

GREAT PLAINS DEVELOPMENT
COMPANY OF CANADA, LTD.,

GEOLOGICAL AND GEOCHEMICAL
EVALUATION OF THE BUH CLAIMS
YUKON TERRITORY

65 degrees 06 minutes North Latitude
132 degrees 57 minutes West Longitude

July to December 1975



Mayo Mining Division
N.T.S. 106-F-2

B.D. Farion
B.D. Farion, P. Geol.

070130

INDEX

- A. SUMMARY
- B. INTRODUCTION
 - 1. Location
 - 2. Property
 - 3. Field Methods
 - 4. Geography
- C. GEOLOGY
 - 1. Lithology
 - 2. Structure
- D. MINERALIZATION
- E. GEOCHEMISTRY
- F. CONCLUSIONS
- G. RECOMMENDATIONS

APPENDIX 1

Names and Addresses of Personnel

APPENDIX 2

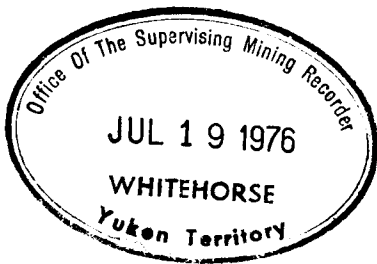
Statement of Qualifications.

APPENDIX 3

Expenditures

Plates:

- 1. Location Map (after page 2 in report)



This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of \$ 4000.00

4000.00

W. D. Sinclair
~~Acting Resident Geologist or Resident Mining Engineer~~

Considered as representation work under Section 53 (4) Yukon Quartz Mining Act.

B.R. Baxter
B.R. BAXTER
Supervising Mining Recorder
Commissioner of Yukon Territory

A. SUMMARY

1. Following the recognition of environments favorable to the formation of stratabound lead-zinc deposits, Great Plains conceived of and operated a geochemical reconnaissance program in the Bonnet Plume area of Yukon Territory. The BUH claims, one of several groups staked during the 1975 exploration program will be the subject of this report.

2. The field crew assembled to complete assessment work on the claim group moved to the base camp at Margaret Lake by May 23rd, 1975.

Personnel included:

Bill Farion	Party Chief
Barry Edmonson	Student Geologist
Colin Winter	Geologist
Janet Helton	Student Geologist
Romulo Santos	Student Geologist
John Van der Lee	Geological Assistant
Nigel Lumsden	Geological Assistant
Janet Etzkorn	Cook
Mike Hofuis	Helicopter pilot
Paul Koovisk	Apprentice engineer.

Transwest Helicopters (1965) Ltd., of Burnaby, B.C., supplied a Hughes 500 C helicopter while Trans North Turbo Air supplied fixed wing support from Mayo. Expediting services were provided by Stirling Expediting Services, Mayo and assaying was performed by Barringer Research, Whitehorse.



MACKENZIE PROJECT

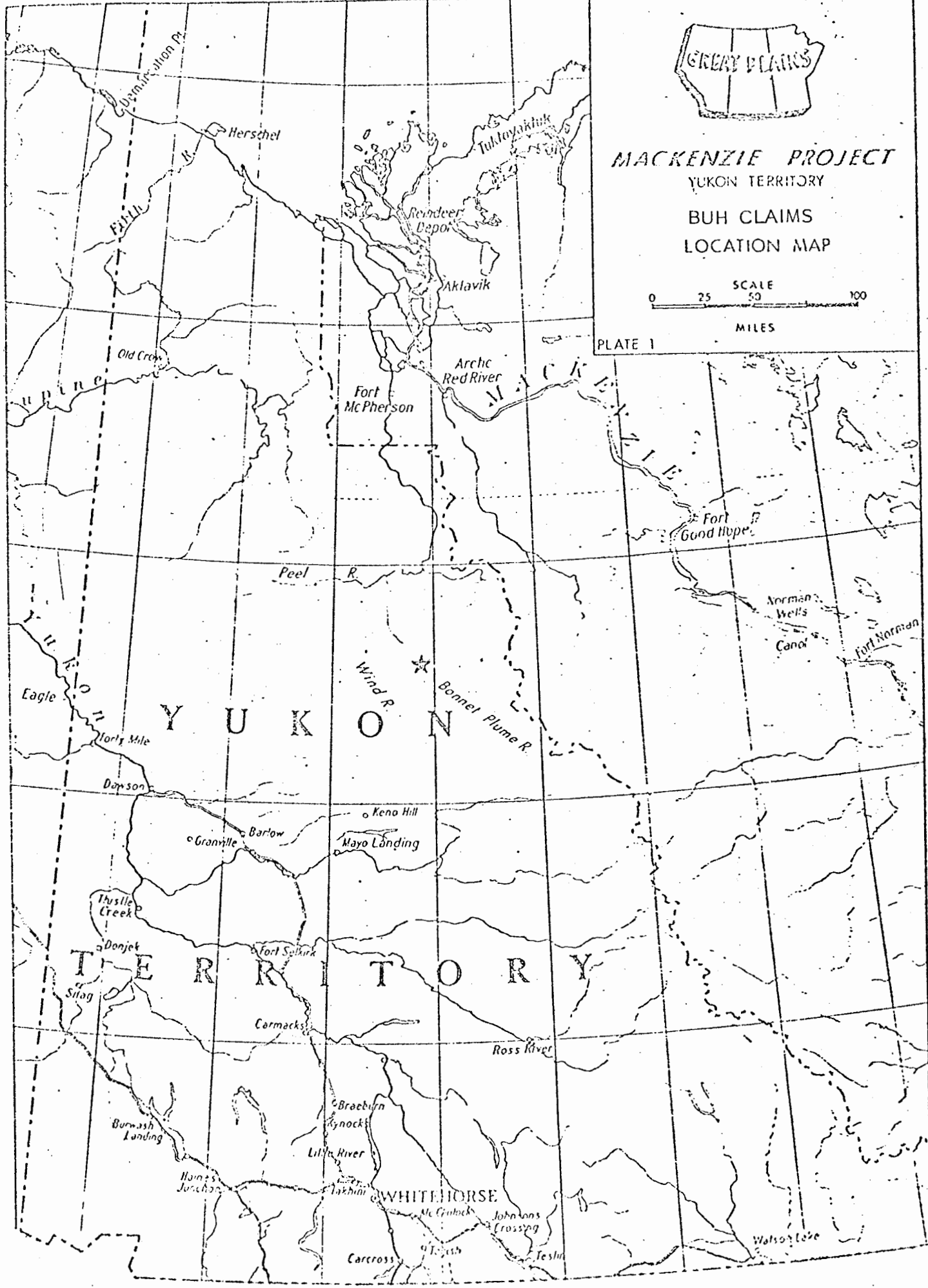
YUKON TERRITORY

BUH CLAIMS

LOCATION MAP



PLATE 1



B. INTRODUCTION

1. Location

The claims are located 50 miles east-southeast of Margaret Lake near the Snake River and 140 miles northeast of Mayo, Yukon in the Mayo Mining District.

2. Property

The property consists of 10 contiguous mineral claims.

Claims
BUH 1-10

Grant Numbers
Y 97764 - Y97773

3. Field Methods

A base line was measured along the center line of the claims at intervals of 200 feet. Lines were turned at 90 degrees by compass and marked at intervals of 200 feet.

Geochemical soil samples were taken at each 200 foot station. The geology was mapped at 1 inch = 200 feet using the grid for control. Samples collected were shipped to Barringer Research in Whitehorse for analysis on an atomic absorption machine.

The zinc spot test, an organic chemical which turns red in contact with the weathering products of zinc sulphides, was used as an aid to mapping.

Soil and rock samples taken were submitted to Barringer Research for analysis.

4. Geography

The claims are on a knoll below a ridge approximately 1,000 feet above the valley floor. Due to shade and drifting, the snow will probably remain on the showing until mid-June. The claims are well above tree-line and covered by alpine shrubs and grasses.

C. GEOLOGY

1. Lithology

The dolomites form resistant ridges (similar in form to cuestas), with cliffs on the east side of the thrust plates.

Lithologies are as follows:

Unit 1

The unit consists of finely crystalline, medium grey, buff yellow (to dull grey) weathering, vuggy dolomite with breccia pods and zebra texture. Bedding is very weak. Thickness is conservatively estimated at 55 feet. Sections which are not brecciated are blocky with vugs and dolomite fracture filling. Quartz crystals up to a ½ mile long are common in vugs and fractures.

Unit 2

The unit consists of a calcareous, finely crystalline, medium grey, buff to yellow weathering, bedded (.5 to 5 feet) thick dolomite. The unit is resistant, forming the cliff over the showing.

Unit 3

The unit consists of recessive finely crystalline, black, dull grey weathering flaggy (.5 - 1 foot thick) dolomite. The unit appears to conformably overlie the upper conglomerate of unit 4.

Unit 4

The unit consists of grey weathering, blocky, massive bedded, chert-quartz-siltstone pebble conglomerate. Pebbles are .01 - .05 feet. Pebble to matrix ratio is approximately 50:50. The matrix is bright orange to dull green.

Unit 5

The unit consists of fissile to laminated light to dark grey, rusty-brown-grey weathering shale. The unit is highly contorted, indicating proximity to a fault.

Unit 6

The unit consists of fissile, dark grey, calcareous shale.

Unit 7

The unit consists of argillaceous, light green, dark green weathering, rusty shales. Beds are .03 to .6 feet thick.

Unit 8

The unit consists of finely crystalline, dark grey, grey to buff-yellow weathering limestone with blocky weathering characteristics.

2. Structure

The unit strike NE-SW and dip at about 30 degrees SE. A fault has been proposed as shown on the map although it is questionable. There is no direct evidence for a fault.

D. MINERALIZATION

Sphalerite occurs as vug and fracture fillings. Quartz crystals (approximately .05 feet long) appear to be related to the sphalerite. Galena occurs as small veins and occasional vug fillings. Most of the galena occurs as fine grained material with a strained appearance. Very few samples exhibit large cubic crystals.

Hydrozincite and zinc oxides are prevalent in the outcrops and talus over the showing.

E. GEOCHEMISTRY

The area around and including the showing was sampled on a grid spacing of 200 feet by 200 feet. The soil samples were taken from the "B" horizon which consists of rock fragments, clay and sand. Samples taken were submitted to Barringer Research for analysis.

F. CONCLUSIONS

The showing has been sampled around the perimeter where the dolomite outcrops. Assays recorded are as follows: (see also Figure 19)

<u>Sample Number</u>	<u>Length</u>	<u>Zn</u>	<u>Pb</u>	<u>Cd</u>
BF 7-26-1	15 feet	4.3%	240	8.1
BF 7-26-2	15 feet	3.5%	.41%	8.2
BF 7-27-1	5 feet	8.6%	2.8%	300.
BF 7-27-2	4 feet	4.0%	390	83
BF 7-27-3	7 feet	3.5%	3%	83.5
BF 7-27-4	20 feet	2.5%	470	66

(Analysis in ppm unless otherwise marked).

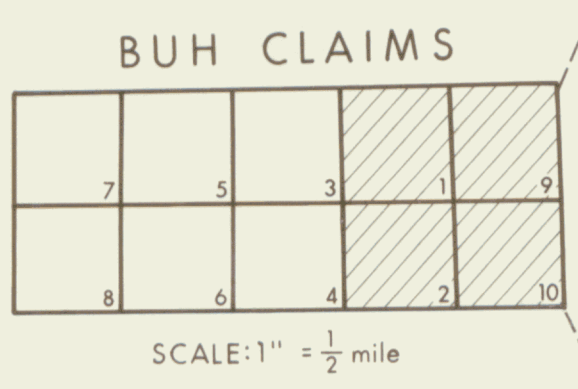
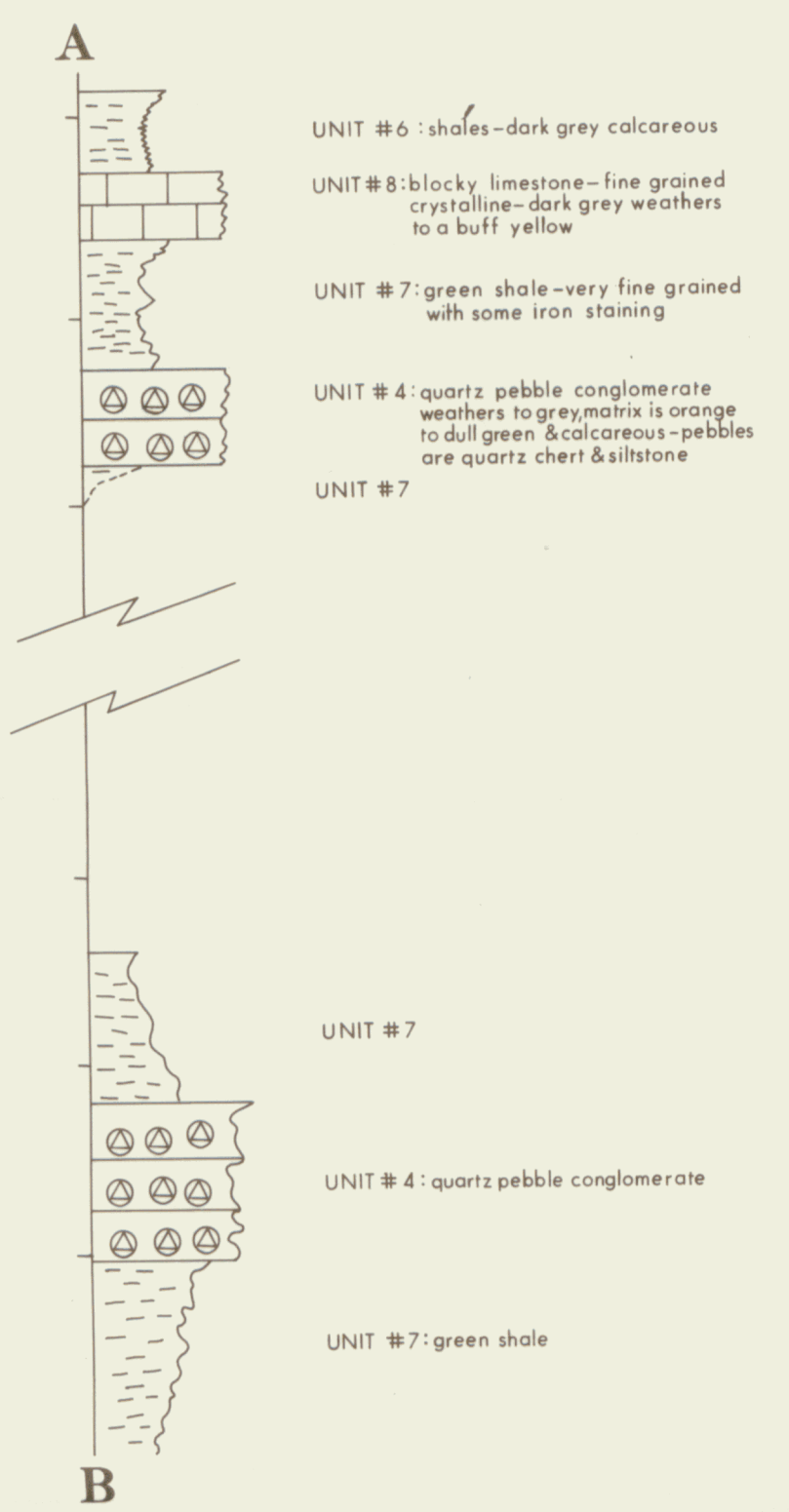
The mineralization is reasonably consistent over a wide area. Samples have been taken parallel to bedding but at various horizons. No vertical samples as such were taken.

The overburden is greater than three feet deep, with dirty weathered bedrock below. Trenching was tried on the claims but was not very successful.

The mineralization found to date is sufficient to warrant a small drilling program with a "Winkie type" drill. Three or four holes to approximately 100 feet would be sufficient to provide information about the covered intervals of the mineralized bed.

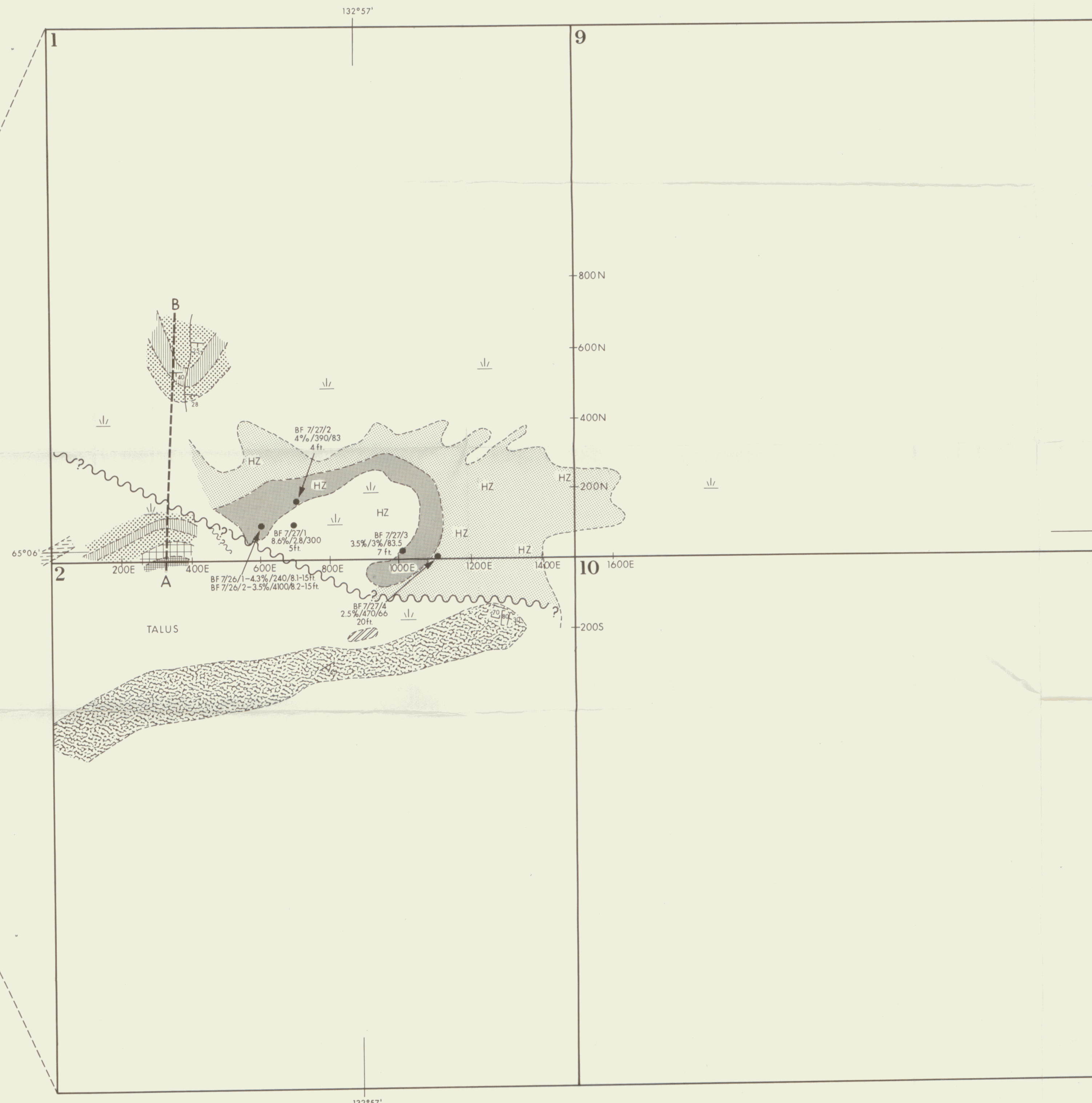
G. RECOMMENDATIONS

A drilling program with a "Winkie" drill would be recommended. Four holes to 100 feet would provide sufficient information on the showing to decide if further work would be required. This work would be done in conjunction with drilling on the LAURA claims which have previously been described.



SYMBOL

- STRIKE & DIP
- └ JOINTS
- ~?~? POSSIBLE FAULT
- ~?~? POSSIBLE FACIES CHANGE
- HZ HYDROZINCITE
- ∩ COVERED INTERVAL
- STREAM



LEGEND

- 1 DOLOMITE MINERALIZED BRECCIA (OUTCROP)
- 1A DOLOMITE MINERALIZED BRECCIA (TALUS)
- 2 DOLOMITE - MASSIVE BEDDED WITHOUT MINERALIZATION
- 3 FLAGGY DOLOMITE
- 4 QUARTZ, PEBBLE CONGLOMERATE
- 5 GREY SHALE
- 6 CALCAREOUS SHALE
- 7 GREEN SHALE
- 8 BLOCKY LIMESTONE

DEVELOPMENT COMPANY OF CANADA, LTD.

YUKON TERRITORY

MACKENZIE PROJECT

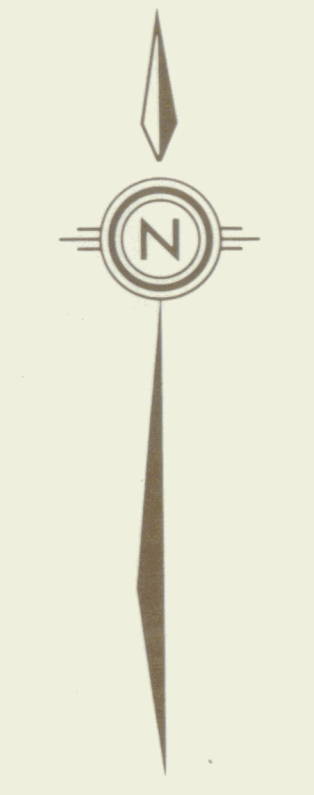
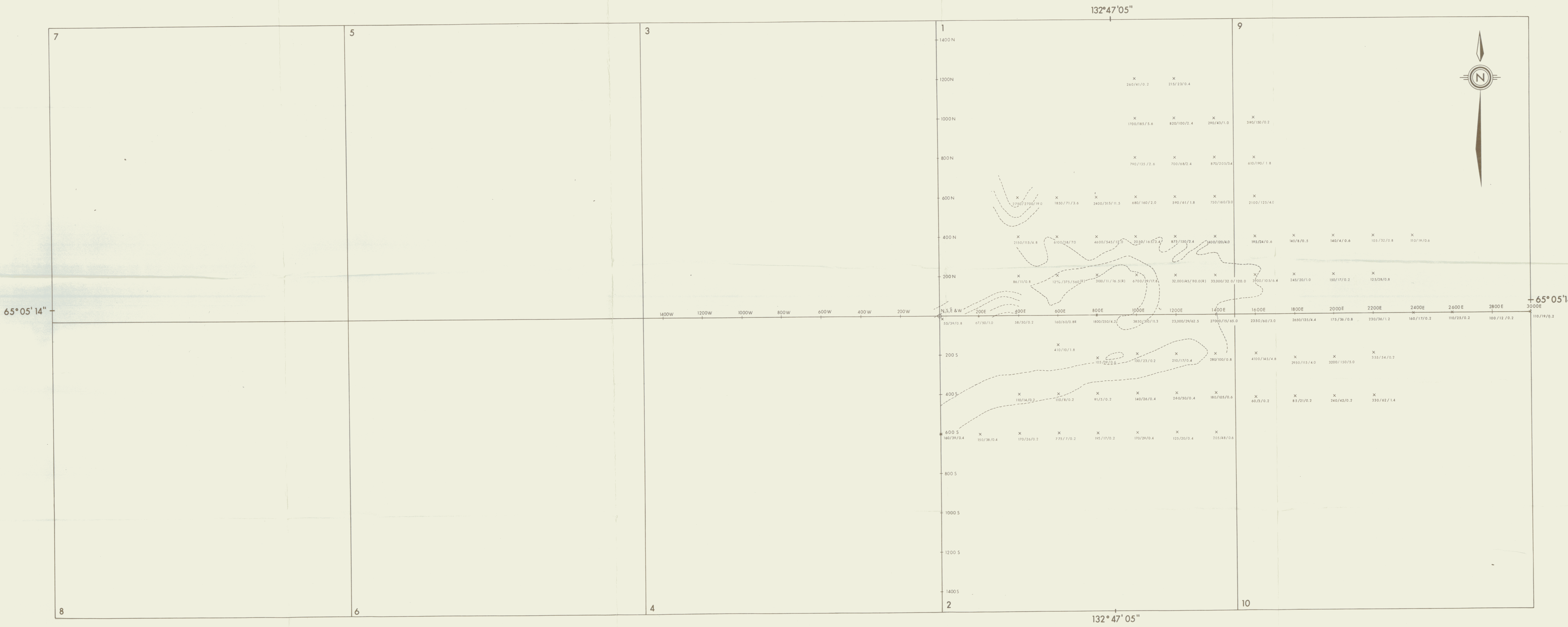
BUH CLAIMS GEOLOGY

200 0 200 400

MAYO M.D. J. HELTON, B. EDMONSON

FIGURE 18

N.T.S.: 106-F-2 OCT., 1975





LEGEND

- x Soil sample
- x(R) Rock sample where no soil available

Results are plotted in following order:
ppm Zn, ppm Pb, ppm Cd.

All are "corrected" Pb and Cd values.


DEVELOPMENT COMPANY OF CANADA, LTD.
 YUKON TERRITORY
MACKENZIE PROJECT
 BUH CLAIMS - GEOCHEMISTRY



Mayo M.D. J. Helton FIGURE 19 NTS - 106 E 2 Sept. 1975