

85-1053-14631

Geochemical Report on

TOMMY JACK CREEK PROPERTY

AU 1-4, TOM, TOM-2, TOM 3 MINERAL CLAIMS

Omineca Mining Division, B.C.

Latitude            56 deg. 08 min. N  
Longitude          127 deg. 36.5 min. W

by: A. Dale & R.G. MacArthur

FILMED

NORANDA EXPLORATION COMPANY, LIMITED  
(NO PERSONAL LIABILITY)

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

OCTOBER, 1985

14,631

N.T.S. 94D/4E

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**SUMMARY:**

A soil geochem program was carried out on the Tommy Jack Creek property located approximately 95 km north of Smithers, B.C. Samples were analysed for Ag and Pb and the results are plotted on Figure 4 and Figure 5 included with the report. Numerous anomalies for both elements are indicated. A follow-up program of additional sampling, prospecting, VLF-EM and Mag along with diamond drilling is recommended.

INTRODUCTION:

General

This report describes the results of a geochemical soil sampling program carried out on the Tommy Jack Creek Property during August 1985 and October 1985. The purpose of the 1985 program was to explore for Au, Ag, Pb, Zn, and As mineralization similar to occurrences along the lower part of Tommy Jack Creek where Au, Ag, Pb, Zn, and As occur in narrow veins.

Location and Access

The Tommy Jack property is located approx. 95 km North of Hazelton, B.C. near the junction of Tommy Jack Creek and Sicintine River (Figure 2).

Access for this program has been by helicopter from Smithers (195 km) with supplies shuttled from the nearest road at Kisgages approx. 50 km south of the property.

Claims and Ownership

The property consists of four two-post claims and three modified grid claims. Relevant details follow below:

<u>Claim Name</u>	<u>Record #</u>	<u># Units</u>	<u>Record Date</u>	<u>Owner</u>
Au 1	6256	1	June 12, 1984	Joyce Warren
Au 2	6257	1	" "	" "
Au 3	6258	1	" "	" "
Au 4	6259	1	" "	" "
TOM	6726	20	Oct. 24, 1984	" "
TOM-2	7303	2	Sept. 5, 1985	Noranda Expl.
TOM-3	7304	9	Sept. 5, 1985	" "

The Au 1 to 4 and the Tom claim are covered by an option agreement between Noranda and Joyce Warren.

Topography and Vegetation

The property lies in an area of mountainous terrain with local peaks rising up to 2125 m (Mt. Tommy Jack) from valleys at less than 450 m elevation. Within the limits of the property the terrain is moderate with an elevation difference of some 500 meters between Tommy Jack Creek and the south end of the grid approx. 3.4 km away.

Vegetation consists of mature forest of Hemlock, Balsam, Spruce and Cedar, giving way to patchy sub-alpine bush at the upper elevations just south of the property. Only a few small

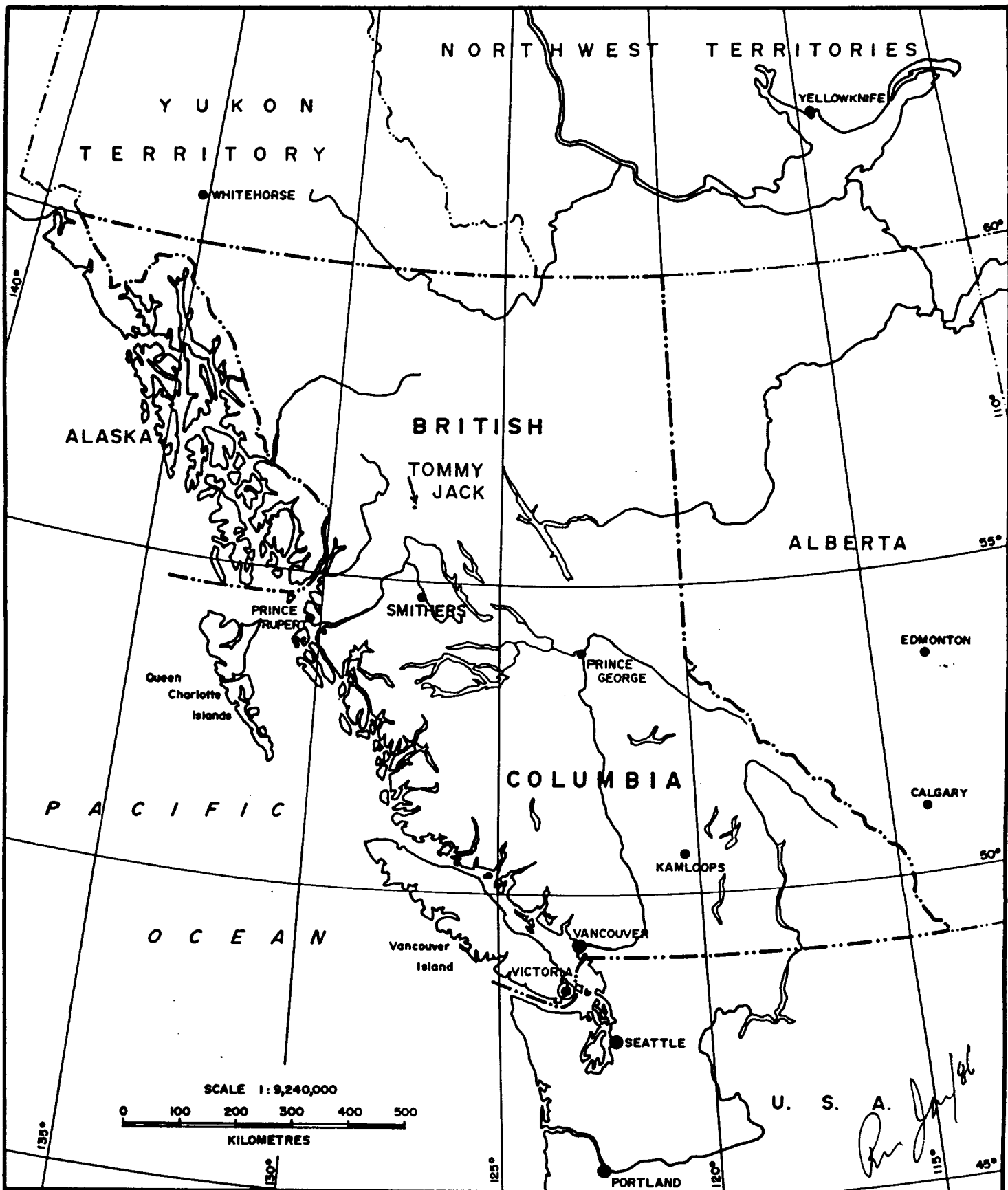
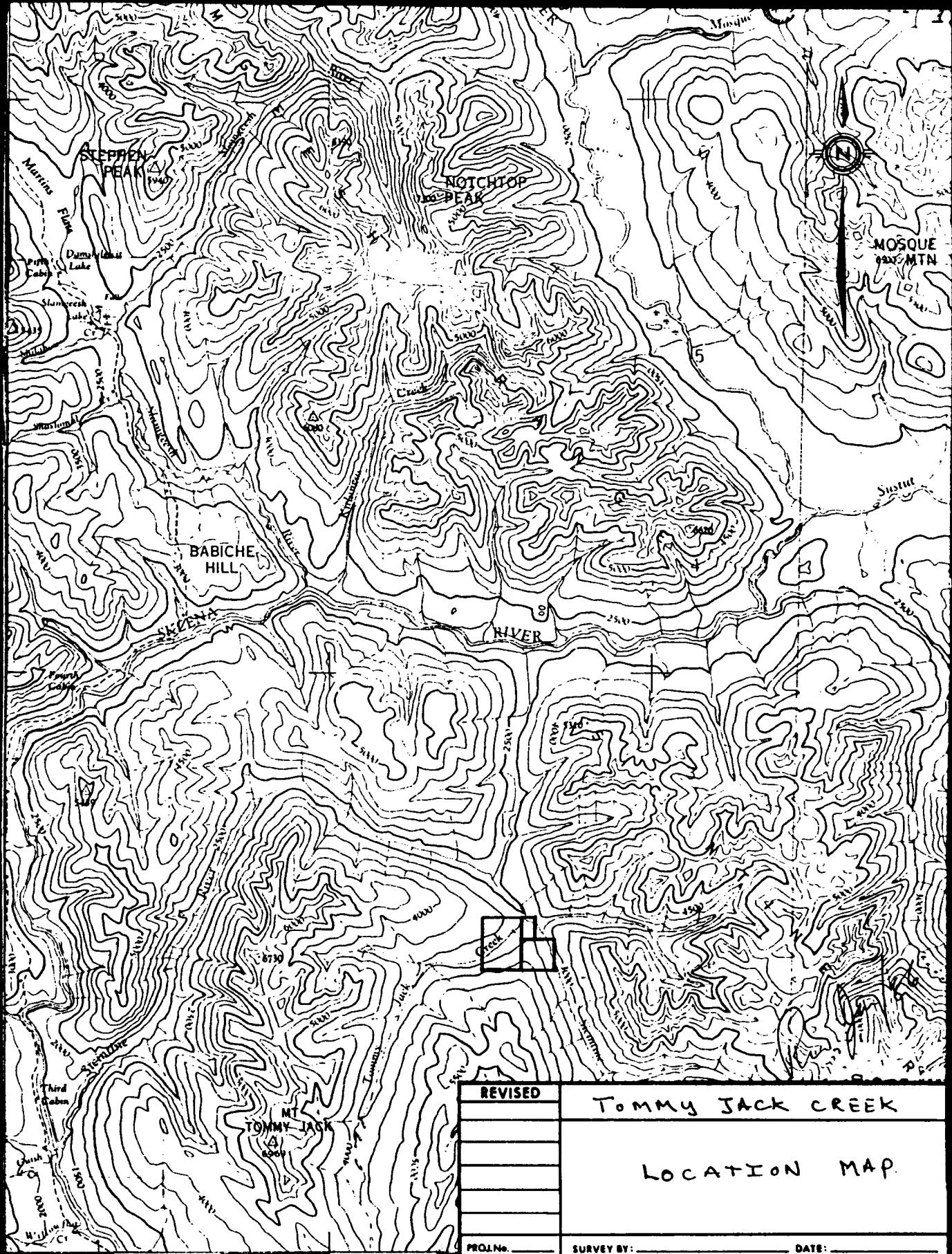
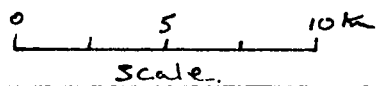


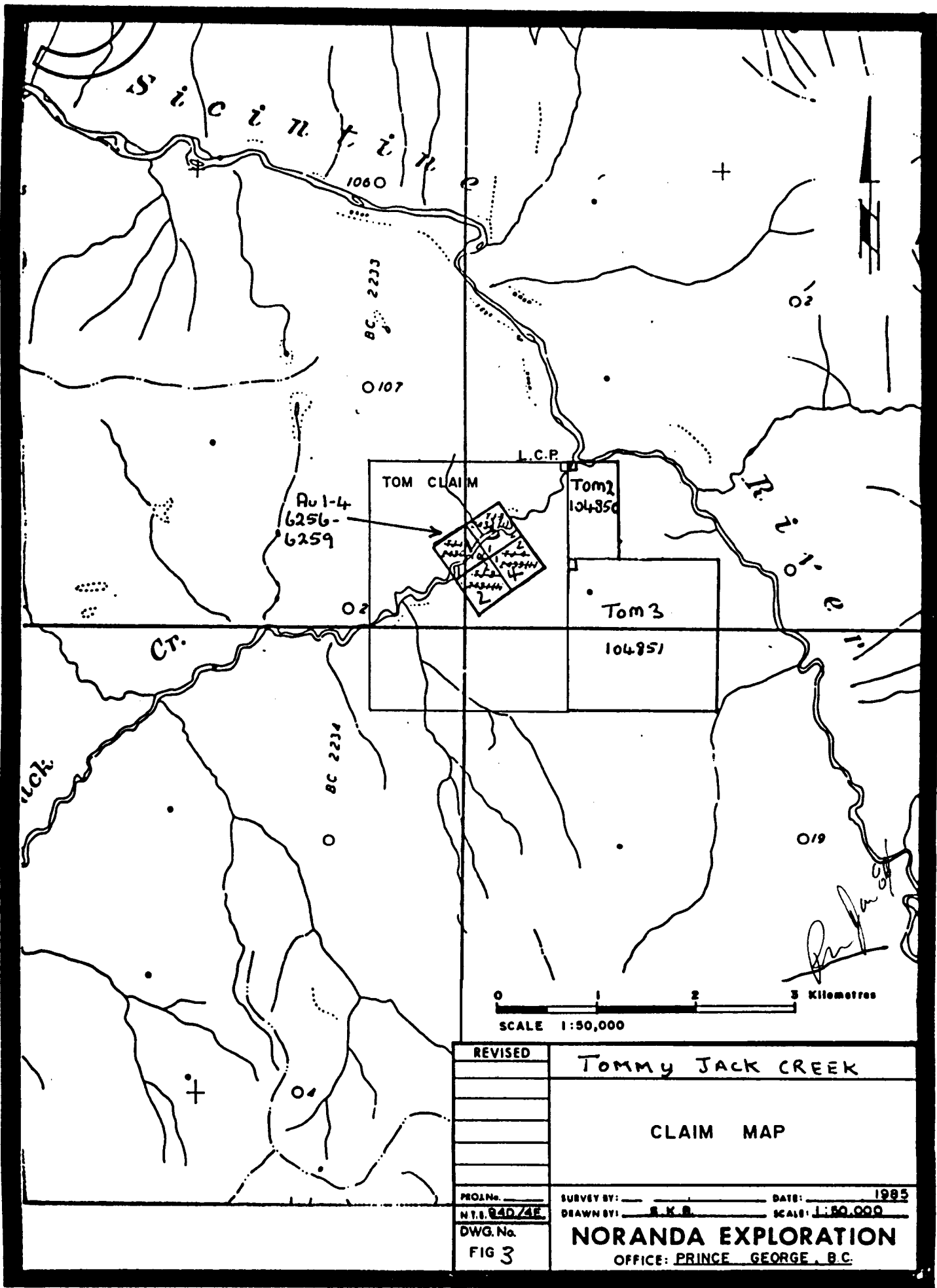
Fig. 1

<b>noranda</b>	
NORANDA EXPLORATION COMPANY LTD. Office: Prince George, B.C.	
MAP TITLE	<b>LOCATION MAP</b>
PROJECT TITLE	<b>TOMMY JACK PROPERTY</b>
PROJECT NO.	SCALE 1:9,240,000



REVISED	Tommy Jack Creek	
	LOCATION MAP	
PROJ. No. _____	SURVEY BY: _____	DATE: _____
N.T.S. _____	DRAWN BY: _____	SCALE: 1:250,000
DWG. No. _____	<b>NORANDA EXPLORATION</b>	
Fig 2	OFFICE: _____	





REVISED	Tommy JACK CREEK	
	CLAIM MAP	
PROJ. No.	SURVEY BY: <u>S.K.S.</u>	DATE: <u>1985</u>
N.T.S. <u>84D/4E</u>	DRAWN BY: <u>S.K.S.</u>	SCALE: <u>1:50,000</u>
DWG. No.	<b>NORANDA EXPLORATION</b>	
FIG 3	OFFICE: <u>PRINCE GEORGE, B.C.</u>	

open swampy patches occur throughout the grid area.

### Regional Geology

The Tommy Jack property lies near the eastern boundary of the preserved Bowser Basin. It is underlain by Bowser Basin clastic sediments (Jurassic and Cretaceous) which are mainly flat lying or gently dipping. About 10-15 km south of the property, these sediments are intruded by Early Tertiary intrusives (quartz monzonite, granodiorite, and quartz diorite) of the Atna Range. Very little indication of intrusive activity is seen on the property, however, rubble of feldspar porphyry "dike rocks" occurs in frost bails near the south end of the property outside the grid area.

### Previous Work

In 1963 Canex Aerial Exploration conducted a soil geochemistry survey over a 1463 m X 1646 m (4800 ft. X 5400 ft.) area and located several Ag, Pb, and As anomalies. Further soil sampling was done to the south in the following year, together with some trenching and four diamond drill holes. Results of the trenching and diamond drill program are not available.

In June 1984 the Au claims, owned by Joyce Warren of Smithers, B.C. were staked.

In August 1984, Noranda Exploration Co., Ltd. prospected and sampled outcrops along the Tommy Jack creek. A 1200 m baseline (azimuth 150 deg/330 deg.) was established and detailed soil samples were taken along this baseline, as well as several perpendicular grid lines. On October 22, 1984 the Tom mineral claim was staked.

## GEOCHEMICAL SURVEY:

### Grid Preparation

The baseline initially established in 1984, azimuth 150 deg./330 deg. was cut with a chainsaw from 10,000N to 84,000N. Winglines were compassed and flagged as indicated on Figure 4. On the north side of the creek the line lengths were limited by the steep cliffs along the creek.

### Sample Collection

A total of 2004 soil samples were collected at 20 and 25 meter intervals as indicated on Figure 4. Holes were dug with a prospectors mattock and samples were collected from the "B Horizon" where possible. Sample depths ranged from 10 cm to 60 cm depending on the depth of organic material. In general, the lower (northern) part of the grid has a thicker accumulation of organic



up to 50 cm.

Samples were placed in "Hi wet-strength Kraft 3 1/2" X 6 1/8" open end gusseted envelopes", on which the grid coordinates were marked. Samples were air dried and shipped to the Noranda Lab in Vancouver, B.C.

### Analysis

Samples were analysed for Pb and Ag at the Noranda Geochem Lab at 1050 Davie St., Vancouver. The analytical techniques used by Noranda are outlined in Appendix III.

### Presentation of Results

The soil geochem results for silver are shown in Figure 4 and for lead on Figure 5. Values are in parts per million and plotted to the left of the line and station where collected. In some areas two samples were collected from the same site. Results of the second sample are indicated in brackets.

### Discussion of Results

Silver values greater than 2 ppm are usually considered significant in this type of environment. As can be seen from Figure 4 values of 2 ppm and greater are numerous and widespread. Values greater than 5 ppm are especially interesting and as well are quite widespread. The area west of baseline 10,000E shows a somewhat higher concentration of high Ag values. Anomalous silver values (greater than 2 ppm) are indicated on the last line to the south (Line 7600N) indicating that the anomalous area may continue in that direction.

Values for lead range as high as 1500 ppm (Line 9850N). The overall pattern of high values is similar to that for silver. Values greater than 50 ppm lead should be considered significant while values greater than 100 ppm warrant particular attention. Cases of good correlation between high Ag and high Pb values also warrant particular attention.

A close examination of results, for areas where two samples were collected (second sample value in brackets) from the same site, indicates some difficulty in reproducing values. In most cases the anomaly is confirmed, however the range of values is quite significant (eg. Line 9300N 9620E, values of 86 ppm Pb and 1300 ppm Pb). This variation in values is most likely caused by slight variations in sample depth and material along with statistical variations inherent in sampling a inhomogeneous material.

CONCLUSIONS AND RECOMMENDATIONS:

The results of this program confirm and further delineate the previously indicated anomalies. The sampling program should be continued to the south and west where anomalies are not closed off.

Although to date prospecting in areas other than the main creek has not been very fruitful, more effort with these results in-hand may be successful.

VLF-EM and magnetometer surveys over the entire grid area could be carried out. Carbonaceous material in the sedimentary rocks may cause misleading VLF-EM conductors, however careful interpretation of this type of data may outline structures controlling mineralization.

A diamond drill program using a small portable drill is recommended to test some of the better defined anomalies. Since these geochem anomalies may be displaced from their source, a series of holes across the anomalies may be required before the source can be pinned down.

REFERENCES:

MYERS, D.E. Jr., 1985 Assessment Report Geology and Geochemistry of the Tommy Jack Creek Property, Omineca Mining Division, B.C.

Tompson, W.D., 1964. Soil Geochemistry Report, Assessment Report #574 for BCMEMPR, Victoria, B.C.

APPENDIX I

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 Fellow of the Geological Association of Canada.



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

APPENDIX I

STATEMENT OF QUALIFICATIONS

ANDREW DALE is a graduate of the University of Alberta with a Bachelor of Science Degree in Geology (1985). He was employed by Noranda Exploration Company, Limited during the 1984 field season as a Geological Assistant and during the 1985 season (July to December) as a Geologist.

APPENDIX II

NORANDA EXPLORATION COMPANY, LIMITED  
STATEMENT OF COST

DATE: October 1985

PROJECT - TOMMY JACK CREEK PROPERTY  
TYPE OF REPORT - Geology and Geochem

a) **Wages:**

No. of Days -	48 mandays		
Rate per Day -	\$88.55		
Dates From -	Aug. & October 1985		
Total Wages -	48 X \$88.55	\$	4250.40

b) **Food and Accommodation; Supplies:**

No. of Days -	48		
Rate per Day -	\$20.57		
Dates From -	Aug. & October 1985		
Total Cost -	48 X \$20.57	\$	987.36

c) **Transportation: (Ground and Air)**

No. of Days -			
Rate per Day -			
Dates From -	Aug. & October 1985		
Total Cost -		\$	5000.00

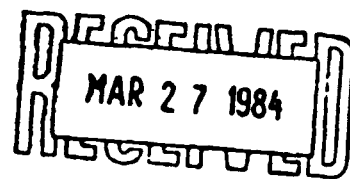
d) **Analysis:**

2004 Soil	Ag, Pb X \$2.20	\$	4408.80
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e) **Cost of Preparation of Report:**

Author	\$ 200.00		
Drafting	\$ 200.00		
Typing	\$ 100.00		
	-----		
	\$ 500.00	\$	500.00

**TOTAL COST**                    \$ 15146.56

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).

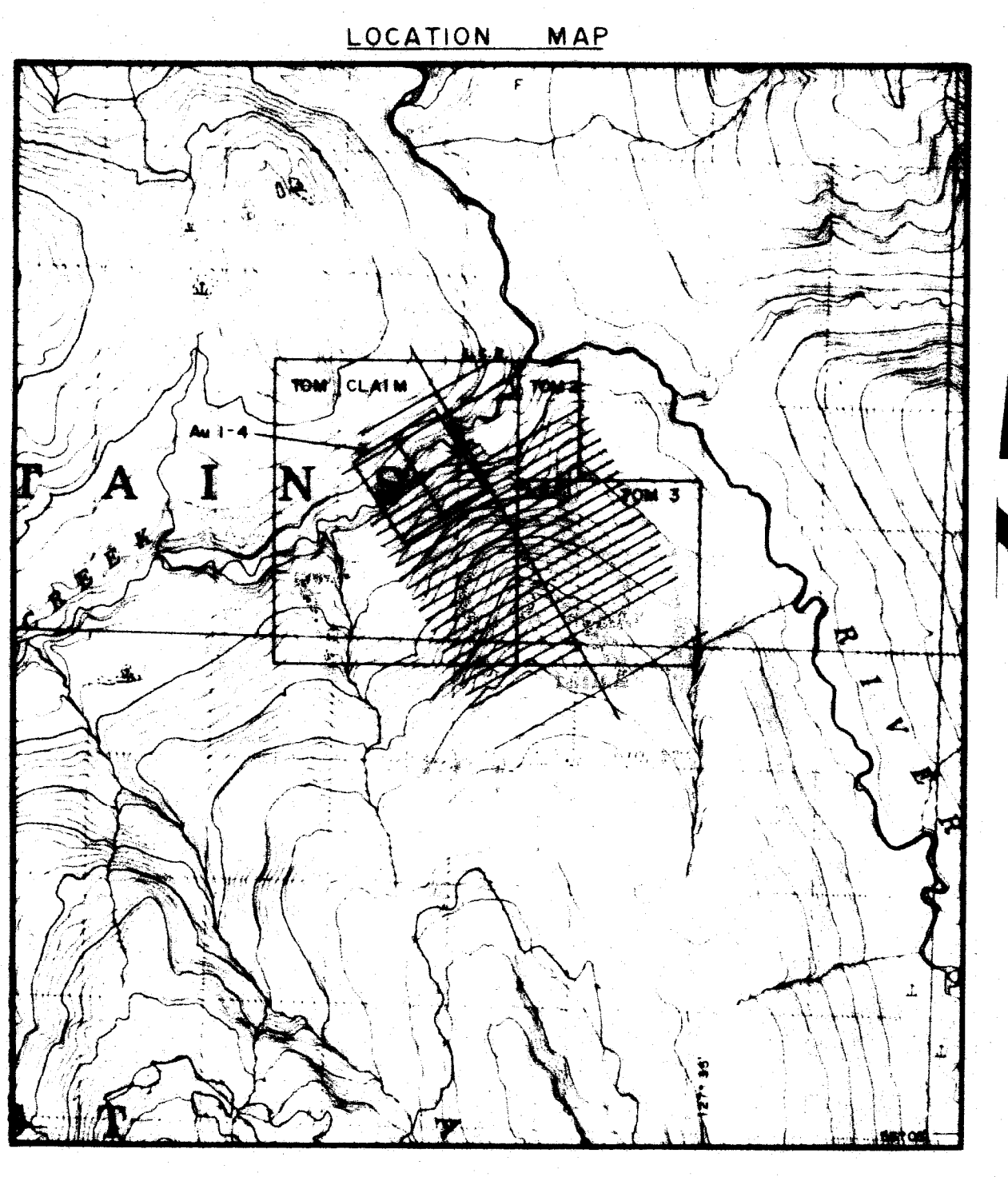
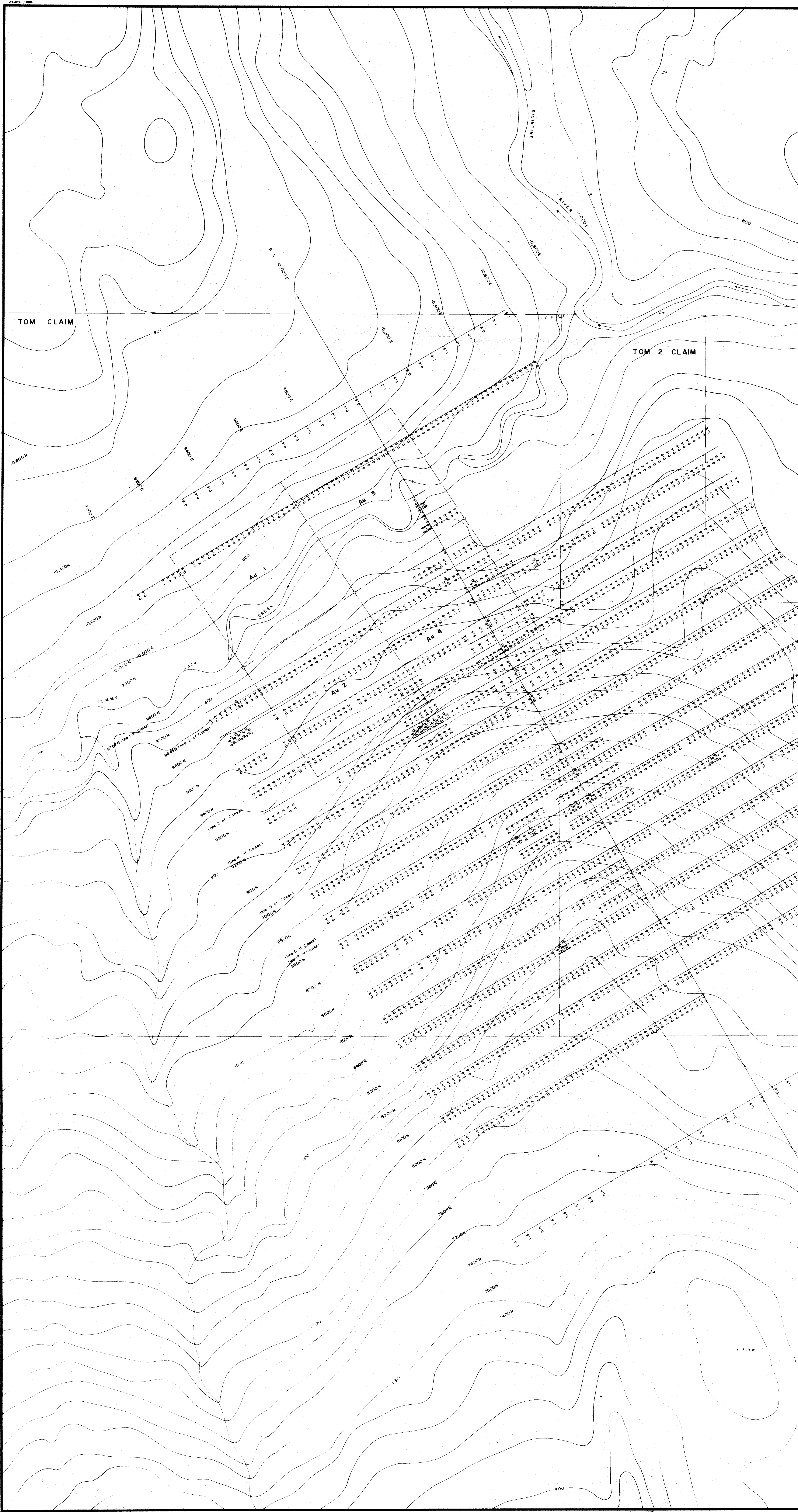
\* N.B. If additional elemental determinations are required on panned samples, state this at the time of sample submission. Requests after gold determinations would be futile.

**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	

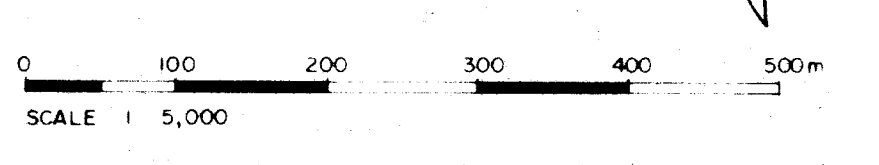
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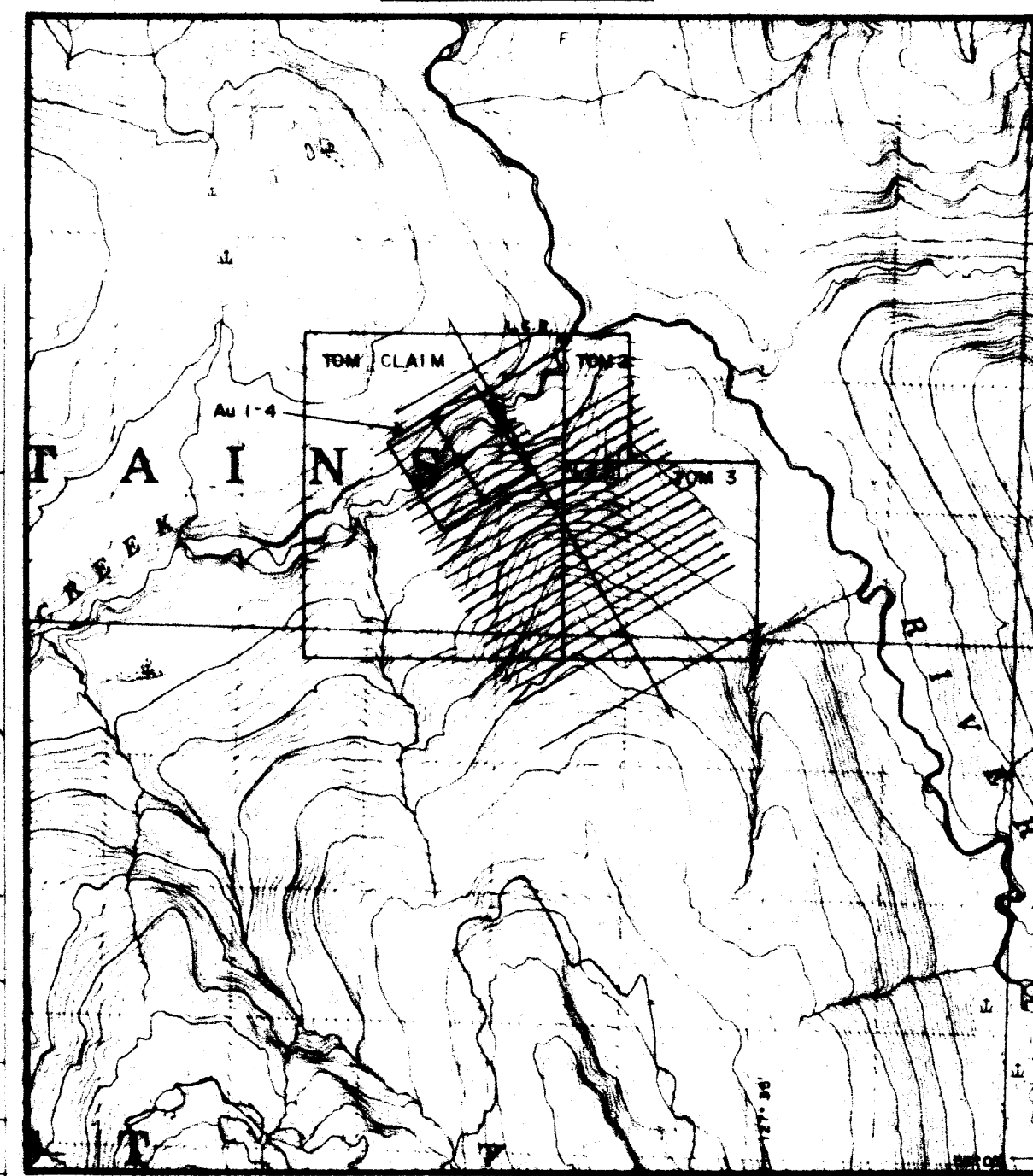
**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**14,631**



REVISED	TOMMY JACK CREEK PROPERTY	
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PROJ. No. 3-64	SURVEY BY	DATE
N.T.S. 94/2/4	DRAWN BY	SCALE
DWG. No.	<b>NORANDA EXPLORATION</b>	
FIG. 4	OFFICE PRINCE GEORGE, B.C.	

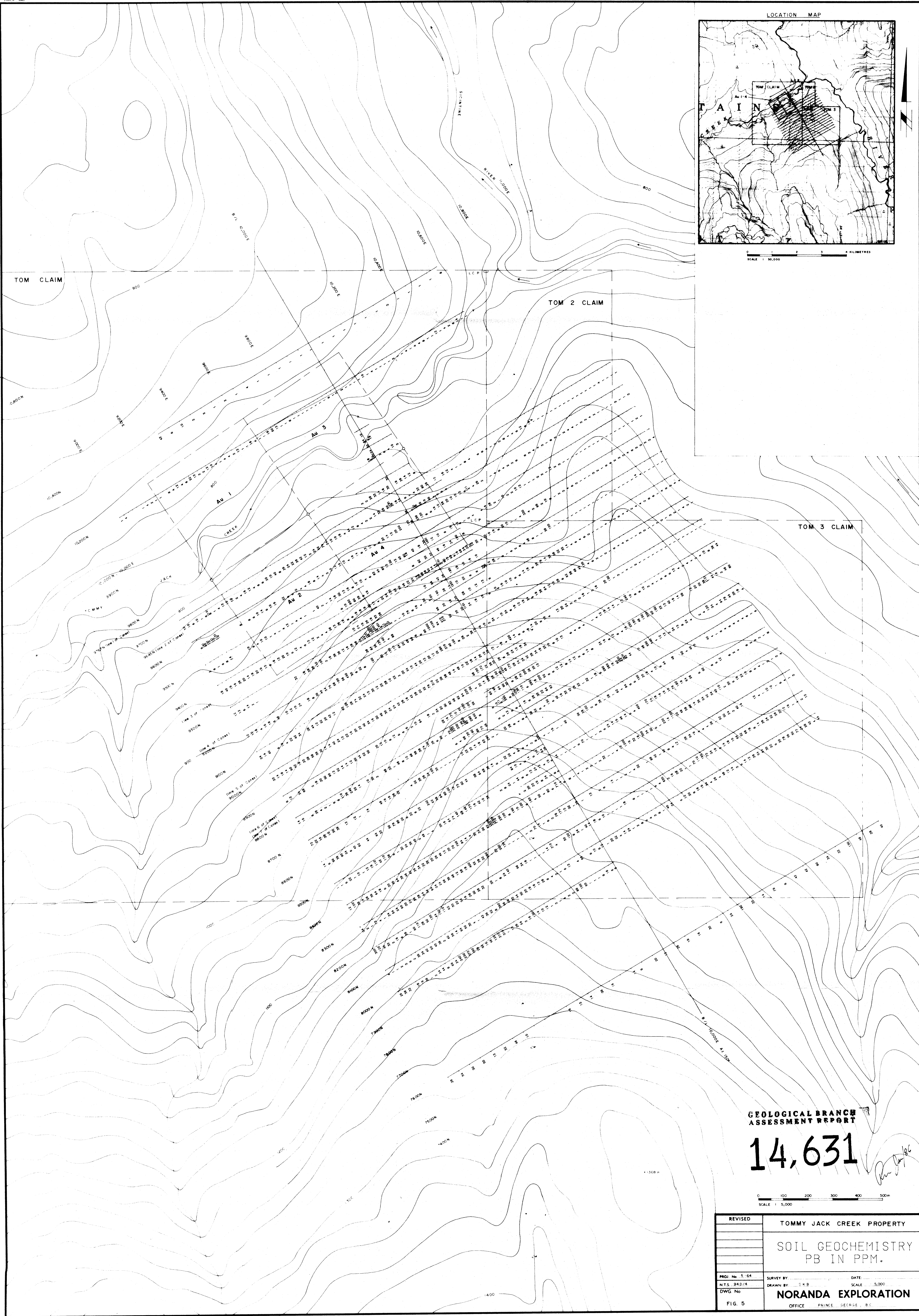




TOM CLAIM

TOM 2 CLAIM

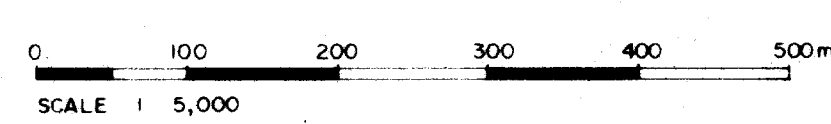
TOM 3 CLAIM



GEOLOGICAL BRANCH ASSESSMENT REPORT

14,631

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REVISED	TOMMY JACK CREEK PROPERTY	
	SOIL GEOCHEMISTRY PB IN PPM.	
PROJ. No. 5-64	SURVEY BY: S.K.B.	DATE: _____
NTS. 34D/4	DRAWN BY: _____	SCALE: 5,000
DWG. No. _____	<b>NORANDA EXPLORATION</b>	
FIG. 5	OFFICE: PRINCE GEORGE, B.C.	