3856

GEOCHEMICAL SURVEY

ON THE

KWANIKA PROPERTY

55°30'N, 125°08'W

93 N/6E, 11E

NORANDA EXPLORATION COMPANY, LIMITED

OMINECA MINING DIVISION

BY

WILLIAM A. HOWELL

&

GAVIN E. DIROM, P. Eng.

August 15, 1971 to August 5, 1972

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REPORT ON THE GEOCHEMICAL SURVEY

ON THE

KWANIKA PROPERTY

OMINECA MINING DIVISION, BRITISH COLUMBIA

NORANDA EXPLORATION COMPANY, LIMITED

55°30'N, 125°08'W

INTRODUCTION

The Kwanika property referred to in this report is located approximately 26 miles southwest of Germansen Landing, B.C. and covers the headwaters of north flowing tributaries of Kwanika Creek (See Figure 1). Access to the property was by contract or charter helicopter from Germansen Landing to helicopter pads within the claim group.

Elevations on the property range from 4,000 to 5,500 feet above sea level.

The property consists of 193 contiguous mineral claims in the Omineca Mining Division of British Columbia (See Figure 2) which were staked following a reconnaissance geochemical programme. The claims are as follows:

Claim	Record #	Record Date	Owner
NIK # 1 - 42	102454 - 102495	August 17/71	Noranda Exploration Co. Ltd.
NIK # 1 - 18 Fr.	102496 - 102513	"	" "
NIK #43 - 46	105672 - 105675	Oct. 22/71	" "
NIK #19 & 20 Fr.	105676 - 105677	"	" "
NIK #47 - 70	106891 - 106914	Mar. 15/72	" "
NIK #21 - 32 Fr.	106915 - 106926	"	" "
SAN # 1 - 9	100961 - 100969	July 23/71	" "

3856 M-1

Fig. A. scale :- 1 2 3 4 Mi.

Location map to accompany Geochemical Report by G.E.Dirom, P.Eng and W.A. Howell, Geologist on the Kwanika Property, Omineca Mining Division.

W.A. Howell

G.E. Dirom

Fig. B.

NIK - SAN CLAIM LOCATION PLAN

To accompany Geochemical Report by
G.E. Dirom, P. Eng. and W.A. Howell, Geologist,
on the Kwanika Property,
Omineca Mining Division

W.A. Howell

Dated August 23, 1972.

92
99
111
113
115
94
102
B.C. 2056
B.C. 2055
B.C. 2054
INTERIM 93N/11E
INTERIM 93N/6E
INTERIM 93N/11E
INTERIM 93N/6E
55 30'
125 15'
55 30'
125 00'

SAN GROUP of M.C.'s

NIK GROUP of M.C.'s

KWANIKA RANGE

[See Fig 9. High Cu Mo @ mineralized outcrop mac 1/73]

Claim	Record #	Record Date	Owner	
SAN # 1 - 3 Fr.	100970 - 100972	July 23/71	Noranda Exploration Co.	Ltd.
SAN #10 - 16	100973 - 100979	"	"	"
SAN # 4 - 6 Fr.	100980 - 100982	"	"	"
SAN #17 - 32	102609 - 100624	Aug. 19/71	"	"
SAN # 7 - 12 Fr.	102625 - 102630	"	"	"
SAN #33 - 53	105121 - 105141	Sept. 30/71	"	"
SAN #55 - 64	105142 - 105151	"	"	"
SAN #13 - 28 Fr.	105152 - 105167	"	"	"

The geochemical survey along with necessary line preparation was carried out by a two to four man Noranda Exploration Company geochemical crew and a two man contract line cutting crew under the direction and supervision of G.E.Dirom, P.Eng. between August 15, 1971 and Aug. 5, 1972 with on-site supervision provided by W.A.Howell during the 1972 season.

GENERAL GEOLOGY

The Kwanika property straddles the eastern margin of the Hogem Batholith. This batholith is a composite pluton which extends 75 miles northwest of Nation Lakes. It is bounded on the west by the Pinchi Fault and on the east by Takla Group rocks. The principle Hogem rocks underlying the Kwanika property are moderately magnetic, green, medium-to-coarse grained syenodiorite and strongly magnetic, dark green, coarse grained pyroxenite. Takla group rocks are chiefly basalts and porphyritic andesites. G.S.C. Memoir 252, Fort St. James Map-Area, Cassiar and Coast Districts, British Columbia (J.E. Armstrong) 1949 provides an insight into the regional geological setting of the Kwanika property.

GRID PREPARATION

A small grid was laid out during the late summer and early autumn of 1971 to cover a mineralized outcrop of very limited exposure on the SAN group of mineral claims. A base line established in a north-south direction was chained and picketed for a distance of 2,000 feet. Utilizing this base line, six east-west 3,000 foot lines were chained, flagged and picketed. Stations were established at 100 foot intervals where practical on all grid lines and a 2,000 foot tie line was established for control. A two man Noranda Exploration Company line cutting crew developed the 3.8 miles of line comprising the SAN 1971 grid.

To carry out an enlarged geochemical survey two major grids were laid out to cover known areas of interest on the Kwanika property.

NIK Grid:

A cut base line designated 100+00E was established in a N 36° W direction for a distance of 12,000'. Utilizing this baseline, 16 N 36° E grid lines were chained, flagged, and picketed. Stations were established at 100 foot intervals where practical on all grid lines and four tie lines were established for control. A two man contract line cutting crew developed the 28 mile of line comprising the NIK grid.

SAN Grid:

The SAN grid is situated southwest of the NIK grid. The SAN base-line designated 480+00E was established in a N 36° W direction for a distance of 13,600'. Utilizing this base-line, eighteen N 36° E grid lines were chained, flagged, and picketed. Stations were established at 100 foot

intervals where practical on all grid lines and two tie lines were established for control. Station 500+00N, 570+00E on the SAN grid corresponds with station 100+00N, 70+00E on the NIK grid. A two man contract line cutting crew, with some assistance by Noranda personnel, developed the 30 miles of line comprising the SAN grid.

GEOCHEMICAL SOIL SURVEY

All samples were analyzed for copper, zinc and molybdenum in the Noranda Exploration Company, Limited laboratory located at 1050 Davie Street, Vancouver, B.C., analyst, Evert VanLeeuwen.

Sampling Method:

Samples were obtained by digging holes with a shovel, to a depth at which the visible C horizon or sub-outcrop was encountered. The C and B horizons were both sampled over the majority of the grid, however, where this was not possible the best sample available 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 hung in a drying cabinet for a period of 24 to 48 hours. They are then mechanically screened and sifted to obtain a -80 mesh fraction.

The determination procedure for total copper, zinc and molybdenum is as follows: 0.200 grams of -80 mesh material is digested in 2 ml. of $HClO_4$ and 0.5 ml. of HNO_3 for approximately four hours. Following digestion each sample is diluted to 5 ml. with demineralized H_2O. A

Varian Techtron Model AA-5 Atomic Absorption spectrophotometer was used to determine the parts per million Cu, Zn, and Mo in each sample.

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

Presentation of Results:

Results of the geochemical soil surveys are contoured and presented on 1" = 400' scale topographic base maps designated Drawing No's 1 - 6. Drawings 1 - 3 show results on the NIK grid and drawings 4 - 6 show results on the SAN grid. Separate drawings are presented for copper, molybdenum and zinc results.

Discussion of Results:

A. NIK Grid

Values for total copper range from a background of less than 100 ppm to anomalous values of 150 ppm to over 3,000 ppm. The copper values when plotted and contoured show several anomalous regions, the trend of which run the length of the grid from approximately 52+00N, 80+00E to 164+00N, 106+00E. Within this trend is an area roughly two thousand feet by twelve hundred feet centered near 96+00N, 92+00E containing inordinately anomalous copper values between 500 ppm and 2,800 ppm.

Values for zinc range from 20 ppm to 140 ppm. Within the NIK grid, the median zinc value is approximately 62 ppm. The higher values encountered were restricted to the portion of the grid from 76+00N to 100+00N and from 70+00E to 58+00E. No significant patterns are indicated by the zinc results.

Values for molybdenum range from 0 to 50 ppm. No meaningfull pattern of anomalous samples is observed although several sample sites having significant molybdenum values lie within the areas outlined for anomalous copper values.

Soil development on the NIK grid is variable. Marshy organic, transported, and residual soils are found within the grid area. The marshy organic soils are, for the most part, restricted to the valley bottom roughly coincident with the 115+00E line. Glacial overburden of a distinct nature is most common on the more gentle lower slopes of the valley. The upper slopes have generally mixed transported residual soils.

Overburden depths are considered to be in the order of several tens of feet in the valley bottom and only a few feet on the valley sides.

B. SAN Grid

Values for total copper range from a background of less than 50 ppm to anomalous values ranging from 75 ppm to 5,500 ppm. The copper values, when plotted and contoured, show a pattern of high values in the southeastern portion of the grid, and another area of high values located west centrally on the grid. Other anomalies of less intense expression are located on the eastern and northwestern portion of the grid.

The highest value of 5,500 ppm is correlatable with mineralization at that point.

Values for zinc range from below 20 ppm to 310 ppm with only a very few samples yielding low order anomalous values. These are located on the west central portion of the grid. No significant patterns are indicated by the zinc results.

Values for molybdenum range from 0 to 275 ppm. The values when plotted and contoured show a trend of higher values extending in a "broken chain" from the southestern to the northwestern portions of the grid. There is close correlation between high molybdenum and high copper values over many but not all of the anomalous areas outlined. One of the more significant areas of correlation may be the relatively large area outlined by high copper and molybdenum geochemistry on the southeastern portion of the grid.

Soil development over the SAN grid is variable from organic marsh types to well developed A, B, and C type horizons. The central part of the SAN grid is located over a large meadow with grass and willow vegetation cover. A clay and coarse sandy soil underlies much of this portion of the grid. The timbered side slopes of the valley have soils with a generally much better developed B horizon and lacking the same clay content as the meadow soils.

No conclusive indication of the depth of overburden in the meadow was found, but it is felt that depths could be in the order of a few tens to several tens of feet. Overburden depths on the timbered side hills are estimated to be in the order of afew feet to a few tens of feet.

The high clay content of the meadow soils may have a suppressing effect on the geochemical expression of underlying rock. Some portions of the meadow are relatively free draining while others are very wet. There appears to be a direct correlation between the very wet areas and high clay content of the soils. The nature of float from soil holes indicate that much of the overburden within the meadow may be derived from glacially

deposited material. Detritus from soil holes on the valley sides indicate a mixed transported and residual origin of the soils.

RECOMMENDATIONS & CONCLUSIONS

A. NIK Grid

The results of the soil programme indicate that the area of prime interest on the NIK grid lies between the 84+00N and 100+00N lines and the 86+00E and 100+00E lines. Other areas, of secondary interest, are also found within the grid area. Because of the sparse extent of outcrop over the areas of importance, geological mapping is of only limited value. Geophysical surveys may be the best method of further delineating the areas of major concern and importance.

B. SAN Grid

The results of the soil program on the SAN Grid indicate the southeastern grid area has an anomalously high geochemical expression for both copper and molybdenum. This area is approximately 2,400 by 2,000 feet in extent and lies between lines 482+00E, 506+00E, 420+00N and 444+00N. Several other areas of correlatable copper and molybdenum geochemistry exist but their extent is much more limited.

The extreme anomalous value of 5,500 ppm copper and 270 ppm molybdenum is correlatable with a mineralized outcrop of very limited exposure. The extensive overburden cover and lack of outcrop over most of the grid area negates much of the effectiveness and usefulness of geological mapping.

Geophysical surveys on both the SAN and the NIK grids, expansion of the SAN grid where warranted, and additional sampling on intermediate lines will determine future work on this property.

Respectfully submitted,

W.A. Howell

W.A.Howell, B.Sc.

G. E. Dirom

G. E. Dirom, P.Eng.

SUPPLEMENT TO THE REPORT ON THE GEOCHEMICAL SURVEY ON THE KWANIKA PROPERTY OF NORANDA EXPLORATION COMPANY, LIMITED BY W.A.HOWELL and GAVIN E. DIROM, P.Eng.

QUALIFICATIONS OF FIELD PERSONNEL

Mr. W.R. Bankiner is currently a senior party leader and has been employed by Noranda Exploration Company, Limited from August 1964 to September 1968 and from July 1969 to the present time.

Messrs Rowlands, Vetterli, Harrison and Wong were employed by Noranda Exploration Company, Limited as senior field assistants and have worked a minimum of three field seasons in this capacity.

Messrs Melissen, Sobkowicz, McKillop, Price, House and Burniston were employed by Noranda Exploration Company, Limited as junior field assistants and have worked a minimum of one field season in this capacity.

Gavin E. Dirom, P.Eng.

STATEMENT OF QUALIFICATIONS

I, WILLIAM A. HOWELL, of the Town of Smithers, Province of British Columbia, do certify that:

1. I am a graduate of the University of British Columbia with a Bachelor of Science Degree in Geology. (1971).

2. I am a member of the Geological Association of Canada.

3. I have been employed by Noranda Exploration Company, Limited (N.P.L.) since March, 1972.

Dated this 13 day of September, 1972.

W.A. Howell

W. A. HOWELL, Geologist

CERTIFICATE

I, GAVIN EWAN DIROM, of the Town of Smithers, Province of British Columbia, do certify that:

1. I am a Geological Engineer residing at 52 North 14th Avenue, Smithers, B.C.

2. I am a graduate of the University of British Columbia with a B.A.Sc Degree (1962) in the geophysical option of Geological Engineering and a M.A.Sc Degree (1965) in Geophysics.

3. I am a Member of the Canadian Institute of Mining and Metallurgy.

4. I am a registered Professional Engineer in the Provinces of British Columbia and Ontario.

5. I have been employed as a geologist for Noranda Exploration Company, Limited since June, 1962 and have held the position of District Geologist - Northern B.C. since March, 1967.

Dated at Smithers this 13 day of September, 1972

GAVIN E. DIROM, M.A.Sc., P.Eng.

DOMINION OF CANADA:

PROVINCE OF BRITISH COLUMBIA.

TO WIT:

In the Matter of a statement of Exploration Expenses on 193 contiguous Mineral Claims situate in the Omineca Mining District and having record numbers 102454-102513, 105672-105677, 106891-106926, 100961 -100982, 102609-102630, 105121-105167 - Kwanika Property.

I, **William A. Howell, (F.M.C. 109124 issued April 28, 1972) of P.O. Box 2169, Smithers, B.C. agent for Noranda Exploration Company, Limited (N.P.L.) (F.M.C. 109102 issued April 28th, 1972 of 1050 Davie Street, Vancouver 5, B.C.**

of

in the Province of British Columbia, do solemnly declare that **the cost of Geochemical Surveys on the above listed Mineral Claims between August 15, 1971 and August 5, 1972 was:-**

1. **LINE PREPARATION**

a) **Pete Bland & Fred Bland (Contract) Sept. 9-Oct. 1/71**

25.3 miles @ $100/line-mile - $2,530.00

b) **Pete Bland & Fred Bland (Contract) June 27-July 8/72**

21,000' @ $125.00/mile - $ 496.17

109,600' @ $ 75.00/mile - $1,556.81

c) **Noranda Personnel:-**

R. Bankiner	**- Aug. 23, 26, Oct. 9, 10, (1971)**	**- 4 m days**
R. Bleaney	**- Aug. 18 (1971)**	**- 1 "**
M. Melissen	**- Oct. 9, 10, 11, (1971)**	**- 3 "**
J. Rowlands	**- Aug. 18, 23, 26, (1971) June 28-30/72 July 27-Aug. 1/72**	**-12 "**
J. Sobkowicz	**- June 28-30/72, July 27-Aug. 1/72**	**- 9 "**
M. Vetterli	**- July 24, July 31, Aug.1-2/72**	**- 4 "**
	Total	**-33 m-days**

Average labour cost/man-day = $27.13

- 27.13 X 33 $ 895.29

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the Town of Smithers, in the Province of British Columbia, this 13th day of September 1972, A.D.

W.A. Howell

A Commissioner for taking Affidavits for British Columbia or ~~A Notary Public in and for the Province of British Columbia~~.

DOMINION OF CANADA:
PROVINCE OF BRITISH COLUMBIA.
TO WIT:

In the Matter of

I,

of

in the Province of British Columbia, do solemnly declare that

d) **Field Costs (Excluding Helicopter Transportation)**

1. **Room & Board, Supplies etc. Est. $10.00/man-day.**

Applicable man-days - 57

= 57 X $10.00 = $ 570.00

Total Line Cutting $6,048.27

Total line-miles established = 58½ miles

2. **TOPOGRAPHIC MAPPING - Lockwood Survey Corporation $1,027.18**

3. **SAMPLE COLLECTION**

A. Labour (Including W.C.B., U.I.C., Holiday Pay, Canadian Pension, etc.)

Employees:-

M. Vetterli - Sept. 18-23, 25, Oct. 3-4, 6, 7, (1971)	**-**	**11 man-days**
J. Harrison - Sept. 22 - Oct. 1/1971	**-**	**10 "**
M. Melissen - Oct. 1, 3-7, 12, 13-14	**-**	**4 "**
G. McKillop - Aug. 26/71	**-**	**1 "**
S. Wong - Aug. 26/71	**-**	**1 "**
W. Bankiner - Aug. 21/71	**-**	**1 "**
J. Price - Sept. 22-25/71	**-**	**4 "**
Z. House - June 27-July 9, July 24, (1972)	**-**	**14 "**

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the
of , in the
Province of British Columbia, this
day of , A.D.

A Commissioner for taking Affidavits for British Columbia or
A Notary Public in and for the Province of British Columbia.

DOMINION OF CANADA:
PROVINCE OF BRITISH COLUMBIA.
TO WIT:

In the Matter of

I,

of

in the Province of British Columbia, do solemnly declare that

J. Rowlands - Aug. 31/71, July 3, 9, 10, (1972) - 4 man-days

B. Burniston - June 30 - July 9, July 24/72 - 11 man-days

Total - 66 man-days

Average Labour Cost/Man-day = $23.80
- $23.80 X 66 = $1,570.80

Field Costs (Excluding Helicopter Transportation)

66 man-days @ $10.00/man-day = 660.00

4. **GEOCHEMICAL DETERMINATIONS**

1,231	Cu @ 80	-	$ 984.80
1,231	Mo @ 30	-	369.30
1,231	Zn @ 30 (1971 rates)		369.30
1,250	Cu @ 65	-	812.50
1,250	Mo @ 10	-	125.00
1,250	Zn @ 10 (1972 rates		125.00
		=	$2,785.90

Total Geochem. $ 5,016.70

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the
of , in the
Province of British Columbia, this
day of , A.D.

A Commissioner for taking Affidavits for British Columbia or
A Notary Public in and for the Province of British Columbia.

DOMINION OF CANADA:
PROVINCE OF BRITISH COLUMBIA.
TO WIT:

In the Matter of

I,

of

in the Province of British Columbia, do solemnly declare that

5. NECESSARY TRANSPORTATION

Movement of Personnel, Supplies, Camps, and Samples, Smithers, B.C. to Germansen Landing to Kwanika Project and return during period August 1, 1971 and July 31, 1972. Total Kwanika transportation costs as per company records exceeds $10,000. Of this amount, approximately 20 to 25% pertains to surveys covered by this affidavit. Say, therefore, - $ 2,000.00

6. SUPERVISION, CONSULTATION AND REPORT PREPARATION

G.E. Dirom - Aug. 1, 1971 to Aug. 31, 1972 - 8 man-days

W.A. Howell - May 1, 1971 to Aug. 31, 1972 -14 "

Total 22 man-days

22 man-days @ $50.00/man-day = $1,100.00

7. DRAUGHTING & TYPING

6 man-days @ $25.00/man-day = 150.00

Total - $ 1,250.00

Total - $15,342.15

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the
of , in the
Province of British Columbia, this
day of , A.D.

A Commissioner for taking Affidavits for British Columbia or
A Notary Public in and for the Province of British Columbia.

LEGEND

Cu value contours

= 150 ppm Cu.

= 300 ppm Cu.

260 / 66 / 0 ← Read 260 ppm Cu, 66 ppm Zn, 0 ppm Mo.

80 / 50 / 0 ← 1st level sampled → 80 / 50 / 0 | 30 / 38 / 0

30 / 38 / 0 ← 2nd level sampled →

Department of Mines and Petroleum Resources

ASSESSMENT REPORT

NO. 3856 MAP #3

REVISED
May '72 GAD

SOIL GEOCHEMISTRY

PROJECT: KWANIKA (NIK)

PROJ. Nº

N.T.S. 93-N-8E, 8-W

SURVEYED BY:

DRAWN BY: A.P.

DATE:

SCALE: 1" = 400'

DWG. Nº 1

NORANDA EXPLORATION CO. LTD.

OFFICE: SMITHERS

To accompany Geochemical Report by G.E. Dirom, P.Eng and W.A. Howell, Geologist on the Kwanika Property, Omineca Mining Division.

W.A. Howell Dated August 23, 1972.

LEGEND

Mo. value contours

± 10 ppm Mo.

= 5 ppm Mo.

260 / 68 / 0 — Read 260 ppm Cu, 66 ppm Zn, 0 ppm Mo.

80 / 50 / 0 ← 1st level sampled

80 / 50 / 0 ← 2nd level sampled

To accompany Geochemical Report by G.E. Dirom, P.Eng and W.A. Howell, Geologist, on the Kwanika Property, Omineca Mining Division.

W.A. Howell

Dated August 23, 1972.

REVISED
May 72 C.A.D

SOIL GEOCHEMISTRY

PROJECT: KWANIKA (NIK)

PROJ. Nº

SURVEYED BY:

DATE:

N.T.S.

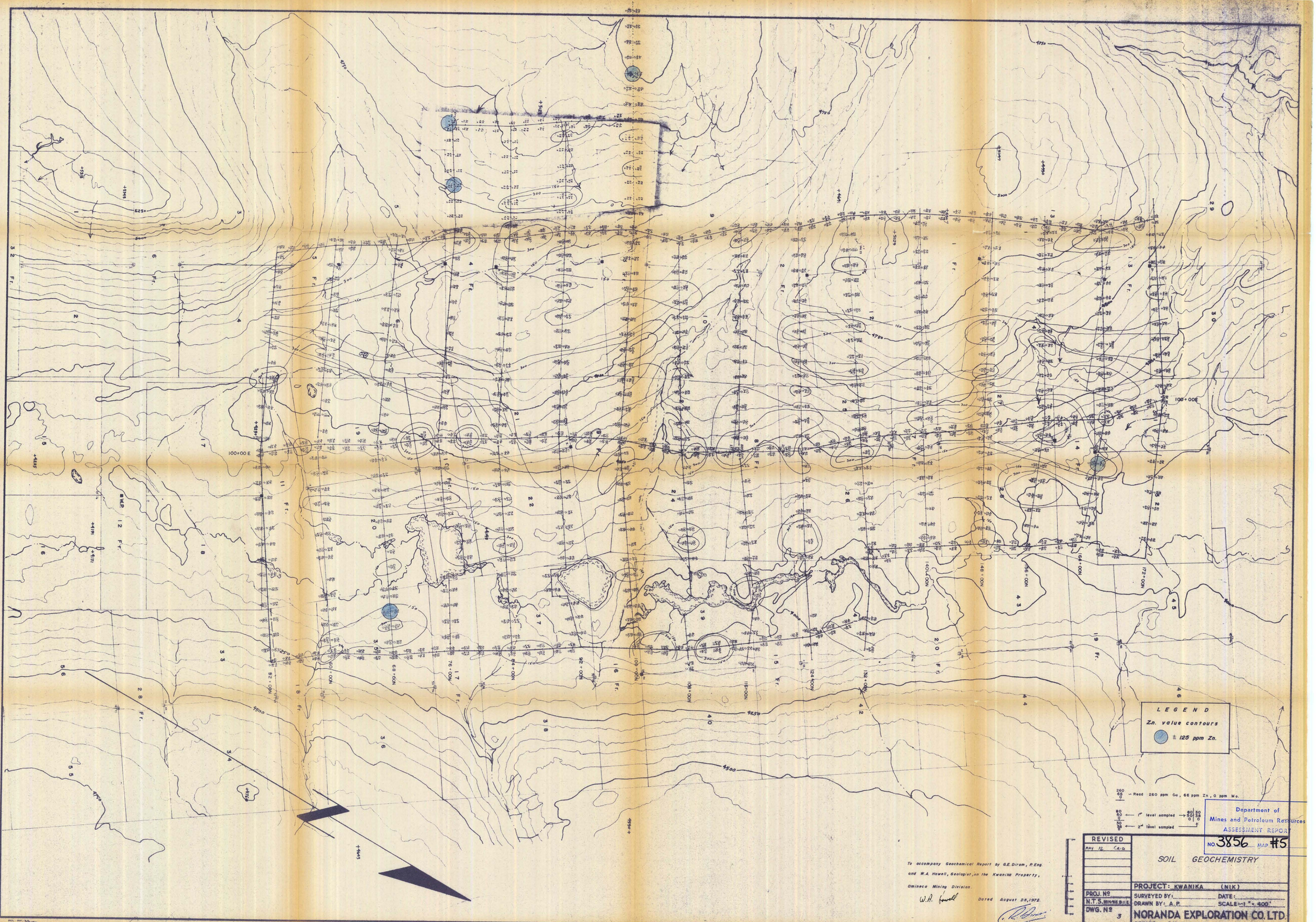
DRAWN BY: A.P.

SCALE: 1" = 400'

DWG. Nº 2

NORANDA EXPLORATION CO. LTD.

OFFICE: SMITHERS



To accompany Geochemical Report by G.E. Dirom, P.Eng. and W.A. Howell, Geologist, on the Kwanika Property, Omineca Mining Division.

W.A. Howell Dated August 25, 1972.

G. E. Dirom

REVISED
May 22 (N.T.S.)

SOIL GEOCHEMISTRY

PROJECT: KWANIKA (NIK)

PROJ. Nº

SURVEYED BY: DATE:

N.T.S. 93N/6E & 11E

DRAWN BY: A.P. SCALE: 1" = 400'

DWG. Nº 3

NORANDA EXPLORATION CO. LTD.

OFFICE: SMITHERS

450 E

480 E

510 E

To accompany Geochemical Report by G.E. Drom, P.Eng. and W.A. Howell, Geologist, on the Kwanika Property, Omineca Mining Division

W.A. Howell

G.E. Drom

Dated August 23, 1972.

ppm total Cu, ppm total Mo.

LEGEND

Cu. Contours

75 ppm

150 ppm

300 ppm

REVISED

SILT & SOIL SURVEY

ppm total Cu., ppm total Mo.

PROJECT: KWANIKA (SAN)

PROJ. No. 1010

SURVEYED BY:

DATE:

N.T.S. 93N/6E 93E

DRAWN BY: A.P.

SCALE: 1" = 400'

DWG. No. 4A

NORANDA EXPLORATION CO. LTD.

OFFICE: SMITHERS

Department of Mines and Petroleum Resources

ASSESSMENT REPORT NO. 3856 M.P. #6

450 E

480 E

510 E

To accompany Geochemical Report by G.E. Dirom, P.Eng.
and W.A. Howell, Geologist, on the Kwanika Property,
Omineca Mining Division

W.A. Howell — Dated August 23, 1972.
Revised October 30, 1972.

ppm total Cu, ppm total Mo.

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3856 MAP #7

REVISED	SILT & SOIL SURVEY
	ppm total Cu, ppm total Mo.
PROJ. Nº 1010	PROJECT: KWANIKA (SAN)
N.T.S. 93N/9E,8W	SURVEYED BY: DATE:
DWG. Nº 4B	DRAWN BY: A.P. SCALE: 1" = 400'
	NORANDA EXPLORATION CO. LTD
	OFFICE: SMITHERS

LEGEND

Cu. contours:

- 75 ppm Cu.
- 150 ppm Cu.
- 300 ppm Cu.

450 E

480 E

510 E

To accompany Geochemical Report by G.E. Dirom, P.Eng. and W.A. Howell, Geologist, on the Kwanika Property, Omineca Mining Division

W.A. Howell — Dated August 23, 1972.

ppm total Cu, ppm total Mo.

" " Mo.

LEGEND

Mo. contours

10 ppm Mo.

25 ppm Mo.

REVISED

SILT & SOIL SURVEY

ppm total Cu, ppm total Mo.

PROJECT: KWANIKA (SAN)

PROJ. Nº 1010

SURVEYED BY: DATE:

N.T.S. 93N/6E 93E

DRAWN BY: A.P SCALE: 1" = 400'

DWG. Nº 5A

NORANDA EXPLORATION CO. LTD.

OFFICE: SMITHERS

Department of Mines and Petroleum Resources

ASSESSMENT REPORT

NO. 3856 MAP #8

450 E

480 E

510 E

To accompany Geochemical Report by G.E. Dirom, P.Eng. and W.A. Howell, Geologist, on the Kwanika Property, Omineca Mining Division

W.A. Howell — Dated August 23, 1972. Revised October 30, 1972.

G.E. Dirom

ppm total Cu, ppm total Mo.

" " Mo

LEGEND

Mo. contours

10 ppm Mo.

25 ppm Mo.

REVISED

gridline values 28/10/72

SILT SOIL SURVEY

ppm total Cu, ppm total Mo.

PROJECT: KWANIKA (SAN)

PROJ. Nº 1010

N.T.S. 93N/6E & 11E

SURVEYED BY:

DRAWN BY: A.P.

DATE:

SCALE 1" = 400'

DWG. Nº 5B

NORANDA EXPLORATION CO. LTD.

OFFICE: SMITHERS

450 E

480 E

510 E

To accompany Geochemical Report by G.E. Dirom, P.Eng.
and W.A. Howell, Geologist, on the Kwanika Property,
Omineca Mining Division

W.A. Howell

C.R. Dirom

Dated August 25, 1972

LEGEND

Zn. contours

over 125 ppm Zn.

REVISED	
	SILT & SOIL SURVEY
	ppm total Zn.
	PROJECT: KWANIKA (SAN)
PROJ. No 1010	SURVEYED BY: DATE:
N.T.S. 93N/6E, 11E	DRAWN BY: A.P. SCALE: 1" = 400'
DWG. No 6	NORANDA EXPLORATION CO. LTD.
	OFFICE: SMITHERS