85-665-14119

11/86

REPORT ON

GEOLOGY AND GEOCHEMISTRY

ON THE

RC 1 AND 2 CLAIMS

RC 1 2563 (11)
RC 2 2564 (11)

NEW WESTMINSTER MINING DIVISION

N.T.S. 92J/1

50°04'20"N 122°24'20"W

Owner & Operator: Noranda Exploration Company, Limited
(No Personal Liability)
Box 2380
Vancouver, B.C.
V6B 3T5

Submitted By : R.G. Wilson
Project Geologist
January, 1986

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1.0 INTRODUCTION

1.1 Location and Access

The RC group, consisting of the RC 1 and RC 2 claims is located 35 km southwest of Pemberton, B.C. in the Rogers Creek Valley. (Figures 1 & 2). The claims are accessible by gravel road from Pemberton, B.C. via the Lillooet Lake and Rogers Creek (BR 100) logging roads. Travel time to the property from Pemberton is approximately 1 hour and 45 minutes.

1.2 Topography and Vegetation

The claims are situated on the slope facing north into Rogers Creek at an elevation of 2100' to 6000'. The hillslope is steep with an average slope of 20-40°. The valley bottom is flat and 100 to 300 m wide.

The claims are covered by a mature spruce, hemlock and cedar forest which is open on the forest floor. The lower slopes of the claims are presently being logged.

1.3 Previous Work

No recorded previous work on the property was found during a literature search. Possible prospect pits noted in the grid area indicate that the area was previously prospected.

1.4 Owner - Operator

Table 1 is a listing of the RC Group claims and related information. Noranda Exploration Company, Limited (no personal liability) is the present operator.

TABLE 1: RC GROUP CLAIM INFORMATION

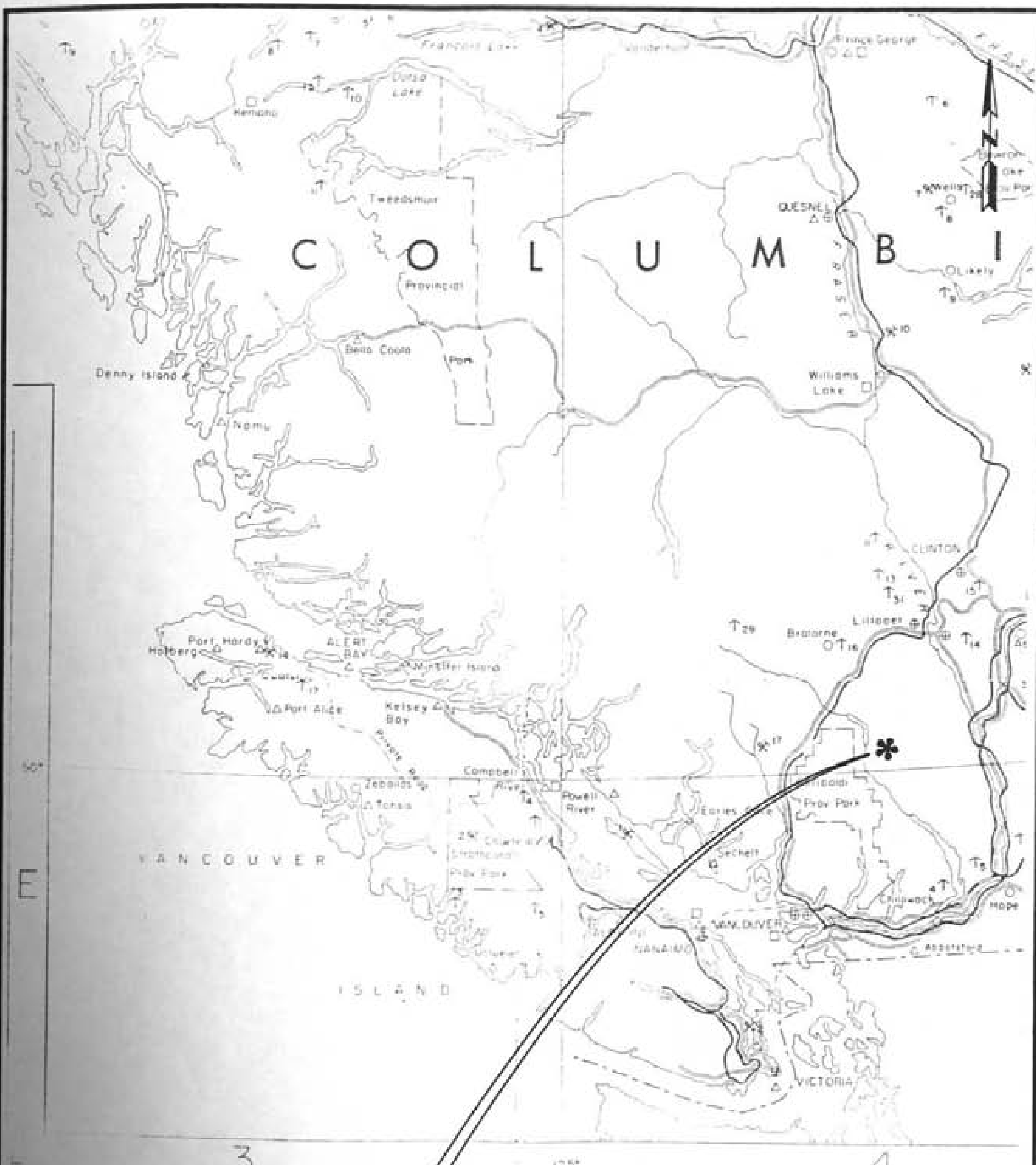
Claim Name	Record No.	Units	Record Date	Expiry Date	Owner
RC 1	2563	20	Nov. 7, 1984	1988	Noranda 100%
RC 2	2564	3	Nov. 7, 1984	1988	Noranda 100%

1.5 Economic Potential

Due to the preliminary nature of the exploration, the economic potential cannot be fully assessed. Encouraging soil geochemical studies indicate that the property is worthy of further evaluation.

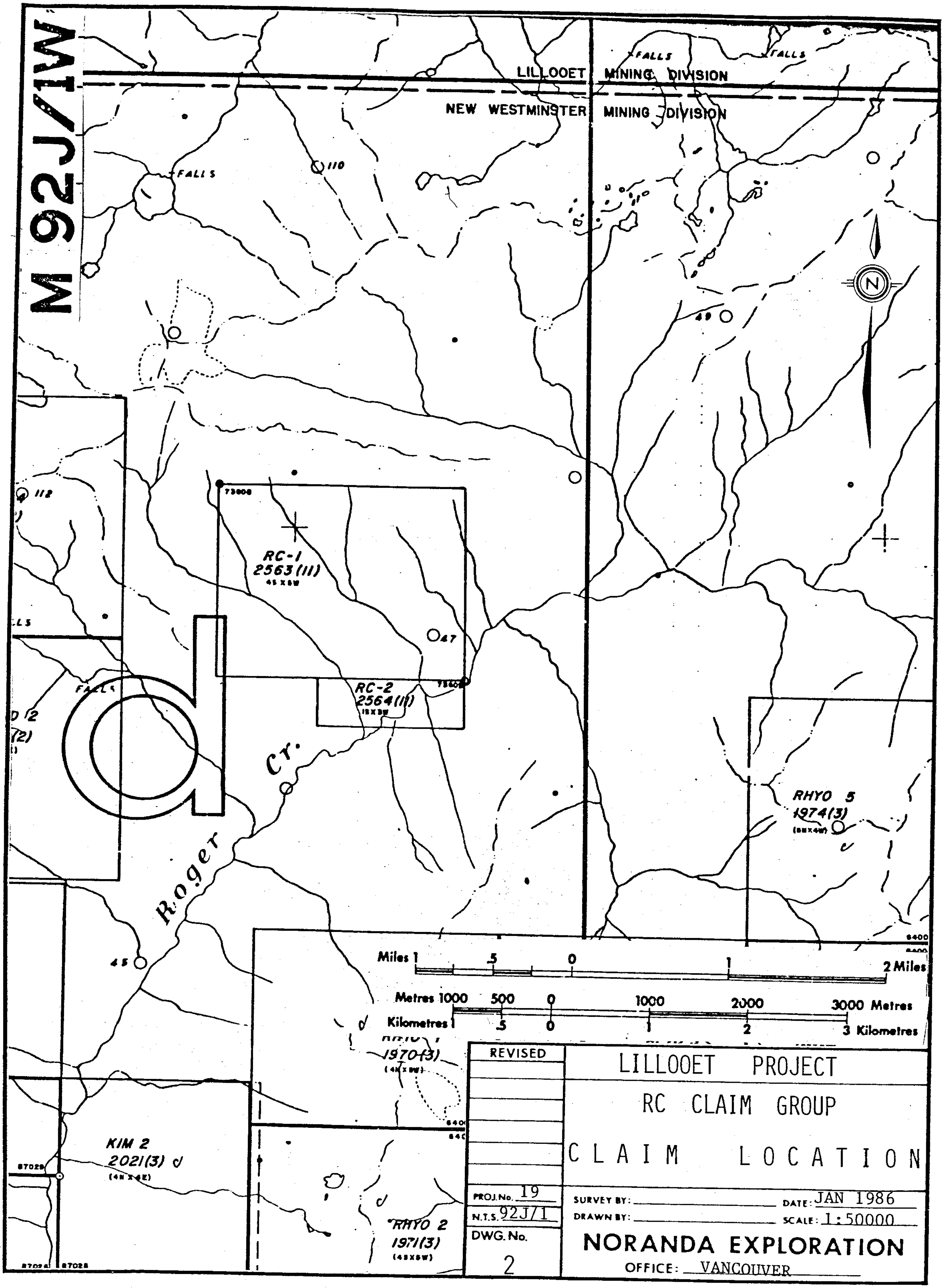
1.6 Acknowledgements

Field work was ably completed by D. Devin and P. Bland under the supervision of the author. D. Devin also co-wrote parts of the geology section of this report.



REVISED	LILLOOET PROJECT	
	RC CLAIM GROUP PROPERTY LOCATION	
PROJ. No. 19	SURVEY BY: R.G.W.	DATE: Dec. /84
N.T.S. 92J/1w	DRAWN BY:	SCALE: 1: 50,000
DWG. No. 2	NORANDA EXPLORATION OFFICE: Vancouver	

VANCAL 11927



M 92J/1W
LILLOOET MINING DIVISION
NEW WESTMINSTER MINING DIVISION
FALLS
110
112
49
47
45
RC-1
2563(11)
RC-2
2564(11)
Roger Cr.
RHYO 5
1974(3)
RHYO 2
1971(3)
1970(3)
KIM 2
2021(3)
Miles 1 .5 0 1 2 Miles
Metres 1000 500 0 1000 2000 3000 Metres
Kilometres 1 .5 0 1 2 3 Kilometres
REVISED
LILLOOET PROJECT
RC CLAIM GROUP
CLAIM LOCATION
PROJ. No. 19
N.T.S. 92J/1
DWG. No. 2
SURVEY BY:
DRAWN BY:
DATE: JAN 1986
SCALE: 1:50000
NORANDA EXPLORATION
OFFICE: VANCOUVER
VANCAL 11927

2.0 SUMMARY OF WORK DONE

2.1 Geology

Geological mapping at a scale of 1:2,500 was completed along traverse lines for a total area of .125 square kilometers.

2.2 Geochemistry

A geochemical survey which consisted of soil and rock chip sampling was completed on a portion of the RC 1 claim. The total number of samples are listed below:

Soils: 123 samples analyzed for Cu,Pb,Zn,Ag,Mo,Au,As

Rocks: 7 samples analyzed for Cu,Pb,Zn,Ag,Mo,Au,As

2.3 Claims Worked

All work was performed within or beside the boundaries of the RC 1 claim.

3.0 DETAILED TECHNICAL DATA AND INTERPRETATION

3.1Geology

3.1.1 Purpose

Geological mapping at a scale of 1:2,500 was completed in conjunction with sampling to define the geological boundaries of the geological units found on the RC 1 claim.

3.1.2 Regional Geology

The Pemberton (east half) Map Area was mapped by J.A. Roddick and W.W. Hutchinson of the G.S.C. in 1970 during a brief (one month) stop in this area. A compilation of their work and others (1916-1953) formed the basis of Paper 73-17 including Map 13-1973. Additional more recent studies by G.J. Woodsworth, J.A. Jeletzky, H.W. Tipper and N.L. Green were compiled by G.J. Woodsworth (1977) to form Open File 482 (1977) (N.T.S. 92J) Geology - Pemberton Map Area. A section of this map in the vicinity of the RC 1 is shown on Figure 3.

The east side of Lillooet Lake is underlain mainly by plutonic rocks of the Coast Range Intrusive Complex. These rocks range from diorite to quartz diorite in composition and have largely not been dated.

A small body of Paleozoic (?) banded amphibolitic gneiss lies to the south east of the property and a body of Miocene Miarolitic granodiorite and syenodiorite occurs to the north. The property is regionally mapped to be underlain by a stock of diorite. Volcanic rocks are thought to be pendants within the intrusive.

STRATIFIED AND HIGH-LEVEL PLUTONIC ROCKS

PLEISTOCENE AND RECENT

22	Unconsolidated alluvial, fluvial, and glacial deposits

PLIOCENE TO RECENT

21	GARIBALDI GROUP: Basalt to rhyodacite flows and pyroclastics, minor intercalated sediments; 21a, olivine basalt flows of Pleistocene age

MIOCENE OR YOUNGER(?)

20	Rhyolite and dacite breccia, tuff, and flows, minor sediments; 20a, andesitic volcanic breccia and conglomerate, lesser basalt; 20b, REXMOUNT PORPHYRY: dacitic porphyry (intrusive equivalent of 20?)

MIOCENE

19	Quartz monzonite, minor granite; 19a, miarolitic granodiorite and syenodiorite
18	Basalt flows; minor dacite

MIOCENE(?) AND OLDER(?)

17	Andesitic to basaltic flows and breccia, minor dacite; 17a, basalt flows with interbedded conglomerate and siltstone

EOCENE(?)

16	Shale, siltstone, sandstone, arkose, and conglomerate
15	Miarolitic granite; 15a, dacitic volcanics and porphyries (possibly equivalent to 19a?)

MID TO UPPER CRETACEOUS

14	KINGSVALE GROUP: 14a, arkose, greywacke, shale, minor conglomerate; 14b, andesitic flows and pyroclastics

LOWER CRETACEOUS

13	TAYLOR CREEK GROUP: Chert-pebble conglomerate, black limy shale, green tuff, volcanic breccia, andesite and basalt
12	JACKASS MOUNTAIN GROUP: 12a, interbedded carbonaceous argillite and greywacke, minor conglomerate and coal; 12b, greywacke, pebble conglomerate, argillite and gritty sandstone; 12c, argillite, conglomerate, and greywacke; 12d, massive greenish greywacke, argillite, gritty sandstone and pebble conglomerate
11	GAMBIER GROUP: Andesitic to dacitic tuff, breccia, agglomerate; andesite, argillite, conglomerate, lesser marble, greenstone, and phyllite
10	FIRE LAKE GROUP: Greenstone, chlorite schist, conglomerate, andesite, greywacke

UPPER JURASSIC AND LOWER CRETACEOUS

9	RELAY MOUNTAIN GROUP: Greywacke, siltstone, argillite

UPPER TRIASSIC TO MIDDLE JURASSIC

8	TYAUGHTON GROUP: Shale, siltstone, greywacke

UPPER TRIASSIC

7	CADWALLADER GROUP (undivided; includes Hurley, Pioneer and Noel strata, may include older and younger rocks): andesitic breccia, tuff, and flows, greenstone; lesser slate, argillite, phyllite, conglomerate, limestone, rhyolitic breccia and flows
6	HURLEY FORMATION: Thin-bedded argillite, phyllite, limestone, tuff, conglomerate, andesite, minor chert
5	PIONEER FORMATION: Greenstone, andesitic to basaltic flows and pyroclastics; 5a, BRALORNE INTRUSIONS (in part): augite diorite, gabbro, greenstone (intrusive and dioritized equivalents of 5)
4	NOEL FORMATION: Thin-bedded argillite, chert, conglomerate and greenstone

TRIASSIC AND JURASSIC AND OLDER(?)

ub	Ultramafic rocks: Serpentine, harzburgite, perioditite, diorite
3	BRIDGE RIVER (FERGUSSON) GROUP: Greenstone, basalt, chert, argillite, phyllite; minor limestone, serpentine, and serpentinized perdotite; 3a, more metamorphosed equivalents of 3, mainly biotite schist

PALEOZOIC(?)

2	Metasedimentary rocks, mainly micaceous quartzite, biotite-hornblende schist; minor garnet and staurolite schist; 2a, hornblende-biotite-garnet schist, amphibolite, quartz diorite, garnet-cordierite gneiss, and migmatite
1	Granitoid gneiss, migmatite complexes, amphibolite, quartz diorite, and schist

PLUTONIC ROCKS
(mostly of unknown age)

qm	Quartz monzonite
gd	Granodiorite
qd	Quartz diorite
di	Diorite; dioritic complexes containing diorite, quartz diorite, amphibolite, greenstone, and dyke swarms
gb	Gabbro

MAP SYMBOLS

Geological boundary (defined, approximate, assumed)

Bedding (horizontal, inclined, vertical)

Foliation, schistosity (inclined, vertical, dip unknown, absent)

Fault (defined, approximate, assumed)

Fossil locality

Radiometric ages

● Age in millions of years
System: k=potassium-argon, u=uranium-lead

Minerals: b=biotite, h=hornblende, m=muscovite, w=whole rock, z=zircon

Laboratory: (u)=U.B.C. All others are G.S.C.

◆ Whole-rock K-Ar age determination (age given in years) for Garibaldi Group rocks. Data from N.L. Green (Ph.D. thesis in preparation) and Anderson (1975)

GEOLOGY BY

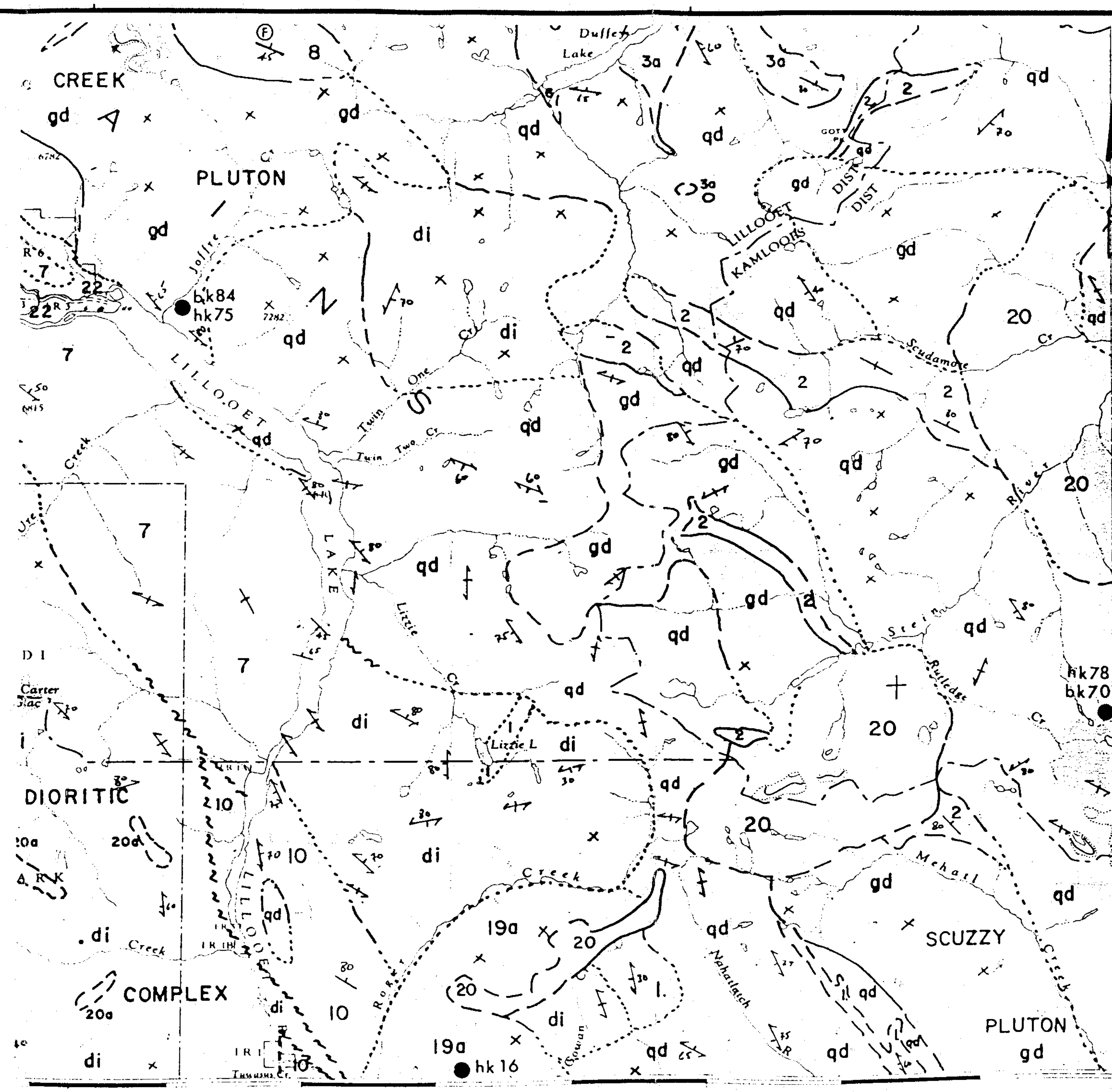
J.A. Roddick and G.J. Woodsworth (1970, 1974), W.W. Hutchison (1970), and from earlier reports (see references)

ADDITIONAL DATA FROM

J.A. Jeletzky (Camelsfoot Range), H.W. Tipper (Gun Creek), and N.L. Green (Cheakamus River area).

COMPILED BY

G.J. Woodsworth (1977)



Scale 1:250,000

Miles 4 0 4 8 12 Miles

Kilometres 6 0 6 12 18 Kilometres

O.F. 482

VANCAL 11925

REVISED	LILLOOET PROJECT
	RC CLAIM GROUP
	REGIONAL GEOLOGY
PROJ. No. 19	SURVEY BY: R.G.W. DATE: Dec./84
N.T.S. 92J/1	DRAWN BY: SCALE: 1:250,000
DWG. No. 3	NORANDA EXPLORATION OFFICE: Vancouver

P.J.A.

No regional faults have been mapped in this area and no mineralogical showings have been noted by G.S.C. personnel.

3.1.3 Local Geology

To date, only the grid area (Figure 4) of the RC 1 and 2 claims have been mapped in detail. Due to thick glacial till cover, outcrop exposure within this area is limited, however, the following lithologies were encountered.

Diorite to Quartz Diorite - Mottled black to green, white weathers buff to rusty brown. Medium grained, massive. Chlorite and epidote alteration common. Minor pyrite (>1%) finely disseminated throughout and as fracture fillings.

Lithic Tuff — Medium grey to green weathers to a mottled rusty brown/red, light green, at times leached completely white with rusty patches and mangenese staining. Dacitic to rhyolitic in composition. Occasional lapilli size lithic fragments. Calcareous and magnetic.

Felsic Tuff — Grey to green to maroon weathers buff to rusty brown. Dacitic in composition with numerous quartz eyes up to 2 mm. Calcareous and non-magnetic.

Agglomerate — Medium grey to green to maroon weathers buff to rusty orange. Clasts, up to 10 cm across are common, contained within a matrix of lapilli size lithic fragments.

Over the grid areas it appears that the tuff units are contained within the intrusive body, possibly representing a roof pendant. Despite intense alteration, described below, the volcanic horizons are more resistant than the surrounding intrusive body, and as a result tend to form steeper slopes with occasional bluffs. Due to lack of outcrop, both the upper and lower contacts of the volcanic with the intrusive were inferred from this change in slope. The actual length of the volcanic unit cannot be determined at this time because of the lack of exposure.

Alteration of the volcanic horizon is at times intense, resulting in the rock having been leached to a white, crumbly matrix with red to rusty orange clots, presumably the remnants of feldspar crystals or fragments. Manganese staining is also very common within these leached zones. At this time, two areas of intensely altered rock have been identified, one located by leached rock fragments within soil sample holes, the other within outcrop located off the grid area (Figure 2). These zones may represent hydrothermal vent areas.

Bedding within the tuffs is almost non-existent, making determination of the strike of the geology difficult. A few possible bedding planes were examined, with typical orientations of $165^{o}/45^{o}$ N.W.

3.2 Geochemistry

3.2.1 Purpose

The present geochemical survey is a follow-up of a regional stream sampling programme and subsequent ridge geochemical traverses. A soil geochemical grid was established over an area of anomalous ridge traverse soil samples. The grid contains 7 lines at 50 m line spacings and 25 metre sample stations. A baseline was established for control at 320^{o} with crosslines at 230^{o}.

3.2.2 Techniques

Both soil and rock samples were collected during the RC 1 geochemical survey. B horizon soil samples were collected from 25 cm deep mattock dug holes and placed in brown Kraft bags. These soil bags were partly air dried prior to being packed for shipment. Rock samples were either collected as whole grab samples or as rock chip samples across a measured width and placed in 6 mil poly bags for shipment.

A total of 123 soil and 7 rock samples were collected on the RC 1 claim and sent for analysis to Noranda's geochemical laboratory at 1050 Davie Street, in Vancouver, B.C. Appendix 1 is a flow sheet of the analytical techniques of analysis used by the Noranda laboratory. Appendix II is a list of all rock samples collected together with their rock types and geochemical results.

3.2.3 Results - Gold

Gold soil geochemical results are at background except for spotty anomalous highs and a zone in the grid NW corner which is open to the north and west.

Gold background values are at the limit of detection (10 ppb). Anomalous results are between 20 and 190 ppb Au. Au anomalies are either isolated or in groups of two samples.

A total of 6 anomalous samples loosely define an area in the NE part of the grid which should be examined in more detail. A single sample at the west end of L.101+00N with a Au value of 190 ppb should also be examined in more detail.

Results - Silver

Several silver soil geochemical anomalies were received which define three anomalous zones and several spot and 2 sample anomalies.

One anomalous zone in the NW corner of the grid corresponds with the gold zone anomaly. This zone and the other two, (one in the NE corner and the other in the south central area), are open to the north and south. Anomalous values of 1.0 to 9.0 ppm Ag are noted over a background of 0.2 to 0.6 ppm Ag.

Results - Lead

Several lead soil geochemical anomalies are received but only one discrete zone is recognized. Lead anomalies tend to be spotty but are significantly anomalous where seen. Values of 100 to 700 ppm Pb are received over a relatively flat background of 8 to 50 ppm Pb.

A discrete anomalous zone occurs in the NE corner of the grid and corresponds to a silver anomalous zone.

Results - Zinc

Zinc soil geochemical results have a high background (130-180 ppm Zn) with anomalous results from 300 to 1000 ppm Zn. Two main anomalous zones are defined which occupy the central north area of the grid.

One zone is a triangle shaped anomaly with the apex pointing downhill and containing core of less anomalous values. The other zone is a linear feature 75 m wide and 150 m long. Both zones are open to the north (uphill).

Results - Copper, Arsenic, Molybdenum

Copper, arsenic and molybdenum soil geochemical results are not anomalous and need not be discussed further.

3.2.4 Rock Samples

Two rock samples had elevated rock geochemical values and more rock sampling will be required to determine the source of the soil geochemical anomalies.

4.0 INTERPRETATION AND CONCLUSIONS

Anomalous soil geochemical values are loosely associated with a mapped felsic tuff but geologic contacts are not well enough established to permit a one to one correlation.

Silver, zinc and lead anomalous zones have a rough correlation, with zinc occupying a larger area than either lead or silver.

The source of the anomalies has not been established and further geologic mapping and geochemical sampling will be necessary to determine the cause of the anomalies.

STATEMENT OF COSTS

NORANDA EXPLORATION COMPANY, LIMITED

STATEMENT OF COST

PROJECT LILLOOET (RC GROUP) DATE JANUARY 1986

TYPE OF REPORT GEOLOGY AND GEOCHEMISTRY

a) Wages:

No. of Days 24 man days

Rate per Day $ 122.33

Dates From: July 1-31, 1985

Total Wages 24 man days x $ 122.33/man day $ 2,935.92

b) Food and Accomodation:

No of days 24 man days

Rate per day $ 50.00

Dates From: July 1-31, 1985

Total Cost 24 man days x $ 50.00/man day $ 1,200.00

c) Transportation:

No of days 14 truck days

Rate per day $ 50.00

Dates From: July 1-31, 1985

Total Cost 14 truck days X $ 50.00/truck day $ 700.00

d) Instrument Rental:

Type of Instrument

No of days

Rate per day $

Dates From:

Total Cost X $

Type of Instrument

No of days

Rate per day $

Dates From:

Total Cost X $

f) Analysis (See attached schedule) $ 1,375.50

g) Cost of preparation of Report

Author	247.53	
Drafting	247.53	
Typing	247.53	$ 742.59

h) Other:

Contractor

Total Cost $ 6,954.01

e) Unit costs for

No of days

No of units

Unit costs /

Total Cost x

NORANDA EXPLORATION COMPANY, LIMITED

(WESTERN DIVISION)

DETAILS OF ANALYSES COSTS

PROJECT LILLOOET (RC GROUP)

ELEMENT	NO. OF DETERMINATIONS	COST PER DETERMINATION	TOTAL
SOILS			
Cu	123	1.60	196.80
Zn	123	.60	73.80
Pb	123	.60	73.80
Ag	123	.60	73.80
Mo	123	.60	73.80
As	123	2.00	246.00
Au	123	4.00	492.00
PREP	123	0.50	61.50
			1,291.50
ROCKS			
Cu	7	1.60	11.20
Zn	7	.60	4.20
Pb	7	.60	4.20
Ag	7	.60	4.20
Mo	7	.60	4.20
As	7	2.00	14.00
Au	7	4.00	28.00
PREP	7	2.00	14.00
			84.00

1,375.50

STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS
****

I, Robert G. Wilson of 3328 West 15th. Avenue, City of Vancouver, Province of British Columbia, do hereby certify that:

1. I have been employed as a Project Geologist for Noranda Exploration Company, Limited (no personal liability) since 1983 to the present.

2. I graduated from the University of British Columbia in 1976 with a B.Sc degree in geology.

3. I have worked in mineral exploration since 1973 and have practiced my profession as a geologist since 1976.

4. I am a member of the Geological Association of Canada (Cordillera Division)

R. Wilson
Project Geologist

APPENDIX I

ANALYTICAL METHOD DESCRIPTION FOR

GEOCHEMICAL ASSESSMENT REPORTS

ANALYTICAL METHOD DESCRIPTIONS FOR GEOCHEMICAL ASSESSMENT REPORTS

Revised:01/86

The methods listed are presently applied to analyse geological materials by the Noranda Geochemical Laboratory at Vancouver. (March, 1984)

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 analysis.

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

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 0.2 g or less depending on the matrix of the rock, and twice as much acid is used for decomposition than that is used for silt or soil.

The concentrations of Ag, Cd, Co, Cu, Fe, Mn, Mo, Ni, Pb, V and Zn (all the group A elements of the fee schedule) can be determined directly from the digest (dissolution) with an atomic absorption spectrometer (AA). 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 acid solution with an AA-475 equipped with electrodeless discharge lamp (EDL).

Arsenic - As: 0.2 - 0.4 g sample is digested with 1.5 mL of 70 % perchloric acid and 0.5 mL of conc. nitric acid. A Varian AA-475 equipped with an As-EDL measures the arsenic concentration of the digest.

Barium - Ba: 0.1 g sample is decomposed with conc. perchloric, nitric and hydrofluoric acid. 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 into the flame of the AA instrument c/w EDL.

Gold - Au: 10.0 g sample (Pan-concentrates see below) is digested with aqua regia (1 part nitric and 3 parts hydrochloric acid). Gold is extracted with Methyl iso-Butyl ketone (MIBK) from the aqueous solution. Gold is determined from the MIBK solution with flame AA.

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 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,taken from a perchloric-nitric (3:1) decomposition, usually from the multi-element digestion, is diluted with water and a phosphate buffer. This solution is exposed to laser light, and the luminescence of the uranyl ion is quantitatively measured on the UA-3 (Scintrex).

LOWEST VALUES REPORTED IN PPM

Ag - 0.2	Mn - 20	Zn - 1	Au - 0.01 (10PPB)
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	

ADDENDUM

ANALYSIS OF PAN CONCENTRATES FOR GOLD

Geochemical reconnaissance for gold through stream sediments has for the greater part been left to chance. Analytical results for gold on silts have certainly confirmed this notion.
Since 1982 an attempt was made to standardize the procedure in which heavy mineral surveys (pan-concentrates) were conducted. The method used for panning in the field was suggested by R.M. (27-05-82).

In essence about 20 kg (8-9 L) stream sediment is pan-concentrated to a 20-50 g sample (pan-con). The weights of the pan-cons submitted over the last few years, have been reasonably consistent, within the 20-50 g range, except when there was a non-distinct heavy mineral fraction or the material was uniform in specific gravity (Black sand or high concentration of sulfides).

Basically, one concentrates a bulk sample (20 kg) by a factor of about a thousand, primarily for free metallic gold and/or its minerals.
This should provide a more "representative" sample than silts would, and enhance gold concentration above detection limits with present analytical methods.

The total amount of concentrate obtained is largely a function of specific gravity, heavy mineral content and the panner. Thus the weight of the pan-con submitted to the lab, whether 20 or 40 g or more, is of little importance concerning the actual gold concentration. It is for this reason that the analysis of the pan-con for gold is normalized to 20 g sample weight, even though all of the sample is digested and gold is determined (calculated) as if it were a 20 g sample.

Conversely, if results were based on sample weight submitted, then this would in all likelihood indicate a bias towards the panner. With a penchant for "anomalies", one could conceivably pan until one approaches 10^6 ppm Au. Previous tests with pans (1-4, 1-12, 1982) have substantiated this point.

Therefore, the lab has expressed the concentration of pan-con based on 20 g sample, so that semi-quantative results are compatible, provided one collects constant bulk samples (~ 20 kg) in situ.
Subsampling of pan-con is precluded, owing to the nature of gold in sediments.

To pulverize the sample does not decrease subsampling error appreciably. Clearly, analyzing the entire sample is necessary, as the analyses of silts have verified numerous times. An example given below for a 50.0 g pan-con reported as 2500 ppb:

1. A 50 g sample is apportioned to facilitate the routine method (Aqua Regia digestion - MIBK - Flame AA.

2. The calculation for concentration is relative to 20 g. E.g. if the sampler/panner was to reduce the sample to 20 g, e.g. by further panning, the concentration would still be 2500 ppb (2.5 ppm). Presumably no gold is lost in the process.

3. The actual ppb value for the 50 g sample would be:

$$20 \text{ g}/50 \text{ g} \times 2500 \text{ ppb} = 1000 \text{ ppb or } 1 \text{ ppm}$$

4. Total weight of gold in the pan or the original bulk sample

(sediment) is $20 \text{ g} \times 2.5 \text{ ppm} \times 10^{-6} = 0.05 \text{ mg Au}$

or $50 \text{ g} \times 1.0 \text{ ppm} \times 10^{-6} = 0.05 \text{ mg Au}$

5. Relative to the original 20 kg bulk sample it would equate to

$0.05 \text{ mg Au}/20 \text{ kg} = 2.5 \times 10^{-9} = 2.5 \text{ ppb}$

When the majority of pan-cons submitted are about 20 g and the bulk sampling remaines constant, then gold results based on 20 g appears to be meaningful for interpretation, irrespective of the submitted sample weight.

A noted exception is for black sand or other bulky samples. To analyse in its entirety is impractical.
Caution should be excercised with black sand as natural panning has taken place in situ, therefore it is somewhat doubtful to evaluate black sand in a similar manner as one would with sediments or pan-con.

To date, there is no panacea for gold geochemistry sampling, but a pre-requisite for data evaluation (interpretation) is to normalize the sampling medium.

N.B. It should be borne in mind, that silts or soils undergo some pre-concentration through screening. The selectivity of grain size (-80 mesh) in all probability contains all the gold from the sediment taken. The -80 mesh sample (silt) is roughly 10% of the sediment material collected on site, thus a concentration factor of about 10. In other words there exists a rough relation between pan-con and silts of 100, at least for gold results.

Base metals on pan-con e.g. Cu, Zn, Pb, Ag, Co, Ni and Fe is determined directly from the aqua regia digestion solution. Note that this dissolution is incomplete and is somewhat selective towards sulfide minerals.

APPENDIX II

ROCK DESCRIPTIONS AND RESULTS

NORANDA EXPLORATION COMPANY, LIMITED

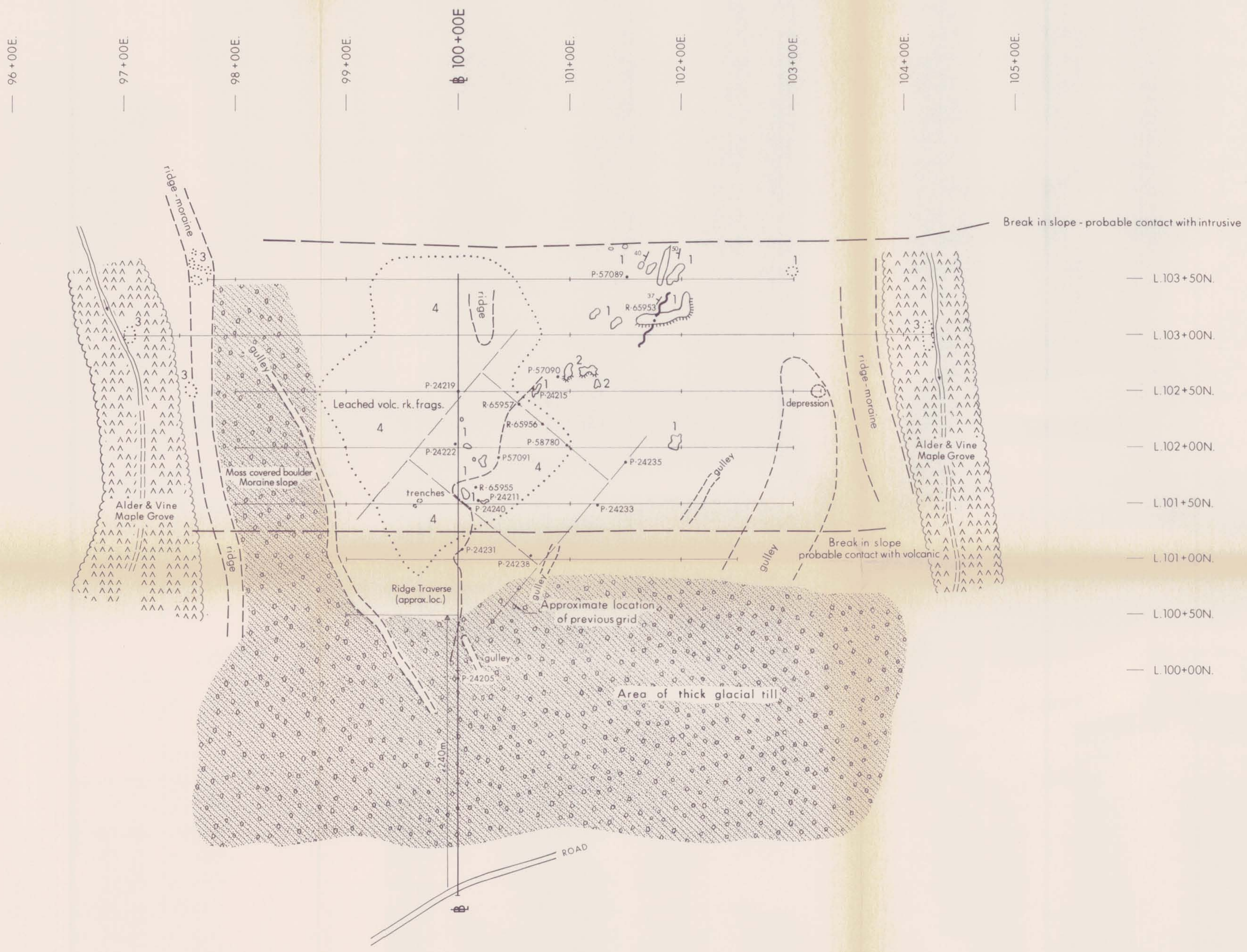
N.T.S. 92J/1

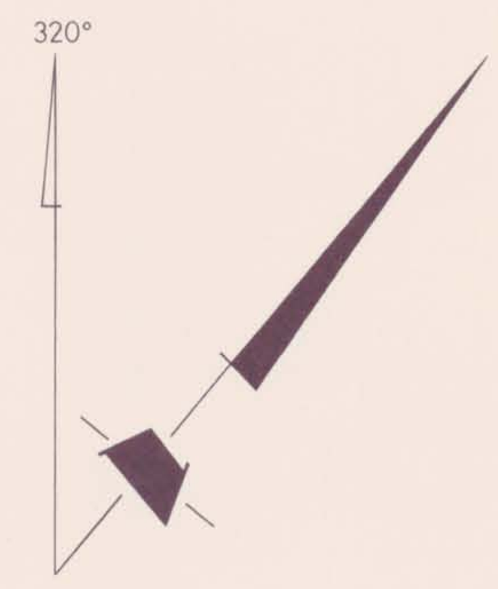
PROPERTY ROGER"S CREEK

DATE July 1985

SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	TYPE	WIDTH	ASSAYS							SAMPLED BY
				Cu	Zn	Pb	Ag	As	Mo	Au	
R-65953	L103N, 101 & 75E, Rusty volcanic - fault	Chip	5 cm	36	90	140	1.6	16	1	10	D.D.
R-65954	Ocp on road - Rusty Agglomerate w/3% pyrite	Rock-grab		64	460	1000	2.6	130	16	40	P.B.
R-65955	Leached volcanic rock frags. from soil hole P-24212	Grab		6	260	22	0.2	2	2	10	"
R-65956	Leached volcanic rock frags. from soil hole P-58781	Grab		32	520	400	4.2	2	4	10	"
R-65957	Leached volcanic rock frags. from soil hole P-65957	Grab		26	170	12	0.2	2	2	10	"
R-65958	Road above camp - rusty granodiorite, pyrite along fractures	Grab		4200	540	120	10.0	56	4	70	R.W.
R-65959	New logging road - leached volcanic tuff - rusty	Grab		28	130	2	0.2	2	2	10	D.D.





LEGEND

1	LITHIC TUFF – Medium grey to green weathers to a mottled rusty brown/red/light green. Dacitic to rhyolitic in composition. Minor lapilli size lithic fragments. Calcareous and magnetic.
2	FELSIC TUFF – Grey to green to maroon weathers buff to rusty brown. Dacitic in composition with numerous quartz eyes up to 2mm. Minor lapilli-size lithic fragments. Calcareous and non-magnetic.
3	INTRUSIVE – Diorite to quartz-diorite-mottled black to green/white. Medium grained. Minor pyrite <1% massive.
4	Areas of leached white/rust volcanic rock fragments within soil.
(pattern)	Areas of particularily thick glacial till and moraine boulders

Boundaries of areas containing leached volcanic rock fragments within soil

Approximate locations of geological contacts

Physiographic features (gulleys, ridges)

Outcrop

Subcrop

Fault

GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,119

SCALE
1:2500

Metres 50 0 50 100 150 200 250 Metres

REVISED

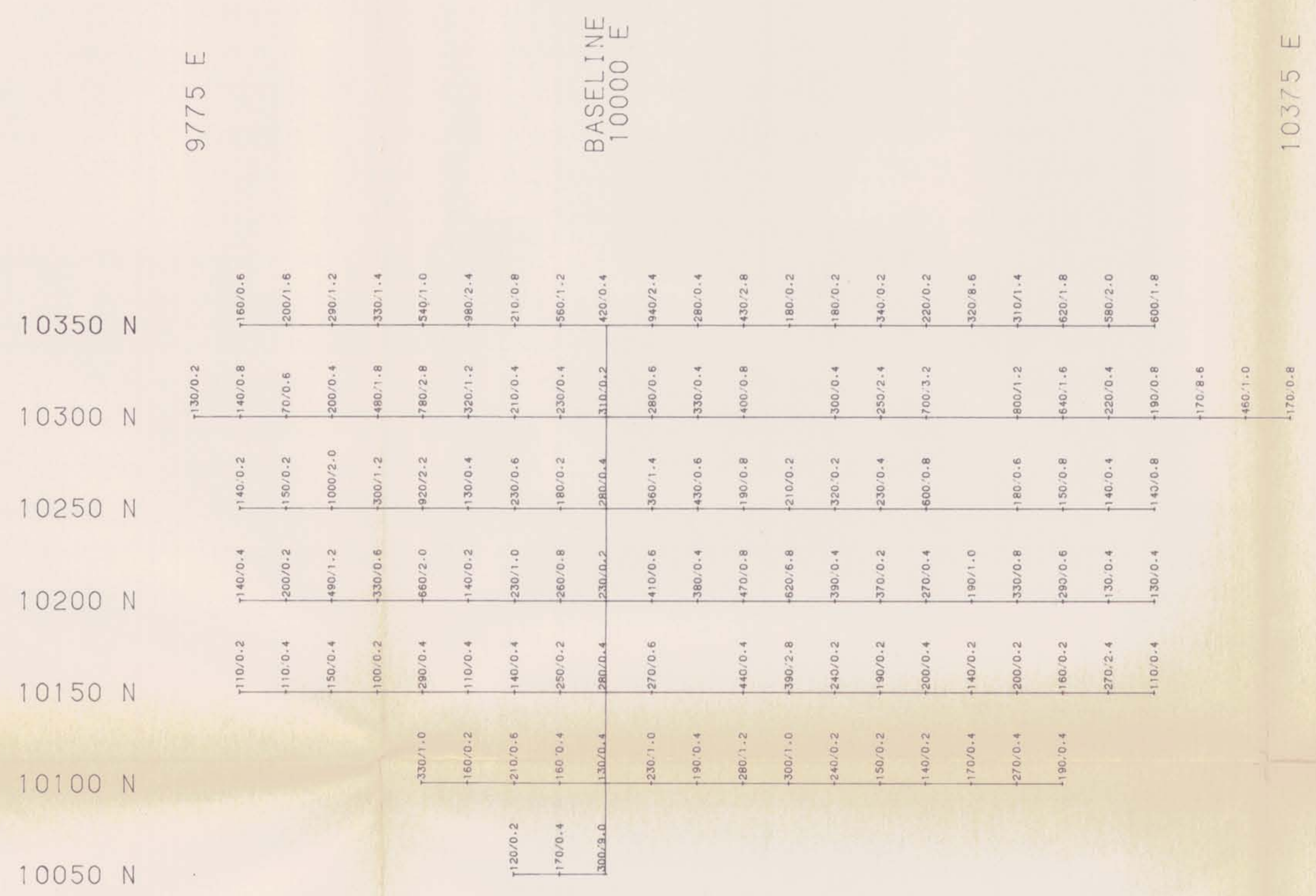
LILLOOET PROJECT
ROGERS CREEK
GEOLOGY

PROJ. No.
N.T.S. 92J1
DWG. No. 4

SURVEY BY:
DRAWN BY: JArthur
DATE: July/85
SCALE: 1:2500

NORANDA EXPLORATION

OFFICE: Vancouver



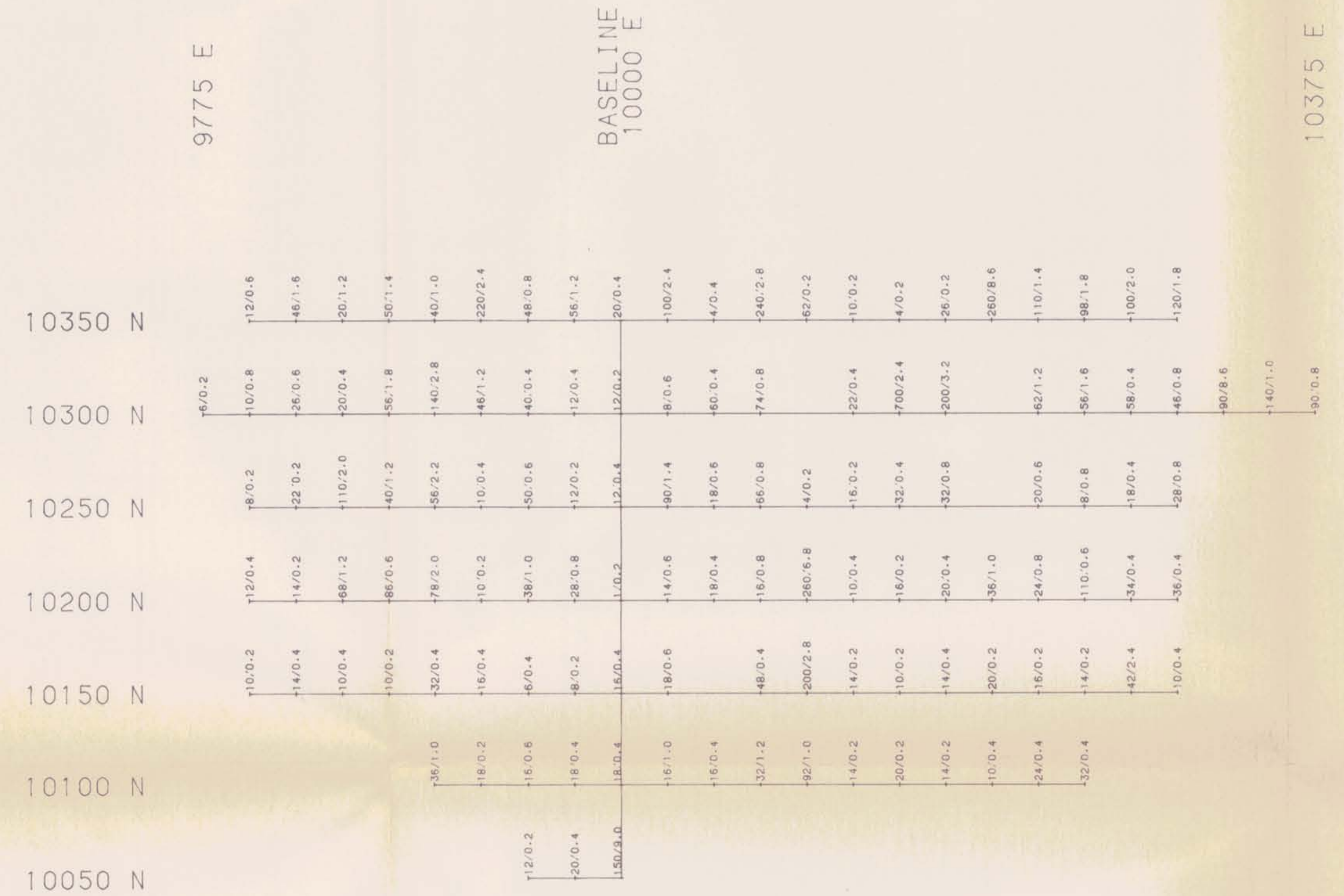
LILLOOET PROJECT / ROGERS GRID

SOIL GEOCHEMISTRY
ZN, AG IN PPM.

PROJ. NO. 850427
N.T.S. 92J1
DWG. NO. 5

SURVEY BY: R.W.
DATE: JAN. 30, 1986.
DRAWN BY: EDP/VAN
SCALE: 1:2500

NORANDA EXPLORATION
OFFICE: VANCOUVER



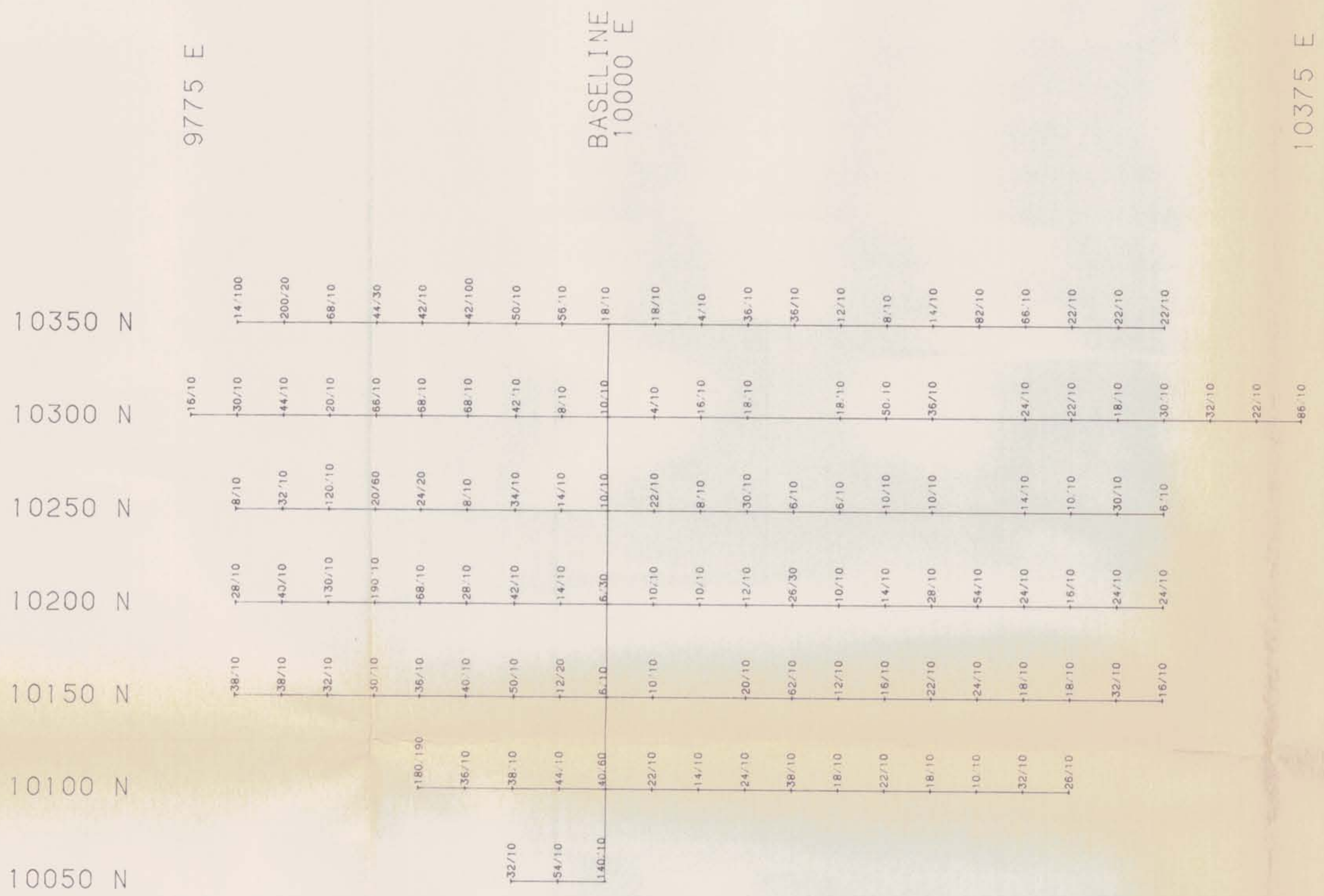
LILLOOET PROJECT / ROGERS GRID

SOIL GEOCHEMISTRY
PB.AG IN PPM.

PROJ. NO. 850427
N.T.S. 92J1
DWG. NO. 6

SURVEY BY: R.W. DATE: JAN.30.1986.
DRAWN BY: EDP/VAN SCALE: 1:2500

NORANDA EXPLORATION
OFFICE: VANCOUVER



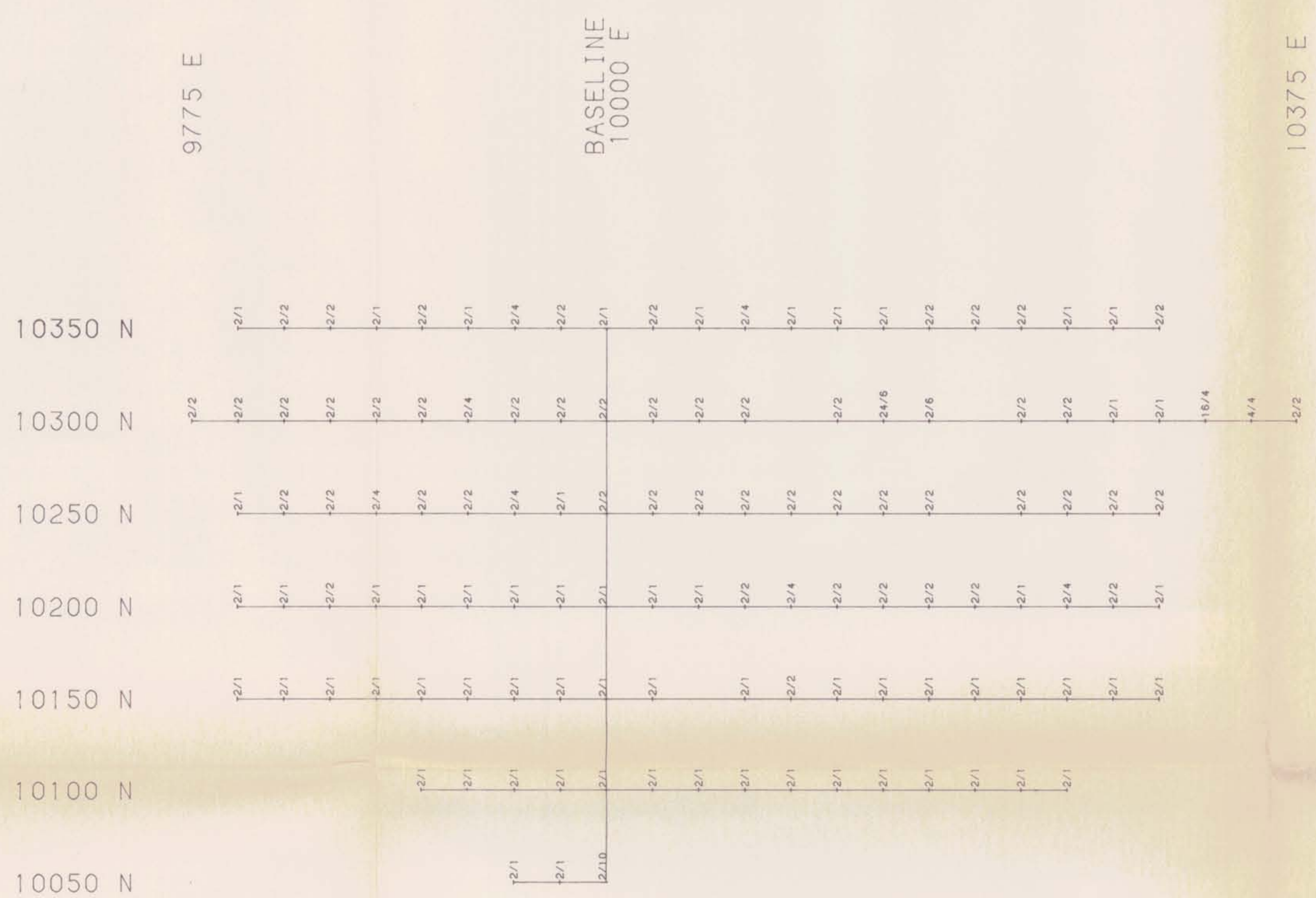
LILLOOET PROJECT / ROGERS CREEK

SOIL GEOCHEMISTRY
CU IN PPM. AU IN PPB.

PROJ. NO. 850427
N.T.S. 92J1
DWG. NO. 7

SURVEY BY: R.K.
DATE: JAN.30.1986.
DRAWN BY: EDP/YAN
SCALE: 1:2500

NORANDA EXPLORATION
OFFICE: VANCOUVER



LILLOOET PROJECT / ROGERS CREEK

SOIL GEOCHEMISTRY
AS.MO IN PPM.

PROJ. NO. 850427
N.T.S. 92J1
DWG. NO. 8

SURVEY BY: R.W.
DATE: JAN.30.1986.
DRAWN BY: EDP/VAN
SCALE: 1:2500

NORANDA EXPLORATION
OFFICE: VANCOUVER