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GEOLOGICAL AND GEOCHEMICAL REPORT

ON THE

CHUCHI B GROUP

N.T.S. 93 N/1 & 2

OMINECA MINING DIVISION

SITUATED AT CO-ORDINATES: 55° 15' N
124° 30' W

NORANDA EXPLORATION COMPANY, LIMITED
(NO PERSONAL LIABILITY)

BY: TERRY CAMPBELL

GEOLOGICAL BRANCH
ASSESSMENT REPORT

18,282

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(located in pocket file)

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SUMMARY:

The Chuchi B Group was acquired in the fall of 1987 to cover recon stream geochem anomalies and a roadside soil anomaly detected earlier in the year. Preliminary geologic mapping and soil sampling was conducted by Noranda personnel in late September of 1988. Two grids were established, the Norn and the Tyrone.

Soil geochemistry failed to outline an area of anomalous geochem, but several isolated geochem anomalies warrant future field examination.

INTRODUCTION:

The property was staked in the fall of 1987 to cover recon pan concentrates and a recon roadside soil anomaly along the Indata-Germansen logging road on the north side of Chuchi Lake. Preliminary geologic mapping and soil sampling were conducted in late September of 1988. Two grids were established, the Norn and the Tyrone.

LOCATION & ACCESS:

The claims are located along the north shore of Chuchi Lake, approximately 180 kilometers northwest of Prince George.

Access to the property is via the Indata-Germansen logging road, which is presently only summer access. Both grids can be immediately accessed by road.

CLAIM STATISTICS:

NAME	RECORD #	# UNITS	RECORD DATE	OWNER
NORN	9078	20	Oct 22, 1987	Norex
KLAW 5	9196	18	Nov 25, 1987	Norex
KLAW 6	9197	12	Nov 25, 1987	Norex

TOPOGRAPHY & VEGETATION:

The area is characterized by low rolling glacial topography, including pine flats, outcrop ridges and knobs and low swampy valleys. Elevations range from 868 meters on Chuchi Lake to 1200 meters.

Vegetation consists of mature stands of spruce, pine and balsam, which has been logged off in many areas on the property. Undergrowth is mainly small cedar, alder and devil's club.

GRIDS:

Two grids have been established in this group of claims; the Norn grid and the Tyrone grid. The Norn grid is situated on the Norn claim and consists of 2.325 kilometers of flagged grid line controlled by 400 meters of cut base line at an azimuth of 150 degrees.

The Tyrone grid is situated on the Klaw 6 claim and consists of 2.575 kilometers of flagged grid line controlled by 400 meters of cut base line at an azimuth of 090 degrees.

REGIONAL GEOLOGY:

The Chuchi B claim group lies in a broad northwest trending package of rocks known as the Quesnel Trough. These include Upper Triassic to Lower Jurassic volcanics and sediments which have been intruded by the Hogem Batholith and numerous other felsic to mafic stocks, ranging in age from Triassic to Cretaceous.

The Quesnel Trough is bounded to the west by the Pinchi Fault.

LOCAL GEOLOGY:

Outcrop on the two grids is fairly sparse, but what outcrop was observed, indicates the areas appear to mainly underlain by andesites and siltstones which have been intruded by several gabbro and diorite dykes.

The andesites are typically pale green, well foliated, moderately silicified and minor epidote alteration. The siltstones are usually hornfelsed, mottled and highly fractured with 1-2% pyrite.

The gabbro and diorite occur as small dykes cutting the sediments and volcanics, possibly causing the hornfelsing and alteration. All samples have been run for I.C.P. and gold geochem (results in Appendix IV).

GEOCHEMISTRY:

METHOD - (Soils)

A total of 186 soil samples were collected; 91 samples from the Norn grid and 95 samples from the Tyrone Grid. The samples were taken from the B-horizon, 15-35 cm below the surface. The samples were placed in Kraft paper bags, dried and sent to the Noranda Laboratory at 1050 Davie Street, Vancouver, B.C. Each sample was analyzed for copper, zinc, lead, silver, arsenic and gold. The results are plotted on Figures 4-9, located in the pocket file.

OBSERVATIONS -

NORN GRID -

Gold - Gold values range from 10 to 40 ppb, and values greater than 10 ppb are considered weakly anomalous. Five single station anomalies have been outlined:

- 40 ppb L4000N/4225E
- 20 ppb L4000N/4300E
- 20 ppb L3900N/4150E
- 20 ppb L4100N/4200E
- 40 ppb L4200N/3900E

Copper - Values range from 8 ppm to 230 ppm. The average is around 20-25 ppm and values greater than 100 ppm are considered anomalous. Four single station anomalies have been outlined:

- 150 ppm L3800N/3975E
- 230 ppm L3800N/4100E
- 220 ppm L4000N/3800E
- 110 ppm L4000N/4150E

Lead - Values range from 1 ppm to 94 ppm. Most values are in the 1-2 ppm range and values greater than 25 ppm are considered anomalous. Only one anomalous sample (94 ppm) is indicated by the survey and occurs at L4000N/3900E.

Zinc - Values range from 28 ppm to 330 ppm, with the average around 40 to 50 ppm. Values greater than 200 ppm are considered anomalous. One one anomalous sample was indicated:

- 330 ppm L4000N/4125E

Silver - Values range from 0.2 to 1.6 ppm, with the average around 0.4 ppm. Only one sample was greater than 1.0 ppm:

- 1.6 ppm L4000N/3900E

Arsenic - Values range from 1 to 580 ppm. Most values are around 1 to 2 ppm and values greater than 50 ppm are considered anomalous. Two anomalous samples have been outlined on the grid:

- 100 ppm L4000N/3900E
- 580 ppm L4000N/3800E

TYRONE GRID -

Gold - Values range from 5 to 150 ppb. Only two samples are greater than 10 ppb:

- 20 ppb L6900E/5875N
- 150 ppb L7000E/5850N

Copper - Values range from 8 ppm to 360 ppm and the average is around 25 to 30 ppm. Values greater than 100 ppm are considered anomalous.

- 360 ppm L6900E/6150N

Lead - Values range from 2 to 24 ppm. Most values fall between 2 and 4 ppm and values greater than 25 ppm are considered anomalous. None are found on the grid.

Zinc - Values range from 48 to 620 ppm. The average is around 70 to 80 ppm and values greater than 200 ppm are considered anomalous. Two single station anomalies have been outlined:

- L6900E/6150N
- L7000E/6100N

Silver - Values range from 0.2 to 0.8 ppm. Most values are around 0.2 ppm and values greater than 1.0 ppm are considered anomalous:

- 1.4 ppm L6800E/6250N

Arsenic - Values range from 1-20 ppm. No values are considered anomalous.

METHOD - (Rocks)

Eleven rock samples were collected from out-crops located on the Norn and Tyrone grids. The samples were placed in plastic bags and shipped to ACME Analytical Laboratories Ltd., 852 E. Hastings St., Vancouver, B.C. The samples were analyzed for 30 elements by I.C.P. and Au by acid leach.

OBSERVATIONS -

On the Tyrone grid, sample 86904, a hornfelsed siltstone with minor pyrite, has anomalous values of:

- 420 ppb Au
- 13.7 ppm Ag
- 296 ppm Pb
- 304 ppm As

Five rocks on the Tyrone and Norn grids were anomalous for Copper.

- 86901 114 ppm Cu
- 86903 102 ppm Cu
- 86905 102 ppm Cu
- 86909 162 ppm Cu
- 86911 268 ppm Cu

CONCLUSIONS:

No large geochemically anomalous area was outlined on either grid, but several isolated, interesting anomalies have been detected. The alteration and hornfelsing of the andesites and siltstones may indicate a close proximity to Cu-Au mineralized system.

RECOMMENDATIONS:

The only further work warranted on these grids at present is a field examination of some of the isolated anomalies.

APPENDIX I

STATEMENT OF WORK

a)	WAGES:	
	Geology - 2 mandays @ \$150/day	\$ 300.00
	Linecutting - 4 mandays @ \$100/day	\$ 400.00
	Soil Sampling - 3 mandays @ \$100/day	\$ 300.00
b)	FOOD, ACCOMMODATIONS & TRANSPORTATION:	
	9 days @ \$50/day	\$ 450.00
c)	COST OF ANALYSIS:	
	186 samples @ \$15.00/sample	\$2,790.00
d)	COST OF REPORT PREPARATION:	
	Author \$200.00	
	Drafting \$200.00	
	Typing \$ 50.00	\$ 450.00

	TOTAL COST	\$4,690.00

APPENDIX I
COST BREAKDOWN

a)	GEOLOGY:	
	Wages	\$ 300.00
	Food, Accommodations & Transportation	\$ 100.00
	Report Preparation	\$ 200.00

		\$ 600.00
b)	SOIL GEOCHEMISTRY:	
	Wages	\$ 300.00
	Food, Accommodations & Transportation	\$ 150.00
	Cost of Analysis	\$2,790.00
	Report Preparation	\$ 250.00

		\$3,490.00
c)	LINE CUTTING:	
	Wages	\$ 400.00
	Food, Accommodations & Transportation	\$ 200.00

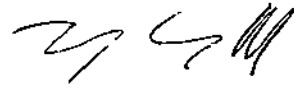
		\$ 600.00

APPENDIX II

STATEMENT OF QUALIFICATIONS

I, Terrence Campbell, of Prince George, Province of British Columbia, do hereby certify that:

1. I am a geologist residing at 7740 Gladstone Drive, Prince George, British Columbia.
2. I am a 1985 graduate of the University of British Columbia, B.Sc. (Geology).
3. I am a member in good standing of the British Columbia Yukon Chamber of Mines.
4. I presently hold the position of Field Geologist with Noranda Exploration Company, Limited (no personal liability) and have been in their employ since 1986.



Terrence Campbell

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	

APPENDIX IV

GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
 THIS LEACH IS PARTIAL FOR NH FE SR CA P LA CR HG BA TI B V AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
 - SAMPLE TYPE: ROCK AU ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

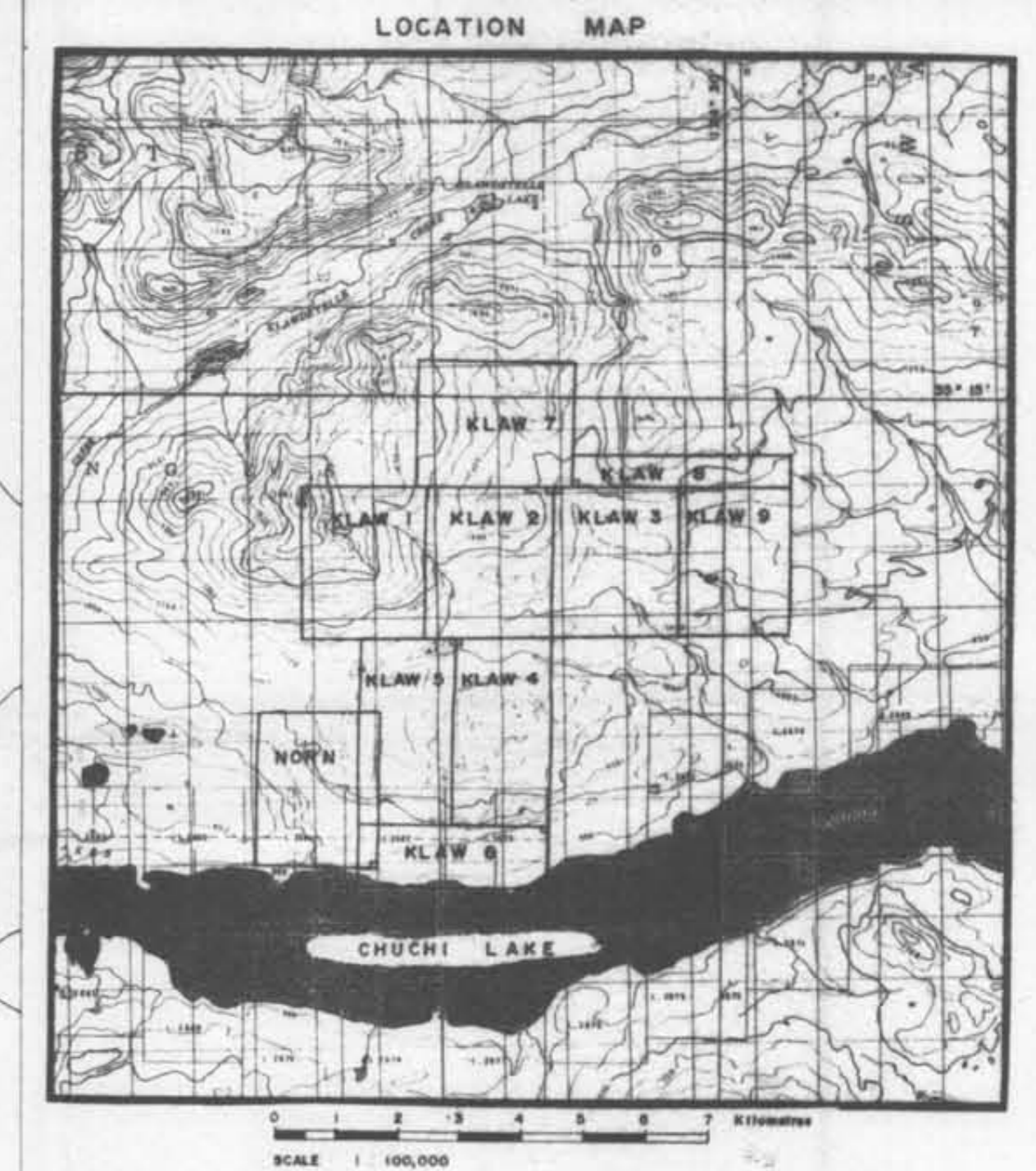
DATE RECEIVED: DEC 1 1988 DATE REPORT MAILED: Dec 5/88 SIGNED BY: *C. Long* D. TOYE, C. LIONG, B. CHAN, J. WANG; CERTIFIED B.C. ASSAYERS

NORANDA EXPLORATION PROJECT 8812-003 243 / File # 88-6108

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Tb	St	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Mg	K	V	Au*
	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	%	PPM	PPM	%	PPM	%	PPM	%	%	%	PPM	PPM
86931	1	114	21	48	.1	14	18	235	4.10	31	5	ND	1	160	1	14	2	90	2.54	.122	2	9	1.23	98	.11	2	4.45	.33	.33	1	6
86902	1	50	10	37	.1	8	9	190	1.51	18	5	ND	1	96	1	2	2	59	4.18	.103	2	10	.55	34	.09	2	2.48	.05	.12	2	1
86903	1	102	3	49	.2	23	15	465	3.17	19	5	ND	1	41	1	2	2	71	2.06	.119	3	17	.80	19	.12	2	2.12	.06	.14	1	6
86904	65	79	296	179	13.7	26	31	72	5.09	304	5	ND	1	9	2	12	3	17	.31	.061	2	6	.06	10	.01	2	.62	.03	.13	3	420
86905	1	102	2	41	.1	12	13	317	3.29	2	5	ND	1	154	1	2	2	102	2.74	.116	5	12	1.18	129	.15	2	3.68	.23	.32	1	1
86906	1	1	12	28	.2	23	25	198	2.05	187	5	ND	5	57	1	2	2	74	5.23	.095	7	27	.12	28	.09	2	1.25	.01	.03	1	2
86907	1	11	21	53	.1	17	10	244	1.67	143	5	ND	1	72	1	2	2	59	1.29	.092	3	25	.39	55	.09	2	1.36	.07	.12	1	2
86908	1	69	2	58	.1	5	17	708	4.94	11	5	ND	1	67	1	2	2	122	1.18	.110	4	8	1.37	290	.18	2	2.48	.12	.97	1	1
86909	3	162	5	48	.1	8	11	769	2.73	5	5	ND	1	49	1	2	2	101	3.83	.085	3	18	.98	72	.10	2	2.86	.13	.44	1	2
86910	1	25	4	41	.1	6	15	452	3.18	36	5	ND	1	68	1	2	2	88	2.83	.100	3	8	.82	35	.09	139	2.64	.06	.12	1	2
86911	1	268	6	63	.1	29	29	931	6.76	64	5	ND	1	49	1	7	2	100	4.75	.135	6	28	.62	33	.01	8	1.60	.01	.39	1	3
STD C/AU-R	18	59	42	133	7.2	70	29	1018	3.94	38	18	6	35	48	17	18	19	56	.50	.091	35	56	.88	165	.06	34	1.93	.06	.14	11	505

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ROCK TYPES

- V₂ ANDESITE
- S₂ SILTSTONE
- P₁ GABBRO
- P₂ DIORITE

- ep epidote
- chl chlorite
- sil silicified
- py pyrite
- mt mottled
- ht hornfelsed

SYMBOLS

- Lake
- Foot sample location
- Rock sample location
- Outcrop large, small
- Clear-cut
- Logging roads
- Swamp area

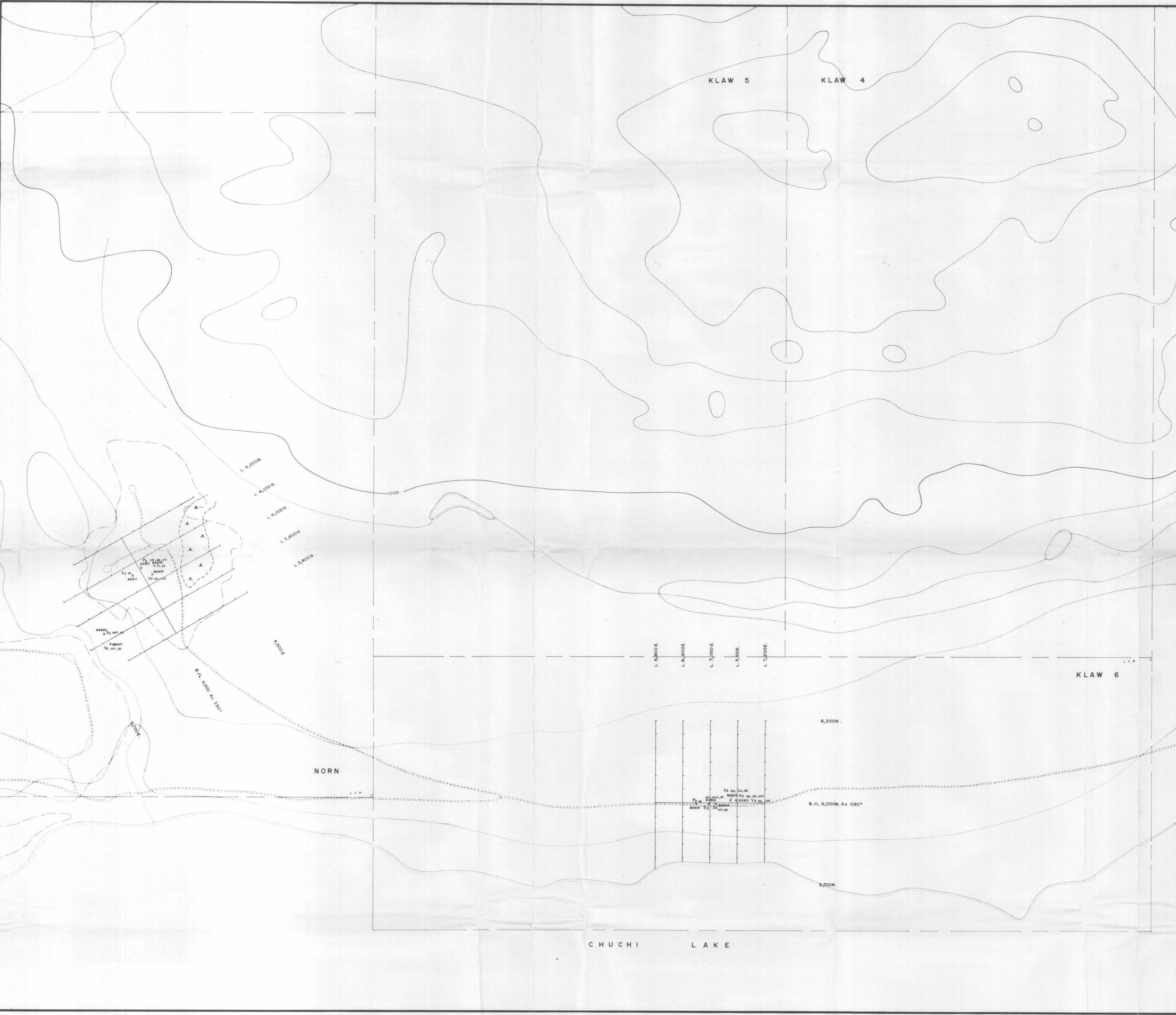
GEOLOGICAL BRANCH ASSESSMENT REPORT

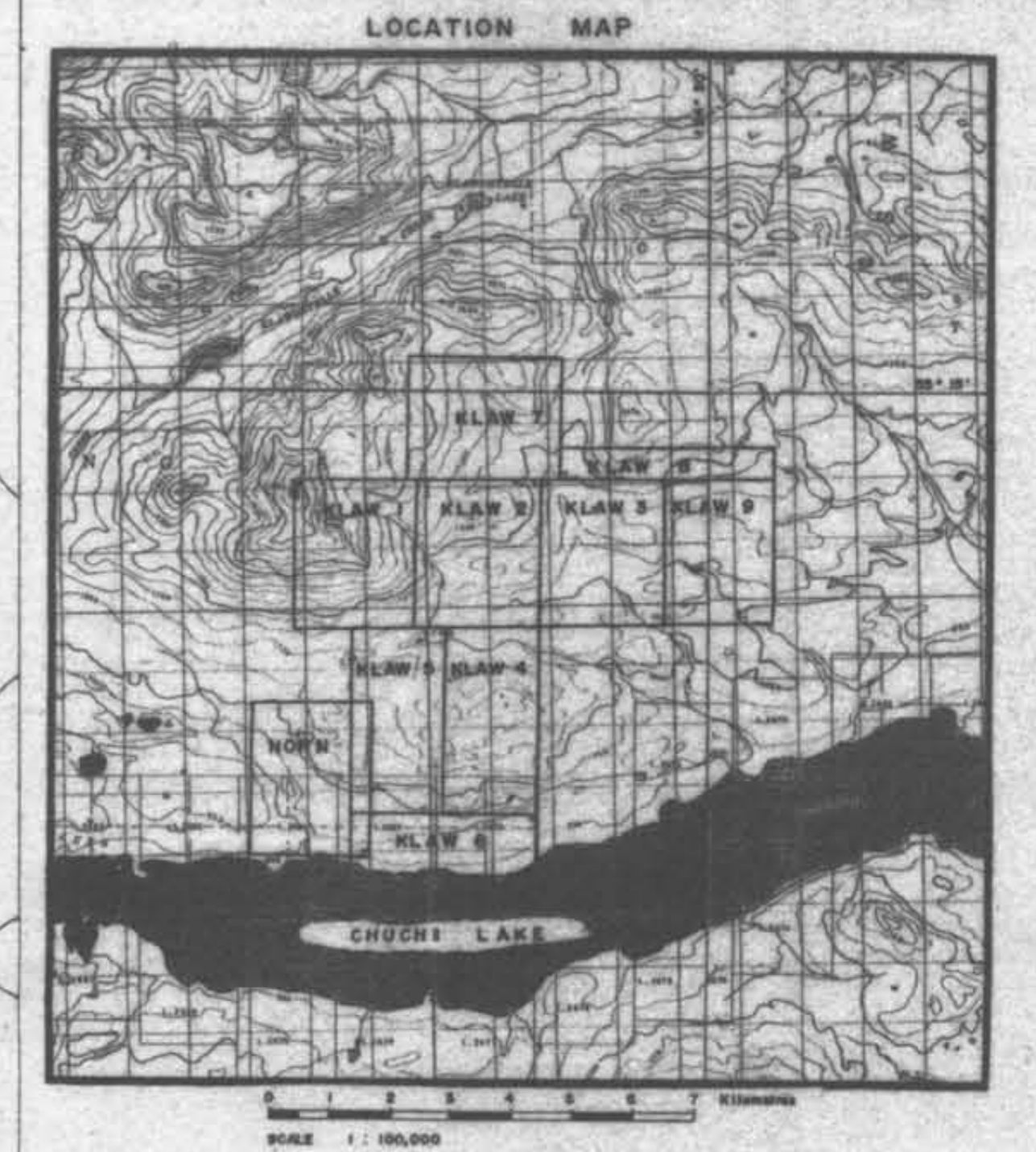
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Map Sheet Index		
9	8	7
4	5	6
3	2	1



REVISED	CHUCHI LAKE	
	GEOLOGY MAP	
PROJ. No. 243	SURVEY BY: T.C., B.C.	DATE: Sept., 1988
N.T.S. 33 N/2	DRAWN BY: S.K.B.	SCALE: 1:5,000
DWG. No.	NORANDA EXPLORATION	
FIG. 3	OFFICE: PRINCE GEORGE, B.C.	





LEGEND

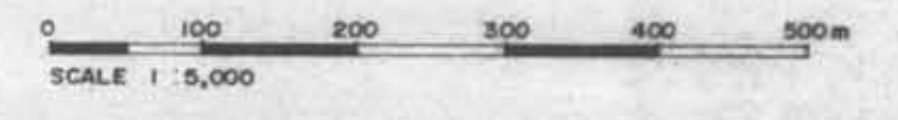
10 Soil Geochem Survey Au (ppb)

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

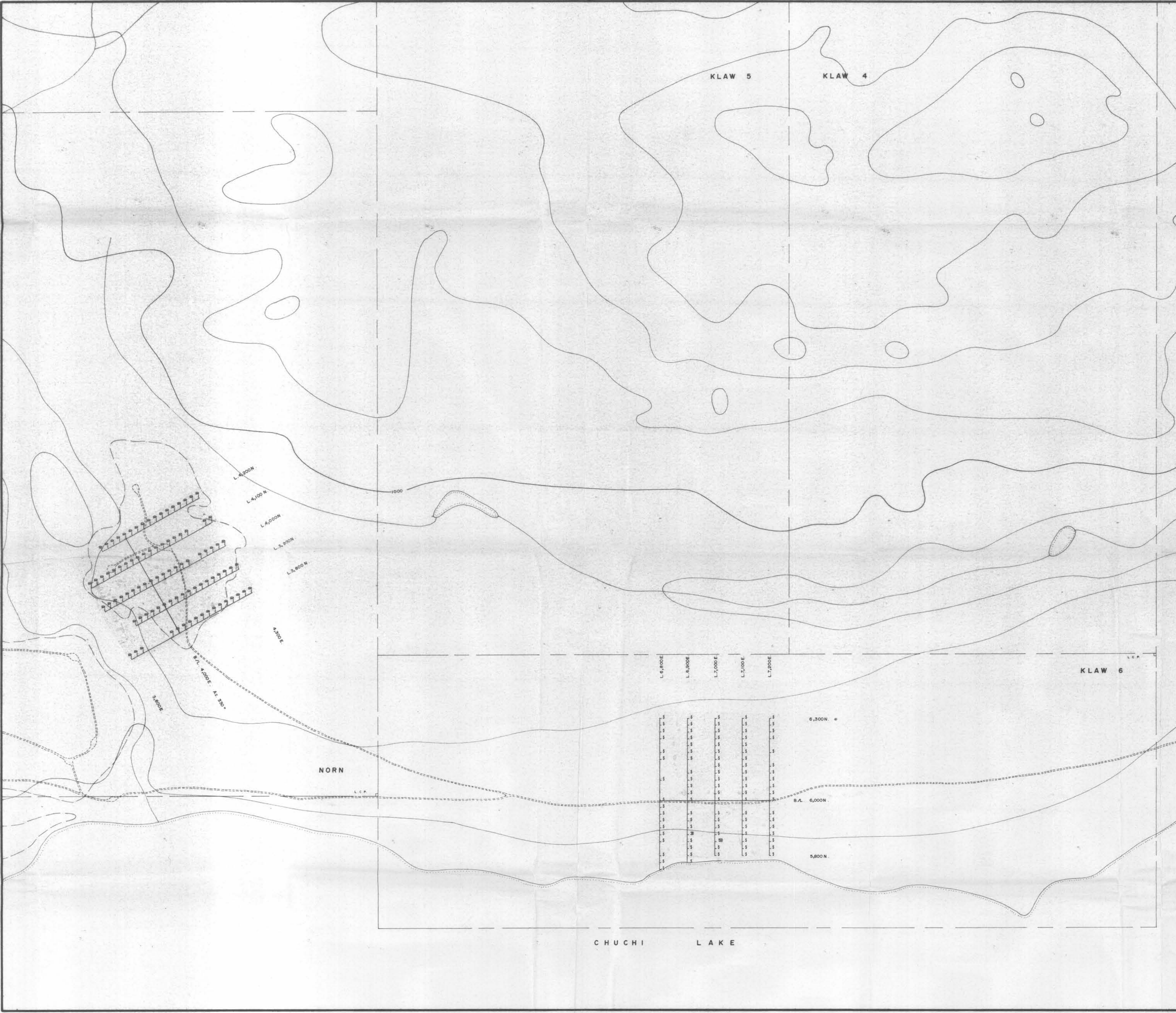
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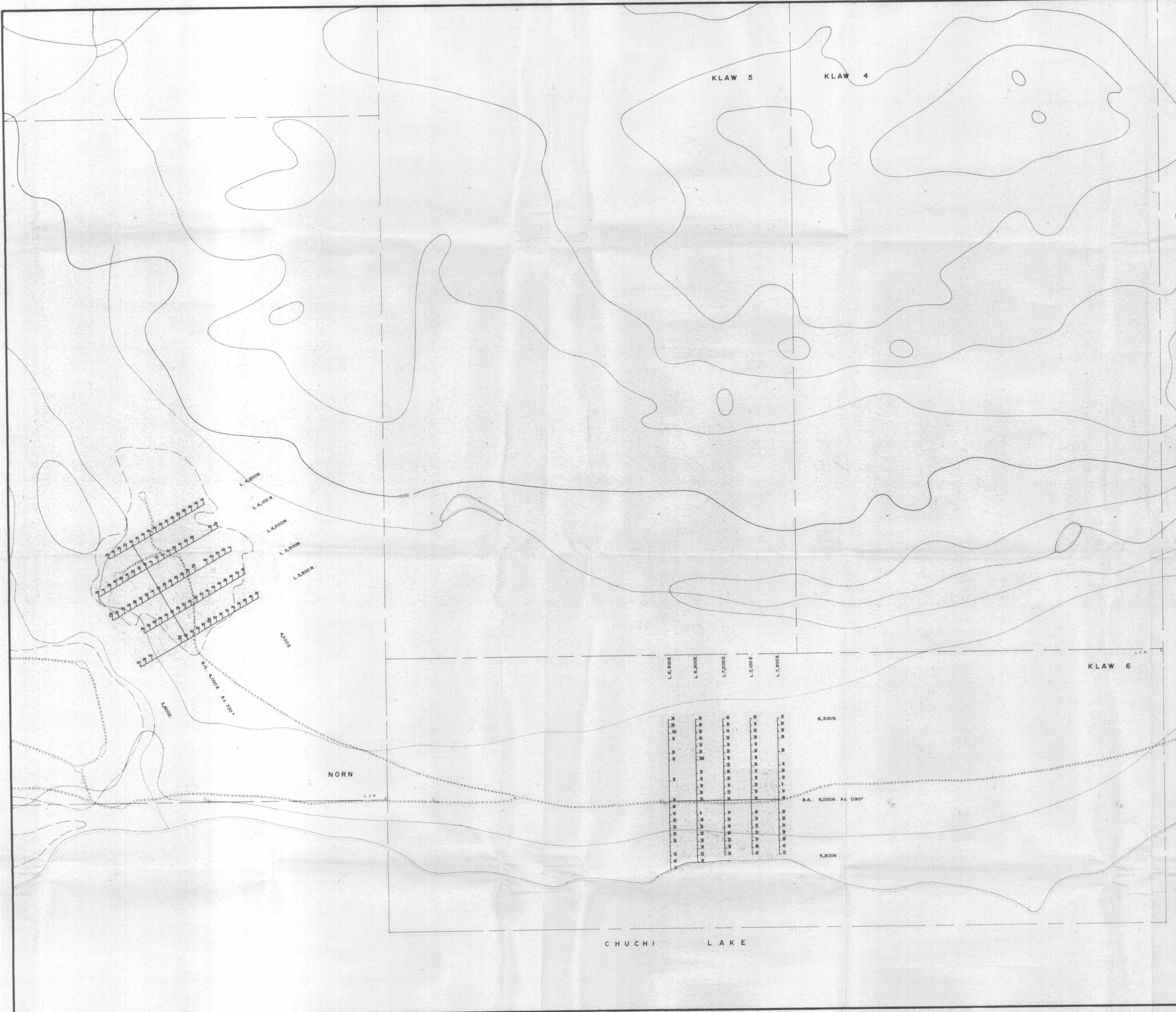
Map Sheet Index

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4	5	6
3	2	1



REVISED	CHUCHI LAKE	
	SOIL GEOCHEM SURVEY	
	Au (ppb)	
PROJ. No. 243	SURVEY BY: T.C., B.C.	DATE: 5/21, 1988
N.T.S. 33 N/2	DRAWN BY: S.K.B.	SCALE: 1:5,000
DWG. No.	NORANDA EXPLORATION	
FIG. 4	OFFICE: PRINCE GEORGE, B.C.	





LEGEND

20 Soil Geochem Survey Cui (ppm)

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

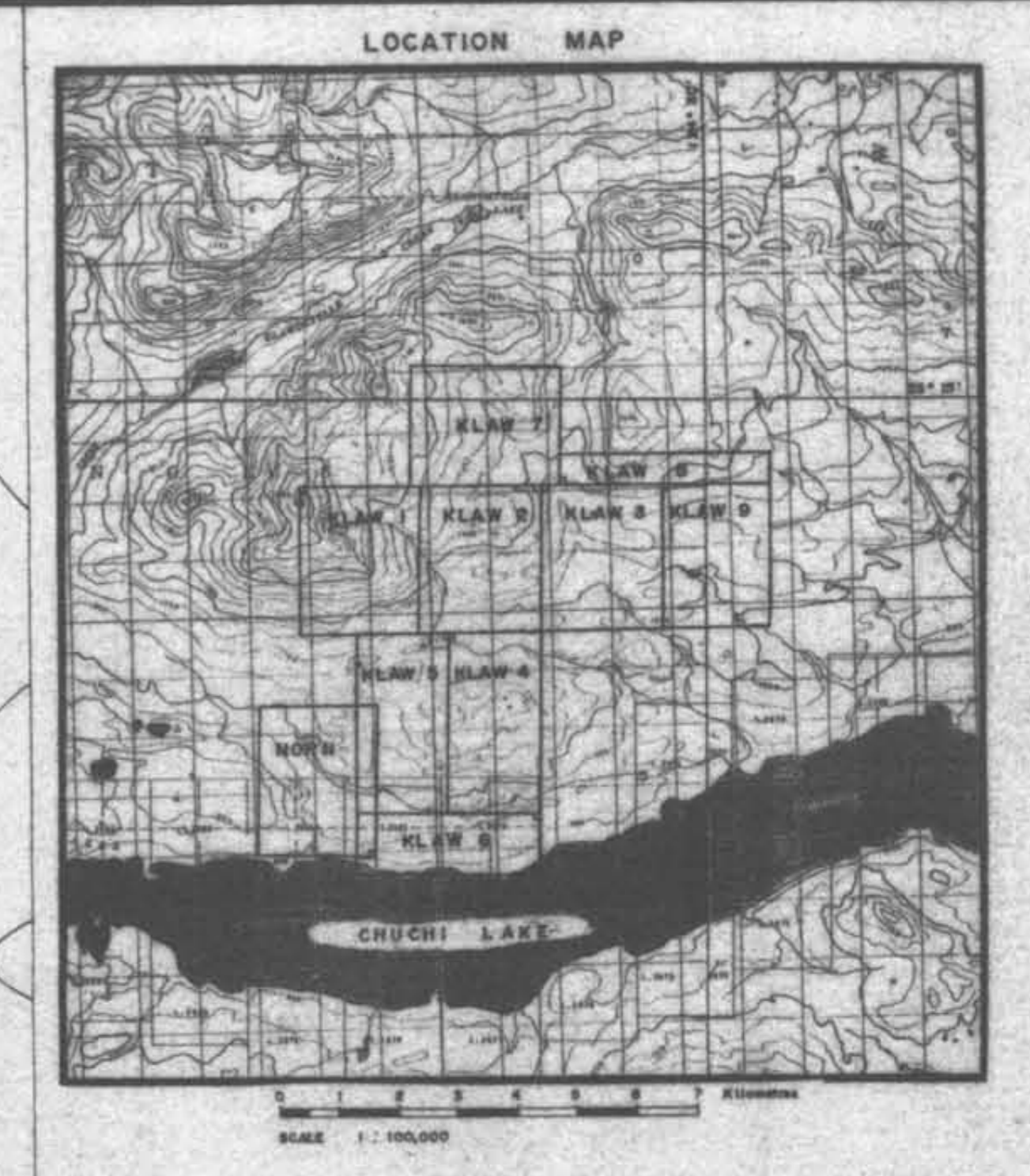
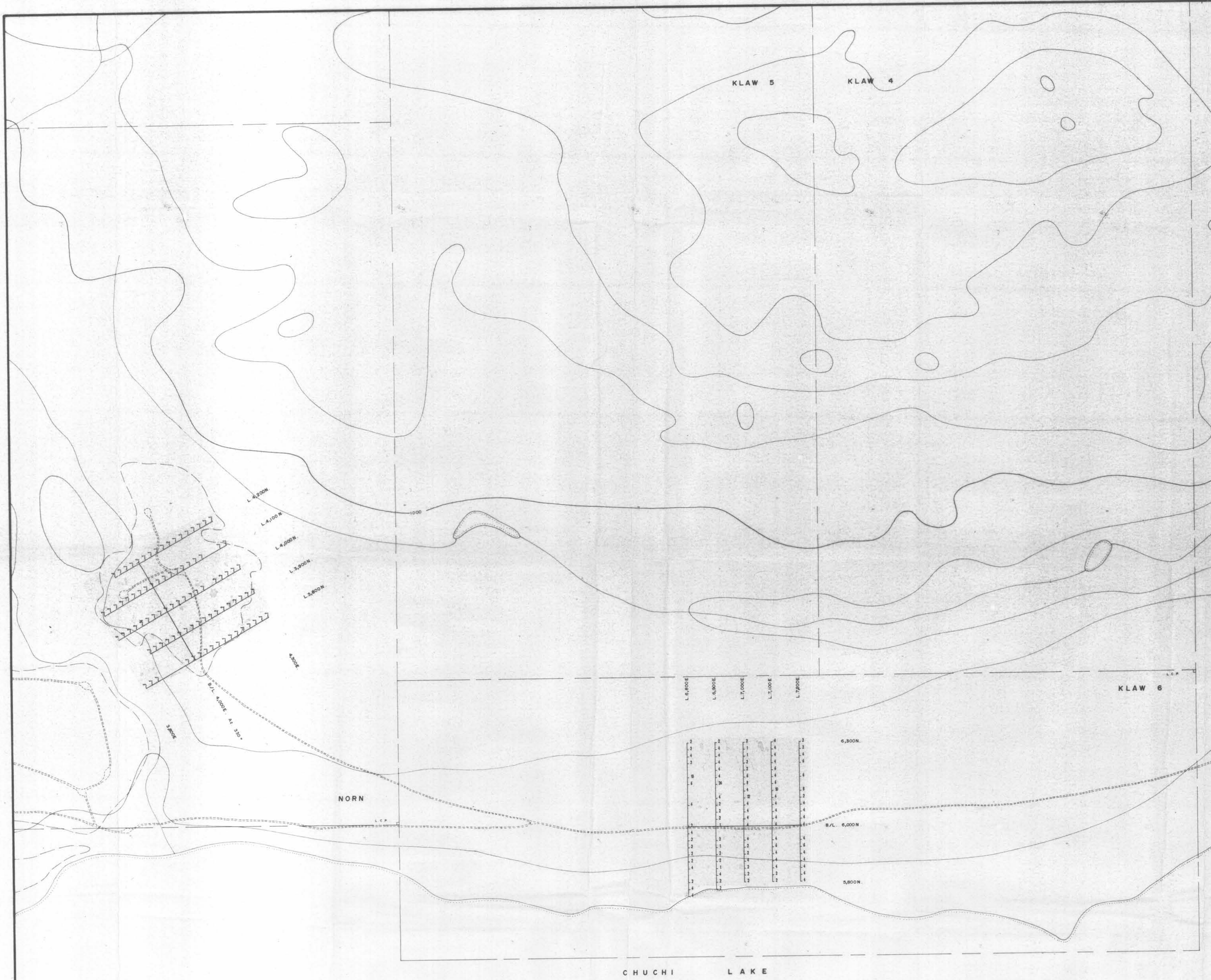
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Map Sheet Index

9	8	7
4	5	6
3	2	1

0 100 200 300 400 500m
SCALE 1:5,000

REVISED	CHUCHI LAKE	
	SOIL GEOCHEM SURVEY	
	Cu (ppm)	
PROJ. No. 243	SURVEY BY: T.C. J. B.C.	DATE: Sept., 1988
N.T.S. 93 N / 2	DRAWN BY: S.K.B.	SCALE: 1:5,000
DWG. No.	NORANDA EXPLORATION	
FIG. 5	OFFICE: PRINCE GEORGE, B.C.	



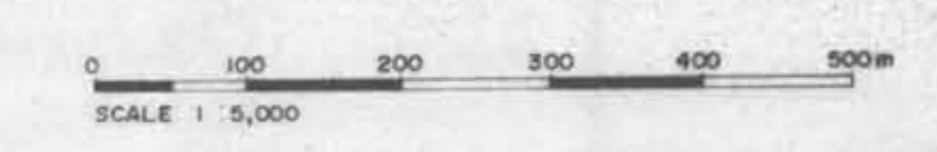
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— Soil Geochem Survey Pb (ppm)

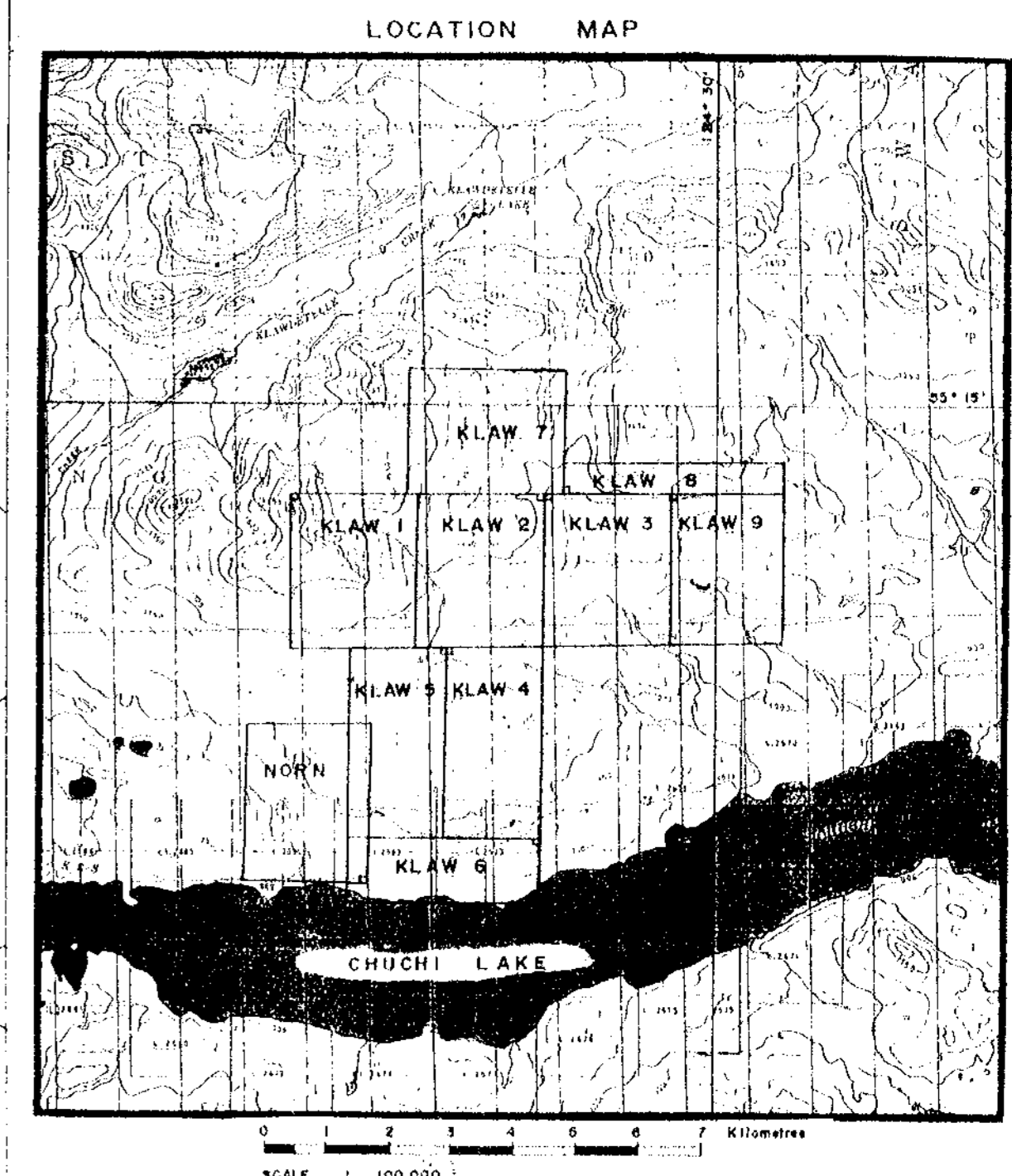
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Map Sheet Index		
9	8	7
4	5	6
3	2	1



REVISED	CHUCHI LAKE		
	SOIL GEOCHEM SURVEY		
	Pb (ppm)		
PROJ. No. 243	SURVEY BY: T.C., B.C.	DATE: Sept., 1988	
N.T.S. 83.N.Z.8	DRAWN BY: S.K.B.	SCALE: 1:5,000	
DWG. No.	NORANDA EXPLORATION		
FIG. 6	OFFICE: PRINCE GEORGE, B.C.		



LEGEND

90 Soil Geochem Survey Zn (ppm)

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Map Sheet Index		
9	8	7
4	5	6
3	2	1

0 100 200 300 400 500m
SCALE 1:5,000

REVISED	CHUCHI LAKE	
	SOIL GEOCHEM SURVEY	
	Zn (ppm)	
PROJ. No. 243	SURVEY BY: I.C. B.C.	DATE: Sept., 1988
N.T.S. 2:1	DRAWN BY: S.K.N.	SCALE: 1:5,000
DWG. No.	NORANDA EXPLORATION	
FIG. 7	OFFICE: PHINCE GEORGE, B.C.	

