 is significant as it occurs in the vicinity of the intermediate fault zone and is an isolated outcrop. The occurrence has only trace levels of gold but the alteration and gossanous zones are considerably more prominent than the outcrops to the east.

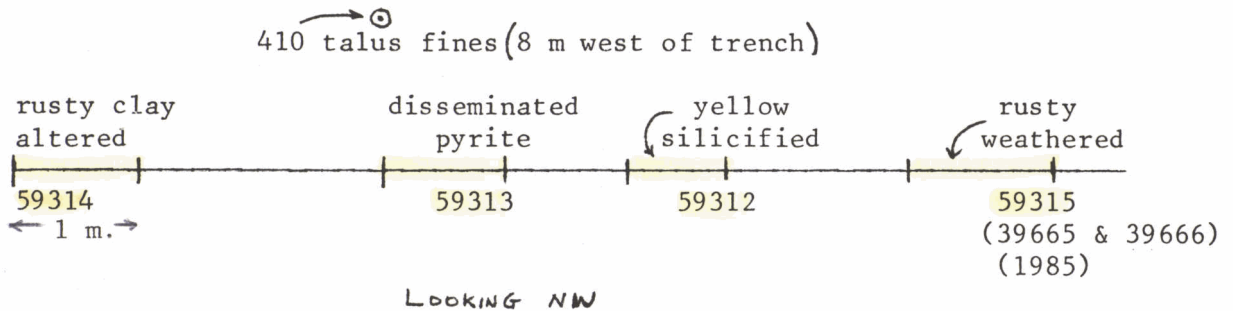
GEOCHEMISTRY:

Ten soil samples were collected along the claim line of claims CANYON 353-356. The results are:

SAMPLE NO.	Au (ppb)	Ag (ppm)	As (ppm)	Hg (ppb)	Depth	Soil Profile/Description
400	10	<.2	30	26	40 cm	15 cm humus and ash/ silty yellow brown soil.
401	<5	<.2	11	30	40 cm	20 cm humus and ash/ tan silty soil.
402	<5	<.2	22	35	30 cm	10 cm humus/10 cm ash/ grey brown silt.
403	<5	<.2	12	<5	30 cm	10 cm humus/10 cm ash/ grey brown gravel.
404	10	<.2	30	60	25 cm	18 cm humus and ash/ 3 cm red brown soil/grey brown silt.
405	5	<.2	26	30	25 cm	3 cm humus/22 cm ash/ fine grey brown silt.
406	5	<.2	18	25	25 cm	3 cm humus/10 cm ash/ 5 cm red brown/yellow brown silt.
407	15	<.2	20	80	25 cm	15 cm red brown silt/ yellow brown silt and sand.
408	<5	<.2	21	30	35 cm	8 cm humus/13 cm ash/ 5 cm red soil/yellow brown silt.
409	<5	.4	22	230	35 cm	5 cm humus/10 cm ash/ 5 cm red soil/yellow grey brown silt.

The results form too small a population for statistical analysis but the results do show substantial variations suggesting that systematic soil sampling of the glacial till cover may be warranted.

Sampling at the trenched outcrop near km 411 west of the Robert Campbell Highway consisted of four rock samples and one sample of talus fines.



Geochemical Results:

<u>Sample No.</u>	<u>Au</u>	<u>Ag</u>	<u>As</u>	<u>Hg</u>
59312	10	< .2	20	< 5
59313	5	< .2	21	< 5
59314	10	< .2	14	< 5
59315	5	< .2	30	< 5
410	20	< .2	85	< 5

The results indicate traces of gold and arsenic in the altered zones greater than background levels (< 5 ppb for Au and 10 ppm As).

CONCLUSIONS AND RECOMMENDATIONS:

A sheared and altered outcrop of fine grained felsite occurs along the Robert Campbell Highway in the vicinity of an easterly trending fault. This fault acutely crosses the Grew Creek-Danger Creek fault block. A similar trending structure apparently controls the gold mineralization at Grew Creek. The altered zones contain trace levels of gold and arsenic which appear to be slightly elevated to background levels.

Soil samples of the glacial till cover indicate that systematic soil sampling would be a practical exploration method.

It is recommended to:

- (1) Extend the reconnaissance VLF-EM and magnetic surveys to cover the claim area to help identify and locate fault structures and potential clay alteration zones.
- (2) Carry out systematic grid soil sampling in areas identified by the geophysical surveys and the area surrounding the trenched outcrop near Km 411 on the Robert Campbell Highway.

A handwritten signature in cursive script, reading "Robert Stuster". The signature is written in black ink and is positioned in the lower right quadrant of the page.

## APPENDIX I

### ANALYTICAL METHODS

The soil samples were dried and sieved. The minus 80 fraction is used for analysis.

Rock samples are crushed and pulverized. The minus 150 fraction is used for analysis.

Gold analysis is by fire assay extraction and combination fire assay-atomic absorption determination.

Silver analysis is by hot aqua-regia extraction and atomic absorption determination.

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

Mercury analysis is by hot aqua-regia extraction and cold vapour atomic absorption determination.



REPORT: 126-1893

PROJECT: 7302

PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	AU PPB	AG PPM	AS PPM	HG PPB
S1 105K03400		10	<0.2	30	26
S1 105K03401		<5	<0.2	11	30
S1 105K03402		<5	<0.2	22	35
S1 105K03403		<5	0.2	12	<5
S1 105K03404		10	<0.2	30	60
S1 105K03405		5	<0.2	26	30
S1 105K03406		5	<0.2	18	25
S1 105K03407		15	<0.2	20	80
S1 105K03408		<5	<0.2	21	30
S1 105K03409		<5	0.4	22	- 230
S1 105K03410		20	<0.2	85	<5
R2 59312		10	<0.2	20	<5
R2 59313		5	<0.2	21	<5
R2 59314		10	<0.2	14	<5
R2 59315		5	<0.2	30	<5

## APPENDIX II

### LIST OF REFERENCE ASSESSMENT REPORTS

1. CANYON-GRAND CLAIMS - ROTARY DRILL PROGRAM; Hudson Bay Exploration and Development Company Limited. August 30 - September 14, 1985.
2. ASSESSMENT REPORT OF GEOLOGICAL MAPPING AND GEOCHEMICAL SAMPLING ON THE CANYON 300-320 CLAIMS; Hudson Bay Exploration and Development Company Limited. May to Sept. 6, 1985.
3. ASSESSMENT REPORT OF GEOLOGICAL MAPPING AND GEOCHEMICAL SAMPLING ON THE GRAND 49-162 CLAIMS; Hudson Bay Exploration and Development Company Limited. May to Sept. 6, 1985.
4. ASSESSMENT REPORT OF GEOLOGICAL MAPPING GEOCHEMICAL SAMPLING AND LINECUTTING ON THE GRAND 1-48 CLAIMS AND TRENCHING ON GRAND 1; Hudson Bay Exploration and Development Company Limited. June 23/84 - May 22/85.
5. EXPLORATION REPORT OF GEOLOGICAL, GEOCHEMICAL AND GEOPHYSICAL SURVEYS ON THE CANYON CLAIM GROUP; Hudson Bay Exploration and Development Company Limited. December 4, 1984.
6. REPORT OF BORE HOLES CAN 11 & 12 ON CANYON 2 CLAIM; Hudson Bay Exploration and Development Company Limited. October 10-15, 1984.
7. ASSESSMENT REPORT OF DIAMOND DRILLING AND TRENCHING ON THE CANYON CLAIM GROUP; Hudson Bay Exploration and Development Company Limited. June 2-6, 1984.
8. GEOPHYSICAL REPORT OF GROUND MAGNETIC AND ELECTROMAGNETIC SURVEYS ON THE CANYON CLAIM GROUP; Hudson Bay Exploration and Development Company Limited. April 30 to May 20, 1984.

APPENDIX III

SUMMARY OF EXPENDITURES

ASSAY COSTS:

Bondar-Clegg Invoice # 23491 \$ 255.40

GASOLINE:

Ross River Service Centre Invoice # 5752 85.00

GROCERIES:

Ross River Service Centre Invoice # 5723 40.44

SALARY AND WAGES:

R. Stroshein - 2 days field work, travelling  
and report preparation, includes fringe  
benefits @ 200\$/day 400.00

Total - \$ 780.84



HUDSON BAY EXPLORATION AND DEVELOPMENT CO. LTD.  
100-10 BURNS ROAD  
WHITEHORSE, YUKON  
Y1A 4Y9

Invoice : 22491, Page 1

Date : 26-JUN-86

Report No: 126-1893

Project : 7302

Reference:

BCC WHSE 46-113

15 Analyses of HBED GOLD SUITE	at \$15.50	\$ 232.50	\$ 232.50
Silver			
Gold - Fire Assay			
Arsenic			
Mercury			
Sample Preparation			
11 Samples of DRY, SEIVE -80	at \$ 0.90	\$ 9.90	
4 Samples of CRUSH,PULVERIZE -150	at \$ 3.25	\$ 13.00	
Subtotal		\$ 22.90	\$ 22.90
Invoice Total:			\$ 255.40 Cdn

Ross River Service Centre (1982)

General Delivery  
ROSS RIVER, YUKON TERRITORY Y0B 1S0  
(403) 969-2212 Radio VGP861

CUSTOMER'S ORDER NO.		PHONE		DATE <i>June 17/86</i>		
NAME <i>Hudson Bay Exploration</i>						
ADDRESS <i>Box 4280</i>						
<i>Whitehorse, YT Y1A 3T3 8050</i>						
SOLD BY	CASH	C.O.D.	CHARGE <input checked="" type="checkbox"/>	ON ACCT.	MDSE. RET'D.	PAID OUT
QTY.	DESCRIPTION				PRICE	AMOUNT
	<i>gas</i>					<i>40 44</i>
RECEIVED BY <i>Robert Hooke</i>					TAX	
TOTAL					<i>40</i>	<i>44</i>

All claims and returned goods  
MUST be accompanied by this bill.

*Thank You*

Ross River Service Centre (1982)

General Delivery  
ROSS RIVER, YUKON TERRITORY Y0B 1S0  
(403) 969-2212 Radio VGP861

CUSTOMER'S ORDER NO.		PHONE		DATE <i>June 11/86</i>		
NAME <i>Hudson Bay Exploration</i>						
ADDRESS <i>Box 4280</i>						
<i>Whitehorse, YT Y1A 3T3 8050</i>						
SOLD BY	CASH	C.O.D.	CHARGE <input checked="" type="checkbox"/>	ON ACCT.	MDSE. RET'D.	PAID OUT
QTY.	DESCRIPTION				PRICE	AMOUNT
	<i>gas</i>					<i>85 00</i>
RECEIVED BY <i>Robert Hooke</i>					TAX	
TOTAL						<i>85 00</i>

All claims and returned goods  
MUST be accompanied by this bill.

*Thank You*

C 5723

C 5752

APPENDIX IV

ROBERT W. STROSHEIN

EDUCATION: B. Sc. (Geological Engineering) from  
University of Saskatchewan  
Graduated in 1973

EMPLOYMENT: 1973 - 1984 Hudson Bay Exploration & Development Co. Ltd.

Flin Flon Office 1973 - 1975  
Drill Geologist - field supervisor of diamond  
drill projects Northern Manitoba and Saskatchewan.

Whitehorse Office  
Project Geologist 1975-1980 - field supervisor of  
geological mapping, geophysical, geochemical and  
prospecting programs in the Yukon Territory.  
Included report preparation and assessment.

Senior Exploration Geologist - 1981 - planning,  
monitoring and assessing exploration projects  
conducted in the Yukon Territory.