REPORT #1 ON THE TU-CLAIMS

GEOCHEMISTRY, GEOLOGY, GEOPHYSICS, TRENCHING

N.T.S. 82M/~~12E~~ 13E

J.N. HELSEN

JANUARY, 1985

Owner : A. Horne, Chase, B.C.
Operator : Noranda Exploration Company, Limited
(No Personal Liability)

'85-55-#14233

Province of British Columbia
Ministry of Energy, Mines and Petroleum Resources

ASSESSMENT REPORT TITLE PAGE AND SUMMARY

TYPE OF REPORT/SURVEY(S)	TOTAL COST
GEOCHEMISTRY, GEOLOGY, GEOPHYSICS, TRENCHING	$19,215.34

AUTHOR(S) J.N. Helsen SIGNATURE(S) J.N. Helsen

DATE STATEMENT OF EXPLORATION AND DEVELOPMENT FILED February 7, 1985 YEAR OF WORK 1984

PROPERTY NAME(S) TU Claims

COMMODITIES PRESENT W (Pb, Zn)

B.C. MINERAL INVENTORY NUMBER(S), IF KNOWN ?

MINING DIVISION Kamloops NTS 82M/13

LATITUDE 51°48'5"N LONGITUDE 119°35'5"W

NAMES and NUMBERS of all mineral tenures in good standing (when work was done) that form the property [Examples: TAX 1-4, FIRE 2 (12 units); PHOENIX (Lot 1706); Mineral Lease M 123; Mining or Certified Mining Lease ML 12 (claims involved)]:

TU-1 (4 Units); TU-2 (2 Units); TU-3 (2 Units); TU-4 (3 Units)
TU-5 (2 Units); TU-6 (3 Units).

OWNER(S)

(1) Mr. A. Horne
Telephone: 679-3070

(2)

MAILING ADDRESS

Little Shuswap Lake Road
Chase, B.C. V0E 1M0

OPERATOR(S) (that is, Company paying for the work)

(1) Noranda Exploration Company, Limited
Telephone: 684-9246

(2)

MAILING ADDRESS

P.O. Box 2380
Vancouver, B.C. V6B 3T5

SUMMARY GEOLOGY (lithology, age, structure, alteration, mineralization, size, and attitude):

W mineralization occurs as float and in diopside - idocrase - skarn rocks at the contact between the quartz-biotite schist and a muscovite-granite intrusion. The schists belong to the Shuswap metamorphic complex and the intrusion most likely represents an extension of the Raft Batholith.

REFERENCES TO PREVIOUS WORK Soil sampling and percussion drilling programme carried out by Sulpetro (Calgary) and trenching by A. Horne.

(over)

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	COST APPORTIONED
GEOLOGICAL (scale, area)			
Ground			
Photo			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic	6 Line km.	All Claims	$ 1,287.56
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for ....)	Cu,Zn,Pb,W,Mo,Fe,Mn,Ag		
Soil	181	All Claims	$14,792.89
Silt			
Rock	61 (Cu,Zn,Pb,Ag,W,Mo)	All Claims	
Other	14 (Be,Li,Au,Sn)		
DRILLING (total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic	2 Thin Sections		22.00
Mineralogic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY/PHYSICAL			
Legal surveys (scale, area)			
Topographic (scale, area)			
Photogrammetric (scale, area)			
Line/grid (kilometres)			
Road, local access (kilometres)			
Trench (metres)	222.5 m		$ 3,112.89
Underground (metres)			
		TOTAL COST	$19,215.34

FOR MINISTRY USE ONLY	NAME OF PAC ACCOUNT	DEBIT	CREDIT	REMARKS:
Value work done (from report)				
Value of work approved				
Value claimed (from statement)				
Value credited to PAC account				
Value debited to PAC account				
Accepted ..... Date	Rept. No.			Information Class

LIST OF CONTENTS

LIST OF FIGURES

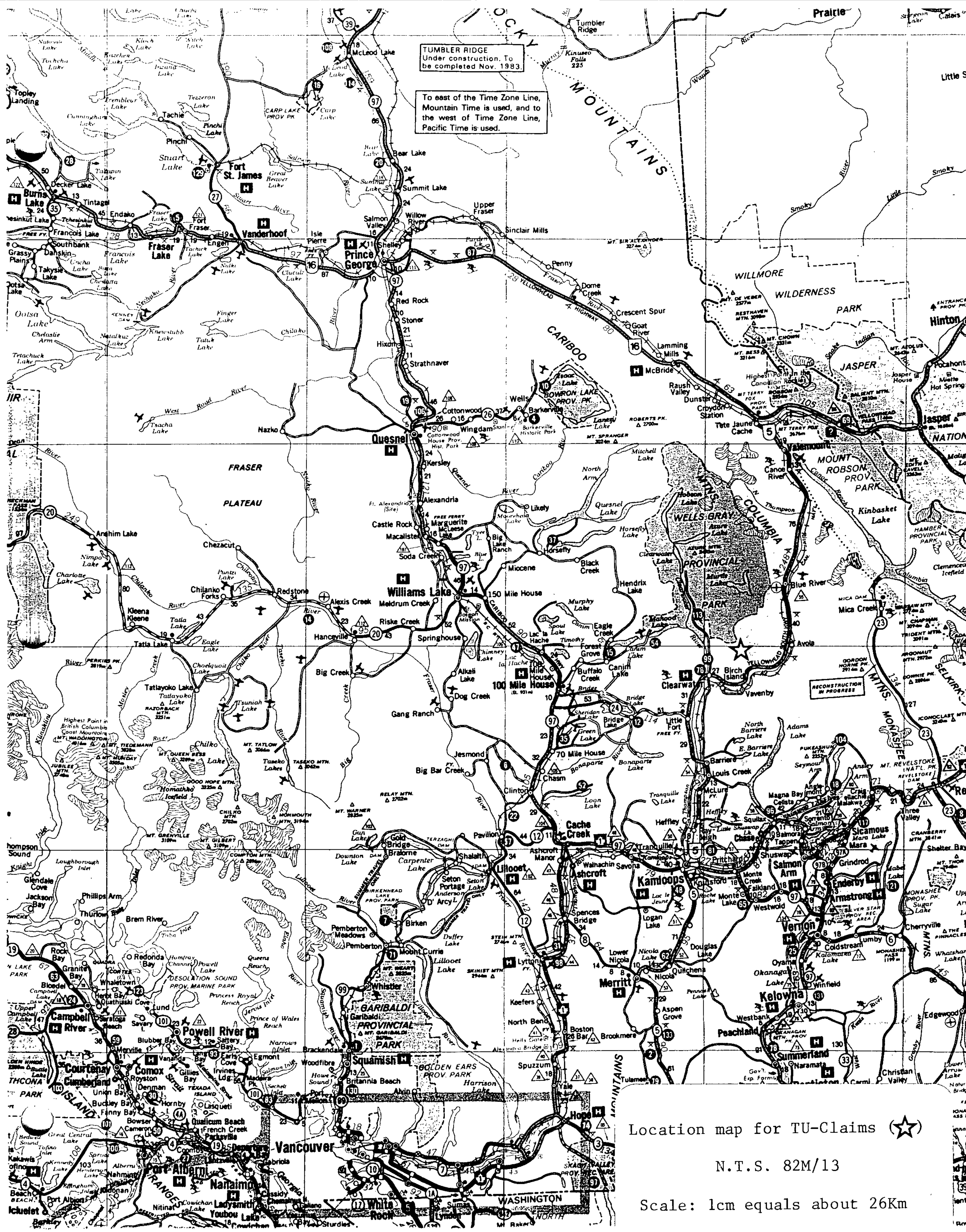
GENERAL INFORMATION

The Tu Claims, belonging to Mr. A. Horne of Chase, are located some 22 Km along the Martin Creek road north of Vavenby on the Clearwater-Kamloops Highway.

The property is located at an altitude of about 1700 m above sea level on the top of a mountain.

The greater part of the property shows gentle slopes to the east. The northern half of the TU-1 claim shows a steep slope to the north into the main valley of the Raft River.

A grid of 6.8 Km was flagged initially(bleu and bleu-orange for the stations) and sampled at 25m intervals for the auger samples. Soil samples were taken at 50 m intervals in the southeastern swampy area and 100 m intervals on the rest of the property. The grid was extended at a later stage with some 4.6 Km in order to cover revealed geochemical anomalies.



Location map for TU-Claims (☆)

N.T.S. 82M/13

Scale: 1cm equals about 26Km

GEOCHEMISTRY

Evidence from soil profiles near, and the trench dug by A. Horne and located at the site 105+00N/100+00E of the Noranda grid, as well as the poor results from the soil survey carried out by Sulpetro of Calgary, suggested the possibility that tungsten may occur on the property as very small mineral grains close to the bedrock surface or within the C and/or D horizons. The above facts and the thin glacial overburden are the main reasons for taking auger samples rather than traditional soil samples.

A total of some 465 auger and soil samples have been taken sofar.

The soils were taken preferably from the B horizon, whereas the Auger samples were taken as deep as possible. The deepest auger sample was collected at about 120 cm of depth. It should be kept in mind that glacial overburden is very thin and overlain by soils which can be divided into two main types.

Auger samples: an attempt was made and obtained to sample as deep as possible. In almost all cases the auger samples were taken at maximum depth meaning that the auger did not penetrate deeper. This implies that bedrock was reached or D horizon overlying the bedrock, or in the case of the swampy area a blue-grey layer consisting of cley or gravely cley. Figure 1 shows the depth profiles along the east-west lines of the grid system for the first batch of

auger samples collected.From these profiles particularly in the southern half of the property, it becomes obvious that to the west a higher area (a doming structure)occurs and to the east a slightly lower area or depression which coincides with the swamp in the southeast corner. It seems that a river channel is present at the swamp/forest boundary. This would explain the abundance of water in this area as well as the floating swamp aspects in the 102+00N/102+25E station area.

Soil samples: The soil samples taken in the swamp area of the property differ much from those taken on the rest of the property. The soils taken in the swamp consist predominantly of peat material, whereas the soils taken on the high ground are more true soils with A & B horizons albeit immature and rather thin. It should be mentioned that these soils contain occasionally below the A horizon a powdery ash-like layer. This ash is found over the whole property high ground although not consistently.

All samples have been analyzed for W, Cu, Pb, Zn, Ag, Mo, Mn (ppm) and Fe(%). The highest values for several elements are given below. The first and second values reflect respectively the contents in auger and soil samples.

W	Cu	Zn	Pb	Ag	Mn	Fe	Mo
280	92	330	160	3.6	1700	4.9	8
140	70	160	90	2.0	1500	3.7	8

From the nature of the W occurences it was assumed that auger samples would give a clearer picture of W anomalies than the soils. There are, however, cases where W is higher in soils. This is now believed to have been caused by the ash like material in the soils right below the A horizon. The inconsistency with which this ash material occurs does not make it a good horizon for further sampling. Out of 58 samples 31 auger samples were higher in W than the soil equivalent whereas 22 soils were higher in W than the auger equivalent. Five samples showed equal results.

The W values have been plotted on Figure 2. Intervals of 25 ppm; 50 ppm and 75 ppm W were used for contouring purposes. The contours show the existence of several areas with high W contents with an overall SE-NW direction. One anomalous area i.e. the trenched area between Lines 105+00N and 104+00N demonstrates clearly that the geochemical anomaly lies exactly above the mineralization. The overall SE-NW trend of the W anomalies may very well coincide with the schist/granite contact.

With regards to the other elements the differences are more dramatic between soil and auger samples. As a matter of fact out of 54 auger samples and their equivalent soils Cu was higher in the auger samples in 44 cases;Zn in 45 cases; Pb in 32 cases; and Ag in only 10 with 22 cases where the soil and auger values were the same.Even Mn and Fe were higher in the auger samples in respectively 42 and 49 cases. Of all these elements only Pb seems to be anomalous in soils, and occasionally Ag which is often associated with the Pb values.

Anomalous values of Pb seem to occur in clusters on the property (Figure 3). These clusters follow an overall SE-NW trend . Contour intervals of 25 ppm; 50 ppm and 100 ppm were used for the Pb values. The anomalous Pb areas follow the same strike direction as the anomalous W areas but seem to be slightly offset to the east. In other words, overlapping is only partially true.

Zn values greater than 100 ppm have been contoured (Figure 4) as well. Despite the fact that sphalerite has been observed on the property, the overall Zn geochemistry is not being regarded as anomalous but merely coinciding with the Pb anomalies. The Zn values are too low to be of major importance. The same comments are valid for the Cu geochemistry as well.

In summary, the following general features should be kept in mind.

1) Only Pb and W form geochemical anomalies of importance with an overall NW-SE strike.

2) Ag forms occasionally spot anomalies, often in association with Pb.

3) The geochemical W anomaly between Lines 104+00N and 105+00N is intimately associated with the W bearing skarn at less than 1.00 m below. This would imply that glacial transportation is of no importance at least in the southern half of this property.

4) Hydrochemical transportation may explain why Pb and W geochemical anomalies do not really overlap in the trenched area between Lines 104+00N and 105+00N, assuming that the W mineralization is accompanied by some galena(not observed although sphalerite and pyrite have been noticed).

5) If the Pb anomaly is not associated with the W anomaly then the source should be found elsewhere i.e. more to the west and southwest corner of the property.

6) The W anomalies on L112+00N are believed to be due to hydromorphic transportation caused by steep slope.

GEOLOGY

The geology of the area was surveyed by R.Campbell in 1962 and 1963 and published as Map 48 1963 - Adams Lake. According to this map the rocks underlying the property belong to the Shuswap metamorphic complex.

Despite the thin layer of overburden, the amount of outcrop on the property is less than 3 %. Consequently the existing geology map is based on scarce outcrop and information gathered from trenches.

The three main rock types are:

i) muscovite granite

ii) biotite gneiss

iii) quartz mica schist/phyllite

The muscovite granite forms an intrusion virtually dividing the property into three zones according to rocktype.The inferred boundary between the biotite gneiss and the granite lies in the western half of the property. Little is known about the potential for mineralization along this contact zone and is consequently wide open for further investigation. The boundary between the granite stock and the quartz mica schist on the eastern half of the property is also a predominantly inferred boundary, but more information is available because of trenching and outcrop.

It is believed that the overall NW-SE strike of the Pb and W geochemical anomalies may very well be an indication of the contact zone between granite and schist,

and consequently a guide for potential skarnification and W mineralization.

The tungsten mineralization occurs as scheelite crystals, up to 0.5 cm long, in a skarn rock which could be described as follows. Diopside and vesuvianite (idocrase) make up the bulk of the skarn in about equal amounts (+85 to 90%). Some tremolite/actinolite minerals(3%) occur mainly as alteration of the pyroxenes. Garnet although less common may make up a few percent. Scheelite was not observed in the thin section but in the handspecimen it makes up some 4% of thge total surface. Accessory minerals consist of sphene, magnetite/hematite, apatite, quartz and sericitized K-feldspars.

The handspecimen (thin section) was taken from the mineralized trench #5 (see below). Strike and dip of the foliation of the skarnified schist could not be measured because of its brittle nature but also because of disturbance by the backhoe.

A handspecimen of the granite(and thin section), taken from trench #4, shows a muscovite granite with sericitized K-feldspar, microcline, albite, and accessory chloritized biotite with some zircons. The granite ranges from medium to fine grained granite that frequently changes into a pegmatite like rock of similar composition.

Several high grade float boulders occur on the property as indicated on the compilation map (Fig.5). Some high grade boulders occur at the west side of the road near the LCP of the TU-1 and TU-2 claims. No further information exists on their source, distance travelled if any at all, or grade and composition. It seems logical to assume that these boulders came from the mineralized trench at L105+00N/100+00E. The same assumption can be made for the boulder trains to the North of the above mentioned trench almost following the direction of the road. This would imply glacial transportation in almost opposite direction which seems unlikely on such a small area. Sulpetro tested these boulder trains with a percussion drill mostly along the road without positive results, however.

TRENCHES

On the basis of the results from the Andy Horne trench i.e. mineralization over 2 m with 2.04% W03, and geochemical W anomalies, some five trenches were dug with a backhoe(Fig.5). Only trench #4 was not completed because of seasonal conditions. Trenches #1 and #3, dug in schists, did not carry any W-mineralization. No sections have been drawn up apparently. Trench #4 was dug into the granite stock for only 22m. Although no W mineralization was observed in the granite the W contents are definitely anomalous(+450 ppm W).It is believed that further trenching will expose the granite/schist contact zone. This boundary is believed to coincide with the depression(creek) between the granite dome and the trench #2 & #5 area which turned out to be the most interesting area on the property sofar(Fig. 6). Mineralization as revealed in the trenches follows a strike of about 295 degrees with a width varying between 2 to 4 m.The first batch of samples (2m intervals and at varying depths) shows lower values than the second batch of samples taken at 1m intervals and at about 1.40 m of depth below surface as suggested by response to shortwave ultra violet light. The reasons for this critical depth zone are not known yet. There are indication that high grade parallel zones may exist to the SE of the existing zone of mineralization. Trench #5 gradually steps outside the mineralized zone which seems to be open at both ends.Further trenching should keep this information in mind, and consequently projected trenches may have to be changed.

GEOPHYSICS

The magnetometer survey completed on the grid employed a GEM field and base station magnetometer system with a usable reading accuracy of + 1 gamma. All applicable corrections to the field data were carried out. The magnetic datum is set at 57,000 gammas.

The residual readings recorded values between 642 and 1736 gammas (Fig.7). Several isolated "anomalies" are noted at approximately L.100+00N/100+25E, L.106+00N/100+25E (?) and L.108+00N/96+50E, L.109+00N/97+00E.

The background values exhibit a difference of approximately 120 gammas betwqeen the south and north portion of the grid with the magnetic boundary occuring at Lines 103+00N and 104+00N. This change probably reflects a subtle change in the bedrock geology.

CONCLUSIONS AND RECOMMENDATIONS

Geochemistry:

Pb and W values delineate anomalies which, although slightly offset from each other, follow a NW-SE strike coinciding most likely with the granite/schist-skarn boundary. With the exception of a few spot anomalies for silver no other anomalies of importance occur.

Topography:

The topography of the property which is located on the rounded top of a mountain shows a gentle slope towards the east but steepens drastically towards the north. Geochemical anomalies on the property are believed to be closely associated with topographical features among other factors such as the granitic intrusion forming a dome and the schists forming a depression, as well as depressions formed by creeks. Moreover these creek depressions seem to followthe contacts between either granite and gneiss or granite and schist-skarn.

Geology:

Outcrop amounts to less than 5%. Consequently the geological boundaries are still very speculative,except in areas of trenches or outcrop.

The W mineralization is associated with a diopside-vesuvianite-garnet-tremolite skarn without other

substantial mineralization, exception made for some visible sphalerite occasionally.

The intrusion which caused the skarnification and most likely is the source of the W mineralization consists of a fine to medium grained muscovite granite occasionally ranging into a muscovite pegmatite, consequently enhancing the potential for additional more exotic mineralization such as beryllium, tin and lithium.

W-mineralization:

On the basis of high grade scheelite float a percussion drill programme was carried out by Sulpetro, without encouraging results, however. Trenching on the other hand was more succesful. Trench #2 revealed the approximate width of the mineralized zone (about 14m @ 1.66% WO3) with indications of potentially parallel zones to the SW. Trench #5 indicated the strike of the mineralization (about 300 degrees) and open at both ends.

The following recommendations are made :

1. Extension of existing soil lines and subsequent sampling to the west in order to cover the granite/schist-skarn contact zone.

2. Continuation of trenching particularly in the southwest corner of the property and whenever the contact zone can be expected.

3. Further investigation of the geochemical anomalies in or near the big swamp in the southeast corner of the property.

4. Follow up of the geophysical anomalies.

5. Continuation of the geological survey on as well as outside the property.

6. Check for additional mineralization in granite stock e.g. Li, Be, Sn, etc...

A P P E N D I X I

Certificate

C E R T I F I C A T E

I, J. Helsen, of the City of Richmond, Province of British Columbia, do hereby certify that:

1. I am a geologist residing at 3380 Newmore Avenue, Richmond, B.C.

2. I am a graduate of the University of Louvain, Belgium, with a 'Licenciaat in Geologie'.

3. I am a graduate of McMaster University, Hamilton, Ontario, with a M.Sc. (1970) and a Ph.D. (1976) in geology.

4. I have been practicing my profession since 1976 with Mattagami Lake Exploration, Limited.

5. At present I am projection geologist with Noranda Exploration Company, Limited.

6. I am a fellow of the Geological Association of Canada.

7. I supervised the work described in this report.

Dated: February 4, 1985

J. Helsen

GEOLOGICAL ASSOCIATION OF CANADA
J. HELSEN
FELLOW

A P P E N D I X II

Statements of costs

NORANDA EXPLORATION COMPANY, LIMITED

STATEMENT OF COST

DATE JANUARY 1985

PROJECT - TU CLAIMS - Andy Horne Opt.
TYPE OF REPORT Geochem and Geophysics

a) **Wages:**

No. of Days -	45 mandays	
Rate per Day -	$147.84	
Dates From -	Sept - October 1984	
Total Wages	45 X $147.84	$6,652.97

b) **Food and Accommodation:**

No. of Days -	45	
Rate per Day -	$23.24	
Dates From -	September - October 1984	
Total Cost -	45 X $23.24	$1,045.78

c) **Transportation:**

No. of Days -	45	
Rate per Day -	$32.19	
Dates From -	September - October 1984	
Total cost	45 X $32.19	$1,448.60

d) **Analysis** $4,925.45

e) **Cost of Preparation of Report**

Author	295.68
Drafting	295.68
Typing	295.68

f) **Other:**

Contractor	$ 991.88
Field Supplies	150.73

Total Cost $16,102.45

UNIT COSTS

Unit Costs for Geochem

No. of Days -	45	
No. of Units -	556 Samples	
Unit Costs -	26.65 / Sample	
Total Cost -	556 X 26.65	$14,814.89

Unit Costs for Geophysics

No. of Days -		
No. of Units -	6 L Km	
Unit Costs -	214.59/L Km	
Total Cost -	6 X 214.59	$1,287.56

Total Cost $16,102.45

NORANDA EXPLORATION COMPANY, LIMITED

DETAILS OF ANALYSES COSTS

Project: TU CLAIMS - Andy Horne Option

Element	No. of Determinations	Cost per Determination	Total
Cu	542	1.60	867.20
Zn	542	.60	325.20
Pb	542	.60	325.20
Ag	542	.60	325.20
W	542	3.75	2,032.50
Mo	227	.60	136.20
Fe	166	.60	99.60
Mn	166	.60	99.60
Be	14	4.00	56.00
Li	14	4.00	56.00
Au	14	6.50	91.00
Sn	14	4.25	59.50
Rock Prep	61	2.75	167.75
Thin Sections			22.00
Total			$4,925.45

NORANDA EXPLORATION COMPANY, LIMITED

STATEMENT OF COST

DATE JANUARY 1985

PROJECT - TU CLAIMS - Andy Horne Opt.
TYPE OF REPORT Trenching

a) **Wages:**

No. of Days -	8 mandays	
Rate per Day -	$94.25	
Dates From -	Sept - October 1984	
Total Wages	8 X $94.25	$753.99

b) **Food and Accommodation:**

No. of Days -	8	
Rate per Day -	$25.00	
Dates From -	September - October 1984	
Total Cost -	8 X $25.00	$ 200.00

c) **Transportation:**

No. of Days -	8	
Rate per Day -	$47.45	
Dates From -	September - October 1984	
Total cost	8 X $47.45	$ 379.58

d) **Equipment Rentals**

Type of Equipment -	Backhoe	
Rate per Day -	158.44	
Dates From -	September - October 1984	
Total Cost -	8 X 158.44	$1,267.50

e) **Cost of Preparation of Report**

Author	94.25
Drafting	94.25
Typing	94.25

f) **Other:**

Contractor	
Field Supplies	229.07

Total Cost $3,112.89

UNIT COSTS

Unit Costs for Trenching

No. of Days -	8	
No. of Units -	8 Mandays	
Unit Costs -	390.36/manday	
Total Cost -	8 X 390.36	$3,112.89

APPENDIX III

Results

GRID: TUCLAM

REC#	LINE	STATION	CU 1A	ZN 1A	PB 1A	AG 1A	W SP	MO 1A	MN 1A	FE 1A
1	+0009800	+0010200	20.	66.	16.	.2	10.			
2		+0010275	34.	66.	24.	.4	1.			
3		+0010300	26.	74.	12.	.2	5.			
4		+0010325	20.	76.	16.	.2	2.			
5		+0010350	24.	110.	12.	.2	5.			
6		+0010375	28.	56.	34.	.2	2.			
7		+0010400	64.	68.	62.	.8	2.			
8		+0010425	14.	56.	14.	.2	30.			
9		+0010450	26.	68.	24.	.2	20.			
10		+0010475	26.	46.	26.	.4	1.			
11		+0010500	24.	50.	22.	.2	1.			
12		+0010525	14.	54.	8.	.2	2.			
13		+0010550	18.	58.	10.	.2	5.			
14		+0010575	14.	42.	12.	.2	20.			
15		+0010600	14.	50.	14.	.2	2.			
16		+0010625	14.	56.	6.	.2	5.			
17		+0010650	10.	50.	8.	.2	10.			
18		+0010675	12.	64.	12.	.2	1.			
19		+0010700	18.	54.	12.	.4	10.			
20		+0010725	22.	54.	12.	.2	75.			
21		+0010750	20.	62.	8.	.2	70.			
22		+0010775	220.	120.	40.	.4	70.			
23		+0010800	150.	160.	36.	.2	90.			
24	+0009825	+0010200	16.	70.	14.	.2	10.			
25			52.	170.	46.	.4	1.			
26	+0009850		34.	68.	26.	.2	1.			
27	+0009875		24.	66.	18.	.2	2.			
28	+0009900	+0010000	16.	40.	8.	.2	10.			
29		+0010025	14.	66.	6.	.2	1.			
30		+0010050	24.	50.	10.	.2	1.			
31		+0010075	14.	50.	10.	.2	100.			
32		+0010100	20.	74.	14.	.2	135.			
33		+0010125	38.	140.	22.	.2	5.			
34		+0010150	56.	90.	30.	.2	35.			
35		+0010175	32.	32.	20.	1.0	1.			
36		+0010200	12.	32.	16.	.2	10.			
37		+0010225	14.	56.	16.	.2	70.			
38		+0010250	20.	60.	14.	.2	135.			
39		+0010275	28.	70.	14.	.2	120.			
40		+0010300	18.	54.	14.	.2	100.			
41		+0010325	24.	76.	16.	.2	80.			
42		+0010350	18.	54.	14.	.2	180.			
43		+0010375	36.	74.	26.	.2	2.			
44		+0010400	18.	60.	16.	.2	5.			
45		+0010425	24.	54.	20.	.2	2.			
46		+0010450	24.	76.	18.	.2	1.			
47		+0010475	16.	56.	16.	.2	2.			
48		+0010500	14.	64.	16.	.2	2.			
49		+0010525	14.	76.	18.	.2	1.			
50		+0010550	12.	54.	10.	.2	2.			
51		+0010575	12.	48.	10.	.2	2.			
52		+0010600	28.	64.	14.	.2	1.			
53		+0010625	74.	82.	18.	.8	2.			
54			12.	44.	12.	.2	5.			
55		+0010650	110.	68.	20.	.2	5.			
56		+0010700	16.	64.	10.	1.2	2.			
57		+0010725	20.	62.	12.	.2	1.			

REC#	LINE	STATION	CU 1A	ZN 1A	PB 1A	AG 1A	W 5P	MO 1A	MN 1A	FE 1A
58	+0009950	+0010200	28.	78.	14.	.2	5.			
59	+0009975		26.	62.	20.	.2	5.			
60	+0010000	+0010000	40.	82.	26.	.2	5.	2.	630.	3.2
61			32.	66.	22.	.2	2.	1.	500.	2.8
62		+0010025	18.	62.	12.	.2	15.	1.	490.	2.7
63		+0010050	44.	130.	16.	.2	2.	1.	570.	4.8
64			18.	90.	8.	.2	30.	1.	290.	2.7
65		+0010075	12.	64.	12.	.2	40.	1.	230.	3.4
66		+0010100	28.	110.	90.	.2	10.	1.	540.	3.8
67			16.	52.	42.	.2	20.	1.	370.	2.2
68		+0010125	32.	120.	16.	.2	10.	1.	650.	4.5
69		+0010150	24.	56.	26.	.2	10.	1.	250.	2.6
70			12.	34.	16.	.2	50.	1.	110.	1.6
71		+0010175	18.	66.	16.	.2	40.	1.	250.	2.7
72		+0010200	28.	70.	14.	.2	120.	1.	240.	2.8
73			8.	10.	2.	.2	5.	1.	20.	.8
74		+0010225	26.	80.	16.	.2	20.	1.	240.	3.3
75		+0010250	30.	88.	20.	.2	5.	1.	250.	2.6
76		+0010275	28.	72.	22.	.2	30.	1.	230.	2.1
77		+0010300	34.	86.	16.	.2	25.	1.	290.	3.3
78			4.	14.	14.	.2	60.	1.	70.	.5
79		+0010325	28.	80.	16.	.2	10.	1.	320.	3.2
80		+0010350	40.	90.	20.	.2	30.	1.	290.	3.2
81		+0010375	22.	64.	14.	.2	50.	1.	270.	2.7
82		+0010400	4.	18.	28.	.2	120.	1.	90.	.6
83			40.	72.	28.	.2	10.	1.	180.	1.9
84		+0010425	16.	62.	8.	.2	200.	1.	270.	2.6
85		+0010450	12.	54.	10.	.2	40.	1.	220.	2.0
86		+0010475	34.	94.	18.	.2	20.	1.	320.	3.2
87		+0010500	10.	28.	16.	.2	160.	1.	130.	2.0
88			22.	72.	14.	.2	100.	1.	280.	3.4
89		+0010525	24.	66.	20.	.2	1.			
90		+0010550	16.	52.	14.	.2	2.			
91		+0010575	10.	38.	12.	.2	2.			
92		+0010600	30.	62.	30.	.2	1.			
93		+0010625	6.	24.	10.	.2	15.			
94		+0010650	26.	52.	16.	.2	15.			
95		+0010675	20.	56.	12.	.2	5.			
96		+0010700	24.	72.	16.	.2	5.			
97		+0010725	18.	58.	10.	.4	1.			
98		+0010750	24.	58.	16.	.6	1.			
99		+0010775	16.	52.	12.	.2	5.			
100	+0010025	+0010200	28.	42.	14.	.2	1.	1.	200.	1.6
101	+0010050		38.	140.	16.	.2	2.	1.	580.	3.4
102			2.	2.	2.	.4	20.	1.	20.	.2
103	+0010075		30.	54.	30.	.4	2.	1.	250.	1.6
104	+0010100	+0010000	24.	92.	28.	.2	10.	1.	900.	3.3
105			10.	42.	12.	.2	120.	1.	240.	1.4
106		+0010025	18.	48.	14.	.2	5.	1.	220.	2.5
107		+0010050	24.	110.	14.	.2	25.	1.	670.	3.3
108			20.	74.	16.	.2	30.	1.	710.	2.4
109		+0010075	36.	100.	160.	.4	30.	1.	900.	3.0
110		+0010100	24.	90.	42.	.4	25.	1.	260.	2.2
111			8.	40.	26.	.2	40.	1.	120.	1.0
112		+0010125	18.	68.	70.	.2	50.	1.	360.	2.0
113		+0010150	12.	78.	42.	.4	40.	1.	360.	2.4
114			14.	80.	46.	.4	5.	1.	200.	2.1

REC#	LINE	STATION	CU 1A	ZN 1A	PB 1A	AG 1A	W 5P	MO 1A	MN 1A	FE 1A
115	+0010100	+0010175	52.	86.	68.	.8	5.	1.	250.	3.0
116		+0010200	36.	86.	52.	.8	5.	1.	180.	1.8
117			6.	22.	18.	.2	20.	1.	80.	.7
118		+0010225	20.	60.	48.	.2	5.	1.	160.	1.5
119		+0010250	14.	62.	16.	.2	20.	1.	180.	1.8
120			6.	8.	6.	.2	2.	1.	30.	.2
121		+0010275	14.	68.	18.	.2	10.	1.	210.	2.7
122		+0010300	I.S.	I.S.	I.S.	I.S.	2.	I.S.	I.S.	I.S.
123			16.	40.	24.	.2	10.	1.	160.	1.4
124		+0010325	22.	56.	36.	.2	1.	1.	350.	1.9
125		+0010350	8.	64.	14.	.2	15.	1.	500.	2.7
126			2.	12.	14.	.2	2.	1.	540.	1.0
127		+0010375	8.	58.	16.	.2	10.	1.	360.	3.1
128		+0010400	34.	94.	28.	.2	5.	1.	300.	3.2
129			2.	12.	14.	.2	2.	1.	40.	.4
130	+0010125	+0010200	14.	58.	6.	.4	25.	1.	310.	3.1
131	+0010150		46.	72.	98.	.2	2.	1.	240.	2.9
132			26.	46.	44.	.4	10.	1.	140.	1.7
133	+0010175		14.	50.	20.	.2	90.	2.	220.	2.5
134	+0010200	+0010000	10.	60.	10.	.2	20.	1.	200.	2.4
135		+0010025	16.	44.	14.	.2	5.	1.	150.	1.4
136			20.	66.	16.	.2	5.	1.	240.	2.9
137			24.	84.	16.	.2	5.	1.	290.	3.5
138		+0010050	34.	66.	20.	.2	40.	1.	270.	2.6
139		+0010075	18.	64.	22.	.2	15.	1.	250.	3.2
140		+0010100	20.	76.	12.	.2	100.	1.	520.	3.3
141		+0010125	18.	50.	20.	.2	30.	1.	160.	1.9
142			4.	14.	6.	.2	5.	1.	60.	.5
143		+0010150	16.	56.	14.	.2	40.	1.	220.	2.1
144		+0010175	18.	62.	18.	.2	35.	1.	420.	2.9
145		+0010200	18.	16.	12.	.4	5.	1.	50.	.9
146			16.	40.	20.	.2	20.	1.	200.	3.0
147		+0010225	38.	76.	34.	.2	5.	1.	240.	3.2
148		+0010250	14.	52.	14.	.2	80.	1.	220.	2.4
149		+0010275	44.	96.	16.	.2	20.	1.	320.	3.5
150		+0010300	42.	110.	26.	.2	35.	1.	420.	3.8
151			16.	12.	14.	.2	2.	1.	40.	.5
152		+0010325	30.	72.	20.	.2	40.	1.	300.	2.9
153		+0010350	16.	32.	22.	.2	20.	1.	90.	1.3
154	+0010225	+0010200	24.	48.	30.	.4	20.	1.	150.	2.1
155	+0010250		10.	42.	14.	.6	5.	1.	190.	1.8
156	+0010275		12.	26.	32.	.2	2.	1.	120.	1.5
157	+0010300	+0009950	18.	86.	24.	.2	10.	1.	320.	3.2
158		+0009975	10.	46.	14.	.2	70.	1.	200.	2.2
159		+0010000	16.	58.	16.	.2	30.	1.	240.	2.8
160			12.	36.	22.	.2	20.	1.	220.	1.4
161		+0010025	12.	44.	12.	.2	5.	1.	180.	2.5
162		+0010050	16.	62.	16.	.2	5.	1.	230.	2.7
163		+0010075	16.	58.	16.	.2	10.	1.	250.	3.1
164		+0010100	24.	60.	22.	.2	20.	1.	310.	3.0
165			30.	78.	22.	.2	2.	1.	440.	3.3
166		+0010125	16.	66.	10.	.2	40.	1.	360.	2.7
167		+0010150	16.	62.	10.	.2	10.	1.	500.	3.4
168		+0010175	16.	32.	12.	.2	2.	1.	120.	1.3
169		+0010200	8.	32.	10.	.2	30.	1.	110.	2.0
170		+0010225	16.	48.	12.	.2	1.	2.	240.	4.2
171		+0010250	30.	50.	10.	.2	20.	1.	190.	1.9

GRID: TUCLAM

REC#	LINE	STATION	CU 1A	ZN 1A	PB 1A	AG 1A	W SP	MO 1A	MN 1A	FE 1A
172	+0010300	+0010275	32.	80.	18.	.2	25.	1.	270.	2.6
173			12.	12.	8.	.2	1.	1.	50.	.6
174		+0010300	22.	48.	20.	.2	2.	1.	150.	1.9
175		+0010325	18.	54.	12.	.2	5.	1.	200.	2.6
176		+0010350	36.	50.	26.	.2	5.	1.	160.	1.9
177	+0010325	+0010200	14.	50.	14.	.4	40.	4.	310.	2.5
178	+0010350		22.	80.	14.	.4	70.	2.	1100.	2.8
179	+0010375		20.	60.	10.	.4	60.	1.	400.	2.6
180	+0010400	+0009800	42.	76.	32.	.2	1.	1.	600.	2.3
181		+0009825	18.	72.	10.	.2	10.	1.	360.	2.8
182			12.	44.	10.	.2	2.	1.	160.	2.0
183		+0009850	26.	64.	18.	.2	2.	1.	250.	2.9
184		+0009875	20.	58.	12.	.2	60.	1.	300.	2.3
185		+0009900	34.	88.	36.	.8	2.	1.	500.	2.9
186			30.	52.	38.	2.0	5.	1.	350.	1.7
187		+0009950	16.	58.	14.	.2	10.	1.	230.	3.1
188		+0009975	20.	66.	18.	.2	60.	1.	370.	2.5
189		+0010000	28.	230.	72.	.2	30.	1.	650.	2.7
190			30.	160.	90.	.4	1.	1.	960.	2.1
191		+0010025	16.	64.	12.	.2	20.	1.	340.	3.1
192		+0010050	18.	70.	14.	.2	40.	1.	400.	3.4
193		+0010075	22.	72.	14.	.2	200.	1.	420.	3.7
194		+0010100	14.	50.	72.	.2	10.	1.	210.	3.3
195			6.	28.	12.	.2	140.	1.	160.	1.4
196		+0010125	18.	68.	10.	.2	120.	1.	390.	3.3
197		+0010150	8.	38.	8.	.2	50.	1.	260.	2.2
198		+0010175	12.	44.	10.	.2	150.	1.	300.	2.2
199		+0010200	2.	14.	8.	.2	40.	1.	50.	.5
200			12.	34.	8.	.2	15.	1.	390.	2.2
201		+0010225	26.	64.	20.	.4	50.	2.	500.	2.7
202		+0010250	16.	50.	8.	.2	1.	2.	360.	3.1
203		+0010275	14.	38.	8.	.2	1.	1.	200.	2.8
204		+0010300	4.	20.	10.	.2	80.	1.	160.	.7
205			14.	54.	10.	.2	80.	1.	370.	2.6
206	+0010425	+0010000	16.	94.	20.	.4	5.	2.	340.	2.7
207	+0010450		12.	60.	10.	.4	10.	1.	240.	2.4
208	+0010475		28.	120.	44.	.6	5.	2.	720.	2.8
209	+0010500	+0009750	20.	50.	18.	.2	5.	6.	310.	2.5
210		+0009775	20.	60.	16.	.2	10.	2.	620.	2.8
211		+0009800	28.	48.	22.	.2	10.	1.	170.	2.4
212			20.	28.	20.	.2	1.	2.	80.	1.3
213		+0009825	18.	54.	12.	.2	20.	1.	510.	2.5
214		+0009850	30.	86.	12.	.4	1.	2.	360.	4.3
215		+0009875	8.	32.	10.	.2	20.	1.	140.	1.5
216		+0009900	16.	42.	24.	1.2	10.	1.	260.	2.3
217			10.	28.	24.	.2	5.	1.	220.	1.4
218		+0009925	24.	92.	48.	1.0	10.	1.	500.	3.2
219		+0009950	20.	98.	70.	1.4	10.	2.	480.	3.2
220		+0009975	16.	64.	26.	.2	20.	1.	350.	2.7
221		+0010000	16.	96.	28.	.4	30.	1.	620.	2.1
222			16.	90.	36.	.2	40.	1.	680.	1.8
223			32.	300.	24.	.2	70.	1.	630.	3.2
224		+0010025	16.	66.	8.	.2	30.	1.	260.	2.6
225		+0010050	30.	110.	12.	.4	40.	1.	600.	3.1
226		+0010075	40.	100.	22.	.2	75.	1.	590.	3.4
227		+0010100	6.	22.	6.	.2	20.	1.	110.	1.6
228			12.	48.	6.	.2	75.	1.	230.	3.2

REC#	LINE	STATION	CU 1A	ZN 1A	PB 1A	AG 1A	W 5P	MO 1A	MN 1A	FE 1A
229	+0010500	+0010125	26.	76.	10.	.2	60.	4.	290.	3.1
230		+0010150	22.	82.	6.	.6	40.	1.	310.	2.6
231		+0010175	20.	78.	8.	.2	10.			
232		+0010200	18.	80.	6.	.2	1.			
233		+0010225	12.	52.	12.	.2	5.			
234		+0010250	74.	140.	46.	.2	1.			
235		+0010275	38.	120.	20.	.2	5.			
236		+0010300	16.	60.	10.	.2	10.			
237		+0010325	70.	82.	16.	.2	1.			
238		+0010350	20.	50.	12.	.2	20.			
239		+0010375	28.	72.	14.	.2	1.			
240		+0010425	32.	74.	18.	.2	20.			
241		+0010450	20.	56.	14.	.2	5.			
242		+0010475	14.	58.	14.	.2	25.			
243		+0010500	10.	50.	8.	.2	20.			
244	+0010525	+0010000	42.	200.	42.	.2	30.	1.	200.	1.6
245	+0010550		12.	66.	10.	.4	110.	1.	140.	2.5
246	+0010575		78.	290.	48.	.4	10.	1.	1100.	3.2
247	+0010600	+0009800	32.	86.	18.	.4	5.	2.	420.	4.1
248			12.	34.	16.	.4	10.	2.	240.	1.5
249		+0009825	22.	60.	16.	.6	2.	2.	310.	3.1
250		+0009850	14.	48.	10.	.4	50.	2.	300.	2.5
251		+0009875	10.	38.	12.	.6	75.	2.	340.	2.3
252		+0009900	10.	30.	10.	.6	2.	2.	210.	2.4
253			6.	22.	6.	.4	10.	1.	80.	1.0
254		+0009925	14.	74.	18.	.6	1.	2.	290.	3.3
255		+0009950	26.	50.	70.	.4	1.	2.	140.	2.0
256		+0009975	22.	42.	34.	.8	1.	2.	230.	2.6
257		+0010000	22.	72.	16.	.4	5.	2.	260.	2.9
258		+0010025	92.	330.	34.	.6	10.	2.	1300.	3.2
259		+0010050	28.	100.	16.	.4	280.	2.	350.	3.5
260		+0010075	28.	80.	18.	.6	120.	2.	1200.	3.0
261		+0010100	16.	52.	16.	1.0	5.	2.	340.	3.0
262		+0010125	36.	110.	14.	.6	20.	2.	640.	3.5
263		+0010150	28.	88.	12.	.6	180.	2.	350.	3.1
264		+0010175	58.	82.	12.	2.6	15.	2.	290.	3.3
265		+0010200	36.	84.	30.	.6	5.	2.	340.	4.9
266			18.	56.	14.	.6	50.	2.	410.	2.9
267		+0010225	24.	76.	12.	.2	10.			
268		+0010250	16.	54.	12.	.2	2.			
269		+0010275	28.	110.	18.	.2	5.			
270		+0010300	18.	66.	2.	.2	2.			
271		+0010325	14.	50.	16.	.6	10.			
272		+0010350	20.	50.	12.	.2	10.			
273		+0010375	12.	36.	12.	.4	15.			
274		+0010400	12.	40.	8.	.2	10.			
275		+0010425	26.	130.	12.	.4	5.			
276		+0010450	10.	42.	10.	.2	5.			
277		+0010475	24.	80.	18.	.2	25.			
278		+0010500	16.	40.	18.	.2	5.			
279	+0010625	+0010000	18.	72.	50.	.4	2.	1.	210.	3.5
280	+0010650		10.	44.	10.	.2	20.	1.	230.	2.1
281		+0010025	24.	130.	20.	.2	10.			
282		+0010050	16.	44.	16.	.4	10.			
283		+0010075	20.	68.	18.	.4	10.			
284		+0010100	20.	76.	18.	.2	20.			
285		+0010125	12.	44.	12.	.2	35.			

REC#	LINE	STATION	CU 1A	ZN 1A	PB 1A	AG 1A	W 5P	MO 1A	MN 1A	FE 1A
286	+0010650	+0010150	14.	48.	12.	.2	30.			
287		+0010175	14.	42.	14.	.2	10.			
288		+0010200	16.	44.	10.	.2	15.			
289		+0010250	20.	64.	8.	.2	5.			
290		+0010275	14.	58.	10.	.2	20.			
291		+0010300	12.	28.	8.	.2	20.			
292		+0010325	14.	42.	6.	.2	20.			
293		+0010350	16.	68.	14.	.2	2.			
294		+0010375	6.	10.	4.	.2	1.			
295		+0010400	14.	48.	12.	.2	1.			
296		+0010425	16.	64.	10.	.2	1.			
297		+0010450	16.	68.	12.	.2	10.			
298		+0010475	14.	40.	10.	.2	35.			
299		+0010500	12.	34.	10.	.6	1.			
300	+0010700	+0009800	26.	66.	40.	.2	2.	8.	760.	2.4
301			22.	84.	54.	.8	5.	8.	750.	3.3
302		+0009825	18.	54.	22.	1.6	20.	4.	1000.	3.2
303		+0009850	14.	60.	10.	3.6	30.	2.	330.	2.9
304		+0009875	10.	30.	8.	1.8	5.	2.	220.	2.1
305		+0009900	18.	40.	22.	.4	2.	2.	360.	2.0
306		+0009925	28.	100.	36.	3.2	40.	2.	400.	2.8
307		+0009950	64.	110.	50.	.4	1.	4.	1000.	3.3
308		+0009975	18.	18.	16.	.2	2.	1.	70.	.7
309		+0010075	18.	56.	18.	2.8	10.	2.	190.	2.4
310		+0010100	14.	50.	10.	.4	40.	2.	460.	2.9
311		+0010125	16.	46.	10.	1.2	10.	1.	320.	3.0
312	+0010800	+0009700	42.	74.	22.	.4	5.	4.	920.	3.2
313			44.	44.	28.	.2	5.	8.	1500.	1.8
314		+0009725	30.	48.	18.	.4	2.	6.	640.	2.2
315		+0009750	76.	110.	34.	.2	2.	4.	630.	3.9
316		+0009775	66.	180.	34.	.2	5.	2.	630.	3.8
317		+0009800	6.	22.	12.	.4	20.	1.	70.	.6
318			32.	92.	12.	.2	50.	2.	500.	3.2
319		+0009825	46.	82.	46.	.2	5.	4.	1000.	3.1
320		+0009850	28.	62.	20.	.2	1.	2.	840.	2.3
321		+0009875	14.	50.	10.	.2	1.	1.	430.	2.7
322		+0009900	16.	46.	10.	.2	1.	1.	210.	2.7
323			8.	26.	10.	.4	10.	1.	150.	1.4
324		+0009925	12.	58.	10.	.2	20.	1.	250.	2.5
325		+0009950	10.	44.	6.	.4	20.	1.	430.	1.9
326		+0009975	18.	86.	20.	.4	2.	1.	370.	3.1
327		+0010025	26.	72.	46.	.2	2.	1.	140.	1.3
328		+0010050	14.	44.	10.	.2	2.	1.	290.	2.6
329		+0010075	14.	58.	10.	.2	2.	1.	300.	3.4
330		+0010100	12.	30.	10.	.2	1.	1.	210.	2.4
331			10.	28.	10.	.2	1.	1.	190.	2.5
332		+0010125	14.	40.	14.	.2	1.			
333		+0010150	28.	58.	14.	.4	2.			
334		+0010175	18.	38.	14.	.2	1.			
335		+0010200	10.	38.	14.	.6	1.			
336		+0010225	14.	62.	26.	.6	1.			
337		+0010250	24.	76.	20.	.2	1.			
338		+0010275	16.	68.	14.	.2	2.			
339		+0010300	22.	80.	16.	.2	2.			
340		+0010325	16.	64.	14.	.2	2.			
341		+0010350	18.	60.	14.	.2	1.			
342		+0010375	22.	68.	12.	.2	1.			

REC#	LINE	STATION	CU 1A	ZN 1A	PB 1A	AG 1A	W SP	MO 1A	MN 1A	FE 1A
343	+0010800	+0010400	16.	56.	8.	.2	5.			
344		+0010425	16.	72.	10.	.2	1.			
345		+0010450	14.	48.	12.	.2	1.			
346		+0010475	26.	68.	14.	.2	1.			
347		+0010500	20.	98.	8.	.2	1.			
348	+0010875	+0010000	28.	110.	8.	.4	100.	2.	570.	4.4
349	+0010900	+0009700	20.	82.	12.	.2	50.	2.	460.	3.4
350			8.	28.	4.	.4	60.	1.	180.	1.0
351		+0009725	24.	70.	16.	.4	5.	2.	430.	3.6
352		+0009750	20.	56.	12.	.2	1.	1.	300.	2.5
353		+0009775	72.	110.	30.	.2	1.	2.	620.	3.8
354		+0009800	14.	44.	10.	.2	2.	1.	220.	2.3
355			6.	18.	4.	.4	10.	1.	90.	.6
356		+0009825	20.	90.	22.	.2	40.	2.	290.	3.0
357		+0009850	24.	74.	26.	.2	50.	4.	190.	1.7
358		+0009875	10.	36.	10.	.2	55.	1.	160.	1.8
359		+0009900	8.	36.	6.	.4	35.	1.	200.	2.0
360			8.	30.	8.	.2	2.	1.	160.	2.1
361		+0009925	22.	110.	28.	.4	2.	1.	300.	2.4
362		+0009950	22.	46.	20.	.8	10.	1.	160.	2.0
363		+0009975	16.	66.	10.	.8	30.	1.	240.	2.8
364		+0010000	16.	50.	8.	.8	80.	1.	300.	3.0
365			14.	38.	6.	.4	50.	2.	220.	2.7
366		+0010025	26.	84.	12.	.4	2.	1.	330.	4.2
367		+0010050	24.	80.	28.	.8	2.	1.	1300.	3.1
368		+0010075	46.	90.	24.	.6	2.	1.	340.	3.3
369		+0010100	36.	120.	16.	.2	10.	1.	800.	3.2
370			18.	50.	14.	.2	10.	1.	580.	2.2
371		+0010125	26.	68.	14.	.6	5.	1.	370.	3.5
372	+0010925	+0010000	12.	46.	10.	.2	10.	1.	180.	2.3
373	+0010950		16.	66.	14.	.2	1.	1.	460.	3.1
374	+0010975		36.	110.	22.	.2	1.	2.	550.	4.2
375	+0011000	+0009750	30.	94.	28.	.2	1.	2.	550.	3.3
376		+0009775	12.	40.	10.	.2	1.	1.	260.	2.2
377		+0009800	14.	76.	18.	.2	2.	1.	300.	3.3
378			10.	42.	12.	.2	1.	1.	260.	3.0
379		+0009825	10.	56.	12.	.2	1.	1.	240.	1.9
380		+0009850	6.	36.	8.	.2	1.	1.	200.	1.5
381		+0009875	12.	40.	30.	.4	1.	2.	160.	1.8
382		+0009900	14.	58.	22.	.6	2.	1.	380.	2.4
383			16.	72.	18.	.2	1.	1.	340.	2.7
384		+0009925	12.	76.	8.	.2	2.	2.	430.	3.5
385		+0009950	12.	76.	12.	.2	5.	1.	290.	2.7
386		+0009975	14.	74.	12.	.2	10.	1.	1100.	2.8
387		+0010000	38.	150.	16.	.2	2.	2.	1100.	4.1
388			28.	120.	14.	.4	5.	2.	920.	3.6
389		+0010050	18.	36.	14.	.4	2.	1.	190.	2.8
390		+0010075	30.	88.	24.	.2	25.	1.	470.	2.7
391		+0010100	24.	40.	16.	.4	5.	1.	230.	2.0
392			32.	24.	22.	.6	1.	1.	120.	.9
393		+0010125	20.	36.	12.	.6	2.	1.	190.	2.0
394		+0010150	10.	34.	2.	1.2	25.	1.	210.	2.2
395		+0010175	10.	30.	2.	.4	240.	1.	170.	2.8
396		+0010200	6.	28.	8.	.6	60.	1.	100.	2.0
397			4.	8.	2.	.4	10.	1.	50.	.6
398		+0010225	4.	10.	14.	.4	220.	1.	70.	.5
399		+0010250	10.	30.	12.	.4	20.			

REC#	LINE	STATION	CU 1A	ZN 1A	PB 1A	AG 1A	W 5P	MO 1A	MN 1A	FE 1A
400	+0011000	+0010275	18.	56.	12.	.4	1.			
401		+0010300	22.	72.	14.	.4	1.			
402		+0010325	12.	32.	8.	.2	20.			
403		+0010350	4.	20.	12.	.2	20.			
404		+0010400	30.	52.	20.	.4	20.			
405		+0010425	12.	46.	12.	.4	20.			
406		+0010450	18.	64.	10.	.2	2.			
407		+0010475	14.	74.	10.	.4	2.			
408		+0010500	14.	44.	10.	.2	15.			
409	+0011075	+0010000	18.	78.	12.	.2	20.	1.	430.	3.1
410	+0011100	+0009650	6.	22.	4.	.4	15.	1.	140.	.6
411		+0009675	20.	64.	16.	.2	5.	2.	370.	2.8
412		+0009700	32.	88.	14.	.4	15.	1.	500.	3.9
413			30.	84.	12.	.2	2.	2.	540.	3.2
414		+0009725	24.	66.	10.	.4	10.	1.	260.	3.3
415		+0009750	16.	52.	10.	.2	15.	1.	280.	3.0
416		+0009775	12.	68.	8.	.2	10.	1.	240.	2.9
417		+0009800	12.	30.	12.	.2	50.	2.	190.	2.4
418			6.	22.	8.	.6	100.	1.	120.	1.5
419		+0009825	8.	34.	12.	.6	80.	1.	180.	1.7
420		+0009850	10.	42.	8.	.6	50.	1.	250.	2.0
421		+0009875	12.	38.	14.	.6	20.	1.	250.	2.0
422		+0009900	20.	70.	26.	.2	100.	1.	620.	3.5
423			10.	46.	8.	.4	50.	1.	250.	2.3
424		+0009925	26.	90.	14.	.4	120.	1.	490.	3.8
425		+0009975	30.	86.	20.	.2	20.	1.	350.	3.7
426		+0010000	20.	62.	10.	.2	80.	2.	260.	3.6
427			18.	50.	10.	.4	60.	1.	250.	3.1
428		+0010025	18.	94.	8.	.6	1.	1.	510.	3.6
429		+0010050	14.	100.	8.	.4	1.	1.	430.	4.2
430		+0010075	16.	74.	12.	.4	1.	1.	440.	3.4
431		+0010100	20.	66.	10.	.4	1.	1.	540.	2.8
432			12.	32.	4.	.4	1.	1.	180.	1.5
433		+0010125	20.	60.	18.	.6	1.	1.	1200.	2.6
434		+0010150	22.	74.	8.	.2	1.	1.	1700.	3.8
435		+0010200	14.	42.	10.	.2	1.			
436		+0010250	26.	62.	18.	.4	5.			
437		+0010275	12.	32.	12.	.4	10.			
438		+0010300	10.	40.	12.	.2	10.			
439		+0010325	26.	90.	18.	.4	1.			
440		+0010350	14.	40.	16.	.2	1.			
441		+0010375	20.	64.	16.	.2	2.			
442		+0010400	20.	60.	10.	.2	1.			
443		+0010425	22.	62.	14.	.2	2.			
444		+0010450	22.	48.	8.	.2	1.			
445		+0010475	18.	44.	8.	.2	10.			
446		+0010500	8.	14.	8.	.2	25.			
447	+0011125	+0010000	22.	92.	10.	.4	10.	1.	360.	3.8
448	+0011150		24.	76.	12.	.2	1.	1.	440.	3.5
449	+0011200	+0009725	12.	36.	8.	.2	1.	2.	410.	2.4
450		+0009775	20.	80.	22.	.2	200.	2.	380.	2.5
451		+0009800	6.	20.	4.	.2	50.	1.	90.	1.5
452			6.	18.	6.	.2	20.	1.	90.	1.5
453		+0009825	12.	44.	50.	.2	25.	2.	210.	3.0
454		+0009850	24.	100.	64.	.2	25.	2.	570.	2.7
455		+0009875	16.	70.	62.	.2	1.	2.	420.	2.4
456		+0009975	30.	86.	2.	.6	20.	2.	1300.	2.9

GRID: REC#	TUCLAM LINE	STATION	CU 1A	ZN 1A	PB 1A	AG 1A	W 5P	MO 1A	MN 1A	FE 1A
457	+0011200	+0010000	58.	130.	22.	1.2	120.	1.	1100.	3.8
458			70.	130.	22.	.2	1.	2.	700.	3.7
459		+0010025	26.	100.	30.	.8	60.	1.	950.	3.6
460		+0010050	34.	110.	16.	.2	120.	1.	750.	3.7
461		+0010075	22.	58.	8.	.4	75.	1.	340.	2.9
462		+0010100	10.	22.	6.	.4	240.	1.	140.	1.5
463			18.	52.	6.	.2	50.	1.	280.	2.0
464		+0010150	22.	60.	6.	.2	20.	1.	240.	3.0
465		+0010175	20.	60.	6.	.2	120.	1.	250.	3.0
466		+0010200	14.	46.	4.	.4	200.	1.	320.	2.4
467			6.	18.	6.	.4	30.	1.	110.	1.1
468		+0010225	24.	76.	14.	.2	1.			
469		+0010250	18.	54.	10.	.2	5.			
470		+0010275	12.	40.	10.	.2	1.			
471		+0010300	16.	74.	8.	.2	5.			
472		+0010325	14.	58.	10.	.2	20.			
473		+0010350	24.	110.	12.	.2	1.			
474		+0010375	40.	74.	10.	.2	2.			
475		+0010400	18.	48.	12.	.2	2.			
476		+0010425	14.	66.	12.	.2	2.			
477		+0010450	14.	32.	10.	.2	1.			
478		+0010475	10.	22.	4.	.2	20.			
479		+0010500	14.	56.	8.	.2	1.			
480	+0009800	+0010225	36.	100.	20.	.4	2.			
481		+0010250	40.	100.	18.	.2	20.			

END OF DATA. 481 SAMPLES PRINTED THIS REPORT.

A P P E N D I X IV

Analytical Methods

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 6% 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 70% 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 70% 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

97+00 E | 98+00 E | 99+00 E | BL 100+00 E | 101+00 E | 102+00 E | 103+00 E | 104+00 E | 105+00 E

112+00 N
111+00 N
110+00 N
109+00 N
108+00 N
107+00 N
106+00 N
105+00 N
104+00 N
103+00 N
102+00 N
101+00 N
100+00 N

Muscovite Granite
Biotite Gneiss
Schist ?
Logged Area
PCDH-TU-9
TU-1
TU-2
LCP
F.S.

LEGEND

- NS — No sample taken
- ▲ — Auger & Soil Sample
- • — Auger Sample only
- ■ — Percussion Drill Hole
- Depth of Auger Sample
- Edge of Swamp
- Intermittent Creek
- Trench
- Road
- Claim Line
- Outcrop

GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,233

REVISED

TU CLAIMS/HORNE OPT.

SAMPLE LOCATIONS, OUTCROP and DEPTH PROFILES of AUGER SAMPLES

PROJ. No. 31
N.T.S. 82M13E
DWG. No 1

SURVEY BY: J.Helsen, I.Saunders DATE: 84-09-28
DRAWN BY: sks Lillie SCALE: 1:2500

NORANDA EXPLORATION

OFFICE Vancouver

95+00 E
96+00 E
97+00 E
98+00 E
99+00 E
100+00 E Baseline
101+00 E
102+00 E
103+00 E
104+00 E
105+00 E
106+00 E
107+00 E
108+00 E

L 112+00 N
L 111+00 N
L 110+00 N
L 109+00 N
L 108+00 N
L 107+00 N
L 106+00 N
L 105+00 N
L 104+00 N
L 103+00 N
L 102+00 N
L 101+00 N
L 100+00 N
L 99+00 N
L 98+00 N

5000
5200
5500
5800

TU3 LCP
TU4 LCP
TU1 LCP
TU2 LCP
TU5 LCP

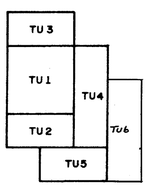
← 22 Km to Clearwater HIGHWAY No. 5

Logged Area
Logged Area
Log Sort

N

SCALE
1cm = 25m
metres 100 75 50 25 0 50 100 150 200

ACTUAL TU-CLAIM SITUATION
SCALE
1:50000



SYMBOLS

- Creeks
- Pond
- Grid Line and Station
- Claim Line and LCP
- Road
- Swamp
- Logged Area
- 5000 — Topo Contours in feet

GEOPHYSICS

- High Susceptibility Unit
- Medium Susceptibility Unit
- Magnetic Source Axis

GEOCHEMISTRY

- W ≥ 25 ppm
- W ≥ 50 ppm
- W ≥ 100 ppm

REVISED

HORNE OPTION

"TU" CLAIMS
(W in ppm)

PROJ. No. 31
N.T.S. 82 M 13
DWG. No. 2

SURVEY BY: J.H., I.S. DATE: 84-10-25
DRAWN BY: akst/lillie SCALE: 1:2500

NORANDA EXPLORATION
OFFICE: Vancouver

95+00 E
96+00 E
97+00 E
98+00 E
99+00 E
100+00 E Baseline
101+00 E
102+00 E
103+00 E
104+00 E
105+00 E
106+00 E
107+00 E
108+00 E

L 112+00 N
L 111+00 N
L 110+00 N
L 109+00 N
L 108+00 N
L 107+00 N
L 106+00 N
L 105+00 N
L 104+00 N
L 103+00 N
L 102+00 N
L 101+00 N
L 100+00 N
L 99+00 N
L 98+00 N

5000
5200
5500
5800

← 22 Km to Clearwater HIGHWAY No. 5

TU3 LCP
TU4 LCP
TU1 LCP
TU2 LCP
TU5 LCP

Logged Area
Logged Area
Log Sort

ACTUAL TU-CLAIM SITUATION
SCALE 1:50 000

SYMBOLS

- Creeks
- Pond
- Grid Line and Station
- Claim Line and LCP
- Road
- Swamp
- Logged Area
- 5000 — Topo Contours in feet

GEOPHYSICS

- High Susceptibility Unit
- Medium Susceptibility Unit
- Magnetic Source Axis

GEOCHEMISTRY

- Lead ≥ 25 ppm
- Lead ≥ 50 ppm
- Lead ≥ 75 ppm

SCALE 1cm = 25m

metres 100 75 50 25 0 50 100 150 200

GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,233

REVISED	HORNE OPTION
	"TU" CLAIMS (Pb in ppm)
PROJ. No. 31	SURVEY BY: J.H., I.S. DATE: 84-10-25
N.T.S. 82 M 13	DRAWN BY: skellie SCALE: 1:2500
DWG. No. 3	NORANDA EXPLORATION
	OFFICE: Vancouver

95+00E
96+00E
97+00E
98+00E
99+00E
100+00E Baseline
101+00E
102+00E
103+00E
104+00E
105+00E
106+00E
107+00E
108+00E

L112+00N
L111+00N
L110+00N
L109+00N
L108+00N
L107+00N
L106+00N
L105+00N
L104+00N
L103+00N
L102+00N
L101+00N
L100+00N
L 99+00N
L 98+00N

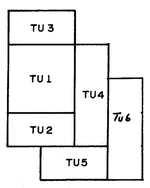
5000
5200
5500
5800

TU1 LCP
TU2 LCP
TU3 LCP
TU4 LCP
TU5 LCP

← 22 Km to Clearwater HIGHWAY No. 5

Logged Area
Logged Area
Log Sort

ACTUAL TU-CLAIM SITUATION
SCALE
1:50000



SYMBOLS

- Creeks
- Pond
- Grid Line and Station
- Claim Line and LCP
- Road
- Swamp
- Logged Area
- 5000 — Topo Contours in feet

GEOPHYSICS

- High Susceptibility Unit
- Medium Susceptibility Unit
- Magnetic Source Axis

GEOCHEMISTRY

- Zinc ≥ 100ppm

SCALE
1cm = 25m

metres 100 75 50 25 0 50 100 150 200

REVISED

HORNE OPTION

"TU" CLAIMS
(Zn in ppm)

PROJ. No. 31
N.T.S. 82 M 13
DWG. No. 4

SURVEY BY: J.H., I.S. DATE: 84-10-25
DRAWN BY: skr/lllie SCALE: 1:2500

NORANDA EXPLORATION
OFFICE: Vancouver

95+00E | 96+00E | 97+00E | 98+00E | 99+00E | 100+00E Baseline | 101+00E | 102+00E | 103+00E | 104+00E | 105+00E | 106+00E | 107+00E | 108+00E

N

TU3 LCP
TU4 LCP

22 Km to Clearwater HIGHWAY No. 5

Logged Area

TRENCH 6
TRENCH 1
TRENCH 4
A. HORNE TRENCH
TRENCH 2
TRENCH 5
TRENCH 7
TRENCH 3

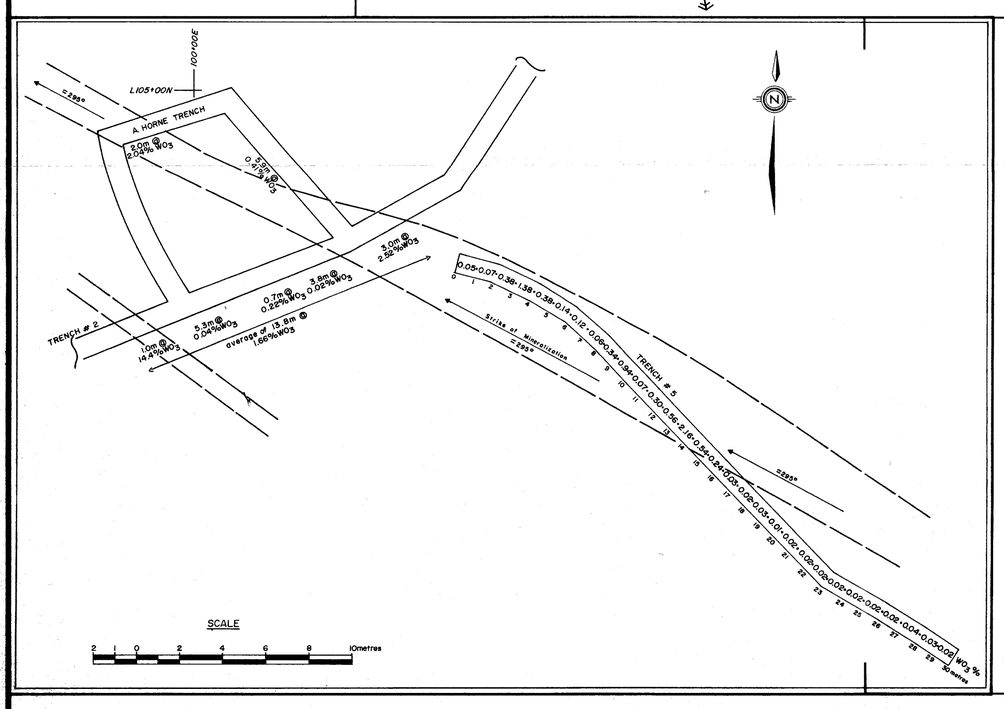
TU1 LCP
TU2 LCP

TRENCH MINERALIZATION

Logged Area

TU5 LCP
Log Sort

L112+00N | L111+00N | L110+00N | L109+00N | L108+00N | L107+00N | L106+00N | L105+00N | L104+00N | L103+00N | L102+00N | L101+00N | L100+00N | L99+00N | L98+00N



GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,233

ACTUAL TU-CLAIM SITUATION
SCALE 1:50000

TU 3 | TU 1 | TU 4 | TU 6 | TU 2 | TU 5

OUTCROP and INFERRED GEOLOGY

1 Muscovite Granite
2 Biotite Gneiss
3 Quartz Mica Schist
4 Scheelite Float & Skarn Zone (High grade boulders up to 6.72% WO_3)

SYMBOLS

Creeks
Pond
Grid Line and Station
Claim Line and LCP
Road
Swamp
Logged Area
Trench Completed
Trench Proposed
Outcrop
Geological Contact

GEOPHYSICS

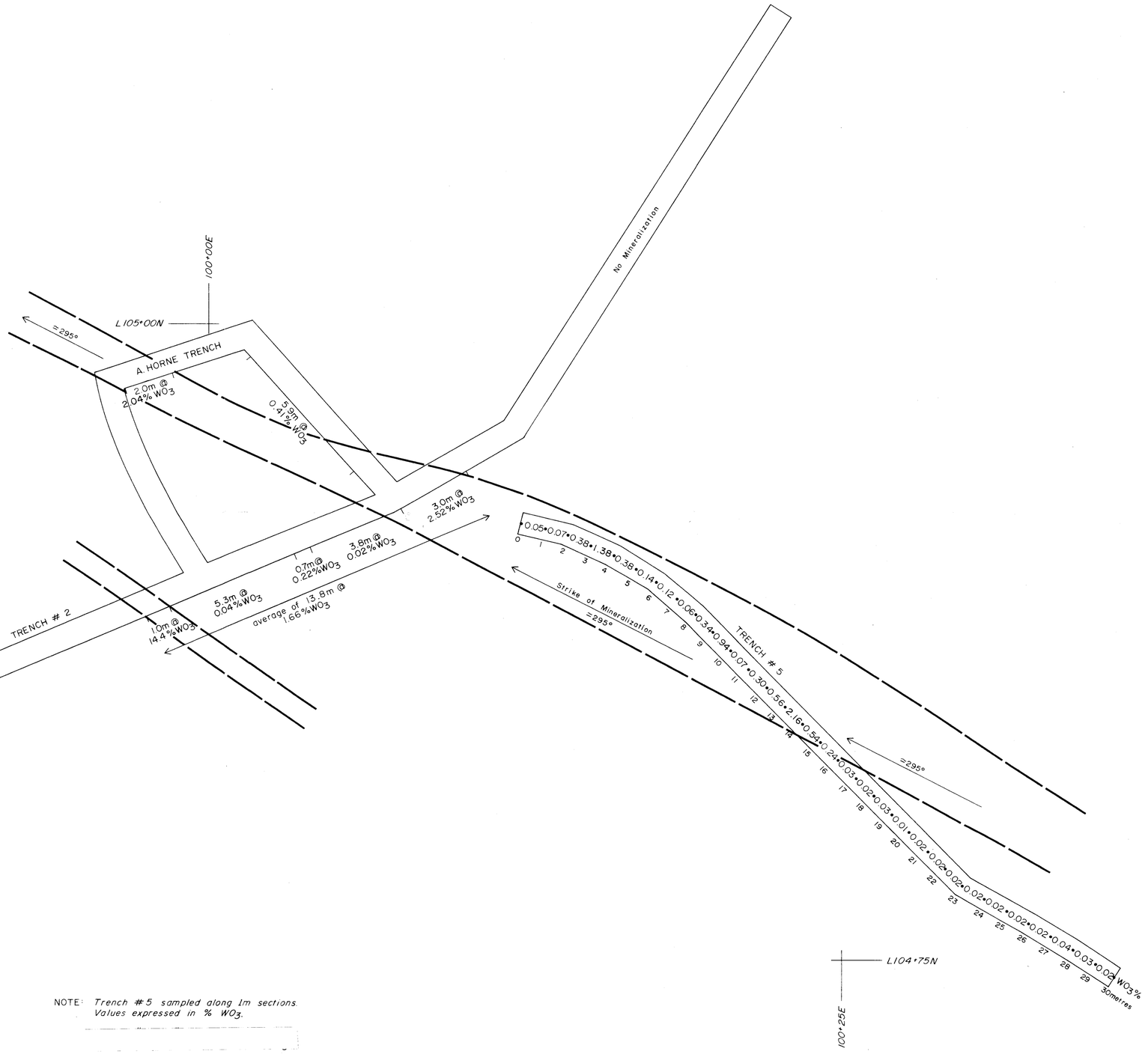
High Susceptibility Unit
Medium Susceptibility Unit
Magnetic Source Axis

GEOCHEMISTRY

75 ppm W contour
50 ppm Pb contour

SCALE 1cm = 25m
metres 100 75 50 25 0 50 100 150 200

REVISED	HORNE OPTION
	"TU" CLAIMS COMPILATION MAP
PROJ. No. 31	SURVEY BY: J. Nelson, I.S. DATE: 84-10-25
N.T.S. 82 M 13	DRAWN BY: skallitis SCALE: 1:2500
DWG. No. 5	NORANDA EXPLORATION
	OFFICE Vancouver



NOTE: *Trench #5 sampled along 1m sections. Values expressed in % WO3.*

GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,233

SCALE
1cm = 1m

2 1 0 2 4 6 8 10metres

REVISED	HORNE OPTION
	TU CLAIMS
	ANDY HORNE TRENCH, TRENCH # 2, TRENCH # 5
PROJ. No. 31	SURVEY BY: J.Helsen, C.Stewart DATE: 84-11-02
N.T.S. 82 M 13	DRAWN BY: sks Lillie SCALE: 1:100
DWG. No. 6	NORANDA EXPLORATION
	OFFICE: Vancouver

95+00 E | 96+00 E | 97+00 E | 98+00 E | 99+00 E | 100+00 E Baseline | 101+00 E | 102+00 E | 103+00 E | 104+00 E | 105+00 E | 106+00 E | 107+00 E | 108+00 E

L 112+00 N
L 111+00 N
L 110+00 N
L 109+00 N
L 108+00 N
L 107+00 N
L 106+00 N
L 105+00 N
L 104+00 N
L 103+00 N
L 102+00 N
L 101+00 N
L 100+00 N
L 99+00 N
L 98+00 N

TU3 LCP
TU4 LCP
TU1 LCP
TU2 LCP
TU5 LCP

← 22 Km to Clearwater HIGHWAY No. 5

Logged Area

Logged Area

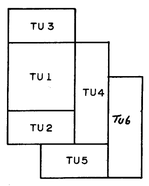
Log Sort

GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,233

ACTUAL TU-CLAIM SITUATION

SCALE
1:50 000



SYMBOLS

- Creeks
- Pond
- Grid Line and Station
- Claim Line and LCP
- Road
- Swamp
- Logged Area

GEOPHYSICS

INSTRUMENT: Unimag
DATUM: 57 000 gammas

CONTOUR INTERVALS: 100 γ

SCALE
1cm = 25m

metres 100 75 50 25 0 50 100 150 200

REVISED

HORNE OPTION

"TU" CLAIMS
MAGNETOMETER SURVEY

PROJ. No. 31
N.T.S. 82 M 13
DWG. No. 7

SURVEY BY: J.H.I.S. DATE: 84-10-25
DRAWN BY: sks/Lillie SCALE: 1:2500

NORANDA EXPLORATION
OFFICE: Vancouver