Geochemical Survey
of the
N.I. 1-12, 17, 18; 92C/15E
1-4 Fractional and 8 Fractional
Mineral Claims

48° 54' N 124° 43' W

J.D. Knauer
R.C. Heim, P. Eng.

Noranda Exploration Company, Limited
Alberni Mining Division
May 17, 1972 to June 9, 1972

4279

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Department of
Mines and Petroleum Resources
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NO. 4279 MAP

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INTRODUCTION:

The claims referred to in this report consist of:

Claim Names	Record Numbers
N.I. 1-12 inclusive	18936-18947 inclusive
N.I. 17	18952
N.I. 18	18953
N.I. 1-4 Fractions inclusive	18956-18959 inclusive
N.I. 8 Fraction	18963

The survey described in the following report was conducted within the boundaries of the above listed mineral claims. Their boundaries are shown on Drawing No. 1.

The claims are located approximately 27 miles N 28° W from Port Renfrew, B.C., south of Francis Lake on the Little Nitinat River about 4½ miles north of the north end of Little Nitinat Lake. Access to the property is by good gravel roads from Lake Cowichan, B.C. Elevation ranges from 500 feet to 2600 feet. The claim group lies on the east and southeast side of a mountain slope which increases from moderately steep on the southeast to steep on the northwest. The majority of the area covered by this report has been logged and is now covered by a thick second-growth of small trees and bushes.

Between May 17, 1972 and June 9, 1972 a geochemical survey was conducted after the necessary lines were prepared. All work was carried out by a Noranda Exploration Company, Limited crew of 4 men under the direction of R.C. Heim, P. Eng. with field supervision by J.D. Knauer, Geochemist.

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NORANDA EXPLORATION COMPANY, LIMITED

LOCATION MAP

N.I. 1-12, 17, 18;
1-4 Fractional and 8 Fractional
Mineral Claims

Alberni Mining Division
92C/15E

1" = 4 Miles
FIG. A

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82-N PF SW

GENERAL GEOLOGY:

The general geology in the area covered by the N.I. mineral claims for the most part consists of andesite-basalt with some breccia and limestone of the Upper Triassic Vancouver Group. Basalt dikes were also noted.

Galena, sphalerite, greenockite, bornite, chalcopyrite, pyrite and malachite were found on the property. (Unpublished Noranda Exploration Company, Limited report by Willis W. Osborne, October 6, 1972).

GRID PREPARATION:

In order to carry out the geochemical survey, a control baseline was established by compass and chain with pickets every 200'. The 200 N baseline extends from 200 W to 286 W. The 200 N baseline has a bearing of 270°. Seven grid lines were laid out perpendicular to the baseline at 800 foot intervals. The four longest grid lines extend from 185 N to 245 N.

Grid lines were chained and flagged with 200 foot stations. Line development totaled 8.4 miles including the 200 N baseline.

GEOCHEMICAL SOIL SURVEY:

All soils were analyzed for copper, lead, zinc and silver in the Noranda Exploration Company, Limited laboratory located at 1050 Davie Street, Vancouver 5, B.C. Analyst was Evert Van Leeuwen.

Sampling Method:

Samples were obtained by digging holes with a shovel, to a depth if feasible, where the visible C horizon or sub-outcrop was encountered. The C horizon was sampled, or where this was not possible to the lower part of the B horizon was taken. The samples were placed

in "Hi Wet Strength Kraft 3½" x 6 1/8" Open End" envelopes and the grid station was marked on the envelopes with indelible felt pens. Soil samples were taken at 200 foot intervals along the grid lines.

Laboratory Determination Method:

The samples are first placed in a drying cabinet for a period of 24 to 48 hours. The sampled material is then screened and sifted to obtain a -80 mesh fraction.

The determination procedure for total silver, lead, zinc and copper is as follows:

0.500 grams of the -80 mesh material is digested in 4 ml. of $HCLO_4$ and 1.0 ml of HNO_3 for approximately four hours. Following digestion, each sample is diluted to 10 ml. with demineralized H_2O. A Varian Techtron Model AA-5 Atomic Absorption Spectrophotometer was used to determine the parts per million silver, lead, zinc and copper content in each sample.

The Theory of Atomic Absorption Spectrophotometer is fully described in the literature and will not be described in this report.

Presentation of Results:

Results of this survey are presented in Drawings No. 2 and No. 3 of this report; plan maps (scale 1 inch equals 1,000 feet) showing silver, lead, zinc and copper in parts per million. The general area of interest for silver and lead has been outlined on Drawing No. 2. The general area of interest for zinc has been outlined and copper values equal to or greater than 68 p.p.m. have been underlined on Drawing No. 3. Anomalous values for all four elements have been indicated in the legends of both drawings.

Discussion of Results:

Silver determination values show a background of less than 1.8 p.p.m. and anomalous values from 2.6 to 7.6 p.p.m. Zinc values range from a background of less than 140 p.p.m. to anomalous values greater than 180 p.p.m. Lead has a background of 16 to 40 p.p.m. and anomalous values ranging from 70 p.p.m. to 1,000 p.p.m. The background for copper is less than 40 p.p.m. and anomalous values over 75 p.p.m.

The results of the soil survey are as follows:

1. Silver, lead and zinc values in the soils indicate a coincident area of interest in the southeast portion of the grid both north and south of the 200 N baseline.
2. Silver, lead and zinc mineralization was noted in this above area.
3. The few anomalous copper values coincide with pyrite and sericite and are generally within or close to the silver, lead and zinc anomaly.
4. The general area of interest as outlined is open to the south and east.

RECOMMENDATIONS AND CONCLUSIONS:

Results of the soil survey have helped to show a general area of interest known to contain some mineralized outcrop.

Further work in this area and the adjacent area to the south and east should include the following:

1. Extending the grid to the east.
2. Additional detailed geologic mapping and soil geochemistry on the extended grid.

3. Possible I.P. and magnetometer surveys over the anomalous area.

4. A complete evaluation of the anomalous area following completion of the above surveys.

Respectfully submitted,

J.D. Knauer
Geochemist

R.C. Heim, P. Eng.

April 10, 1973

Statement of Qualifications

I, James D. Knauer of the City of Vancouver, Province of British Columbia do certify that:

1. I have been an employee of Noranda Exploration Company, Limited since August 1964.

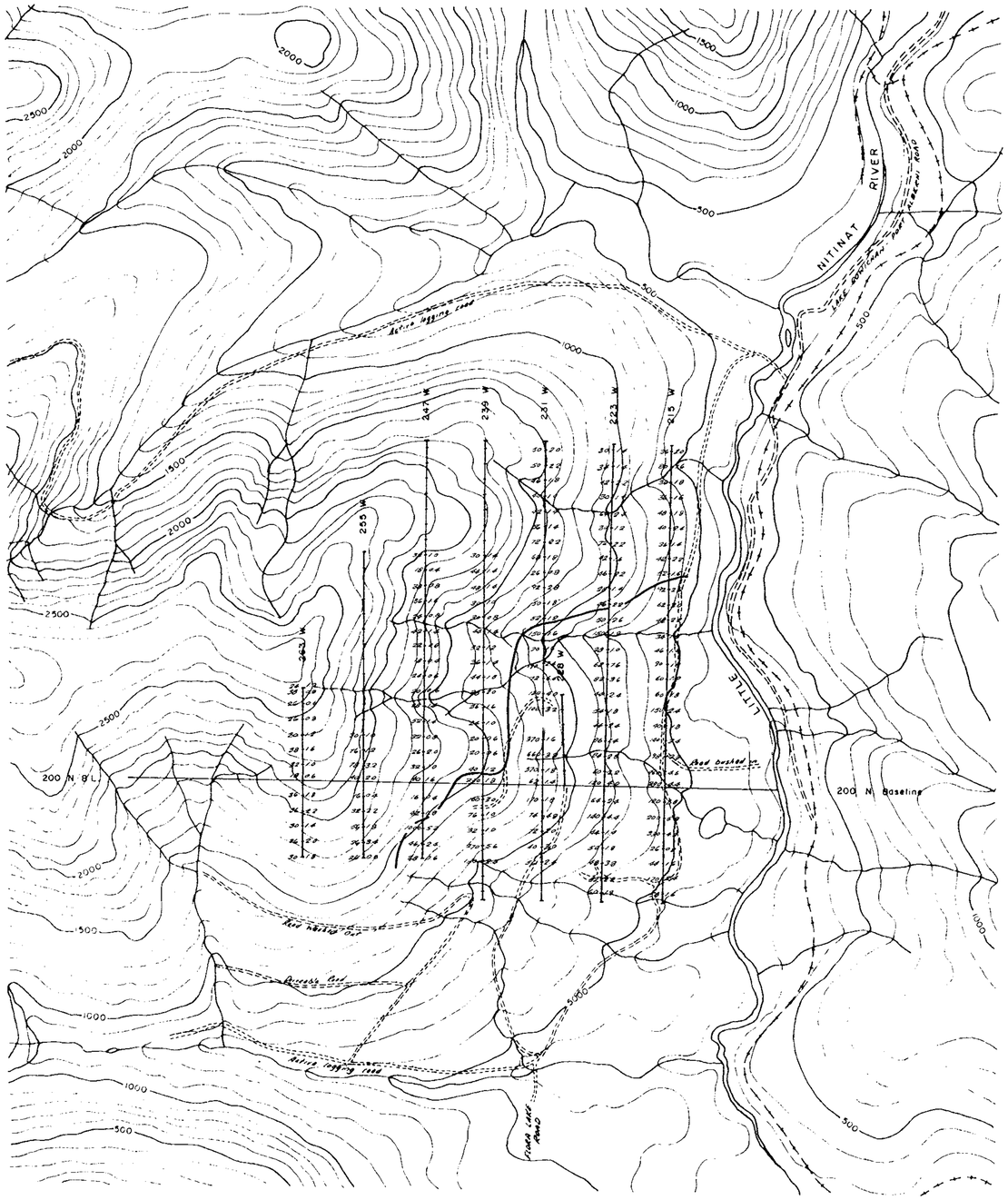
2. I am a graduate of the University of New Mexico with a Bachelor of Science Degree in Geology.

3. I am a member of the Geochemical Society.

4. I have held the position of Geochemist for Noranda Exploration Company, Limited, British Columbia since June 1965.

Dated at Vancouver
this 10th day of April, 1973

James D. Knauer
Geochemist
Noranda Exploration Company, Limited
(No Personal Liability)



N

To accompany Geochemical Report by R.C. Heim, P.Eng. and J.D. Knauer, Geochemist, on the NI 1-12, 17, 18 and NI 1-4, 8 Fractional M.C.'s.

Alberni Mining Division — March 1, 1973.

James D. Knauer

Department of Mines and Petroleum Resources
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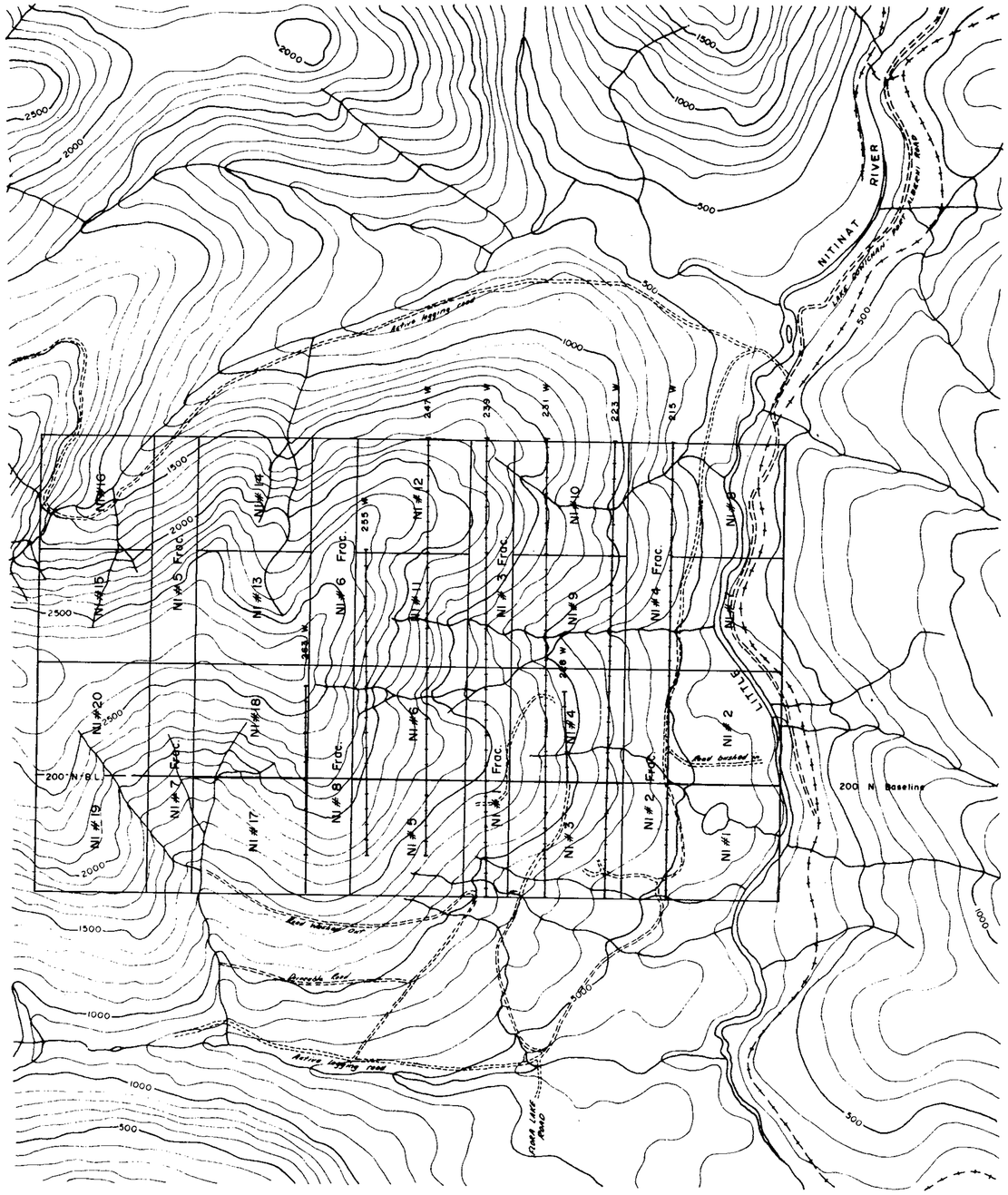
LEGEND

General Area of Interest
Pb-anomalous values - 70ppm+
Ag-anomalous values - 2.6ppm+

Base Map Dept of Lands & Forests - N.T.S. 92 C/15 E - Scale 1" = 50,000'

REVISED	LITTLE NITINAT
	SOIL SURVEY Total-Pb | Total-Ag
	PROJECT:
PROJ. Nº	SURVEYED BY: DATE:
N.T.S. 92 C/15E	DRAWN BY: SCALE: 1" = 1000'
DWG. Nº 2	NORANDA EXPLORATION CO. LTD.
	OFFICE: VANCOUVER



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Alberni Mining Division — March 1, 1973.

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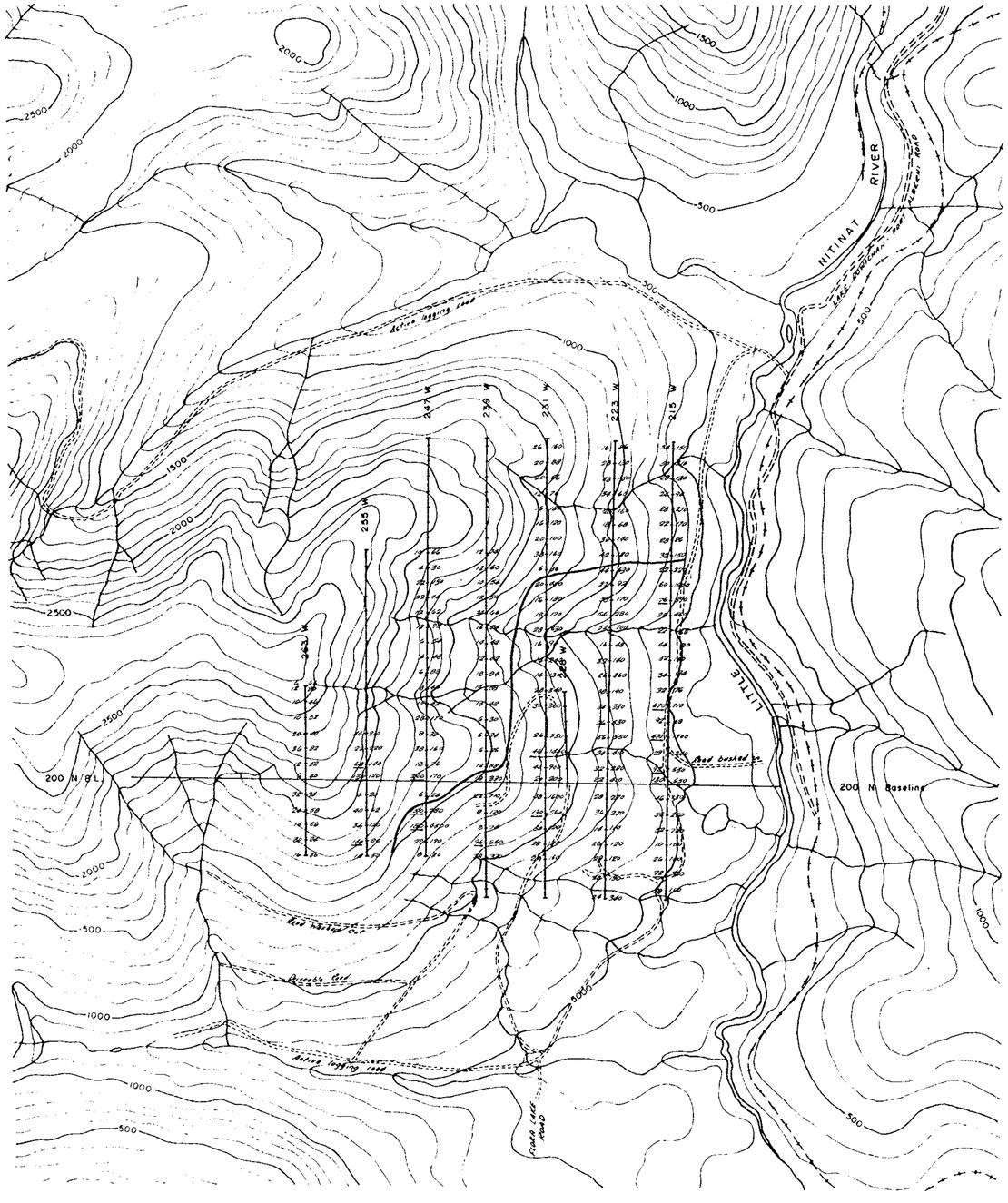
NO. 4279 MAP #1

Base Map: Dept. of Lands & Forests - N.T.S. 92 C/15 E - Scale: 1" = 80,000'

REVISED	LITTLE NITINAT
	Claim Map
	PROJECT:
PROJ. Nº	SURVEYED BY: DATE:
N.T.S. 92 C/15E	DRAWN BY: SCALE: 1" = 1000'
DWG. Nº 1	NORANDA EXPLORATION CO. LTD.
	OFFICE: VANCOUVER

4279 M-1



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ASSESSMENT REPORT
NO. 4279 MAP #3

To accompany Geochemical Report by R.C. Heim, P.Eng. and J.D. Knauer, Geochemist, on the NI 1-12, 17, 18 and NI 1-4, 8 Fractional M.C.'s.

Alberni Mining Division — March 1, 1973.

AREAS OF INTEREST

Zn - General Area of Interest - 190 ppm+

76 Cu - Anomalous Area - 68 ppm.+

Base Map Dept of Lands & Forests - N.T.S. 92 C/15 E - Scale: 1" = 50,000'

REVISED	LITTLE NITINAT
	SOIL SURVEY Total Cu | Total Zn
	PROJECT:
PROJ. Nº	SURVEYED BY: DATE:
N.T.S. 92 C/15E	DRAWN BY: SCALE: 1" = 1000'
DWG. Nº 3	NORANDA EXPLORATION CO. LTD.
	OFFICE: VANCOUVER