

LOG NO: 1125 RD.

ACTION:

FILE NO: 87-797-16423

GEOCHEMICAL REPORT

HC-1 CLAIM

Located in the Cariboo Mining Division
at coordinates 53 deg.25'N, 122 deg.32'W
36" 31'42"

by: Robert J. Baerg

FILMED

Owner/Operator:

NORANDA EXPLORATION COMPANY, LIMITED
(No Personal Liability)

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

November 1987

16,423

93 G/07E

TABLE OF CONTENTS

	<u>Page</u>
Summary	1
Introduction	2
History	2
Location & Access	2
Physiography/Vegetation	2
Claim Statistics	3
Regional Geology	3
Local Geology	3
Geochemical Survey:	
Grid Preparation	3
Sampling Method	3
Presentation of Results	4
Discussion of Results:	
Geochemistry	4
Conclusions	4
Recommendations	4
References	5

APPENDIX I	STATEMENT OF QUALIFICATIONS
APPENDIX II	COST STATEMENT
APPENDIX III	ANALYTICAL PROCEDURE

Figure 1	Location Map
2	Claim Map
3	Regional Geology
4	Cu/Zn Geochem
5	Pb/Ag "
6	Au/As "

SUMMARY:

The HC-1 claim is located in south central British Columbia, within the Quesnel Trough greenstone belt. The belt is interpreted as an island arc setting, deposited during Triassic time.

During 1984, Noranda Exploration Company, Limited contracted Questor Surveys to fly an airborne EM-Mag Survey. The HC-1 claim was staked to cover one of the anomalies detected by the airborne survey. Subsequent ground follow-up in 1984 consisted of geological mapping, soil sampling, HLEM and Mag indicates that the area is covered by a thick layer of conductive overburden and that the airborne EM anomaly was caused by a variation in the conductivity and/or thickness of the conductive overburden. Further geochemical sampling in 1987 again failed to outline any new target areas. Therefore, no further work has been recommended.

INTRODUCTION:

This report covers the work completed by Noranda Exploration Company, Ltd., during the period June 1 to June 30, 1987. The claim is located in the Cariboo Mining Division approximately 65 kilometers SSE of Prince George, B.C. The claim consists of twelve (12) modified grid units.

The property is located within the "Quesnel Trough", a NNW trending belt of marine volcanics and sediments which is locally intruded by Cretaceous-age stocks. Thus, there is potential for both exhalative-type and metasomatic-type massive sulphide deposits.

No previous work is reported in the area of the property although numerous creeks in the area, particularly to the north and south, have been worked for placer gold.

In January of 1984, Noranda Exploration contracted Questor Surveys Ltd. of Mississauga, Ontario, to fly a regional airborne EM-Mag survey. The HC-1 claim was staked to cover several anomalies detected during this survey. During June, 1987 Noranda conducted a geochemical evaluation program on the property. Field operations were supervised by R. Baerg.

HISTORY:

No work has been reported in the immediate area of the property although creeks to the north and south reportedly have been worked for placer gold.

More recently, in 1980, Gabriel Resources Inc. staked a large area to the north, east and south of the HC-1 claim and is currently evaluating that ground for mineral potential.

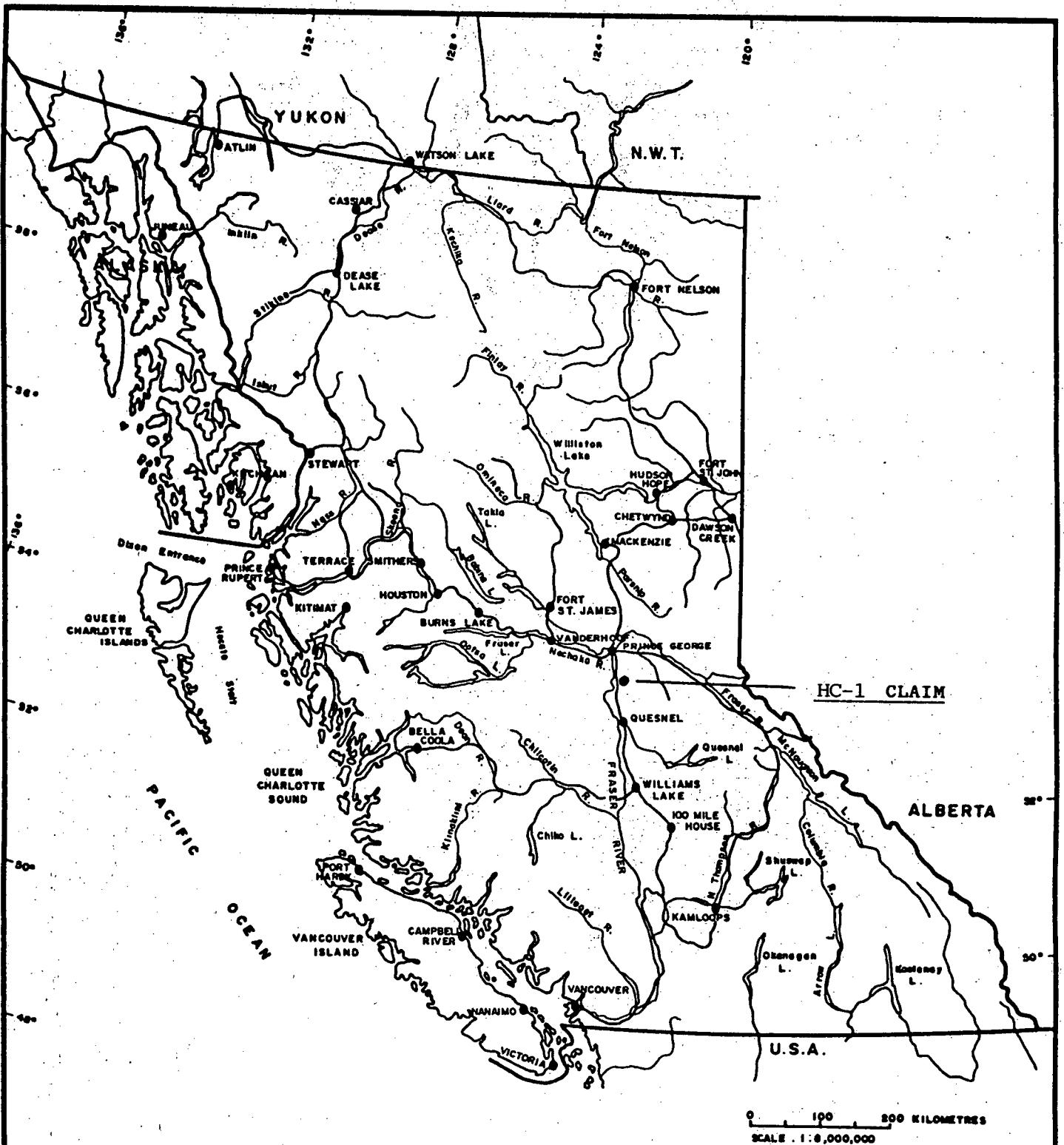
LOCATION AND ACCESS:

The HC-1 claim is located approximately 65 km SSE of Prince George, B.C. (Figure 1).

Access to the property is obtained via a good gravel road which branches east off Highway #97 at Hixon. Follow this road for approximately 5.2 km. From there a flag line leads on to the grid.

PHYSIOGRAPHY-VEGETATION:

Elevations on the property range from 2400 to 2600 feet. The property is generally quite flat with only local gently rolling hills. Vegetation is comprised of spruce, fir and poplar trees with minor to moderate undergrowth.

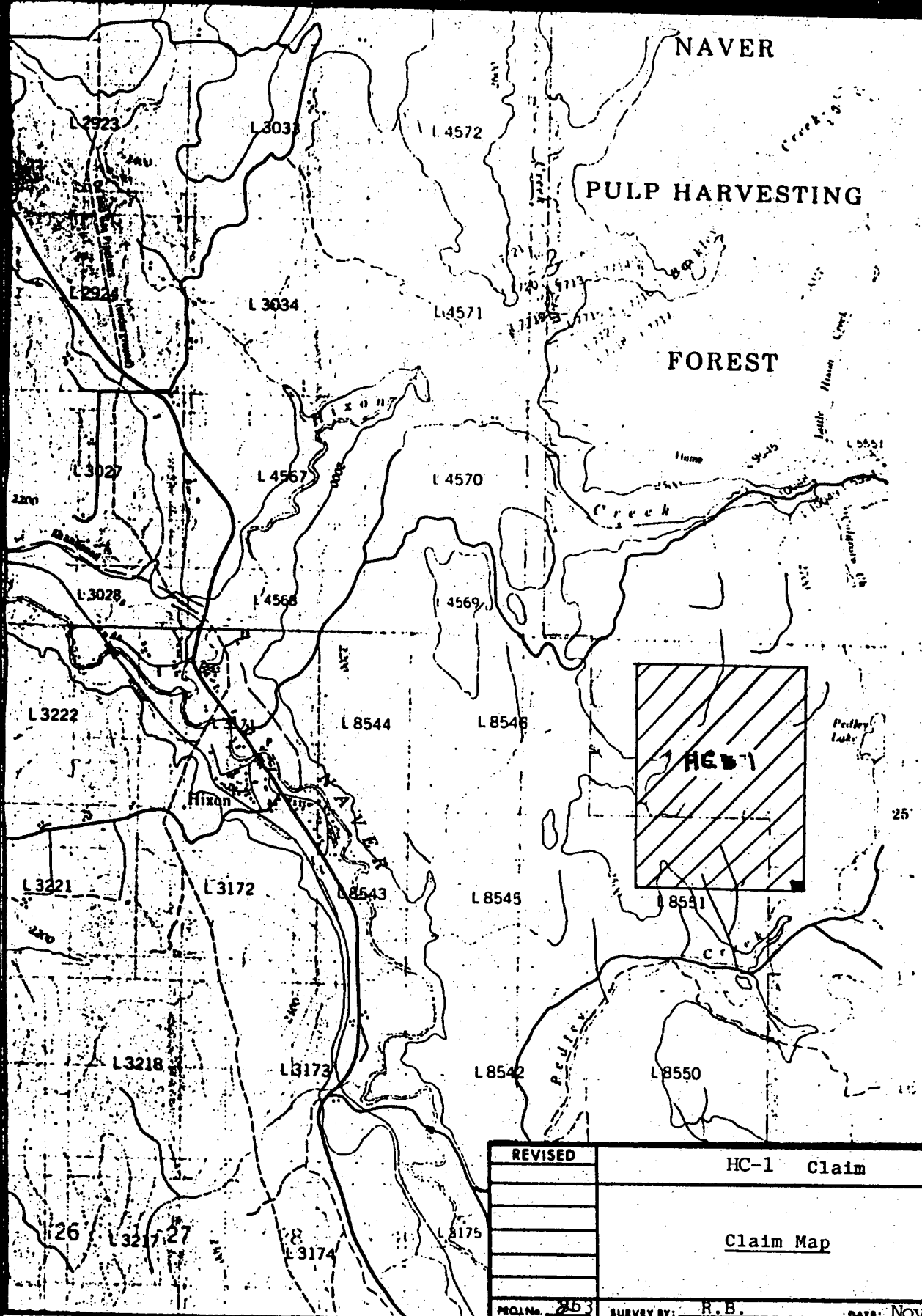


HC-1 CLAIM

0 100 200 KILOMETRES
SCALE: 1:8,000,000

REVISED	HC-1 CLAIM	
	Location Map	
PROJ. No. 263	SURVEY BY: R.B.	DATE: Nov/87
N.T.S. 93077	DRAWN BY: S.H.B.	SCALE: 1:8,000,000
OWG. No. 1	NORANDA EXPLORATION	
	OFFICE: PRINCE GEORGE, B.C.	

VANCAL 91887



REVISED	HC-1 Claim
	Claim Map
PROJ. No. 863	SURVEY BY: H.B. DATE: Nov/87
N.T.S. 03077	DRAWN BY: H.B. SCALE: 1:50,000
DWG. No. 2	NORANDA EXPLORATION OFFICE: Prince George

CLAIM STATISTICS:

The property is comprised of one (1) claim which consists of 12 modified grid units (Figure 2) as listed below:

<u>Claim Name</u>	<u># Units</u>	<u>Record #</u>	<u>Expiry Date</u>
HC-1	12	8018	Sept 29, 1988

REGIONAL GEOLOGY:

Figure 3 shows the regional geology in the area of the HC-1 claim. The claim is located within the Quesnel Trough, a broad NNW trending belt of marine volcanics, volcanoclastics and sediments which are locally intruded by calc-alkaline intrusive stocks. The geology of this area has been described by Tipper (1960) and Tipper et al (1975), (1979).

The rocks vary in age from Hadrynian to Quaternary and are generally increasingly metamorphosed and deformed with increasing age. The area is characterized by a strong northwesterly trend of fold axes and faults. Also, the Kaza Group rocks have been domed by the large batholith north of Naver Creek.

LOCAL GEOLOGY:

No outcrop was observed on the property. From the regional geological mapping, the area is interpreted to be underlain by Takla Group rocks.

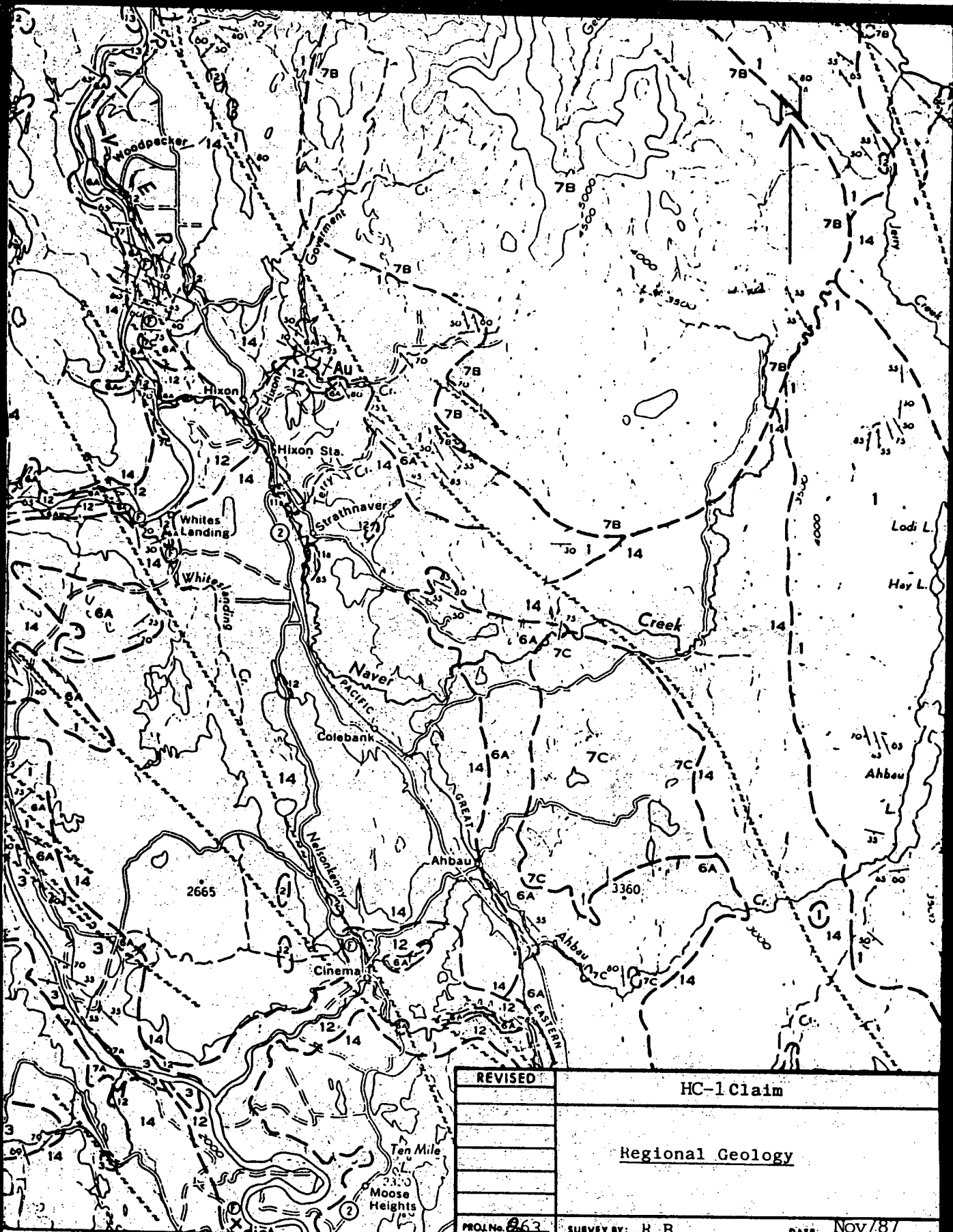
GEOCHEMICAL SURVEY:

Grid Preparation

Initially a 0.7 km long baseline on a bearing of 160 degrees, was established using a compass and hipchain. Stations on the baseline were marked at 25 m intervals using teflon tags and orange and blue flagging. Crosslines were then established at 100 m intervals perpendicular to the baseline with stations marked at 25 m intervals with orange and blue flagging. During the 1987 sampling program, the baseline was extended 400 m and lines 9400N and 9200N were added.

Sampling Method



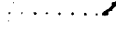
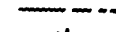
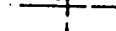
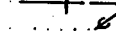
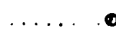


Soil samples were collected at 25 m intervals on the crosslines. The samples were collected from the B-horizon at a depth of 20 to 30 cm with the use of a grub hoe. The sample material was then placed in Kraft wet-strength paper bags, dried and then shipped to Noranda Labs in Vancouver, B.C. for analysis. For the analytical procedure refer to Appendix III. A total of, 70 soil samples were collected and analyzed for Cu, Pb, Zn, Ag, As, and Au.



REVISED	HC-1 Claim
	Regional Geology
PROJ. No. 863	SURVEY BY: R.P. DATE: Nov/87
N.T.S. 93077	DRAWN BY: J.L.H. SCALE: 1:50,000
DWG. No. 3	NORANDA EXPLORATION OFFICE: Prince George

LEGEND

CENOZOIC	QUATERNARY	
	PLEISTOCENE AND RECENT	
	14	Till, gravel, sand, clay, and silt
	TERTIARY	
	MIOCENE AND/OR LATER	
	ENDAKO GROUP	
	13	Basalt, andesite, related tuff and breccia
	MIOCENE (?)	
	12	Conglomerate, sandstone, mudstone, lignite, and diatomite
	PALEOCENE (?) TO OLIGOCENE	
	11	Andesite, basalt, breccia, and tuff; 11a, minor sediments
	10	Rhyolite, dacite, trachyte, related tuff and breccia; minor sediments
	9	Andesite, basalt, breccia, and tuff; minor rhyolite
	MESOZOIC	JURASSIC
MIDDLE JURASSIC		
HAZELTON GROUP (in part)		
8		Green to dark grey andesite and basalt, related pyroclastic rocks, chert-pebble conglomerate, argillite, and greywacke
LOWER JURASSIC AND (?) LATER		
7		7A. TOPLEY INTRUSIONS: granodiorite, quartz diorite, diorite, biotite granite 7B. Quartz monzonite, monzonite, and granite; minor diorite 7C. Granodiorite, diorite, granite, minor gabbro
TRIASSIC AND JURASSIC		
UPPER TRIASSIC (?) AND LOWER JURASSIC (?)		
6		6A. Eastern group: argillite, greywacke, green, grey, black, purple andesite and basalt and related tuffs and breccias; minor conglomerate and limestone 6B. Western group: chert-pebble conglomerate, red, brown, and black shale, greywacke; minor purple to green andesite
TRIASSIC		
POST-PERMIAN, PRE-UPPER TRIASSIC (?)		
5	Serpentinized peridotite, serpentinite	
PALAEOZOIC	PENNSYLVANIAN (?) AND PERMIAN	
	CACHE CREEK GROUP	
	3	Black to dark grey ribbon chert, black argillite
	4	Green to black basic volcanic rocks, grey limestone; minor argillite and chert; 4a, mainly grey limestone
	MISSISSIPPIAN (?)	
	SLIDE MOUNTAIN GROUP	
	2	Grey and buff chert, argillite, basalt and related pyroclastic rocks; 2a, diabase
	CAMBRIAN AND/OR LATER	
LOWER CAMBRIAN AND/OR LATER		
CARIBOO GROUP		
1	Grey micaceous quartzite, black to dark grey psyllite and argillite; minor grey limestone	

Geological boundary (defined, approximate or assumed)	
Bedding (inclined, vertical, overturned)	
Schistosity (inclined)	
Fault (defined, approximate, assumed)	
Anticline (defined, approximate)	
Syncline (defined, approximate)	
Glacial striae	
Fossil locality	
Mineral occurrence	

MINERAL SYMBOLS

Asbestos asb	Gold Au
Copper Cu	Manganese Mn
Diatomite diat	

Geology by H. W. Tipper, 1959-1960

Air photographs covering this area may be obtained through the National Air Photographic Library, Topographical Survey, Ottawa

In response to public demand for earlier publication, Preliminary Series maps are issued in this simplified form and will be clearer to read if all or some of the map-units are hand-coloured

PRESENTATION OF RESULTS:

The results of the geochemical and geophysical surveys are shown in Figures 4 to 6.

DISCUSSION OF RESULTS:

GEOCHEMISTRY:

The results of the soil survey are presented on Figures 4-6 at a scale of 1:5000. The soil samples from the Ped grid returned uniformly low values in Cu, Pb, Ag, As, Zn and locally anomalous values in Au.

CONCLUSIONS:

The geochemical survey did not reveal any new target areas.

RECOMMENDATIONS:

No further work is recommended.

REFERENCES:

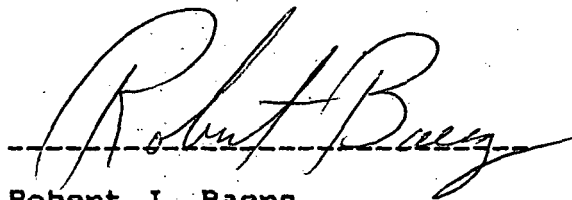
- Baerg, R. and Bradish, L.: Report of Work; Geological, Geochemical, Geophysical Surveys on the Fed-1 Claim. Assessment Report, 1985.
- Bradish, L. and Baerg, R.: Report of Work; Geophysical, Geological, and Geochemical Surveys on the Prince George South Survey (Hixon) Area, 1985. A Company report.
- Questor Surveys Ltd.: Report on the Hixon Area INPUT MK VI Airborne Electromagnetic and Magnetic Survey. A Company report, 1984.
- Tipper, H.W.: Geology, Prince George, British Columbia, Map 49-1960, 1961.

APPENDIX I

STATEMENT OF QUALIFICATIONS

I, Robert J. Baerg of the City of Prince George, Province of British Columbia, do certify that:

1. I have been employed as a geologist by Noranda Exploration Company, Limited since May, 1984.
2. I am a graduate of the University of British Columbia with a Bachelor of Science (Honors) in Geology (1984).
3. I supervised and assisted with the work described in this report.

A handwritten signature in cursive script, reading "Robert J. Baerg", written over a horizontal dashed line.

Robert J. Baerg
Geologist
Noranda Exploration Company, Limited
(No Personal Liability)

APPENDIX II

NORANDA EXPLORATION COMPANY, LIMITED

Cost Statement

Date: November, 1987

PROJECT: HC-1 Claim

Date of Work: June 1 - 30, 1987

Personnel: R. Baerg, G. Bronson, J. Hogarth

a)	Soil Sampling:	
	3 man-days @ \$150.00/manday	\$ 450.00
b)	Food/Accommodation/Transportation:	
	3 man-days @ \$100.00/manday	\$ 300.00
c)	Geochemical Analysis:	
	Soil Samples - 70 X Cu, Zn, Pb, Ag, As, Au	
	70 @ \$11.00/sample	\$ 770.00
d)	Report Preparation	\$ 300.00
	GRAND TOTAL:	\$ 1820.00

APPENDIX III

ANALYTICAL METHOD DESCRIPTIONS FOR GEOCHEMICAL ASSESSMENT REPORTS

The methods listed are presently applied to analyse geological materials by the Noranda Geochemical Laboratory at Vancouver.

Preparation of Samples

Sediments and soils are dried at approximately 80°C and sieved with a 80 mesh nylon screen. The -80 mesh (0.18 mm) fraction is used for geochemical analysis.

Rock specimens are pulverized to -120 mesh (0.13 mm). Heavy mineral fractions (panned samples * from constant volume), are analysed in its entirety, when it is to be determined for gold without further sample preparation.

Analysis of Samples

Decomposition of a 0.200 g sample is done with concentrated perchloric and nitric acid (3:1), digested for 5 hours at reflux temperature. Pulps of rock or core are weighed out at 0.4 g and chemical quantities are doubled relative to the above noted method for digestion.

The concentrations of Ag, Cd, Co, Cu, Fe, Mn, Mo, Ni, Pb, V and Zn can be determined directly from the digest (dissolution) with a conventional atomic absorption spectrometric procedure. A Varian-Techtron, Model AA-5 or Model AA-475 is used to measure elemental concentrations.

Elements Requiring Specific Decomposition Method:

Antimony - Sb: 0.2 g sample is attacked with 3.3 ml of 6X tartaric acid, 1.5 ml conc. hydrochloric acid and 0.5 ml of conc. nitric acid, then heated in a water bath for 3 hours at 95°C. Sb is determined directly from the dissolution with an AA-475 equipped with electrodeless discharge lamp (EDL).

Arsenic - As: 0.2 - 0.3 g sample is digested with 1.5 ml of perchloric 70X and 0.5 ml of conc. nitric acid. A Varian AA-475 equipped with an As-EDL is used to measure arsenic content in the digest.

Barium - Ba: 0.1 g sample digested overnight with conc. perchloric, nitric and hydrofluoric acid; Potassium chloride added to prevent ionization. Atomic absorption using a nitrous oxide-acetylene flame determines Ba from the aqueous solution.

Bismuth - Bi: 0.2 g - 0.3 g is digested with 2.0 ml of perchloric 70X and 1.0 ml of conc. nitric acid. Bismuth is determined directly from the digest with an AA-475 complete with EDL.

Gold - Au: 10.0 g sample is digested with aqua regia (1 part nitric and 3 parts hydrochloric acid). Gold is extracted with MIBK from the aqueous solution. AA is used to determine Au.

Magnesium - Mg: 0.05 - 0.10 g sample is digested with 4 ml perchloric/nitric acid (3:1). An aliquot is taken to reduce the concentration to within the

range of atomic absorption. The AA-475 with the use of a nitrous oxide flame determines Mg from the aqueous solution.

Tungsten - W: 1.0 g sample sintered with a carbonate flux and thereafter leached with water. The leachate is treated with potassium thiocyanate. The yellow tungsten thiocyanate is extracted into tri-n-butyl phosphate. This permits colourimetric comparison with standards to measure tungsten concentration.

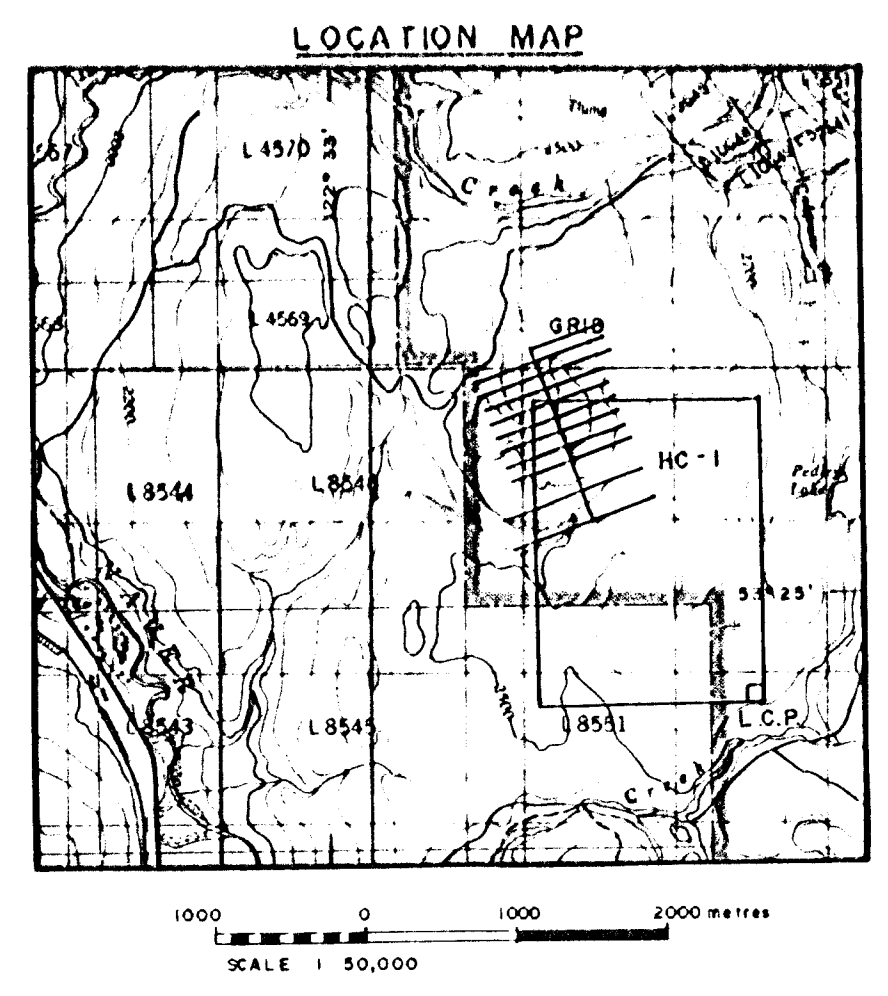
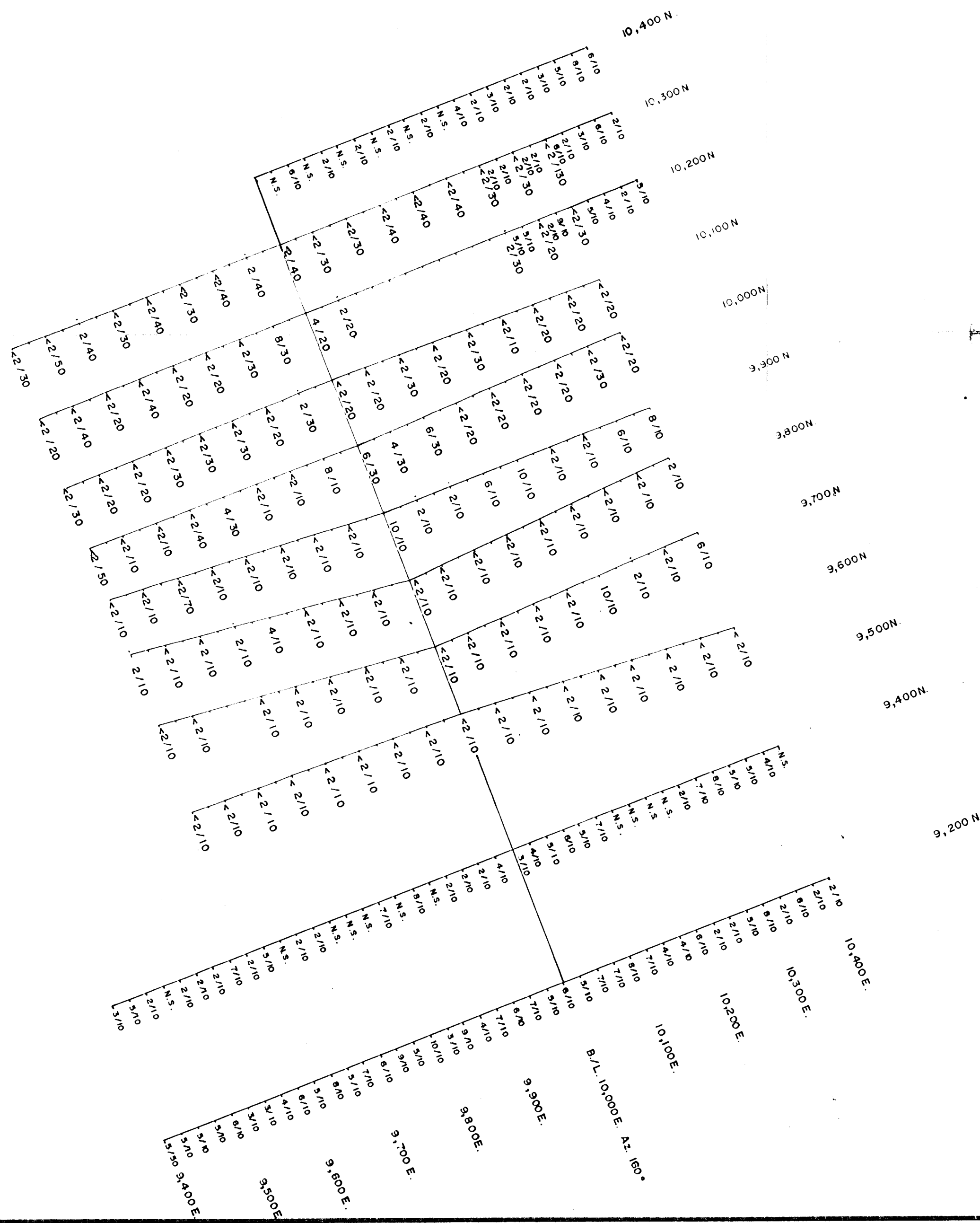
Uranium - U: An aliquot from a perchloric-nitric decomposition, usually from the multi-element digestion, is buffered. The aqueous solution is exposed to laser light, and the luminescence of the uranyl ion is quantitatively measured on the UA-3 (Scintrex).

• N.B. If additional elemental determinations are required on panned samples, state this at the time of sample submission. Requests after gold determinations would be futile.

LOWEST VALUES REPORTED IN PPM

Ag - 0.2	Mn - 20	Zn - 1	Au - 0.01
Cd - 0.2	Mo - 1	Sb - 1	W - 2
Co - 1	Ni - 1	As - 1	U - 0.1
Cu - 1	Pb - 1	Ba - 10	
Fe - 100	V - 10	Bi - 1	

EJVL/ie
March 14, 1984



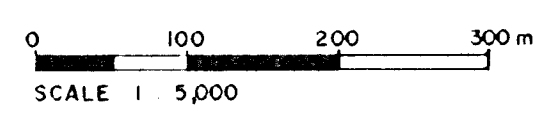
LEGEND

8/20 GEOCHEM SAMPLE LOCATION
As.(ppm), Au.(ppb.)

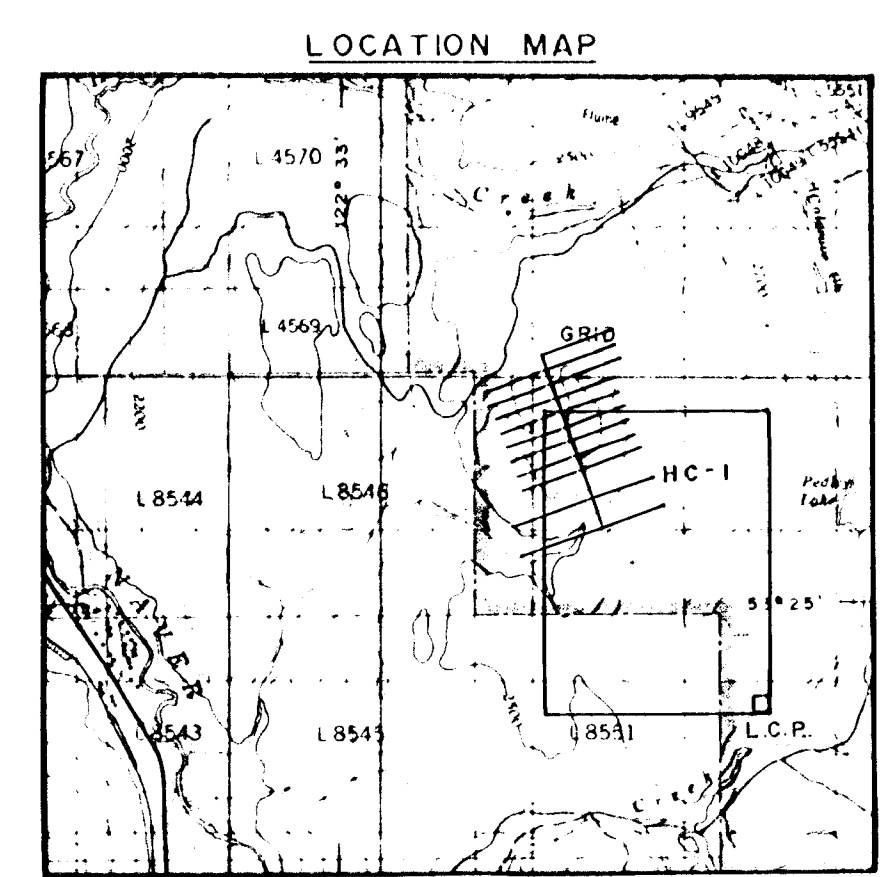
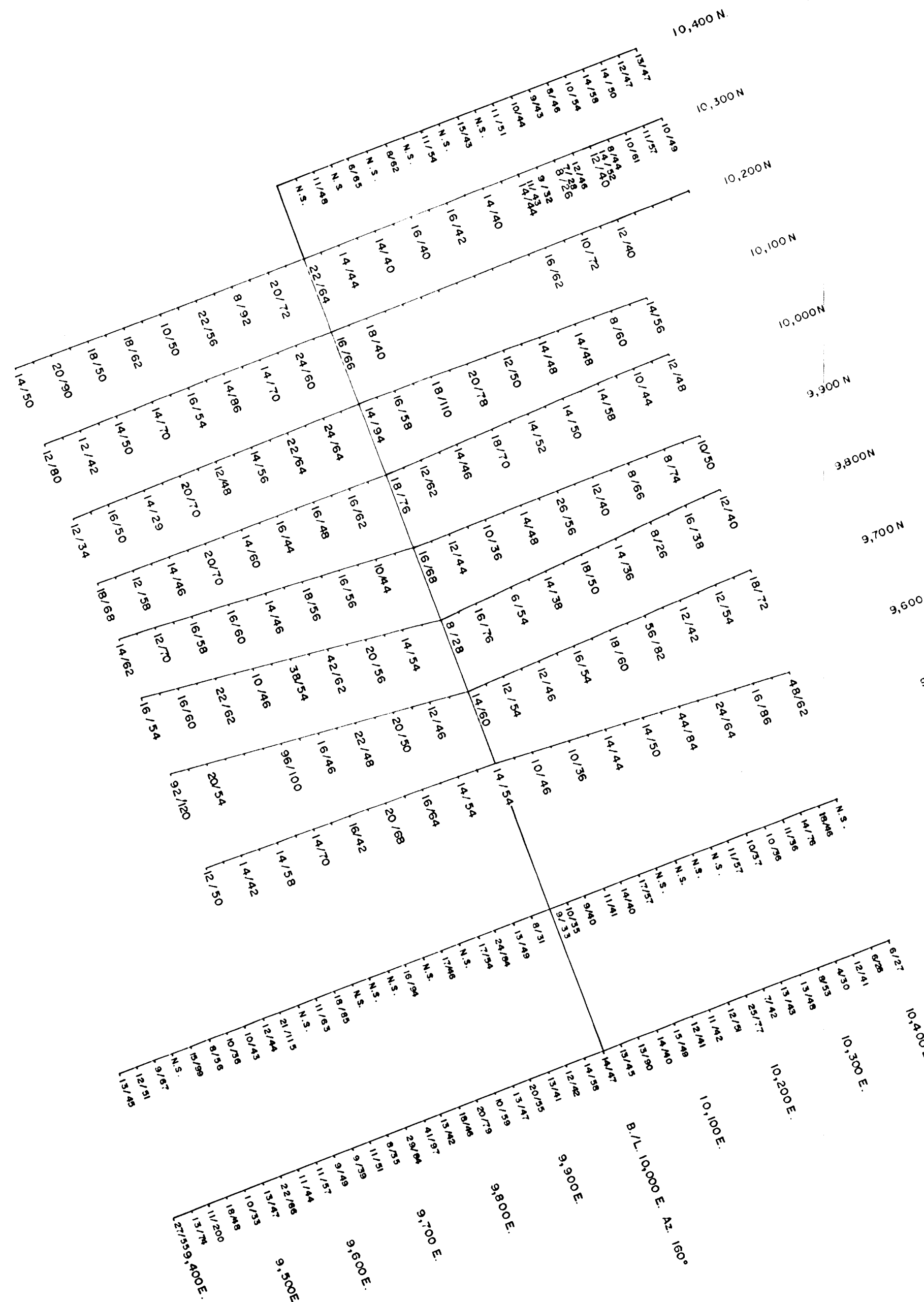
**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

16,423

Robert Bay
Nov 12/87



REVISED	HC - I CLAIM
NOV., 1987, R.B.	ANOMALY 24C
	GEOCHEM SURVEY
	As.(ppm.), Au.(ppb.)
PROJ. No.	SURVEY BY: R.K., B.Z., R.B. DATE: OCT. 1984-JUNE/87
N.T.S. 939/7	DRAWN BY: S.K.B. SCALE: 1:5000
DWG. No.	NORANDA EXPLORATION
FIG. 6	OFFICE: PRINCE GEORGE, B.C.



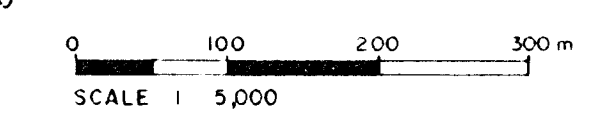
LEGEND

10/56 GEOCHEM SAMPLE LOCATION
Cu, Zn (ppm)

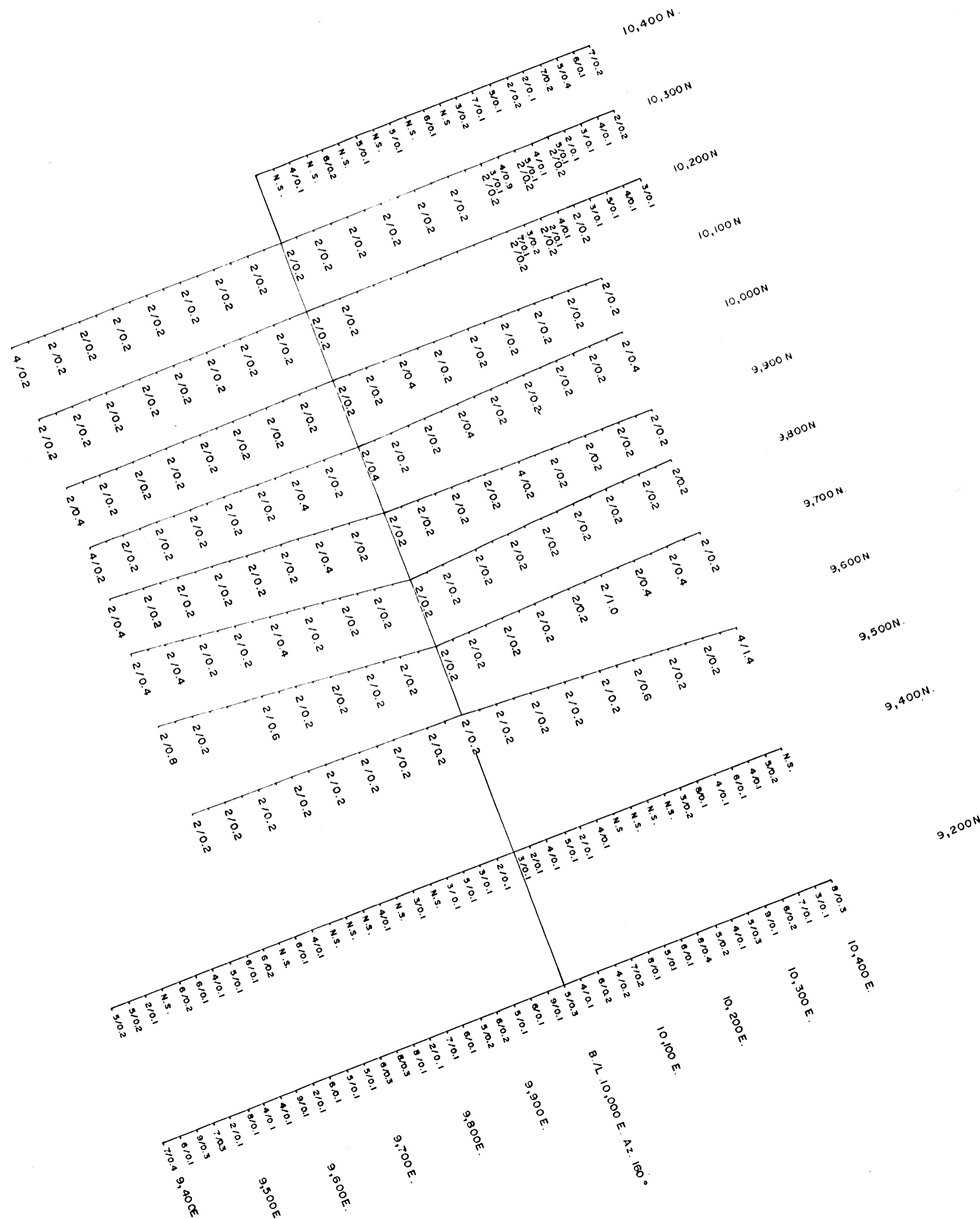
**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

16,423

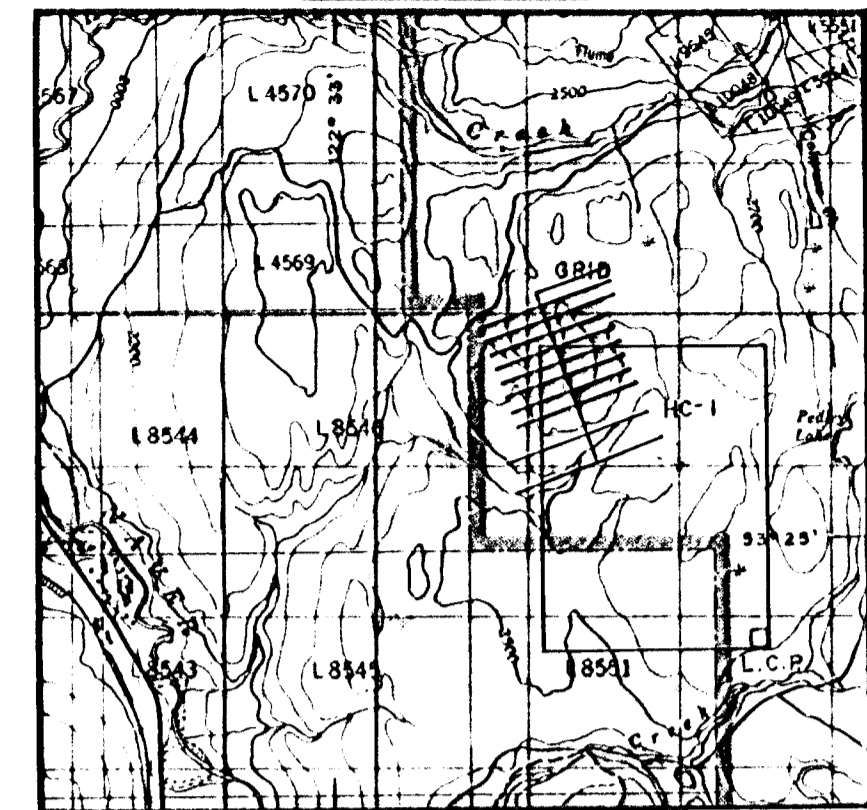
Robert Bay
Nov 12/87



REVISED	HC - I CLAIM
NOV., 1987, R.B.	ANOMALY 24C
	GEOCHEM SURVEY
	Cu, Zn (ppm)
PROJ No	SURVEY BY R.K., B.Z., R.B. DATE OCT. 1984-JUNE/87
N.T.S. 939/7	DRAWN BY S.K.B. SCALE 1 5000
DWG No	NORANDA EXPLORATION
FIG. 4	OFFICE PRINCE GEORGE, B.C.



LOCATION MAP



1000 0 1000 2000 metres
SCALE 1:50,000

LEGEND

2/0.4 GEOCHEM SAMPLE LOCATION
Pb. / Ag. (ppm)

GEOLOGICAL BRANCH
ASSESSMENT REPORT

16,423

R. K. B. Z.
Nov 12/87

0 100 200 300 m
SCALE 1:5,000

REVISED	HC - I CLAIM
NOV., 1987, R. B.	ANOMALY 24C
	GEOCHEM SURVEY
	Pb., Ag. (ppm)
PROJ. No.	SURVEY BY: R. K., B. Z., R. B. DATE: OCT. 1984-JUNE/87
N.T.S. 939/7	DRAWN BY: S. K. B. SCALE: 1:5000
DWG. No.	NORANDA EXPLORATION
FIG. 5	OFFICE: PRINCE GEORGE, B.C.