

Report on Soil Geochemical Survey

IAS 1

Record No. 6568

Omineca Mining Division, B.C.

Latitude 54 deg. 53'
Longitude 124 deg. 20'

Report by: Lorne Warner, Geologist

NORANDA EXPLORATION COMPANY, LIMITED
(No Personal Liability)

October, 1985

N. T. S. 93K/16

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

13,979

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SUMMARY:

A geochemical soil sampling survey was carried out on the TAS 1 claim in August 1984.

Altered and fractured diorites are mineralized with pyrite and calcopyrite. Grab samples of the mineralized diorite have indicated the presence of significant gold and copper.

In August 1984, 131 B-Horizon soil samples were taken on an established grid. Cu and Au anomalies are sporadic with the bulk of the anomalies occurring close to exposed bedrock or where the topsoil has been removed.

Further work consisting of additional soil geochemical sampling, geology, and prospecting of the immediate area, is recommended.

INTRODUCTION:

Purpose

The purpose of this work was to assess the potential of the TAS property for Cu/Au mineralization.

Location and Access

The TAS property is located approximately 50 km north of Fort St. James (Figure 1). The property lies on Taslincheko Creek, approximately 6.5 km southeast of Inzana Lake.

Access to the property is by 2 wheel drive from Fort St. James via the Inzana Lake Nations logging road. Logging is presently being conducted to the southeast of the property with proposed summer logging near the main showing in 1986.

Claim Status

The TAS-1 claim consists of a 9-unit modified grid claim. The following are the relevant data (Figure 2).

| <u>Name</u> | <u>Record #</u> | <u>Units</u> | <u>Record Date</u> |
|-------------|-----------------|--------------|--------------------|
| TAS-1 | 6568 | 9 | August 8, 1984 |

The claim is owned by A.D. Halleran of Ft. St. James and are currently under option to Noranda Exploration.

Previous Work

The copper showings were initially discovered during road construction. There is no record of systematic exploration having occurred. The showings were staked by A.D. Halleran in 1984 to test for the possibility of gold association with the copper.

Regional Geology

The TAS property is located in the Takla Group volcanics and sediments of Upper Triassic and Later age. The Tas showing occurs where Upper Jurassic or Lower Cretaceous granodiorites/diorites are in contact with the Takla assemblage. The intrusive is extensively altered and fractured where mineralization is present.

WORK UNDERTAKEN:

The work reported here was done in late August, 1984. Art Halleran, a graduate geologist, and A.D. Halleran Sr., Prospector, established the grid and performed the geochemical soil sampling.

A 700 meter flagged baseline was established with an azimuth of 360 degrees true north. Crosslines are perpendicular to the baseline and extend for a distance of 250 meters on either side. Five of the crosslines are spaced at 50 meter intervals along the

To Manson Creek - 108 kilometres

FOREST DISTRICT

43°30'00"E

124°00'

55°00'

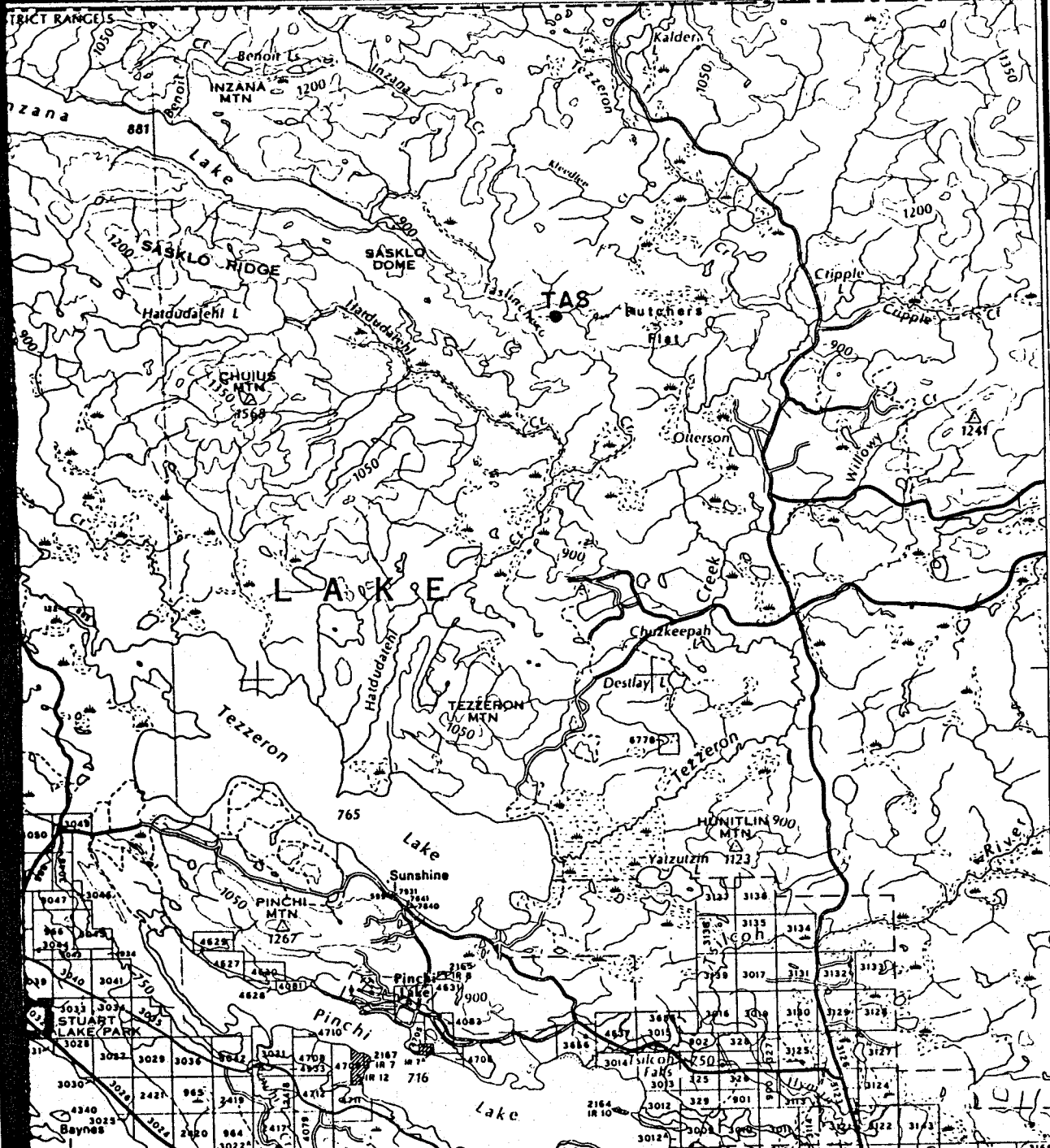
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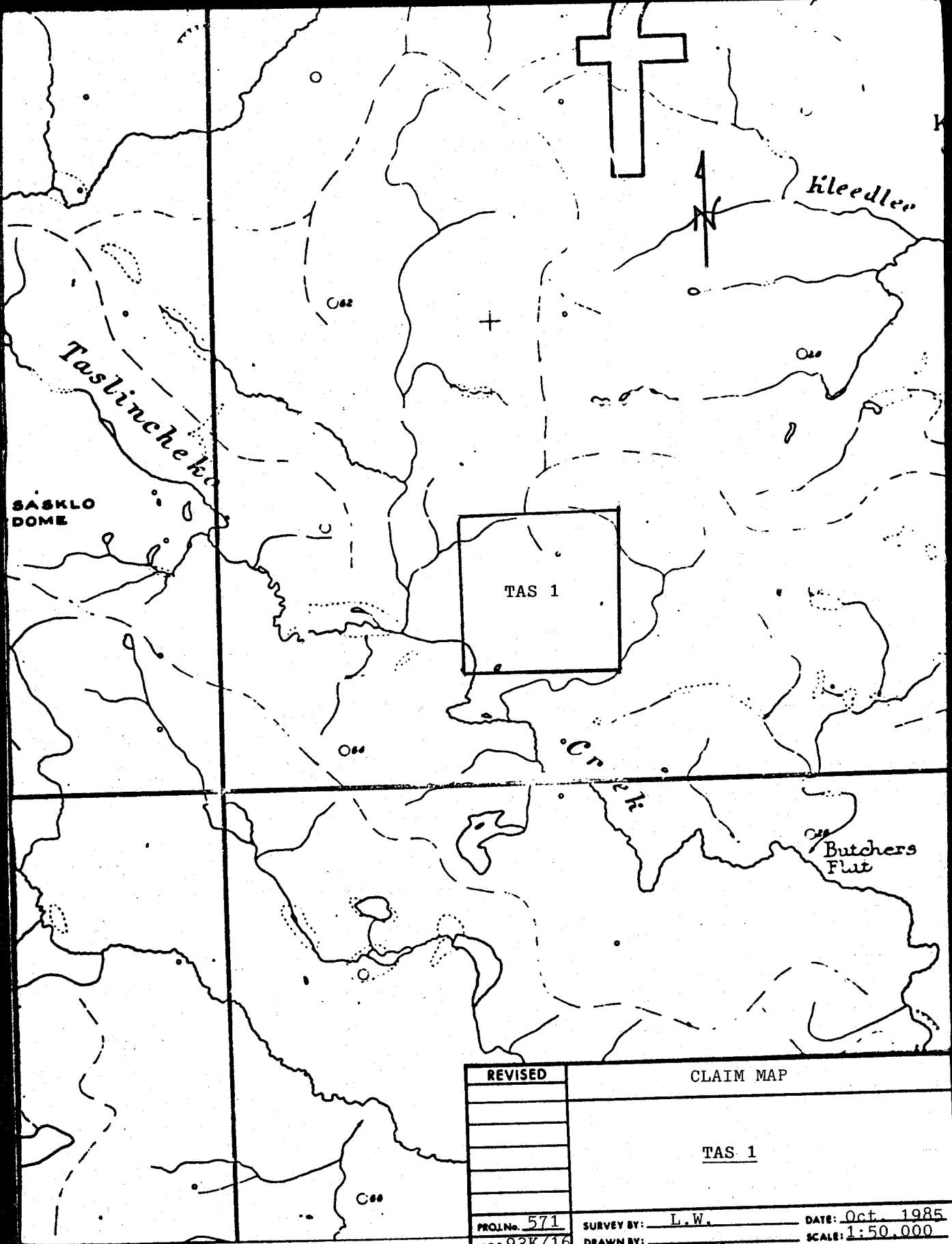
45'

6

5



| | | |
|---------------|-----------------------------|------------------|
| REVISED | TAS Claim | |
| | Location Map | |
| PROJ. No. 571 | SURVEY BY: L.W. | DATE: Oct. 1985 |
| N.T.S. 93K/15 | DRAWN BY: | SCALE: 1:250,000 |
| DWG. No. 1 | NORANDA EXPLORATION | |
| | OFFICE: Prince George, B.C. | |



| | | |
|---------------|-----------------------------|-----------------|
| REVISED | CLAIM MAP | |
| | TAS 1 | |
| PROJ. No. 571 | SURVEY BY: L.W. | DATE: Oct. 1985 |
| N.T.S. 93K/16 | DRAWN BY: | SCALE: 1:50,000 |
| DWG. No. 2 | NORANDA EXPLORATION | |
| | OFFICE: Prince George, B.C. | |

baseline and cover the main showing. The outer crosslines are spaced at 100 meter intervals. The lines are flagged with stations occurring every 25 meters. B-horizon soil samples were taken at 25 meter intervals near the main showing and were taken at 25 meter intervals further away. A total of 131 soil samples were taken on the TAS property.

The soils were dug using a prospectors hammer-mattock to a depth of 15 to 60 cm. Most samples were taken at 15-20 cm depth, below the organic rich horizons.

The soil samples were analyzed by the Noranda Geochemical Lab in Vancouver for Cu, Au. The Noranda analytical methods are described in Appendix 3.

RESULTS:

Soil Sampling

The results of the B-horizon sampling are shown on Figure 3 (in pocket). One hundred and thirty one samples were taken on the TAS property. The lowest and highest values obtained are listed below for all 131 soil samples taken on the grid.

| <u>Element</u> | <u>Lowest Concentration</u> | <u>Highest Concentration</u> |
|----------------|-----------------------------|------------------------------|
| Cu | 18 ppm | 600 ppm |
| Au | 10 ppb | 220 ppb |

On the basis of previous experience, the Cu values that are greater than 100 ppm should be considered anomalous. Any Au values greater than 10 ppb should also be considered anomalous. See Figure 3 (in pocket) for the plotted Cu, Au values for all soils.

Copper

Seventeen B-horizon soil samples are anomalous with values greater than 100 ppm. Nine of these samples are 25 meters or less from the logging road and represent samples taken at greater depths with respect to the majority of samples. No strong trend is indicated except along the road.

Gold

Four B-horizon soil samples are anomalous with values greater than 10 ppb. The gold values are not highly anomalous and show no trend.

CONCLUSIONS AND RECOMMENDATIONS:

A newly constructed logging road has exposed a highly fractured and altered diorite/granodiorite with calcopyrite and pyrite mineralization. Significant copper values have been obtained above the outcrop. Little outcrop exists elsewhere on the TAS property.

B-horizon soil sampling conducted in 1984 confirmed that soil geochemical anomalies are present over mineralized zones. However, soil geochemistry seems to give better response with deeper soils. The stronger copper anomalies along the road were taken in an area in which most of the overburden was removed.

Further work to define and test the soil geochemical anomalies is recommended. A larger more regional grid with additional prospecting, geological mapping, and soil geochemistry, should be done to locate and define more mineralization. Deep overburden may be inhibiting soil geochemical results, therefore, overburden drilling is recommended.

APPENDIX I

NORANDA EXPLORATION COMPANY, LIMITED

STATEMENT OF COST

DATE Oct., 1985

PROJECT - IAS
TYPE OF REPORT - Geochemistry

a) **Analyses:**

131 soils for Cu/Au @ \$ 7.00/ea. \$ 917.00
(per Chemex fee schedule)

b) **Cost of Preparation of Report:**

Author \$ 150.00
Drafting \$ 150.00
Typing \$ 100.00

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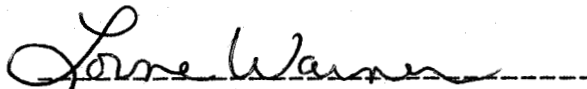
TOTAL COST: \$ 1317.00

APPENDIX II

STATEMENT OF QUALIFICATIONS

I, Lorne Warner of Prince George, Province of British Columbia, do hereby certify that:

1. I am a Geologist residing at 111-1330 Foothills Blvd., Prince George, British Columbia.
2. I am a graduate of the University of Alberta with a B. Sc. (geology).
3. I presently hold the position of geologist with Noranda Exploration Company, Limited and have been in their employ since May, 1985.

A handwritten signature in cursive script that reads "Lorne Warner". The signature is written in dark ink and is positioned above a horizontal dashed line.

L. Warner

APPENDIX III

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).

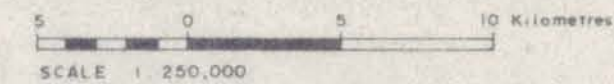
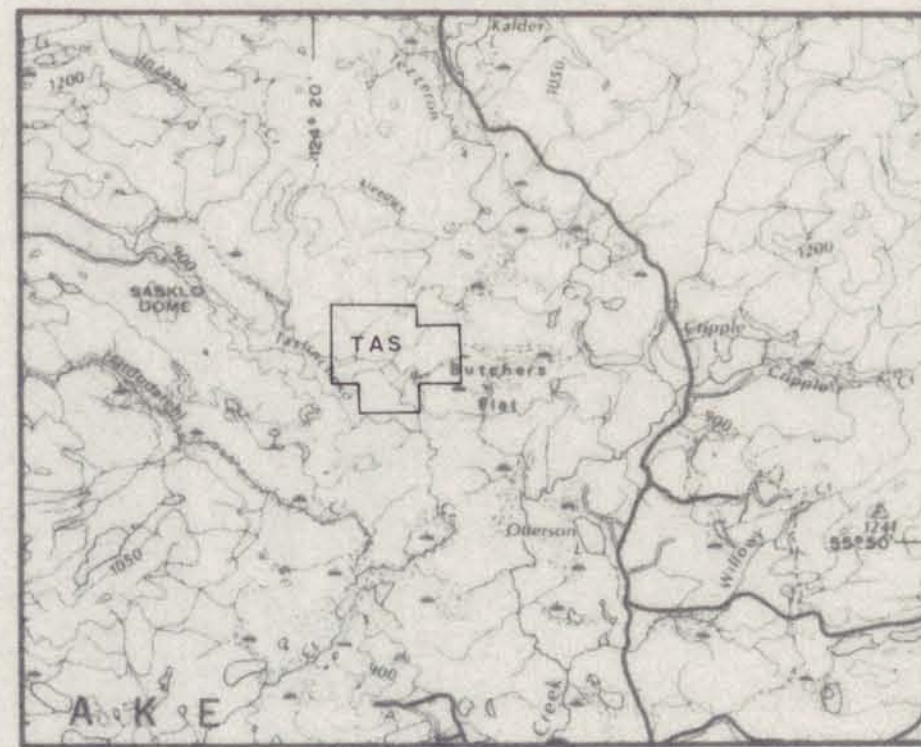
* N.B. If additional elemental determinations are required on panned samples, state this at the time of sample submission. Requests after gold determinations would be futile.

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

LOCATION MAP



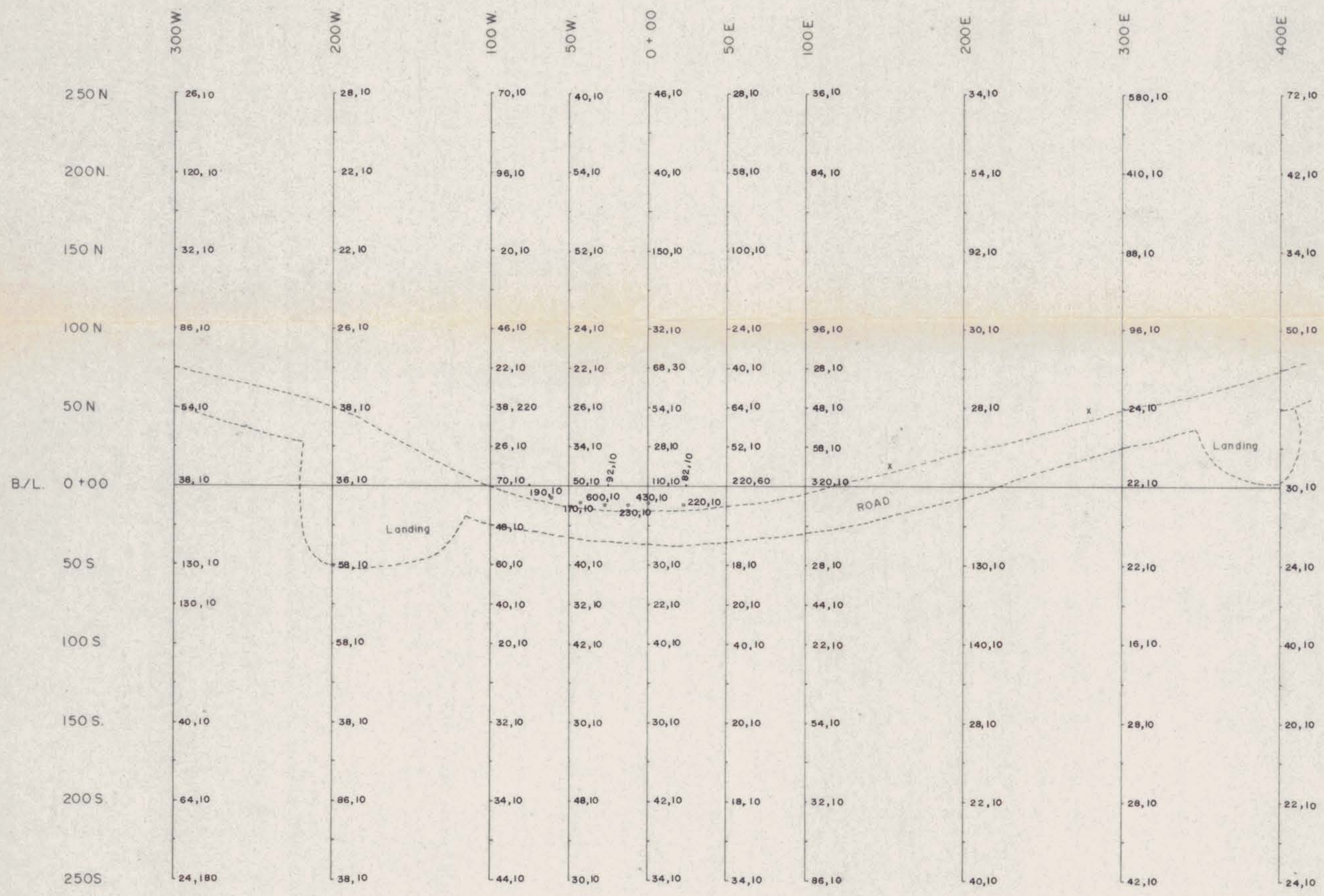
LEGEND

410,20 Geochem Assays, Cu(ppm.); Au.(p.p.b.)

GEOLOGICAL BRANCH
ASSESSMENT REPORT

13,979

Lore Wain



| | | |
|----------------------------|----------------|----------|
| REVISED | TAS CLAIMS | |
| | TAS GRID | |
| | GEOCHEM SURVEY | |
| | Cu, Au. | |
| PROJ. No. | SURVEY BY | DATE |
| N.T.S. 93K/1E | S.K.B. | OCT 1984 |
| DWG. No. | DRAWN BY | SCALE |
| FIG. 3 | | 1:2500 |
| NORANDA EXPLORATION | | |
| OFFICE PRINCE GEORGE, B.C. | | |