

ASSESSMENT REPORTS

Whitehorse M.D.

MAP No. 115 I 3 **TYPE OF WORK:** Geological, Geochemical

REPORT FILED UNDER	Noranda Exploration Company, Ltd.
DATE PERFORMED	Sept. 20-24, 1984 DATE FILED: June 14, 1985
LOCATION - LAT.	62°10'
LONG.	137°05'
CLAIM Nos.	ROW 1-24; YA81968-991
WORK DONE BY	S.A. MacKenzie
WORK DONE FOR	Noranda Exploration Company, Ltd.
REMARKS	<p>A program of geologic mapping and grid soil and silt sampling was done in 1984. A total of 246 soil, 15 silt and 11 rock samples were collected and analyzed for Cu, Pb, Zn, Ag and As. The soil grid shows four weakly anomalous Ag-Cu-Pb-Zn zones. Silver values range from 0.8 ppm Ag to 1.8 ppm Ag.</p> <p style="text-align: right;"><i>YES ES p. 224 ✓</i></p>

09.1642



GEOLOGY AND GEOCHEMISTRY, 1984

VICTORIA MOUNTAIN PROJECT

ROW 1-24 CLAIMS



Whitehorse Mining District

N.T.S. 115 I/3

Latitude 62°10'N

Longitude 137°05'W

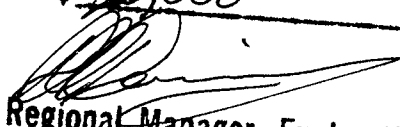
Author: S.A. MacKenzie
Owner: Noranda Exploration Company, Limited
(No Personal Liability)
Date: May, 1985

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09 16 42

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the Geological Evaluation Unit
under Section 53 (4) Yukon Quartz
Mining Act and is allowed as
representation work in the amount
of \$ 10,000.00


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

SUMMARY

The ROW claims consist of 24 Yukon Quartz claims located on the north side of Victoria Mountain, 40 kilometres west of Carmacks. A program of soil and silt sampling, mapping and prospecting was conducted in September, 1984.

The soil grid showed four anomalous Ag-Cu-Pb-Zn zones. One runs for 400 metres along strike from a shear in a quartz-sericite schist. A second 200 metre long zone may result from drainage of a suspected roof pendant. In both cases silver values in the soils range from 0.8 ppm Ag to 1.8 ppm Ag.

More soil sampling along fill-in lines, extending the grid, more detailed mapping and trenching of the greatest soil anomalies are recommended. In addition, further staking to the northwest to cover the roof pendant should be considered.

TABLE OF CONTENTS

<u>TEXT</u>	<u>PAGE</u>
SUMMARY	
CHAPTER ONE: INTRODUCTION	
1-1: Introductory Statement	1
1-2: Location and Access	1
1-3: Physiography and Vegetation	4
1-4: History of the Claims	4
1-5: Work Program	6
CHAPTER TWO: GEOLOGY	
2-1: Regional Geology	7
2-2: Property Geology	8
CHAPTER THREE: GEOCHEMISTRY	
3-1: Stream Sampling Program	11
3-2: Soil Sampling Program	12
CHAPTER FOUR: CONCLUSIONS AND RECOMMENDATIONS	15
Statement of Costs	
Statement of Qualifications	
References	

PAGE

LIST OF FIGURES

FIGURE 1:	Location Map	2
FIGURE 2:	Access Map	3
FIGURE 3:	Claim Map	5
FIGURE 4:	Geology	in pocket
FIGURE 5:	Geochemistry - Au (ppm)	"
FIGURE 6:	Geochemistry - Cu (ppm)	"
FIGURE 7:	Geochemistry - Pb (ppm)	"
FIGURE 8:	Geochemistry - Zn (ppm)	"
FIGURE 9:	Soil Geochemistry Compilation Map	"
FIGURE 10:	Compilation Map	"

LIST OF TABLES

TABLE 1:	Table of Formations	10
TABLE 2:	Statistical Summary of Soil Samples	14

LIST OF APPENDICES

APPENDIX A:	Rock Sample Descriptions and Geochemical Results
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CHAPTER ONE: INTRODUCTION

1-1: INTRODUCTORY STATEMENT

The ROW 1-24 claims are located 40 kilometres west of Carmacks, Yukon. The claims are wholly owned by Noranda Exploration Company, Limited. They were staked on May 17, 1984 to cover anomalous Pb/Zn levels in silts and soils from a 1979 reconnaissance program. The claims are situated between Mt. Nansen and Mt. Freegold, which are both known to host significant Au-Ag-Pb-Zn vein occurrences.

1-2: LOCATION AND ACCESS

The ROW 1-24 claims are situated at 62°10' N latitude and 137°05' W longitude on N.T.S. mapsheet 115 I/3 (Figure 1). They are 40 kilometres west of Carmacks.

For this program, access to the property was with TNTA's 206B helicopter based in Carmacks. There is a four-wheel drive road, the Blue Ribbon Trail, 6 kilometres west of the property however some stretches of this road are in poor condition. There are several cat tracks leading from this road towards the property along Rowlinson Creek (Figure 2). Rowlinson Creek is within a broad, gently sloping valley and a road could be constructed easily if required.

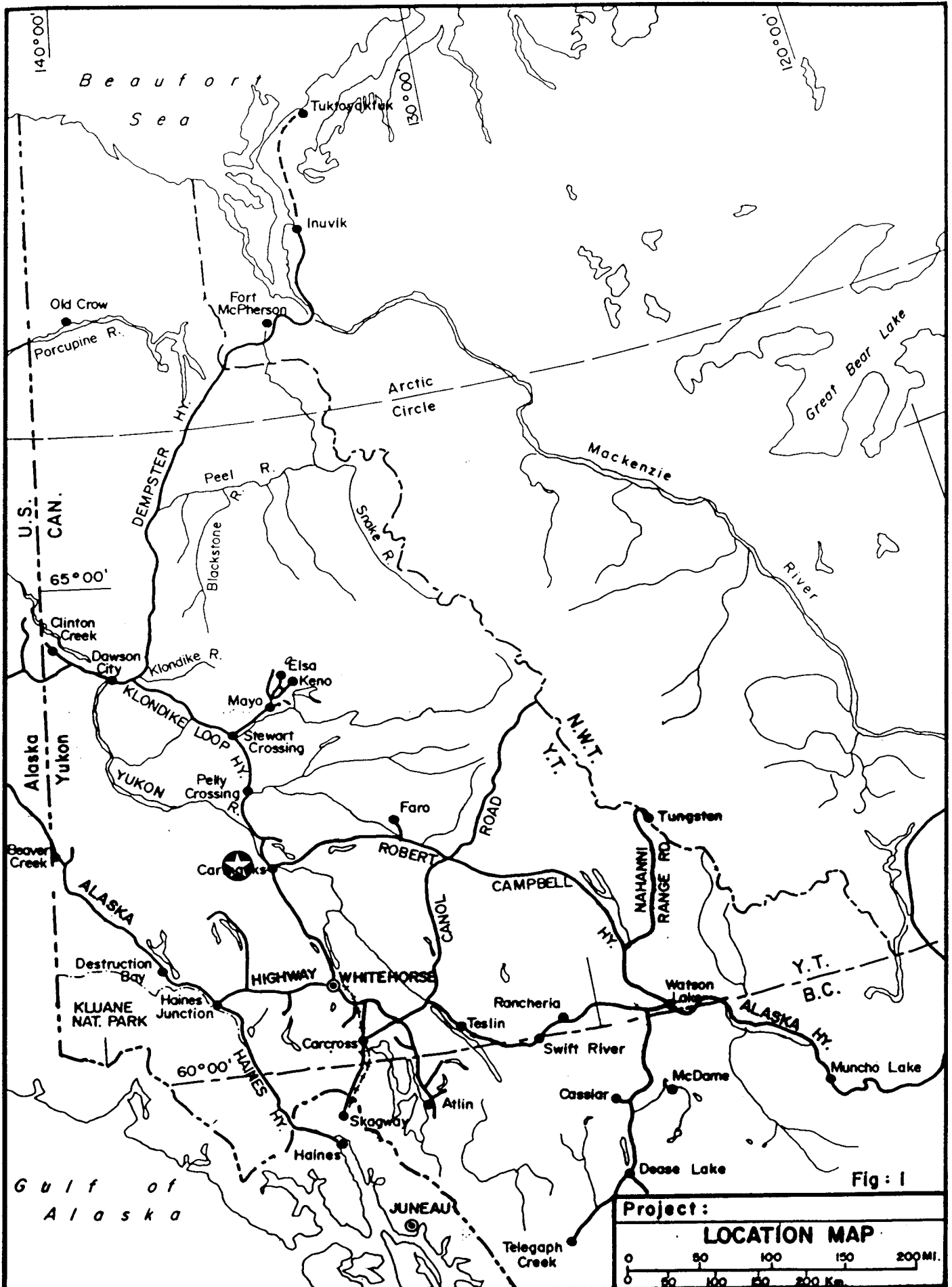


Fig: 1

Project:

LOCATION MAP

0 50 100 150 200 MI.

0 50 100 150 200 Km.



30' 15' 137°00' 45' 0 5 km

Fig. 2: Access Map

1-3: PHYSIOGRAPHY AND VEGETATION

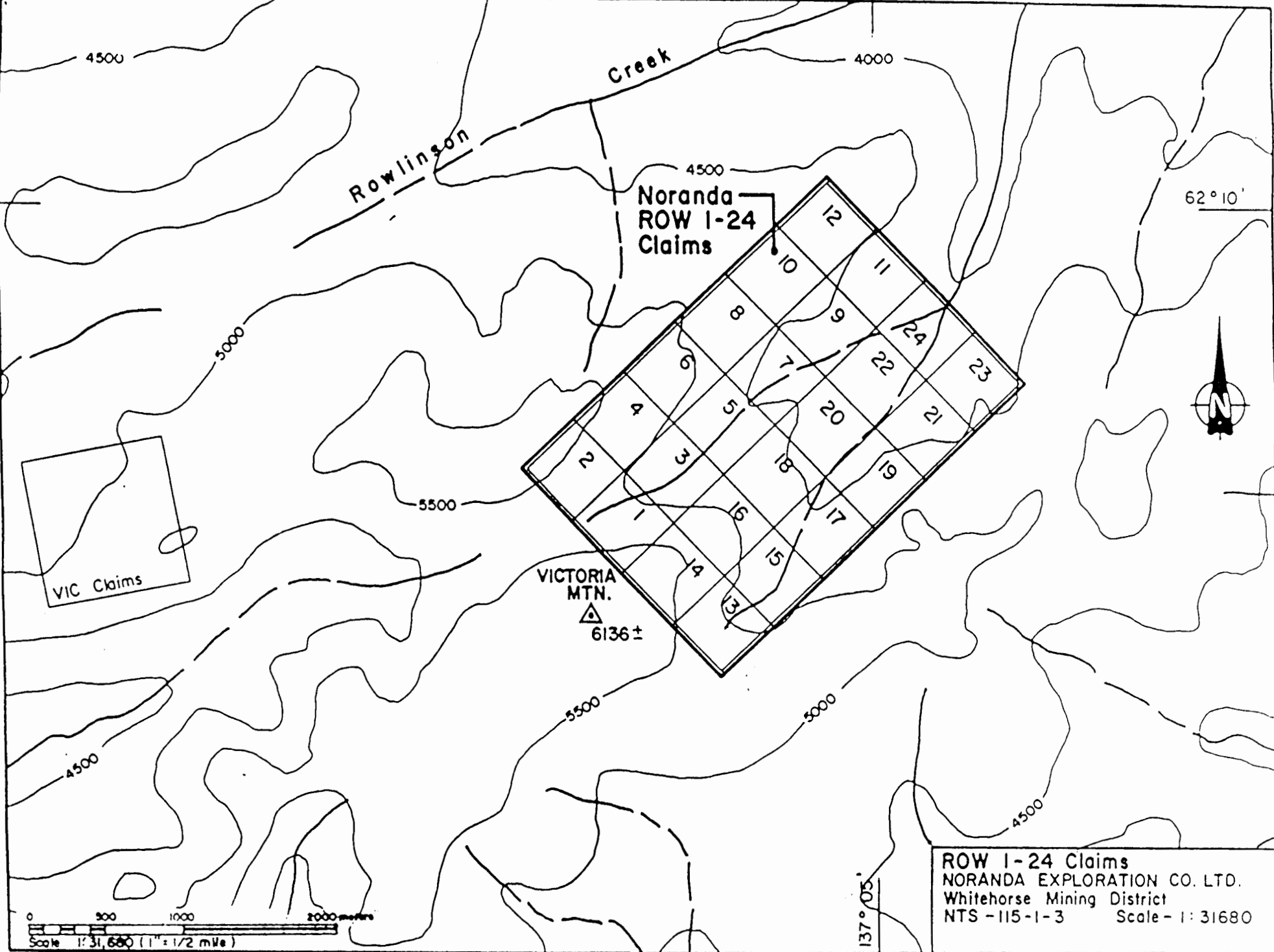
The ROW claims are located within the Dawson Range of the Yukon Plateau. The mountains in the area are well rounded and all areas of the claim group are easily accessible. The highest point is the summit of Mt. Victoria at 6136 feet. The valley bottom is at about 4500 feet.

On the ridges the vegetation consists of alpine grasses with the occasional small stand of pine trees. The valley bottoms have alder bush and in places are very swampy.

1-4: HISTORY OF THE CLAIMS

The ROW 1-24 claims were staked on May 17, 1984 as a follow-up to a 1979 silt and soil reconnaissance sampling program (Figure 3). They were recorded on May 24th, 1984 and were given the grant numbers YAB1968 to YAB1991. The ROW 1-24 claims are wholly owned by Noranda Exploration Company, Limited (No Personal Liability). Upon acceptance of this report, the claims will be in good standing until November 24, 1986.

Fig. 3
Claim Plan



0 500 1000 2000 meters
Scale 1:31,680 (1" = 1/2 mile)

ROW 1-24 Claims
NORANDA EXPLORATION CO. LTD.
Whitehorse Mining District
NTS - 115-1-3 Scale - 1:31680

1-5: WORK PROGRAM

From September 20th to 24th, 1984 a total of ten mandays were spent working on Noranda's ROW 1-24 claims. The crew consisted of:

S.A. MacKenzie
S.J. Mackay

The work can further be broken down into:

4 mandays on soil grid
1 manday on silt sampling
5 mandays on detailed mapping.

A total of 246 soil samples, 15 silt samples, and 11 rock samples were taken for analysis. Although most of the claim block was examined, geological mapping was concentrated on the contact area between the Precambrian or Paleozoic biotite schist and the Mesozoic intrusion.

This was the initial program of work following staking. No other work has been done since the 1979 reconnaissance. An earlier attempt in August was abandoned due to adverse weather.

CHAPTER TWO: GEOLOGY

2-1: REGIONAL GEOLOGY

Most of the area is underlain by metamorphic rocks of the Yukon Group. Some isotope studies done in the area suggest that they are probably Paleozoic or Precambrian. According to Dirk Tempelman-Kluit (1974), regional metamorphism of these rocks is of upper green schist to middle amphibolite facies.

The Yukon Group Metasediments have been intruded by plutonic rocks ranging in age from the Mesozoic to the Tertiary. Of interest within the area adjacent to the ROW claims are Triassic(?) hornblende granodiorites, quartz diorites, syenites and porphyritic quartz monzonites (Bostock, 1936).

Although not seen on the claims themselves, the Eocene(?) Mt. Nansen group overlies the older rocks in the area. This group consists of felsic to intermediate volcanics.

Unconformably overlying all other formations is the Carmacks Group of basalt and andesite flows and flow breccias (Bostock, 1936).

No glacial tills have been noted in the area, but the valley bottoms contain Quaternary alluvium.

2-2: PROPERTY GEOLOGY

The property was mapped on a 1:10,000 scale during prospecting traverses. Rocks on the property can be divided into three groups (Table 1). The oldest unit is a Precambrian or Paleozoic biotite schist with some quartz sericite schists and gneisses. The southern half of the property consists of a Mesozoic intrusion, mainly mafic intrusions and monzonites. Andesites and basalts, belonging to the Carmacks Volcanics, are the youngest rocks (Figure 4).

A group of biotite schists (R37398) are the oldest rocks exposed on the property and belong to the "Yukon Group" of metasediments. In addition to the biotite schists, granitic gneisses have also been located on the property. These gneisses are medium to light grey-brown, muscovite-biotite-quartz-feldspar gneisses with well developed compositional banding. A sericitic quartzite occurs north of the biotite schist. The metasediments generally strike E-W with a gentle dip to the south, or are horizontal.

The G.S.C. has mapped the intrusion as being a "Triassic(?) grey coarse-grained melanocratic, porphyritic (K-feldspar) syenite" (Bostock, 1936). Our limited survey does not totally agree with this. There are many phases within this intrusion, but the dominant ones appear to be green-grey feldspar porphyry monzonites (R21678) and medium-grained hornblende diorites (R37400, R36473). Other phases

include foliated hornblende granodiorites, pink biotite syenites, and light grey brown, fine-grained felsic dykes? The intrusions seem to be in fault contact with the older metamorphic rocks in certain areas.

The youngest rocks on the property belong to the Eocene Carmacks Group. On the ROW claims, this is represented by a massive green grey weathering basalt with pyroxene phenocrysts (R21676). They unconformably overlie all the older formations.

TABLE 1
TABLE OF FORMATIONS

PERIOD	FORMATION	DESCRIPTION
Eocene	Carmacks Group	massive green grey weathering
		basalt with pyroxene phenocrysts
Triassic(?)		green-grey, feldspar porphyry
		monzonites and medium-grained
		hornblende diorites
Paleozoic or Precambrian	Yukon Group	Biotite schists; light grey-brown,
		muscovite-biotite-quartz-feldspar
		gneisses with well developed
		compositional banding; minor
		sericite-quartzites

CHAPTER THREE: GEOCHEMISTRY

A total of 270 samples were taken for geochemical analysis. 246 soil samples were taken over 6 kilometres of grid lines. 15 silt samples and 11 rock samples were obtained during prospecting and mapping traverses. Statistics were compiled by Noranda's computing section in Vancouver for the soil samples (Table 2). The soil and silt samples were analysed in Vancouver using a Perchloric-nitric acid decomposition and Atomic Absorption analysis.

3-1: STREAM SAMPLING PROGRAM

The two creeks draining the NE side of Mt. Victoria were sampled in an attempt to better define the 1979 anomaly. Generally the silts were coarse with a minor fine silt fraction. Ice on the upper sections of the creek made sampling difficult in places. The samples were analysed for Cu, Pb, Zn, Ag and As. None of the samples analysed reproduced the 1979 results. The highest value was 0.8 ppm Ag/200 ppm Zn in S-72883.

3-2: SOIL SAMPLING PROGRAM

A one kilometre long baseline trending 135° was established on the property. Grid lines were run perpendicular to this at 200 metre intervals. The soil sample interval was 25 metres (Figure 3) and a total of 246 soil samples were taken. Residual soil development is generally good and most soils were taken from the "B" or upper "C" horizon.

While there is some evidence of glaciation in the area, no actual tills were observed on the property. A layer of White River volcanic ash was found over most of the soil grid immediately below the organic layer. Soil samples were taken below this ash horizon.

The soil samples were analysed for Cu, Pb, Zn, Ag and As by the Noranda laboratory in Vancouver. Table 2 is a summary of statistical data. Threshold values, using the mean and two times the standard deviation were calculated. However, if the threshold value is used as the lowest contour value, then only small isolated anomalies occur. The use of a "secondary threshold" which is calculated by adding the mean and one standard deviation, may help in interpreting the results. The "secondary threshold" represents an area of enrichment in geochemical metal values, rather than an actual statistical anomaly (Figures 5, 6, 7, and 8).

Using the concept of "enrichment zones" in addition to pure statistically derived anomalies, 4 broad areas of interest can be defined (Figure 9). These are:

1. ZONE A

a 800 metre plus linear Ag +/- Cu zone running from approximately L22+00N/17+50E to L30+00N/16+00E.

2. ZONE B

a 200 metre plus Ag zone close to the baseline between lines 28+00N and 30+00N.

3. ZONE C

a 200 metre long base metal zone (Cu, Pb, Zn) on line 26+00N.

4. ZONE D

a 400 metre long Ag zone from L20+00N/20+00E to 24+00N/24+50E.

TABLE 2

STATISTICAL SUMMARY OF SOIL SAMPLES

No. of analyses = 246

	Cu	Pb	Zn	Ag	As
Range (ppm)	2-74	2-120	14-320	0.2-3.0	1-8
Log mean (ppm)	16.4	8.9	62.4	.27	1.1
Log std. dev.	0.237	0.424	0.234	0.230	0.120
Threshold (ppm)	48.8	62.7	159.7	0.78	1.91
Secondary Threshold	28.3	23.6	106.9	0.45	1.45

Threshold = antilog (log of logarithmic mean + 2x logarithmic
std. dev.)

Secondary Threshold = antilog (log of logarithmic mean +
logarithmic std. dev.)

CHAPTER FOUR: CONCLUSIONS AND RECOMMENDATIONS

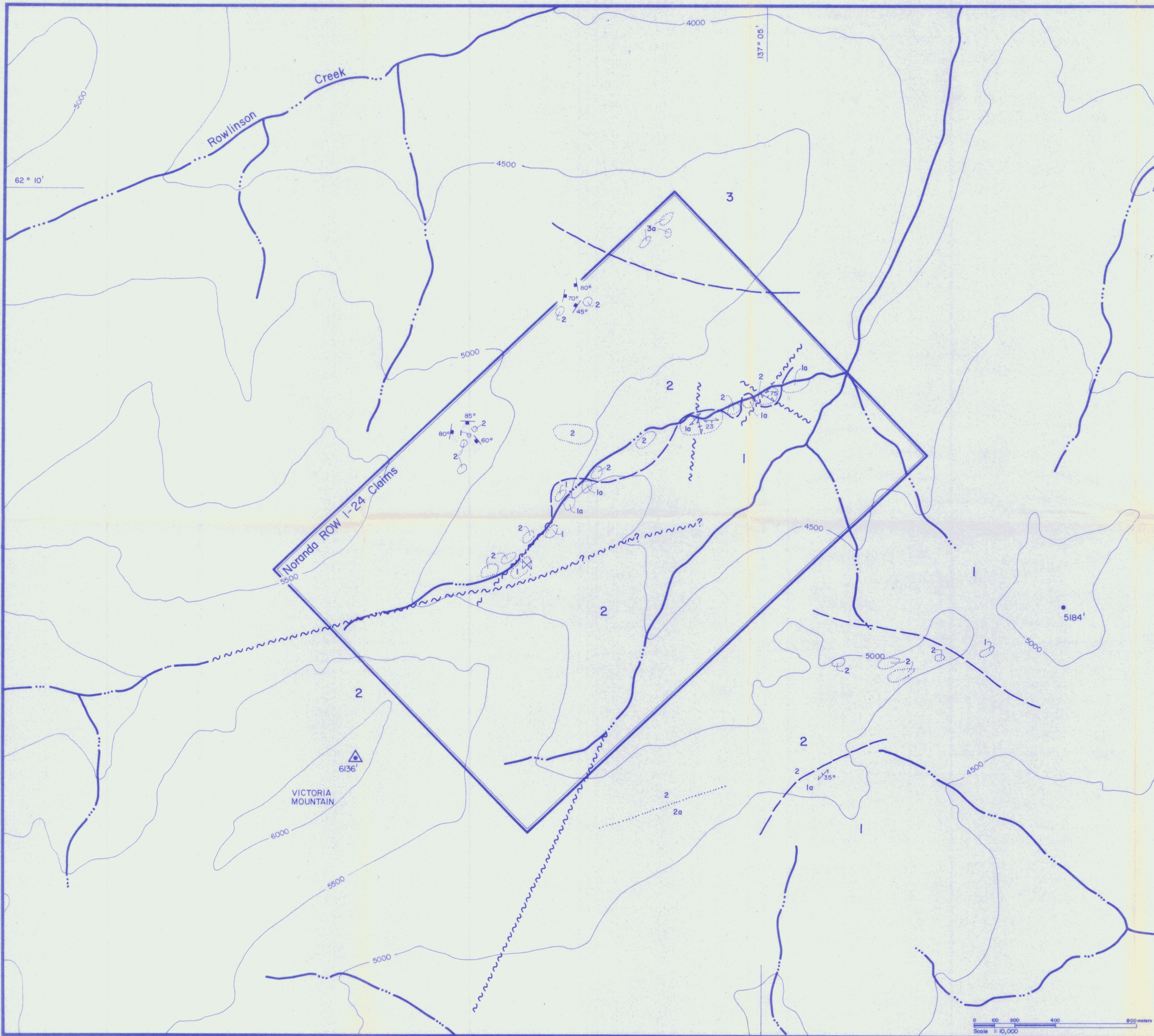
During the 1984 program, preliminary geological mapping, grid layout, soil sampling, and silt sampling were completed on the ROW 1-24 claims. Some galena and chalcopyrite was seen in outcrop, however they were found on the last day of the program and the full extent of the mineralized zones could not be determined.

The soil sampling program outlined four anomalous zones. This should be followed up by sampling fill-in lines over the anomalies.

Respectfully submitted,

S. A. MacKenzie

S.A. MacKenzie



Legend

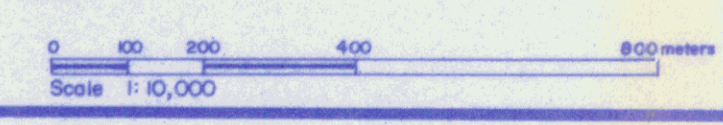
- EOCENE and YOUNGER**
- 3** Carmacks Group Volcanics: Brown weathering (a) basalt, (b) andesite flows and flow-breccias, (c) diabase dykes with quartz eyes.
- TRIASSIC and JURASSIC**
- 2** Undifferentiated green and brownish pink porphyritic quartz monzonite and syenite ± granodiorite.
(a.) hornblende granodiorite - foliated.
- MESOZOIC and /or PALEOZOIC**
- 1** Biotite schist - often grading to granitic gneiss - cut by numerous quartz veins at various orientations.
(a.) micaceous quartzite.

Symbols

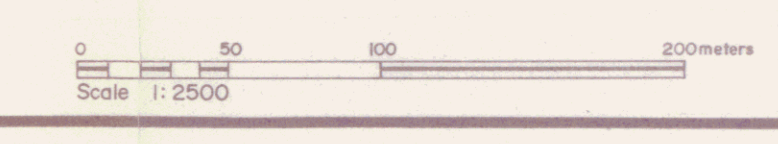
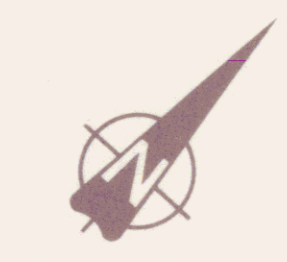
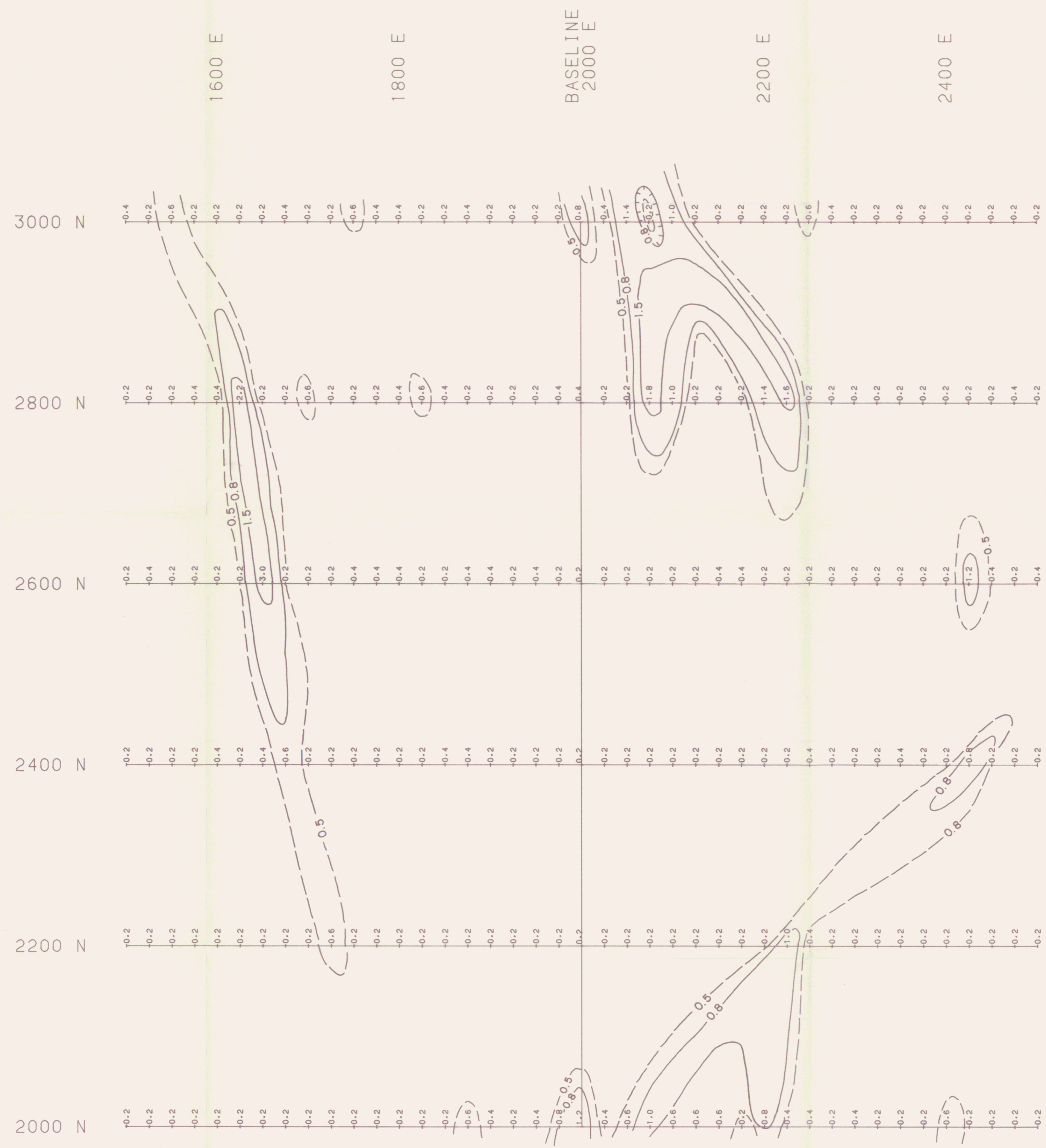
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- Geological contact; defined, assumed
- Shear
- Bedding; strike & dip
- Foliation; " "
- Jointing; " "
- Shear foliation

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	Geology	
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N.T.S. 115 3	DRAWN BY: AI	SCALE: 1" = 10,000'
DWG. No.	NORANDA EXPLORATION	
	Whitehorse	
	OFFICE:	

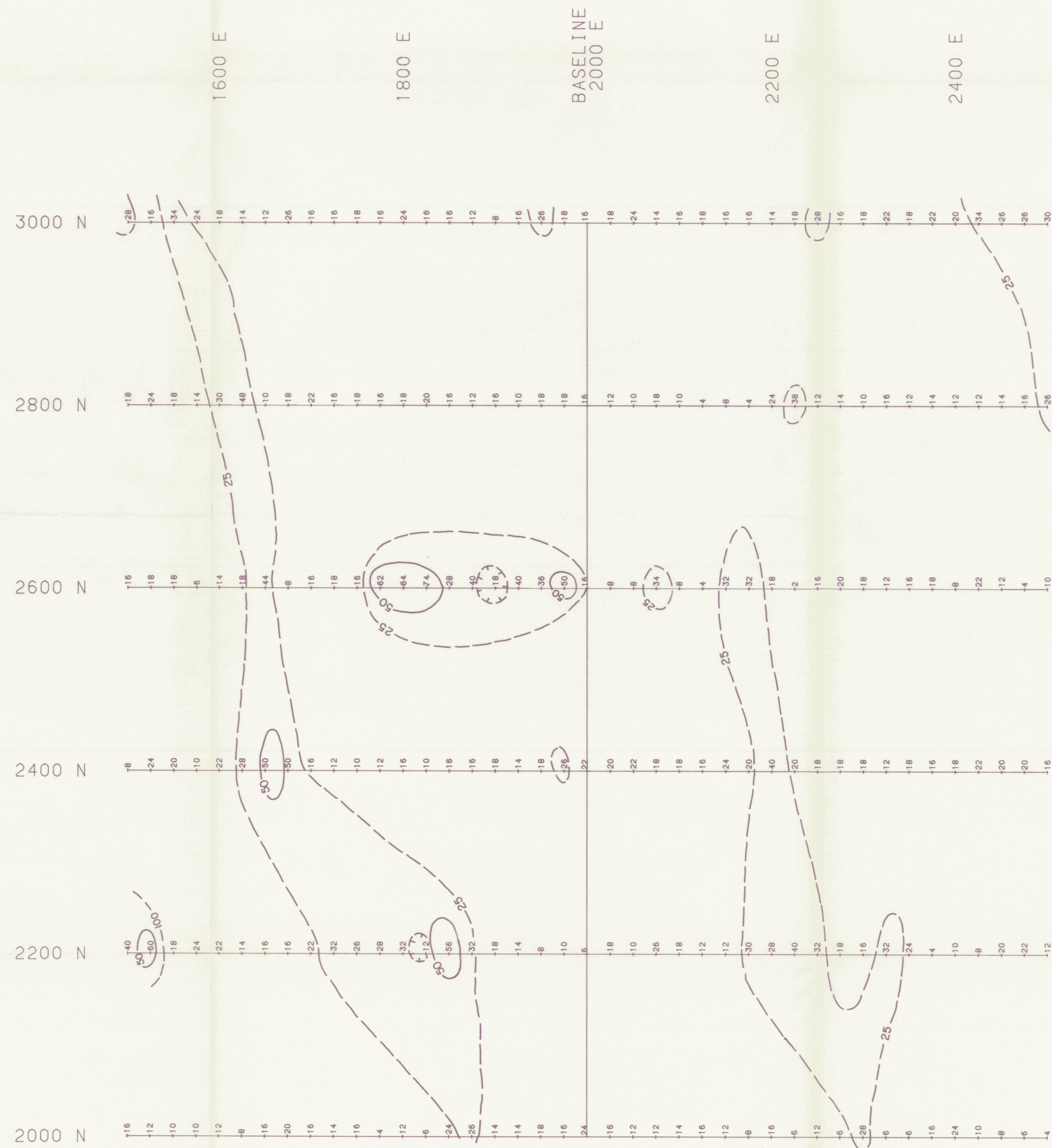


MANICAL 8302



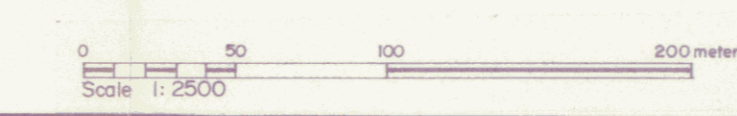
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Fig. : 5

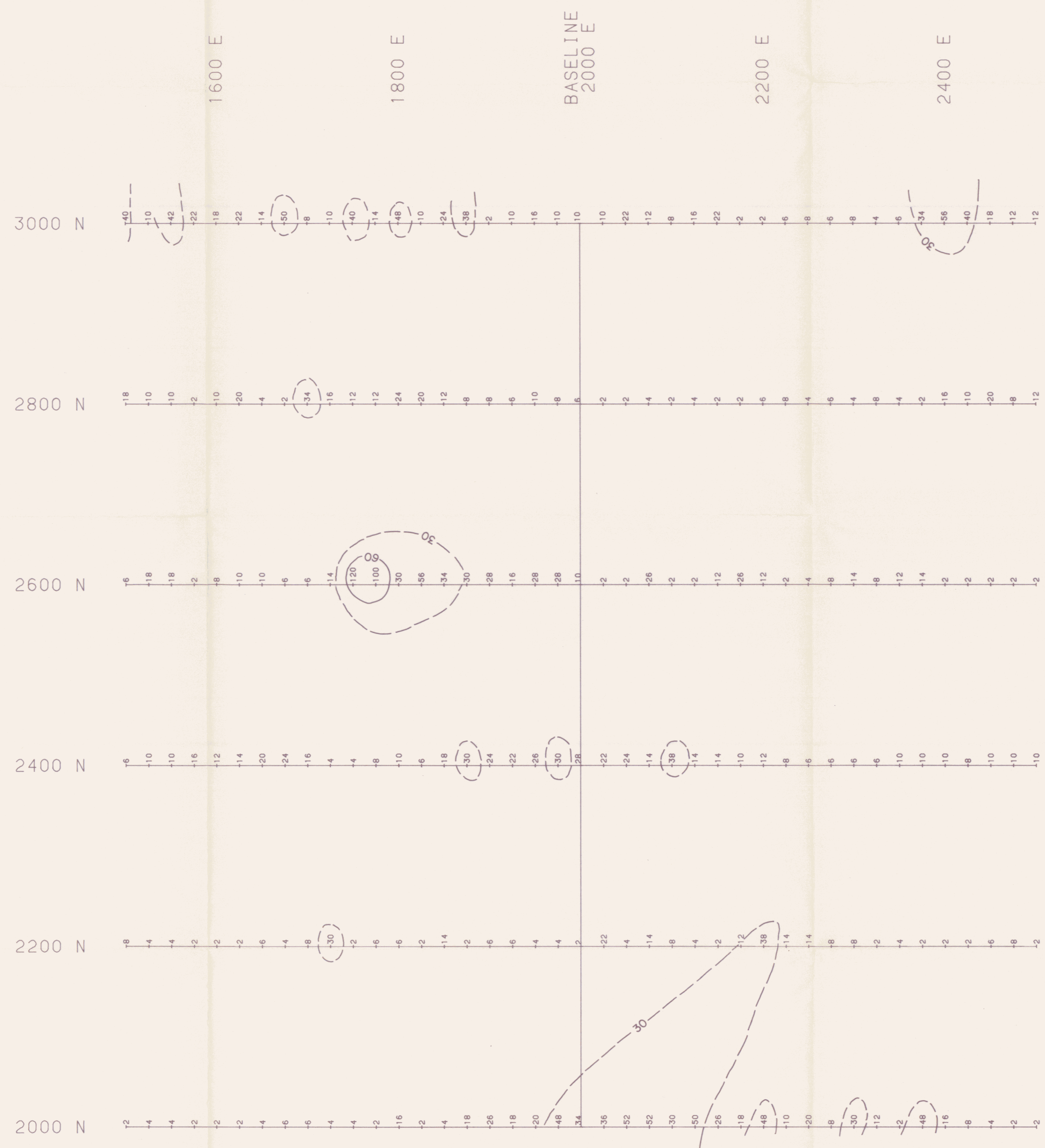
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DWG. No.	NORANDA EXPLORATION Whitehorse	
	OFFICE: Whitehorse	



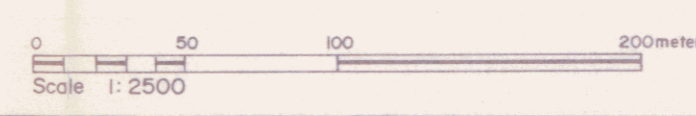
091642
Fig. : 6

REVISED	VICTORIA MOUNTAIN (ROW Claims)	
	Geochemistry Cu (ppm)	
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	OFFICE: _____	

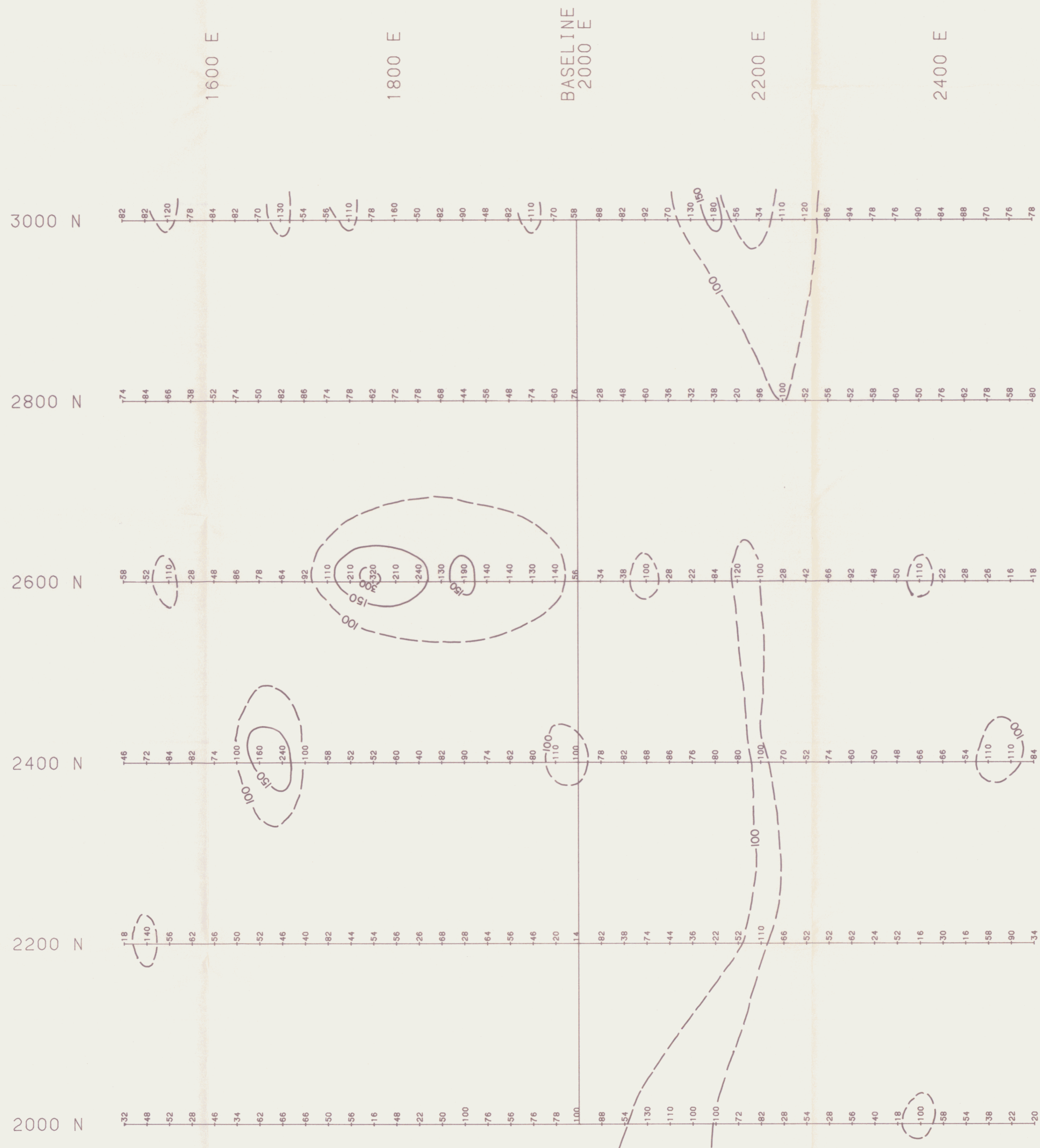




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Fig. : 7

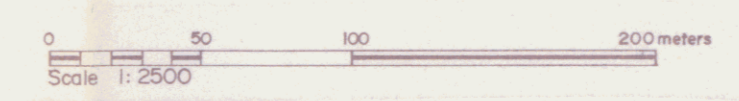


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DWG. No.	NORANDA EXPLORATION Whitehorse	
	OFFICE: _____	



091642
Fig. : 8

REVISED	VICTORIA MOUNTAIN (ROW Claims)	
	Geochemistry Zn (ppm)	
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N.T.S. 1:5,1:3	DRAWN BY: AI	SCALE: 1:2500
DWG. No.	NORANDA EXPLORATION Whitehorse	
	OFFICE:	



NORANDA

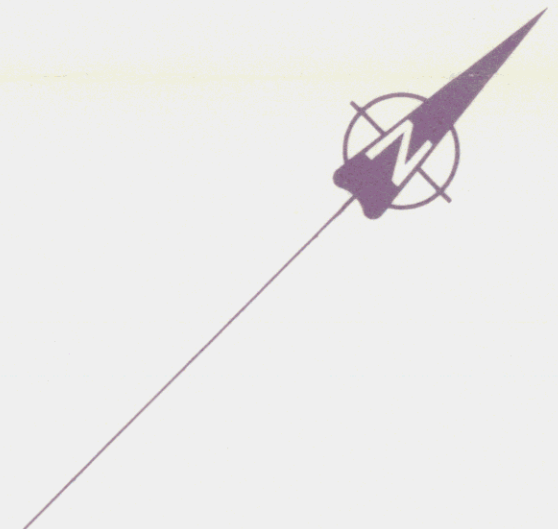


Cu	Pb	(ppm)
Zn	Ag	

☆ Anomalous Soils

A (Ag + Cu)
 B (Ag)
 C (Cu + Pb + Zn)
 D (Ag ± Pb ± Zn)

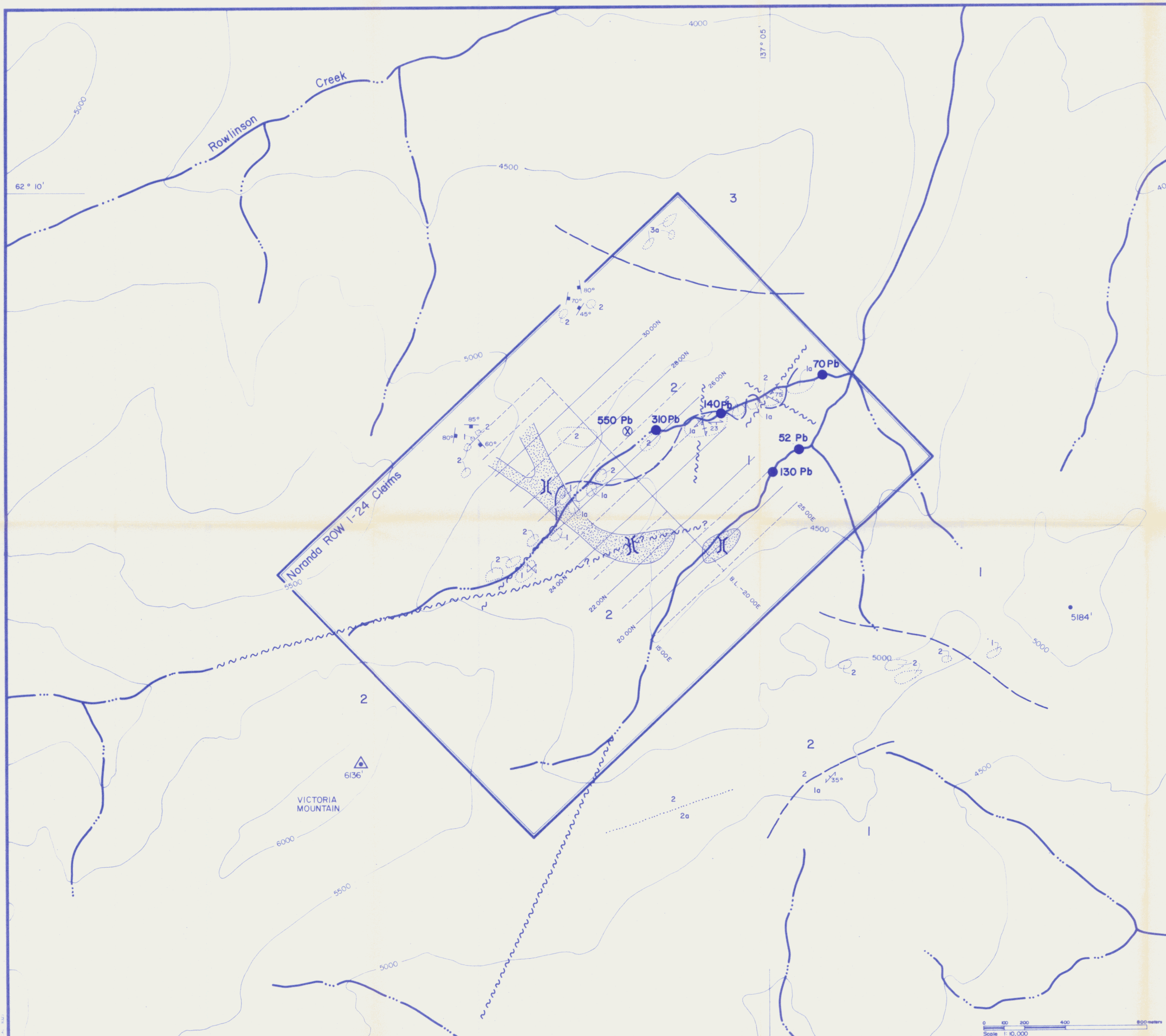
Anomalous Zones



091642
Fig. : 9



REVISED	VICTORIA MOUNTAIN (ROW Claims)	
	Soil Geochemistry Compilation Map	
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DWG. No.	NORANDA EXPLORATION	
	OFFICE Whitehorse	



Legend

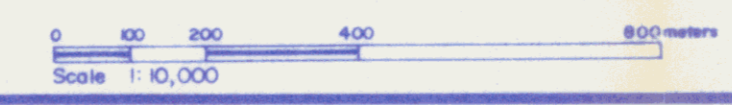
- EOCENE and YOUNGER**
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- MESOZOIC and/or PALEOZOIC**
- 1 Biotite schist - often grading to granitic gneiss - cut by numerous quartz veins at various orientations. (a.) micaceous quartzite.

Symbols

- Outcrop
- Geological contact; defined, assumed
- Shear
- Bedding; strike & dip
- Foliation; " "
- Jointing; " "
- Shear foliation
- Cu ± Pb ± Zn ± Ag Soil Geochemical Anomaly
- 1979 Spot Anomaly (Soil)
- 1979 Stream Anomaly
- Proposed grid lines, 1985
- Proposed trench locations, 1985

981642

REVISED	VICTORIA MOUNTAIN (ROW Claims)	
JAN 85		
	Compilation Map	
PROJ. No 98	SURVEY BY SAM, SJM	DATE SEP 84
N.T.S. 1:13	DRAWN BY AI	SCALE 1:10,000
DWG. No	NORANDA EXPLORATION	
	OFFICE Whitehorse	



VICTORIA MOUNTAIN PROJECT 98

STATEMENT OF COST

	<u>August 1984</u>	<u>September 1984</u>
Labour	12 mandays x 100 = 1200.00	10 mandays x 100 = 1000.00
Food	12 x 20 = 240.00	10 x 20 = 200.00
Helicopter	1.5 hrs x 550 = 825.00	1.5 hrs x 550 = 825.00
Vehicles		
Rental	4 x 30 = 120.00	5 x 30 = 150.00
Gas	= 75.00	= 103.00
Misc. camp supplies	= 50.00	= 50.00
Geochem Costs		
Soils		246 x 5.40 = 1328.40
Silts		15 x 9.40 = 141.00
Rocks		8 x 14.75 = 118.00
		3 x 22.75 = 68.25
Shipping costs		= 50.00
Report writing & drafting	_____	3 x 100 = 300.00
	\$2510.00	\$4333.65
Report writing May/85		2 x 100 = 200.00
	TOTAL COST	\$7043.65

STATEMENT OF QUALIFICATIONS

I, Stuart A. MacKenzie, of Edmonton, Province of Alberta, do hereby certify that:

1. I am a geologist at 6211 - 150 Avenue, Edmonton, Province of Alberta.
2. I am a graduate of the University of Alberta with a H.B.Sc. (1983) in geology.
3. I have been employed for 4 field seasons with Noranda Exploration Company, Limited, and its former subsidiary Mattagmai Lake Exploration Limited.
4. I was Party Chief for the crew that conducted the work in this report and the report is correct to the best of my knowledge and ability.

S. A. MacKenzie

S.A. MacKenzie, H.B.Sc.

Dated: June 12 1985

REFERENCES

- Bostock, H.S., 1936. Carmacks mapsheet, G.S.C. Memoir 189.
- Tempelman-Kluit, D.W., 1974. Recon Geology of Aishihik Lake, Snag and part of Stewart River Map Areas, G.S.C. Paper 73-41.
- Tempelman-Kluit, D.W. and Currie, R., 1978. Reconnaissance Rock Geochemistry of Aishihik Lake, Snag and Stewart River Map Areas in the Yukon Crystalline Terrane, G.S.C. Paper 77-8.
- Rose, K.C., 1963. Report on Exploration, 1963, Mount Nansen Mines Ltd.

APPENDIX A: ROCK SAMPLE RESULTS

SAMPLE	LOCATION & DESCRIPTION	I TYPE	ASSAYS					Hg
			Cu	Pb	Zn	Ag	As	
36470	White qtz vein, no visible sulphides, some hematite staining, 30+00N 15+00E	float	6	2	16	0.2	(4	
36471	White qtz vein, similar to 36470. L28+00N/17+75E	float	58	2	12	0.8	8	
37396	5% dissem. sulphides (probably py) in a green grey silicified diorite?	float	6	14	86	0.2	(4	
37397	Biotite schist with 5-8% dissem. and stronger sulphides (py +/- cpy) - stringers are 1 mm wide, up to 1.5 cm long subparallel to schistosity	subcrop	350	20	240	1.4	(4	
37398	Biotite schist - no visible sulphides - host for 37399	o/c grab	16	80	2	0.2	(4	
37399	Biotite schist with 3-5% dissem. galena, py +/- cpy, recrystallization of qtz which results in schistosity being less defined. Galena occurs in euhedral crystals 2-5 mm	o/c grab	60	620	660	2.4	(4	
37400	Green grey medium-grained diorite with 5-8% dissem. sulphides (py)	o/c grab	38	6	120	0.4	(4	
36473	Similar to 37400, these two samples are in o/c surrounding the "mineralized roof pendant" - R37397 to 99	o/c grab	74	2	140	0.2	(4	
72876	Vuggy quartz vein with epidote and Fe alteration, 1% hematite, with Mn stain, L21+25N, 19+50E	float	12	320	48	0.6	(4	10
72886	Highly altered and sheared quartz sericite schist - 2% hematite with minor py, Gn?, limonite, kaolinite and sericite alteration	o/c	30	20	120	0.8	(4	100
72887	Highly altered sheared feldspar porphyry, kaolinite, sericite, limonite alteration with py 1%, hematite 2%, Gn 1%.	o/c	26	14	76	0.6	24	1400