

091886

HUDSON BAY EXPLORATION AND DEVELOPMENT

COMPANY LIMITED

REPORT OF

GEOCHEMICAL, GROUND MAGNETIC

AND ELECTROMAGNETIC

SURVEYS

ON THE LAPIE RIVER GRID

GRAND CLAIMS

1-7 YA81848-YA81854  
21-24 YA81868-YA81871  
29-48 YA81876-YA81895

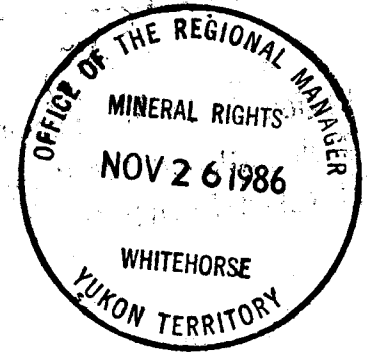
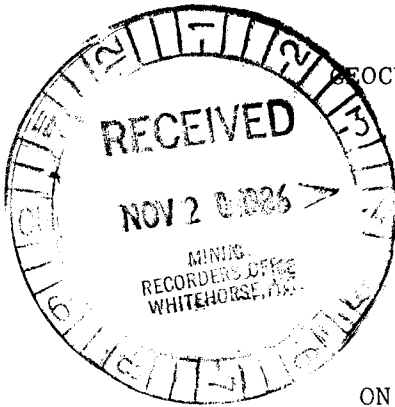
WHITEHORSE MINING DISTRICT

105 F 15

61°57' 132°35'

Sept. 7-Sept. 19, 1986

R. Stroshein



091886

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 \$ 3000-00.

*DA Edmond*

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

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INTRODUCTION:

The GRAND claims were staked along the trend of the Tintina trench 20 kilometers southwest of the Grew Creek gold zone hosted by altered felsic volcanoclastic tuffs. Outcrops of altered clastic rhyolitic tuffs occur along the Lapie River. A 21.1 kilometer line grid was cut and surveyed during 1985. The grid was centered on a structural zone exposed in a trench noted on figures 3 and 4. (See previous assessment reports Appendix II).

The 1986 field program included extending the existing line grid 600 meters east by cutting six - one kilometer section lines (33E-38E) from the 5 NBL to the extended 15 NTL. The lines were chained and picketed at 25 meter stations prior to the geophysical surveys. The lines were cut from Sept. 7-12, 1986, by contract to Eastern Associates of Whitehorse. Chaining and surveying were completed over 3 days from Sept. 15-21, by a two person field crew. The surveys included collecting 26 soil samples along lines 31E and 32E from 8+50N to 11+50N as well as ground magnetic and VLF-EM surveys.

The results of the surveys were compiled on 1:2500 scale plans reproduced from a base map which included topographical features. The results were interpreted and are included with this report which was completed by the author at the office of Hudson Bay Exploration and Development Company Limited in Whitehorse, Yukon Territory.

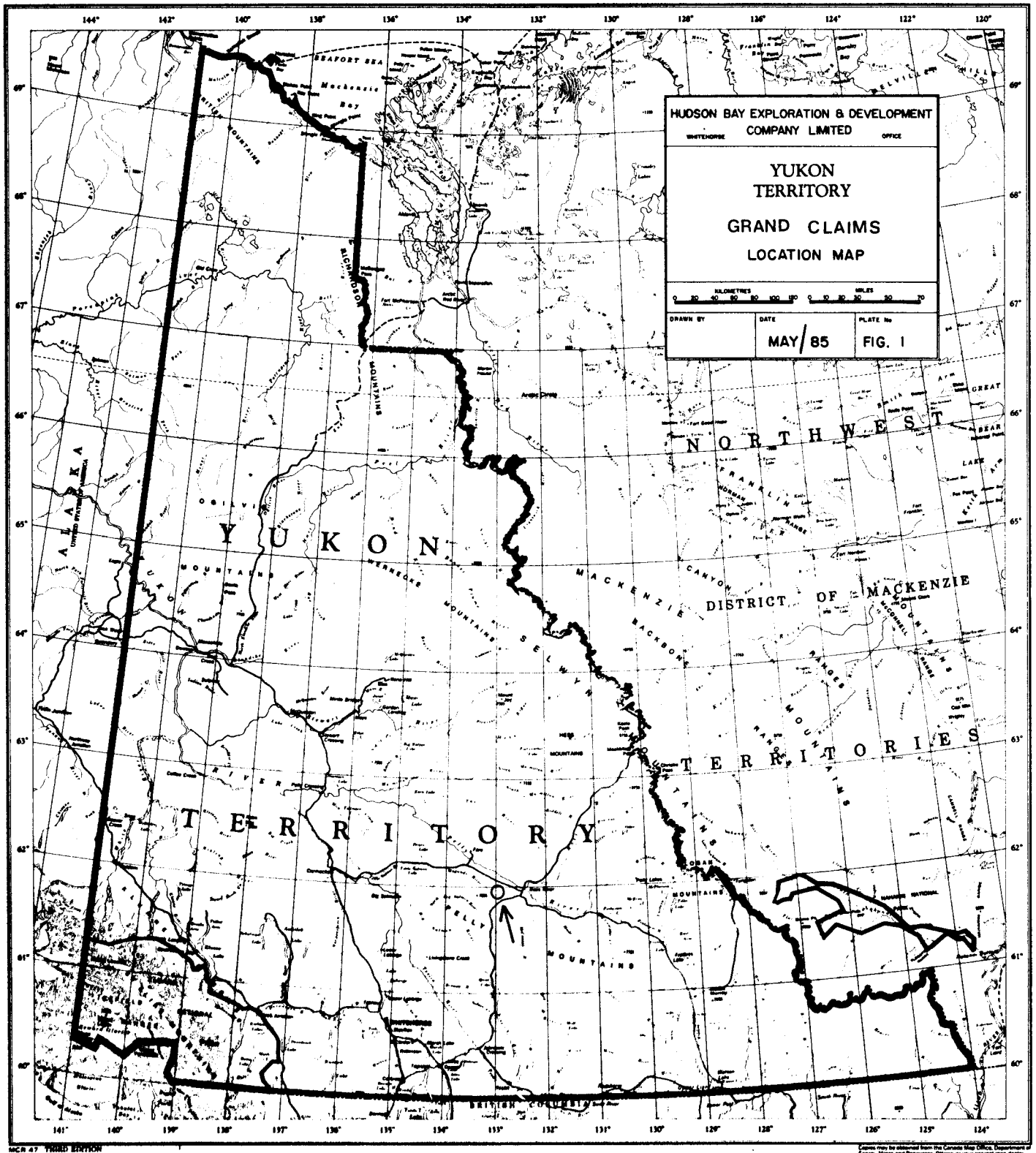
CLAIM OWNERSHIP:

The GRAND claims are owned by Hudson Bay Exploration and Development Company Limited of Box 4280, Whitehorse, Yukon Territory. Y1A 3T3. The claims are owned under the terms of an option agreement with Mr. A. Carlos of Whitehorse.

The line grid is located on the GRAND 1-8, 17-18, 10, 12, 14, 16 and 25 claims. The claims included for assessment in this report are:

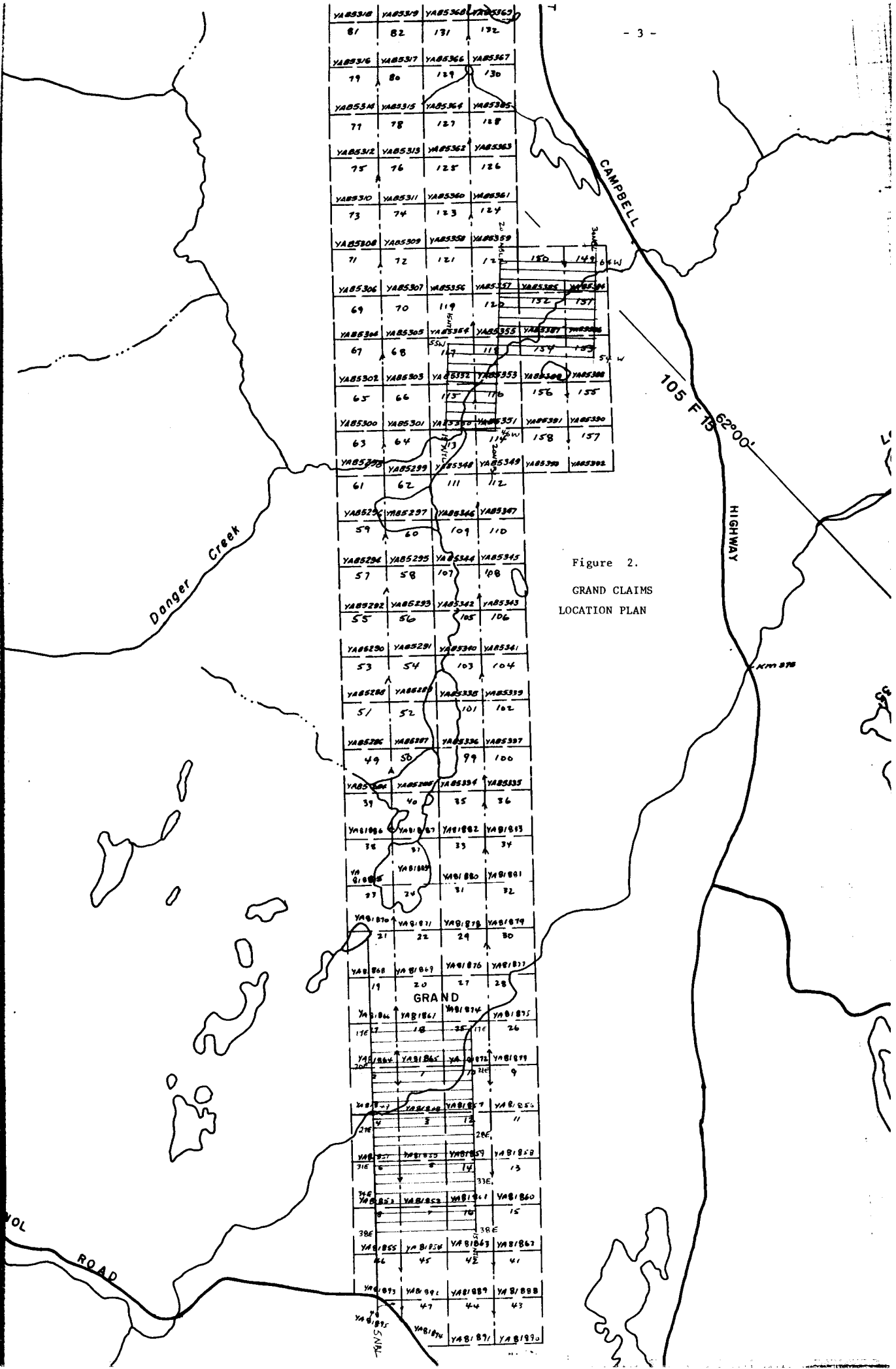
GRAND 1	YA 81848
GRAND 3	YA 81850
GRAND 5-8	YA 81852-YA 81855
GRAND 21-24	YA 81868- YA 81871
GRAND 29-48	YA 81876-YA 81895

A total of 30 claims. Figure 2.



MCH 47' THOMAS BIRTON

Claims may be obtained from the Census Map Office, Department of Energy, Mines and Resources, Ottawa, or their nearest map dealer. Copyright Reserved 1975.



LOCATION AND ACCESS:

The GRAND claims are located in the Whitehorse Mining District on claim sheet 105 F 15 approximately 6 kilometres southwest of Ross River. The claims are adjacent the South Canal Road and extend northwestward across the Lapie River. A cut trail leaves the Canal Road 3.5 km south of the junction with the Robert Campbell Highway and crosses the grid at approximately 10 N. The trail is accessible by two wheel drive vehicles to the bank overlooking the Lapie River.

GEOLOGY AND GEOCHEMISTRY:

The altered clastic rhyolite tuffs were previously mapped and sampled as reported in 1985 (Appendix II). The area covered by the 1986 grid extension is completely overburden covered.

The structural zone exposed in the trench had been previously traced eastward by VLF-EM survey on lines 27E-32E. The survey indicated a southerly dip and an extended conductive zone on the south flank of the conductor. This was interpreted as a possible argillic alteration zone within the clastic rhyolitic tuff unit.

The geochemical sampling program consisted of soil sampling along lines 31E and 32E from 8+50N to 11+50N. The sample interval was 25m along each line. The samples were collected at depths from 25-50 cm of brown silt to sandy soil. The area was consistently underlain by a 4-10 cm ash and humus layer with an intermediate oxidized redish brown soil also of 4-10 cm thickness.

The sampling along the lines covers the area of two converging VLF-EM anomalies of moderate strength.

The samples were dried and sieved and analyzed by Bondar-Clegg and Company Limited. The minus 80 fraction is used in the 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 colour-metric determination.

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

The sample results are:

<u>Line</u>	<u>Station</u>	<u>Au</u>	<u>Ag</u>	<u>As</u>	<u>Hg</u>
31E	8+50N	< 5	.2	31	30
	8+75N	< 5	<.2	15	20
	9+00N	< 5	.3	15	40
	9+25N	< 5	<.2	2	20
	9+50N	< 5	<.2	17	40
	9+75N	< 5	<.2	2	30
	10+00N	< 5	<.2	25	10
	10+25N	< 5	<.2	25	30
	10+50N	< 5	<.2	6	20
	10+75N	< 5	.2	17	15
	11+00N	< 5	.2	11	30
	11+25N	< 5	<.2	37	30
	11+50N	< 5	<.2	12	20
32E	8+50N	< 5	<.2	13	15
	8+75N	< 5	<.2	13	10
	9+00N	< 5	<.2	12	15
	9+25N	< 5	<.2	6	45
	9+50N	< 5	<.2	11	30
	9+75N	< 5	<.2	21	25
	10+00N	< 5	.5	11	90
	10+25N	< 5	<.2	15	35
	10+50N	< 5	<.2	11	30
	10+75N	< 5	.4	11	40
	11+00N	< 5	.2	12	50
	11+25N	< 5	<.2	11	45
	11+50N	< 5	<.2	25	40

Au and Hg results in ppb Ag and As results in ppm.

LINECUTTING AND SECANT CHAINING:

Section lines 33E to 38E were cut at right angles to the 5NBL. The 5 NBL had been cut and chained during the 1985 program. The 15 NTL was extended eastward from line 32E to provide control for the 1 kilometer section lines.

The section lines and 15 NTL were chained by the secant chaining method although no slopes are greater than 8% in the area. Chaining involves a two person crew using a 30 meter chain along the line. Pickets are established at 25 meter intervals along the lines with the slope of the terrain being measured with an inclinometer. A horizontal correction is determined from a chart based on a 25 m interval and the slope in per cent.

The lines are measured from the 5 NBL to insure that the labelled stations are at consistent distances north of the baseline. This involves "dead heading" the lines and insures an accuracy within tenths of a meter between the lines.

VLF-EM SURVEY:

The section lines were surveyed with a Scintrex EM-16 unit. All readings were determined facing south. The transmitting station used was Seattle at 24.8 KHz on an approximate bearing of 150°.

The dip angle readings in per cent and quadrature are recorded on field note forms at 12.5m intervals. The survey results are plotted on a 1:2500 scale plan with the dip angle readings profiled for interpretation. Figure 3. The positive to negative cross over is the anomaly location.

MAGNETIC SURVEY:

The grid lines were surveyed using a Geometrics model G-816 proton magnetometer. The readings were corrected to a common datum by relating the readings to a series of base stations along the 5 NBL. The 1986 survey on lines 33E-38E was "tied" into the 1985 survey results on lines 27E-32E.

Readings of the total magnetic field were recorded at 25 meter intervals along the section lines with intermediate readings in anomalous areas. The readings were recorded in a field note book with a time log between the established base station.

The results are plotted on a 1:2500 scale base map (Figure 4) for interpretation. A common datum of 5800  $\gamma$ 's subtracted from each reading for convenience.

DISCUSSION OF RESULTS:

The gold-silver values from soil samples are uniformly low and not significant. Mean and standard deviation values for arsenic and mercury are calculated at (15 ppm, 8.3 ppm) and (31 ppb, 16.4 ppb) respectively. An anomalous level (2 standard deviation above the mean value) for each element is calculated at 31 ppm As and 63 ppb Hg. Two samples are anomalous in As and one in Hg using this criteria. These results do not correlate with the VLF-EM anomalies.

The interpretation of the VLF-EM results is plotted on figure 3. There are two separate anomalous zones trending across the grid sub-parallel the baseline. The most prominent zone "A" trends toward trench 1. This zone separates to two arms on line 31E and the strength of the anomaly decreases easterly after line 33E. This may be an indication of increasing overburden depth or a fault offset of the structure.

Anomalous zone "B" exhibits discontinuity and suggests some inflections. This zone trends toward the steep canyon along the Lapie River near the 15 NTL. The anomaly is a weak conductor. It is possible that the "B" anomaly east of line 34E is an offset extension of the "A" zone west of line 32E.

The total magnetic field plot has been contoured at a 25  $\gamma$  contour interval on Figure 4. The plot indicates a subtle gradient increasing to the south. These results may reflect varying overburden depths or possibly minor changes in bedrock magnetism. No outcrops have been located south of 10N along Lapie River.

CONCLUSIONS AND RECOMMENDATIONS:

No significant precious metal mineralization has been located in the area. There are two prominent structural zones within the projected area of the altered rhyolitic clastic tuff which outcrops along Lapie River. This volcanoclastic unit is similar to the host unit of the gold bearing Grew Creek zone.


Geochemical soil samples reflect a level of arsenic and mercury in the vicinity of the "A" zone which is enhanced relative to the talus fine and bedrock levels obtained along Lapie River. This suggests extending the soil sample coverage may provide useful information for further evaluation of the area.

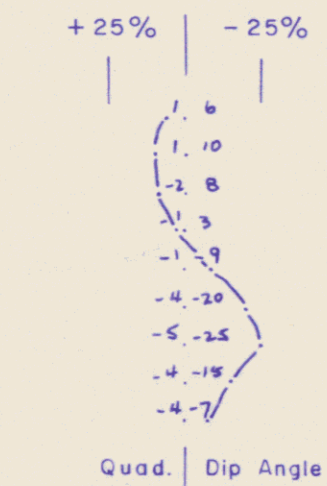
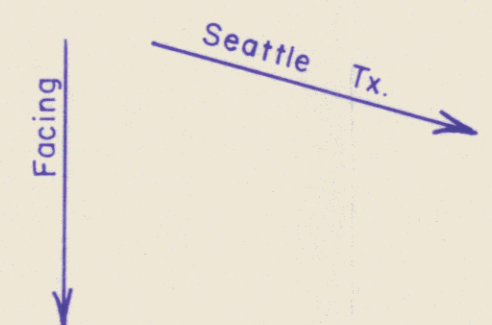
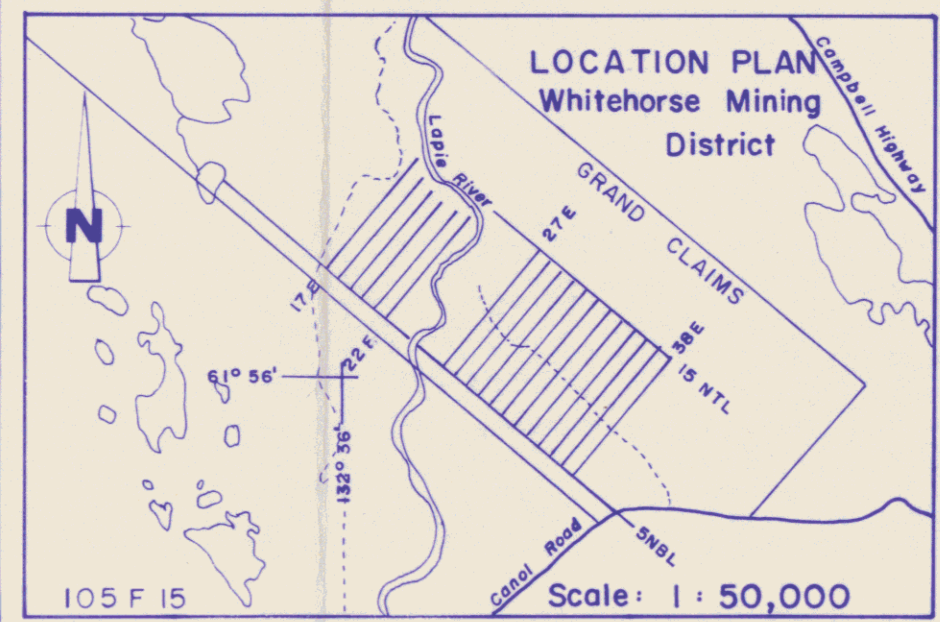
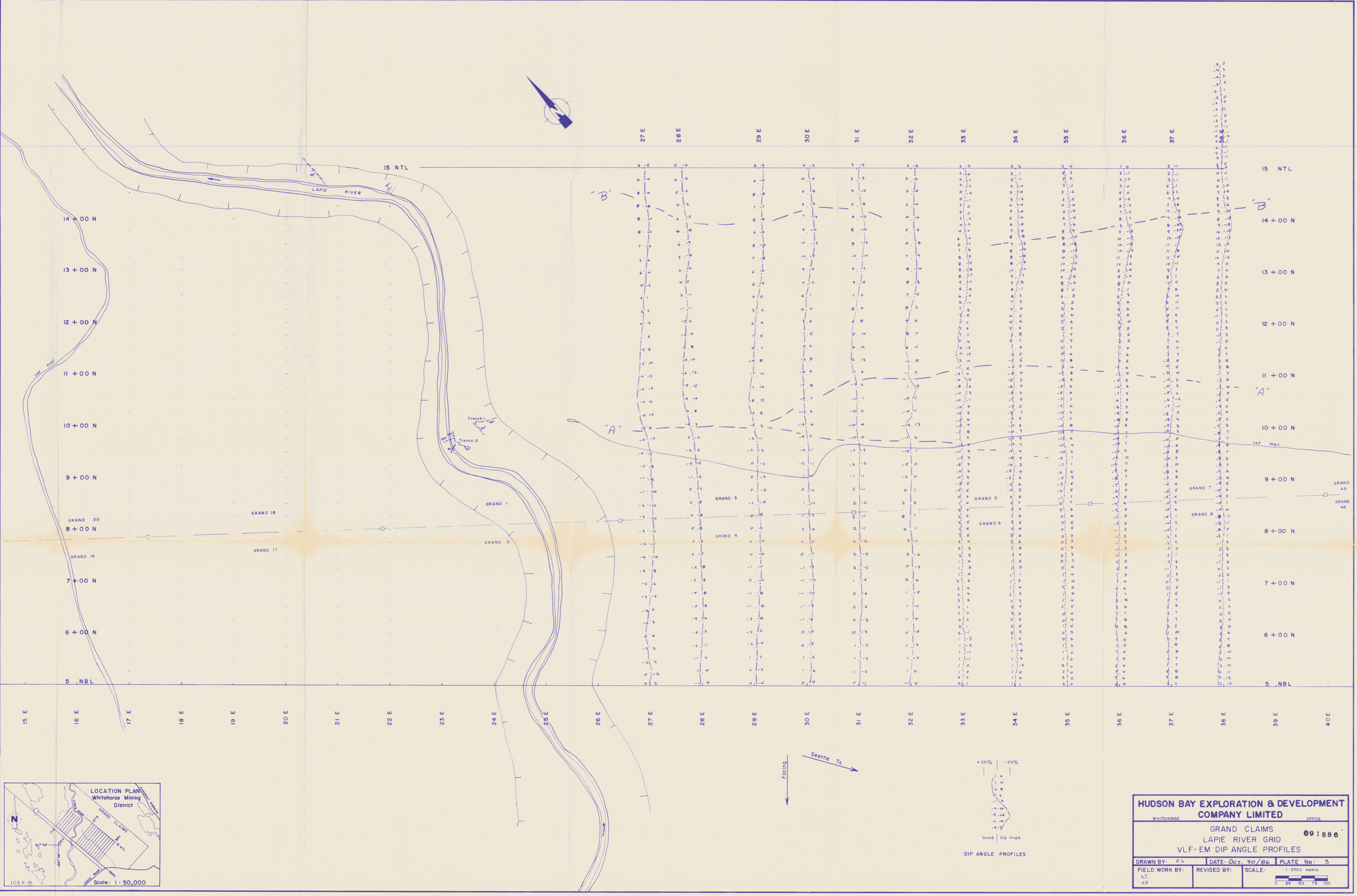
Soil sampling is recommended to cover areas of the two anomalous zones, specifically:

Line 27E-29E	9+50N - 11+00N
Line 30E-31E	14+00N - 15 NTL
Line 33E-34E	9+50N - 11+50N
Line 34E-38E	13+50N - 14+50N

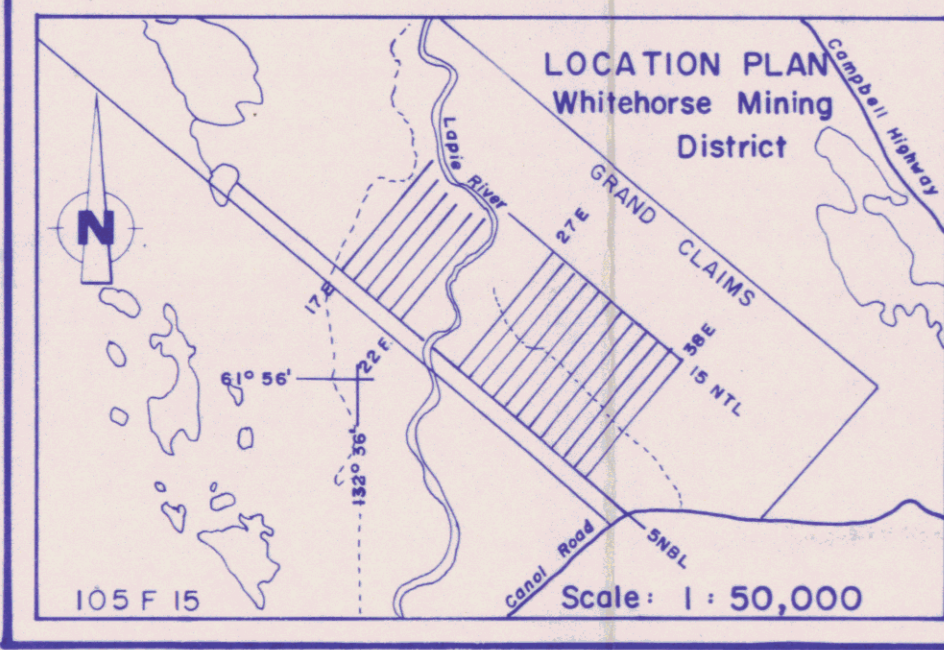
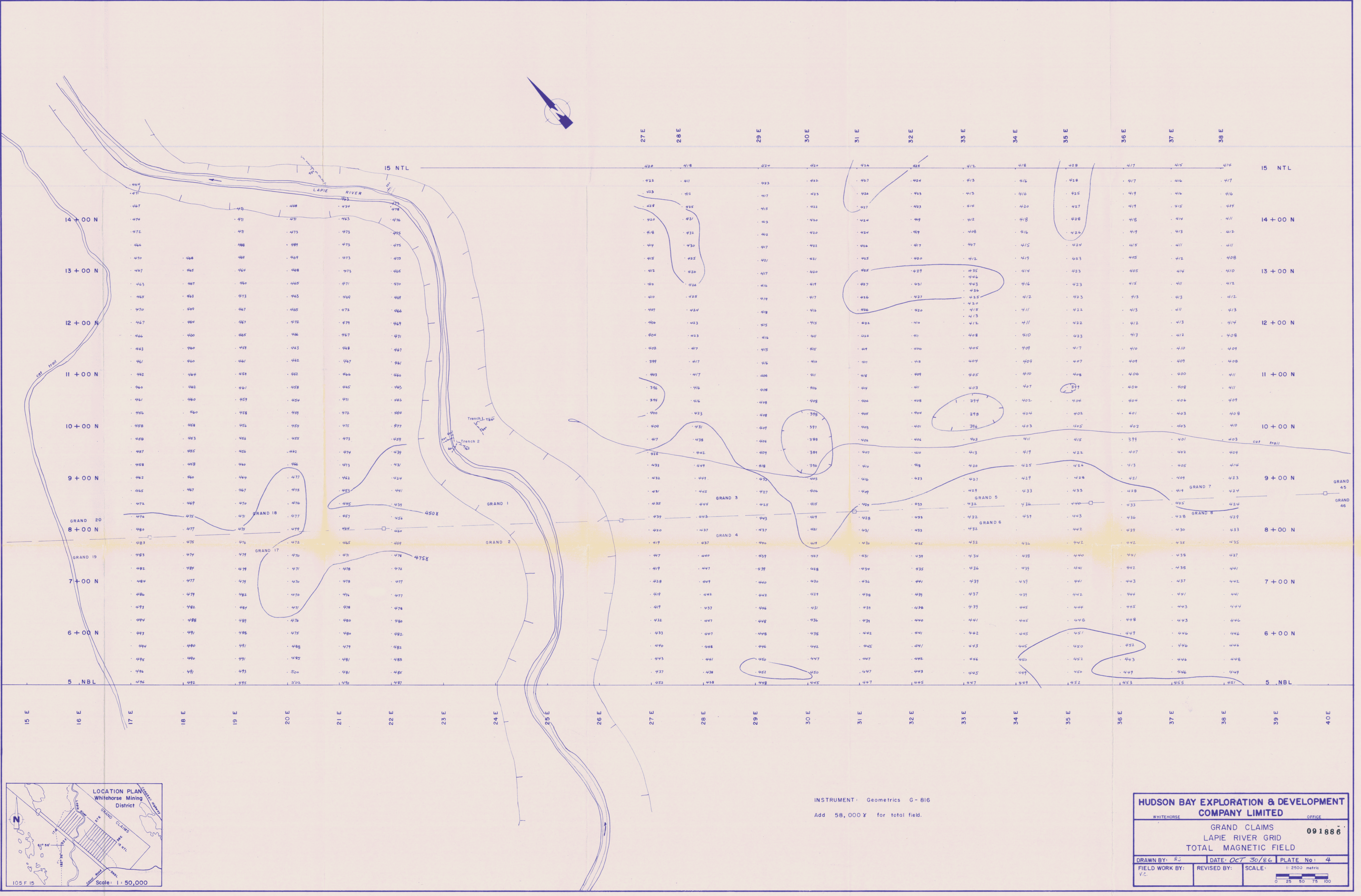
A sample spacing of 25 meters along at least alternate lines is recommended.

Testing for depths of overburden by caterpillar trenching or drilling will be required to fully evaluate the area following the geochemical sampling.





<b>HUDSON BAY EXPLORATION &amp; DEVELOPMENT COMPANY LIMITED</b>	
WHITEHORSE	OFFICE
GRAND CLAIMS LAPIE RIVER GRID	
091886	
VLF-EM DIP ANGLE PROFILES	
DRAWN BY: R.S.	DATE: Oct. 30/86
FIELD WORK BY: S.C.	REVISOR: K.G.
SCALE: 1:2500 metric	PLATE No: 3
0 25 50 75 100	



INSTRUMENT: Geometrics G-816  
 Add 58,000 Y for total field.

<b>HUDSON BAY EXPLORATION &amp; DEVELOPMENT COMPANY LIMITED</b>		
WHITEHORSE	OFFICE	
GRAND CLAIMS LAPIE RIVER GRID TOTAL MAGNETIC FIELD		
091886		
DRAWN BY: <i>AS</i>	DATE: <i>Oct 30/86</i>	PLATE No: <i>4</i>
FIELD WORK BY: <i>V.C.</i>	REVISED BY:	SCALE: 1:2500 metric
0 25 50 75 100		

APPENDIX I

SUMMARY OF EXPENDITURES

LINECUTTING: Eastern Associates Reg'd Invoice #085556	
6.6 km @ \$225 per km	\$ 1,485.00
SALARIES:	
R. Stroshein 2 days @ 200\$/day	400.00
K. Galambos 3 days @ 130\$/day	390.00
V. Celuszak 3 days @ 110\$/day	330.00
GEOCHEMICAL:	
26 soil samples (Au, Ag, As, Hg) @ 16.40\$each	426.40
Bondar-Clegg Lot 86-266 (report 126-3807)	
CAMP SUPPLIES AND TRUCK RENTAL:	
3 days field work (2 man days each) @ 50\$/day	<u>150.00</u>
Total -	\$ 3,181.40

## APPENDIX II

### BIBLIOGRAPHY OF ASSESSMENT REPORTS

1. 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.
2. ASSESSMENT REPORT OF DIAMOND DRILLING AND TRENCHING ON THE CANYON CLAIM GROUP; Hudson Bay Exploration and Development Company Limited. June 2-6, 1984.
3. REPORT OF BORE HOLES CAN 11 & 12 ON CANYON 2 CLAIM; Hudson Bay Exploration and Development Company Limited. October 10-15, 1984.
4. EXPLORATION REPORT OF GEOLOGICAL, GEOCHEMICAL AND GEOPHYSICAL SURVEYS ON THE CANYON CLAIM GROUP; Hudson Bay Exploration and Development Company Limited. December 4, 1984.
5. 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.
6. 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.
7. 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.
8. CANYON-GRAND CLAIMS - ROTARY DRILL PROGRAM ; Hudson Bay Exploration and Development Company Limited. August 30-September 14, 1985.
9. ASSESSMENT REPORT OF GEOLOGY AND GEOCHEMICAL SAMPLING CANYON CLAIMS (216, 218-222, 311-312, 353-356); Hudson Bay Exploration and Development Company Limited. June 10, 1986.
10. GEOPHYSICAL REPORT OF GRAND MAGNETIC AND ELECTRO-MAGNETIC SURVEYS ON THE DANGER CREEK GRID GRAND 49-158 CLAIMS; Hudson Bay Exploration and Development Company Limited. August 21 - September 6, 1986.
11. REPORT ON GEOCHEMICAL, GROUND MAGNETIC AND ELECTROMAGNETIC ON THE LAPIE RIVER GRID, GRAND CLAIMS; Hudson Bay Exploration and Development Company Limited. September 7 to September 19, 1986.

APPENDIX III

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.