

85-354-13746

Geochemical Report

KUTCHO PROPERTY

(KUTCHO 1 TO 6 CLAIMS)

Liard Mining Division, B.C.

Coordinates: 58 deg. 12 min. N, 128 deg. 30 min. W

by: R.G. MacArthur

NORANDA EXPLORATION COMPANY, LIMITED
(No Personal Liability)

March 1985

N.T.S. 104 I/2

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

13,746

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GENERAL INTRODUCTION:

This report describes the results of a soil geochemical survey carried out over the Noranda Kutcho Property. The samples were collected in 1976 and 1977 at which time they were analysed for base metals. The remaining samples were re-analysed for Gold in 1985.

The property covers occurrences of Cu, Zn mineralization in schistose, volcanic, volcanoclastic, and sedimentary rocks. The geological setting and extensive pyritization of the rocks suggested potential for gold mineralization, hence the present program.

i. Location and Access

The property is located approximately 95 km southeast of Dease Lake in northwestern B.C.

Access to the property has been by helicopter from Dease Lake or via the Kutcho Airstrip located approximately 3 km to the north.

ii. Claims and Ownership

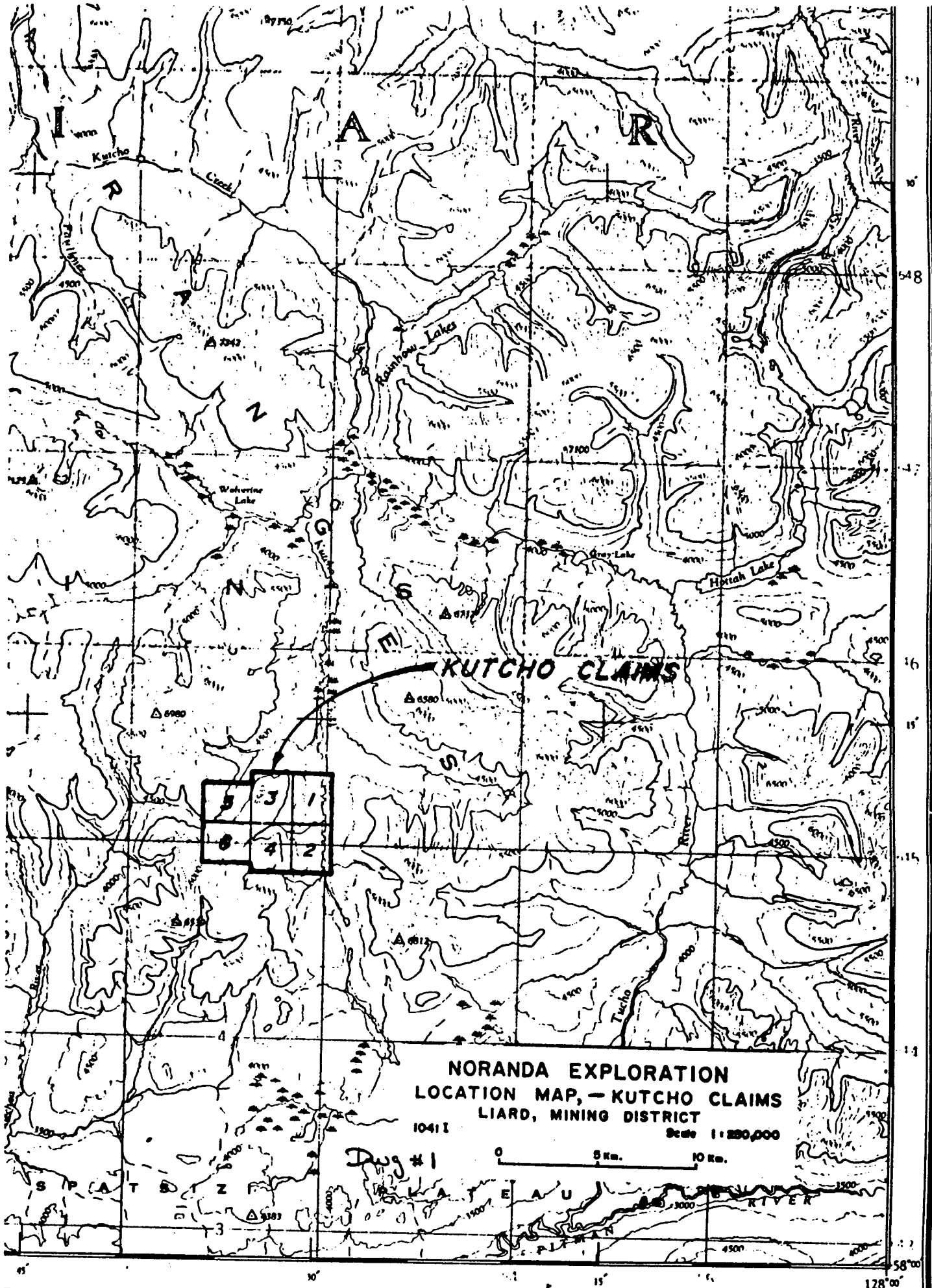
The property was reduced in size in March 1985. At the present time, the property consists of the following claims:

CLAIM	UNITS	RECORD #	RECORD DATE	OWNER
Kutcho 1	4	99	March 10, 1976	Noranda Expl. Co., Ltd. (No Personal Liability)
Kutcho 2	9	100	" "	" "
Kutcho 3	3	101	" "	" "
Kutcho 4	6	102	" "	" "

iii. Topography and Vegetation

The area is characterized by mountainous terrain with elevations up to 2200 meters and local relief on the order of 800 meters.

The area has been subjected to glaciation and most of the mountains are covered with a thin veneer of glacial debris while the lower valleys are filled with thick glacial deposits.



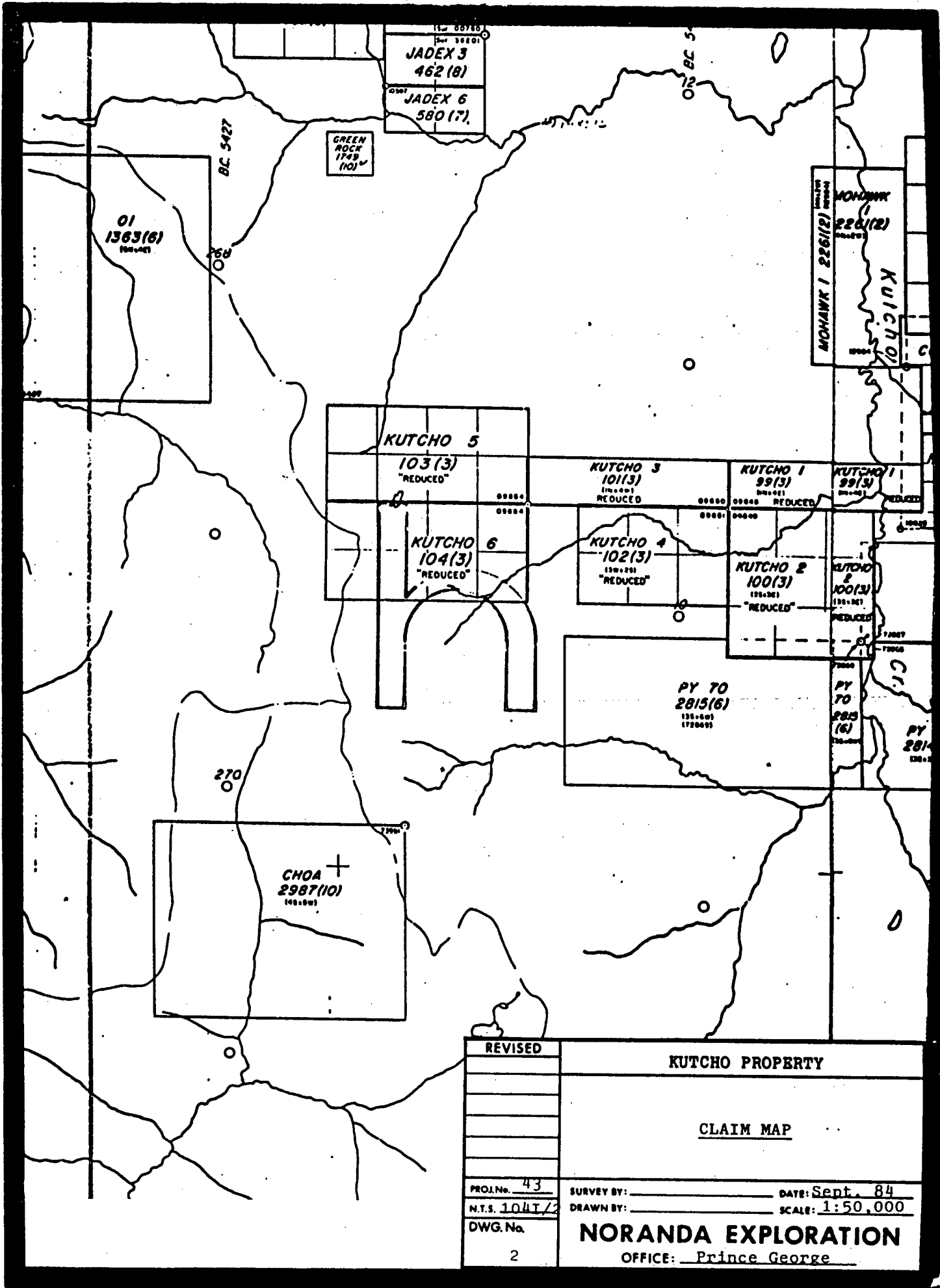
NORANDA EXPLORATION
 LOCATION MAP, - KUTCHO CLAIMS
 LIARD, MINING DISTRICT

10411

Scale 1:250,000

0 5 Km. 10 Km.

Dug #1



REVISED	KUTCHO PROPERTY	
	CLAIM MAP	
PROJ. No. 43	SURVEY BY: _____	DATE: Sept. 84
N.T.S. 1041/2	DRAWN BY: _____	SCALE: 1:50,000
DWG. No. 2	NORANDA EXPLORATION	
	OFFICE: Prince George	

Vegetation in the area consists of a dense growth of spruce and fir below 1500 m merging into patches of mountain willow or "buckbrush" up to 1700 m. Above 1700 m there is only short grass and moss.

iv. Regional Geology

The area has been mapped regionally by the Geological Survey of Canada and their results are available as Open File Map #610 at a scale of 1:125,000.

Regional mapping indicates the area is underlain by a sequence of volcanic, volcanoclastic and sedimentary rocks ranging from Upper Triassic to Lower Jurassic in age. The sequence has been tightly folded with axes trending west northwest often plunging to the west.

v. Previous Work

The property was staked by Imperial shortly after the discovery of the Sumac-Imperial deposit on the nearby "Jeff" and "SMRB" claims. The property was dropped after a limited amount of work.

The property was staked by Noranda in 1976 and the following table outlines the work done prior to the 1983 program.

<u>YEAR</u>	<u>Claims</u>	
1976, Feb.	Staking Kutcho 1 to 6	
1976, June/July		Geological Mapping Linecutting Soil Survey CEM Survey Vertical Loop EM Partial IP Survey Partial VLF Survey
1976, August	Staking Kutcho 7,8,9 & 10	Airborne VLF & Mag Survey
1977, June/July	Kutcho 1 to 6	Grid Extension Additional Mapping CEM, IP, and Soil Sampling Drill Holes NK-1, NK-2, NK-3 = 229 m Total

	Kutcho 7, 8, 9 & 10	Grid Preparation Soil Survey CEM Survey Geological Mapping
1978, August	Kutcho 8	Geological Mapping and CEM Survey
1980, July	Kutcho 1-6	Geological Mapping Petrographic Study
1983, June	Kutcho 1-6	Airborne Magnetic Electromagnetic Survey

SOIL GEOCHEMISTRY:

i. General

The samples for which analysis are reported here were all collected in 1976 and 1977 on the grid shown in Figure #3. They were originally analysed for base metals and the results were reported in 1977 and 1978. The remaining sample material was retrieved from the Noranda sample library and reanalysed for gold in April-March 1985.

ii. Collection

Soil samples were collected at 50 m intervals along the grid shown in Figure 3. Two samples were collected at each location where possible. One sample was from the "B" or upper horizon and one from the "C" or lower horizon. Where poor sampling conditions were encountered, one sample of the best material available was collected.

iii. Analysis

All samples were analysed at the Noranda Lab in Vancouver using the Analytical technique described in Appendix III.

iv. Presentation and Discussion of Results

For this program the "C" horizon samples were analysed unless there was insufficient material remaining, in which case the "B" horizon sample was analysed.

The results are plotted on Figure 3, values are in parts per billion. Values on the right side indicate the sample was from

the "C" horizon. Values on the left side indicate a "B" horizon sample.

Only a few spot highs for gold were obtained. The highest value of 2100 ppb is an isolated value, Line 100E/85N near a branch of Kutcho Creek. The location is in the creek valley and the isolated value suggests the possibility of placer gold. Other sample sites with values greater than 10 ppb are quite spotty making it difficult to make any interpretation of the results.

Based on these results, it would appear that either gold mineralization is lacking in the survey area or it does not respond well to this type of survey. The spot high values warrant "follow-up" on a low priority basis only.

Respectfully Submitted,

R. G. MacArthur

APPENDIX I

NORANDA EXPLORATION COMPANY, LIMITED

STATEMENT OF COST

DATE March 1985

PROJECT - KUTCHO 1-6 CLAIMS
TYPE OF REPORT - Geochemical

a) Wages:

No. of Days -
Rate per Day -
Dates From -
Total Wages

\$

b) Food and Accommodation:

No. of Days -
Rate per Day -
Dates From -
Total Cost

\$

c) Transportation:

No. of Days -
Rate per Day -
Dates From -
Total Cost

\$

d) Analysis:

618 Analysis - Au @ \$5.00 ea.
(per Chemex fee Schedule)

\$ 3,090.00

e) Cost of Preparation of Report:

Author \$ 300.00
Drafting 150.00
Typing 100.00

f) Other:

Contractor

TOTAL COST

\$ 3,640.00

APPENDIX II

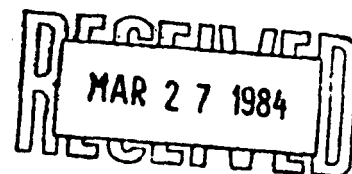
STATEMENT OF QUALIFICATIONS

I, Ronald G. MacArthur hereby certify that:

1. I am a graduate of Dalhousie University with a Bachelor of Science Degree in Geology (1972).
2. I have been employed as a Geologist by Noranda Exploration since 1972.
3. I am a member of the Canadian Institute of Mining and Metallurgy.
4. I am a member of the Geological Association of Canada.



Ronald G. MacArthur
District Geologist,
Central Cordillera District
NORANDA EXPLORATION COMPANY LIMITED
(No Personal Liability)

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.

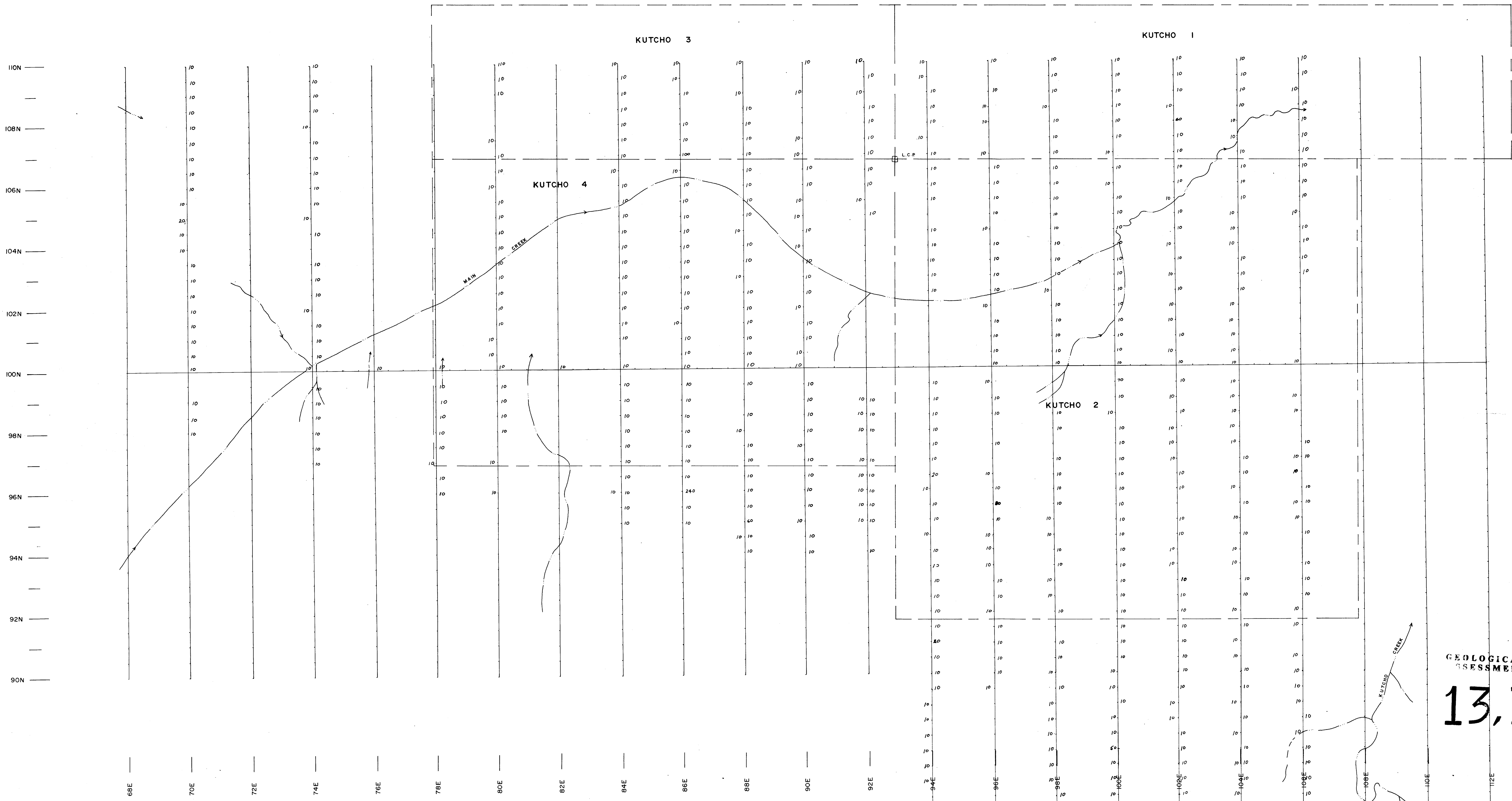
Uranium - U: An aliquot from a perchloric-nitric decomposition, usually from the multi-element digestion, is buffered. The aqueous solution is exposed to laser light, and the luminescence of the uranyl ion is quantitatively measured on the UA-3 (Scintrex).

* 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



GEOLOGICAL BRANCH
ASSESSMENT REPORT

13,746

*Red
M
May 1985*

LEGEND

'B' HORIZON SOIL SAMPLE 20+'C' HORIZON SOIL SAMPLE

REVISED	KUTCHO PROPERTY	
	SOIL	
	GEOCHEM SURVEY Au (ppb)	
	0 50 100 150 M.	
PROJ. No. 15	SURVEY BY: S.K.B.	DATE: MAY 1985
N.T.S. 104.117.22	DRAWN BY:	SCALE: 1:5000
DWG. No. #3	NORANDA EXPLORATION	
	OFFICE: VANCOUVER BRIDGE GEORGE, B.C.	