

LOG NO: 1221	RD.
ACTION:	
FILE NO: 87-912-16654	

9/88

ASSESSMENT REPORT FOR

GEOPHYSICAL AND GEOLOGICAL
WORK DONE ON THE

TLITI GROUP

FILMED

N.T.S. 93 N/05W

OMINECA MINING DIVISION

Situated at Coordinates: 55° 23' N 11"
125° 48' 2" W

Owner/Operator: NORANDA EXPLORATION COMPANY, LIMITED
(NO PERSONAL LIABILITY)

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

16,654

By: Gordon Maxwell
Lyndon Bradish

November, 1987

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SUMMARY:

The TLITI group was staked to cover a series of attractive airborne E.M. anomalies, which lie in favourable felsic and intermediate volcanics of the Upper Triassic-Lower Jurassic Sitlika Assemblage. The airborne anomalies were detected on an Aerodat survey contracted by Noranda Exploration and flown in June of 1985. Following initial reconnaissance in 1985, detail grids were established in October of 1986 to facilitate HLEM, Mag and geologic surveys. Most of the targets outlined were found to be associated with graphitic argillite horizons. Two conductive horizons appear to be hosted by favourable intermediate to felsic volcanics, which may host volcanogenic massive sulphides.

INTRODUCTION:

The TLITI claims were staked by Noranda Exploration personnel to cover a series of airborne E.M. anomalies detected on an Aerodat airborne survey flown in June of 1985. Preliminary recon geophysical and geologic follow-up was conducted in late September of 1985. The Tliti 2 and 3 claims were staked on October 7 and 8 of 1986. During the period of October 10-15, 1986, detail grids were established, in the area of the Tliti and Lorne anomalies, to facilitate further HLEM, Mag and geologic surveys.

LOCATION AND ACCESS:

The property is situated approximately 16 kilometers southeast of the village of Takla Landing in central B. C. The claims are located on the east shore of Takla Lake, straddling Tliti Creek. Access to the property is via boat to Tliti Creek or by helicopter to higher elevations on the property. The B.C.R. Dease Lake extension runs along the east side of Takla Lake cutting through the western portion of the claims.

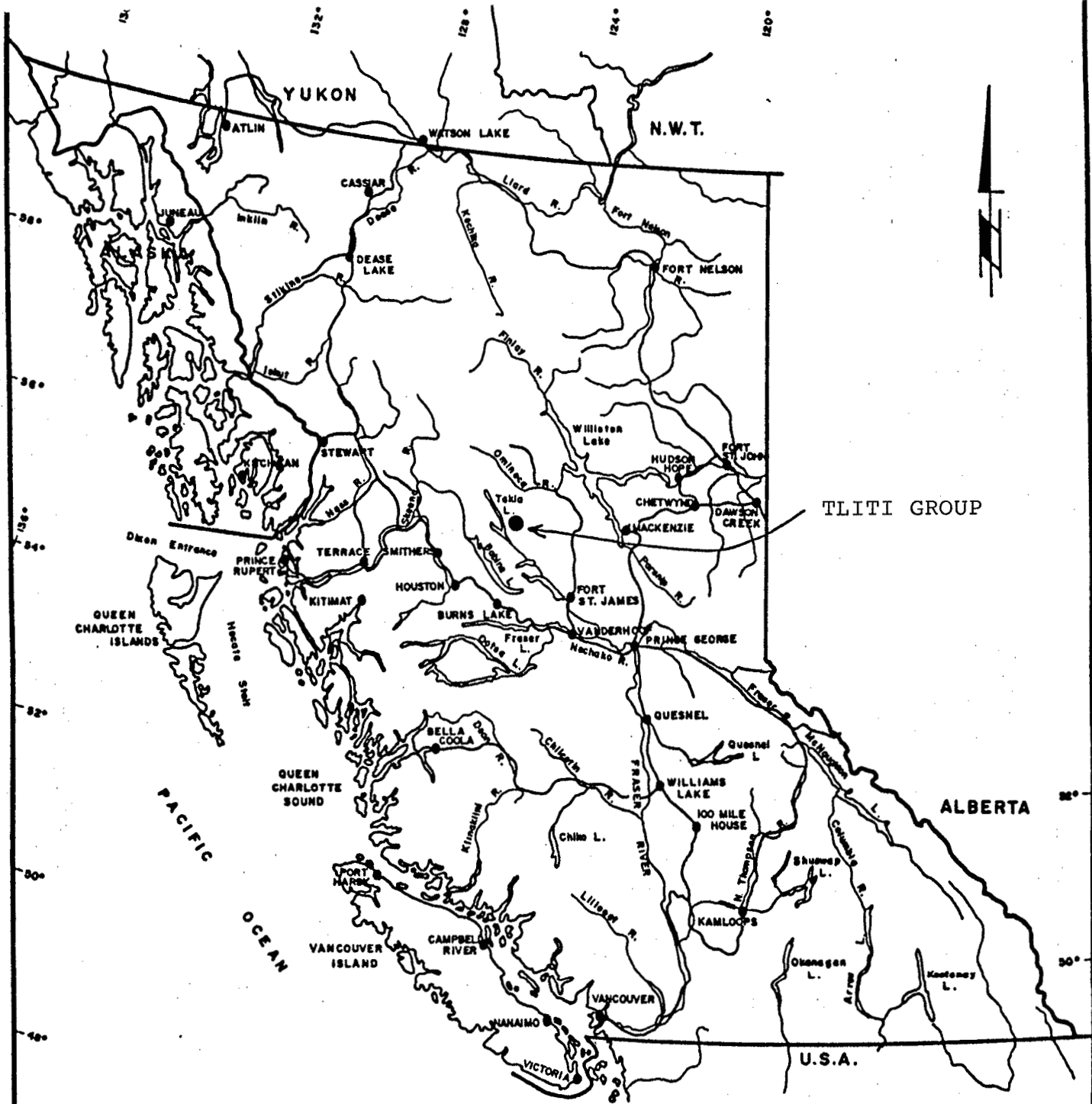
CLAIM STATISTICS:

<u>Name</u>	<u># Units</u>	<u>Record #</u>	<u>Record Date</u>	<u>Owner</u>
Tliti	20	7309	Sept 23, 1986	Noranda
Tliti 2	20	8071	Nov 03, 1986	Noranda
Tliti 3	18	8072	Nov 03, 1986	Noranda

TOPOGRAPHY AND VEGETATION:

The claims are situated on a steep, west facing, heavily wooded slope, where elevations range from lake level of 687 meters to 1400 meters. There are very few natural meadows except at the highest elevations, which makes helicopter access difficult.

The heavily wooded slopes consists mainly of spruce and balsam with a few areas nearer Takla Lake which are pine covered. The underbrush is mainly thick alder and devil's club.

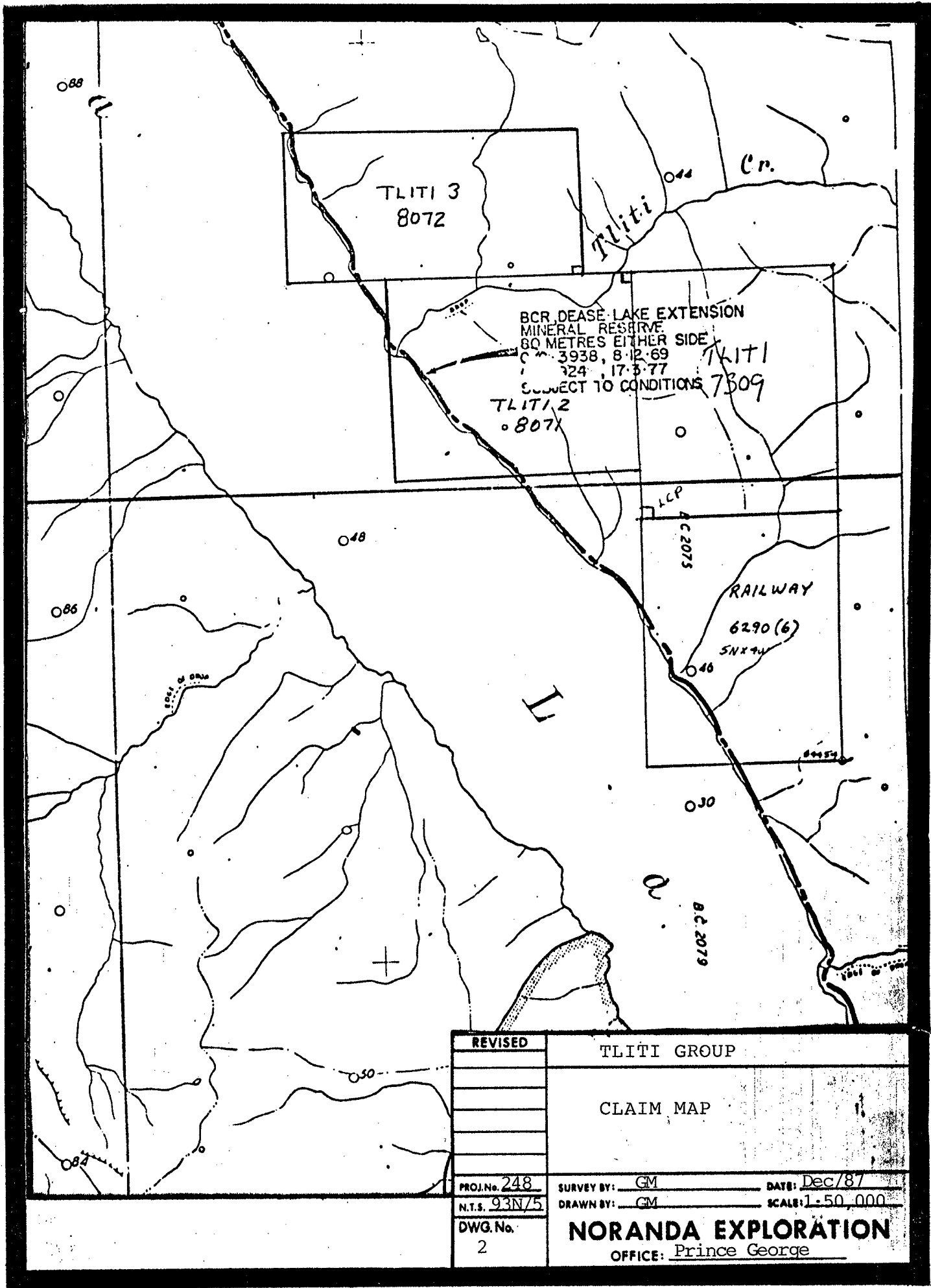


TLITI GROUP

0 100 200 KILOMETRES
SCALE: 1:8,000,000

REVISED	TLITI CLAIM	
	LOCATION MAP	
PROJ. No. 248	SURVEY BY: GM	DATE: Dec 86
N.T.S. 93N/5	DRAWN BY: S.K.B.	SCALE: 1:8,000,000
DWG. No. 1	NORANDA EXPLORATION	
	OFFICE: PRINCE GEORGE, B.C.	

VANICAL 11827



REVISED	TLITI GROUP	
	CLAIM MAP	
PROJ. No. 248	SURVEY BY: GM	DATE: Dec/87
N.T.S. 93N/5	DRAWN BY: GM	SCALE: 1-50,000
DWG. No. 2	NORANDA EXPLORATION	
	OFFICE: Prince George	

REGIONAL GEOLOGY:

The area is underlain by Upper Triassic to Lower Jurassic volcanic and sedimentary rocks of the Sitlika Assemblage which have been regionally metamorphosed to greenschist facies (Paterson, 1974). This assemblage is composed mainly of well foliated andesitic to rhyolitic pyroclastics and flows with lesser amounts of greywacke, siltstone and phyllite. The Sitlika volcanics are characterized by local development of sericite, quartz-sericite and chlorite schists. The Takla Fault separates the Sitlika rocks from the Tertiary Sustat Group to the west. The Permian Cache Creek rocks to the east are separated from the Sitlika by the Vital Fault and a serpentinite melange. The Cache Creek Group is bounded to the east by the Pinchi Fault and the Jurassic Hogem Batholith. (Figure 3).

GRIDS:

Two separate grids were established on the basis of the 1985 reconnaissance geophysics. The Lorne Grid consists of 1.05 km of cut baseline at an azimuth of 155 degrees and 10.5 km of flagged wing lines. Stations are marked every 25 meters and line spacing is either 100 or 150 meters. The Tliti Grid is made up of 3.35 km of flagged grid line controlled by 200 meters of cut baseline at a 155 degree azimuth.

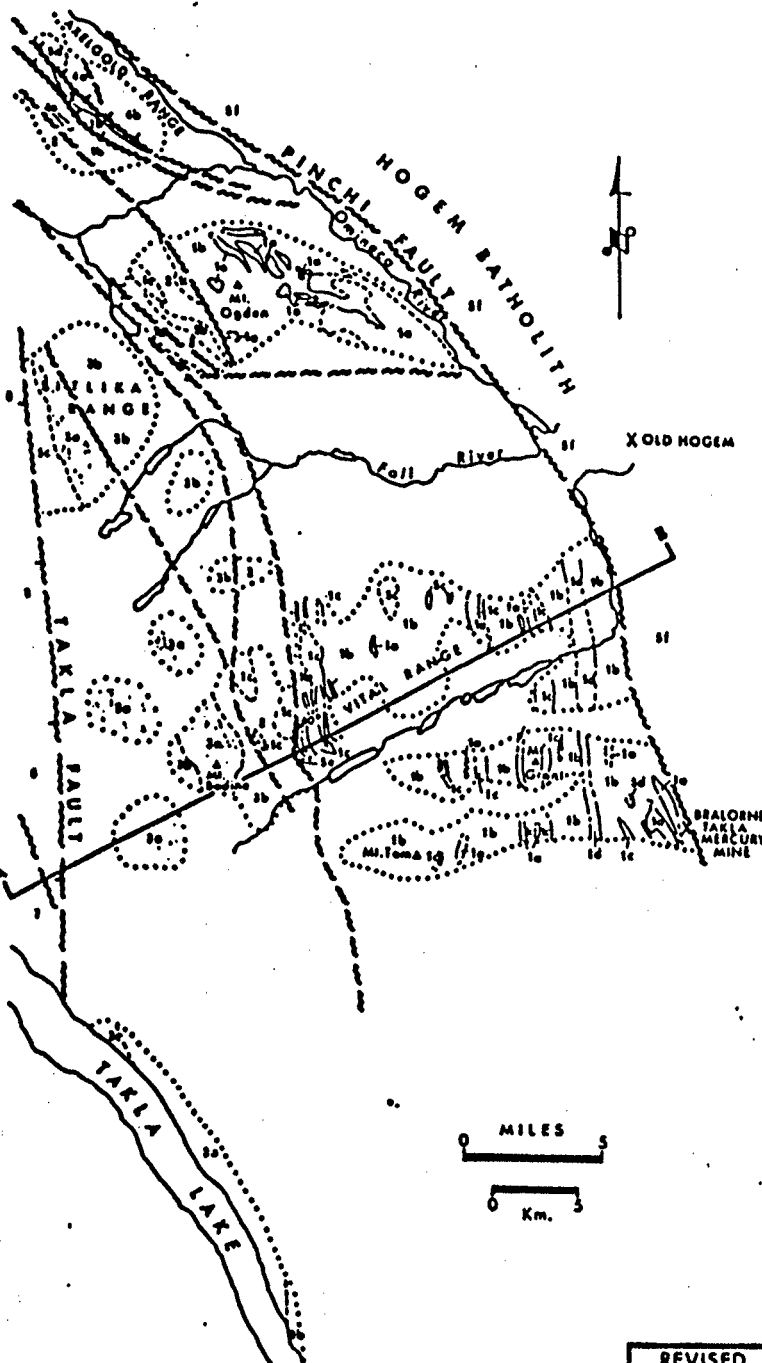
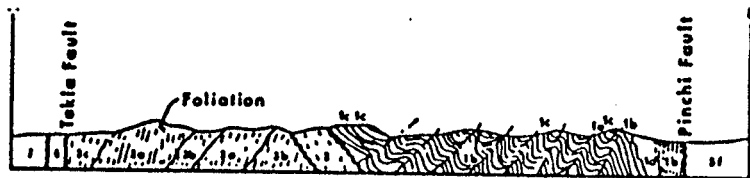
LOCAL GEOLOGY:

LORNE GRID:

The Lorne Grid is underlain mainly by a thick sequence of moderately foliated andesite to strongly foliated chlorite schist. The bedding and schistosity generally trend 145 degrees to 175 degrees and dip steeply to the east. The andesite and chlorite schists are generally intercalated with graphitic argillite and pyritic quartz sericite schist. These narrow pyritic horizons are believed to be felsic volcanic exhalative horizons. A large granodiorite intrusive cuts the north west portion of the grid. This intrusive is outlined by a sudden low in the magnetics to the north of the Lorne Grid.

TLITI GRID:

The Tliti Grid is underlain by an intercalated sequence of felsic to basic volcanics and graphitic argillite. These horizons generally trend 155 degrees to 175 degrees and dip steeply to the east. The felsic volcanics include massive to moderately foliated dacite to rhyolite flows, tuffs, lapilli tuffs and narrow pyritic sericite schist horizons. The intermediate to mafic volcanics include vesicular basalt flows, massive to moderately foliated andesite and strongly foliated chloritic schist.



LEGEND

UPPER CRETACEOUS and PALEOCENE

SUSTUT GROUP

1 conglomerate, shale, greywacke

JURASSIC

HAZELTON GROUP

2 tuff, volcanic breccia

UPPER TRIASSIC and JURASSIC

TAKLA GROUP (?)

3 (4a) chert pebble conglomerate;
 (4b) greywacke, argillite

UPPER TRIASSIC (?), JURASSIC (?)

SITLIKA ASSEMBLAGE

4 (3a) tuff, volcanic breccia, rhyolite, feldspar porphyry
 (3b) greywacke, siltstone
 (3c) black phyllite or argillite

UPPER PALEOZOIC

CACHE CREEK GROUP

5 (1a) limestone; (1b) chert & phyllite;
 (1c) greenstone; (1d) greywacke, laminated siltstone

INTRUSIVES

MESOZOIC or TERTIARY

6 (5a) syenite; (5b) granite; (5c) biotite, hornblende feldspar porphyry; (5d) biotite, granodiorite; (5e) felsite

JURASSIC (Mainly ?)

7 granodiorite (Hogem Batholith)

PERMO-TRIASSIC

8 serpentinite, hornblende

FAULT (defined, approximate, inferred).....

THRUST or high angle REVERSE FAULT.....

CONTACT (defined, approximate).....

LIMIT of MAPPING.....



REVISED	BAY 1 CLAIM
	Regional Geology
PROJ. No. 248	SURVEY BY: G.M. DATE: Feb. 86
N.T.S. 93N/12	DRAWN BY: G.M. SCALE: 1:500,000
DWG. No.	NORANDA EXPLORATION
3	OFFICE: Prince George, B.C.

GEOPHYSICS:

INSTRUMENTATION:

The SE-88 system is a Horizontal Loop EM system manufactured by Scintrex of Concord, Ontario. This unit differs from the normal HLEM systems such as the MaxMin II in that it measures without regard to phase the ratio of signal amplitudes between a reference frequency of 112 Hertz and individual signal frequencies of 337Hz., 1012Hz. and 3037Hz. The signal difference is integrated over a period of 8 or 16 seconds in order to improve the signal to noise ratio. The SE-88 data is plotted in profile form at a map scale of 1:5000 and a profile scale of 1 cm = 20%. The survey employed a 100 meter coil separation with readings recorded at 25 meter intervals.

The magnetometer surveyed employed a field and base station package also manufactured by Scintrex of Concord, Ontario. The MP-3 system records the Total Magnetic Field with an accuracy of 1 to 2 nano Teslas. All applicable corrections have been applied to the data to maintain this accuracy. Readings were recorded at both 12.5 and 25 meter intervals.

DISCUSSION OF RESULTS:

Lorne Grid:

The magnetic data is presented in both a smoothed contour form with contour intervals of 50 nano Teslas and in a profiled form with an amplitude scale of 1 cm = 1000 nT and the zero 'base' or line level of 1050 nT. The datum level for this survey was selected at 57,000 nT.

The SE-88 EM survey has defined numerous zones of bedrock conductivity throughout the gridded area. On the west side of the Baseline the detected conductivity appears to be broad and poorly defined not unlike a wide graphitic package. The conductor axis closest to the baseline has both EM and magnetic characteristics that indicate a geological contact.

On the east side of the baseline there are four distinct, narrow zones of bedrock conductivity. Of these the west zone has a high conductivity of up to 45 Siemens and the magnetic data shows a closely associated magnetic anomaly that due to its meandering nature is possibly not sourced by the EM conductor. The east zone has a lower conductivity but has a definite magnetic signature and it is apparent that the magnetic and EM sources are one and the same. Interior to these west and east zones is a central conductor(s) whose conductivity is significantly lower than its adjacent zones. Typically there is no magnetic response associated with the zone except at Line 7000N/3450E where a distinct magnetic dipole is observed.

Tliti Grid:

The SE-88 EM survey mapped a number of conductors however the emphasis was in identifying and mapping the two main zones which are detected in the central portion of the grid. The west zone is poorly defined in part due to its low conductivity and proximity to the east conductor. The south extent of this conductor on Lines 4800N, 4900N and 5200N does have a direct magnetic expression.

The east conductor axis is of higher conductivity (20 Siemens on Line 5000N) and appears to be a very discrete zone of bedrock conductivity. North of and including Line 5000N there is a strong magnetic anomaly directly associated with the conductive source. Peripheral to these two conductors there are two additional zones that are mapped on lines that extend on a 'recon' basis to the west and east of the grid.

CONCLUSIONS:

The most promising target on the Lorne Grid is the eastern most conductive horizon which appears to be hosted by a package of intercalated andesite and felsic volcanics. The remaining targets on the Lorne Grid appear to be associated with graphitic argillite horizons.

The target of most interest on the Tliti Grid is the eastern most conductor which appears to be hosted in a felsic volcanic horizon within a thick sequence of andesite and chlorite schists.

RECOMMENDATIONS:

Both targets warrant testing using a single diamond drill hole in each.

APPENDIX I

STATEMENT OF COST
GEOLOGICAL & GEOPHYSICAL REPORT

a) Wages:

HLEM survey	8 mandays @ \$125/day	\$ 1,000
Mag survey	3 mandays @ \$125/day	375
Linecutting	5 mandays @ \$100/day	500
Geology	4 mandays @ \$200/day	<u>800</u>
	Total	\$ 2,675

b) Food & Accommodations:

20 mandays @ \$50/day \$ 1,000

c) Transportation:

Bell 206 helicopter \$ 1,000

d) Cost of Report Preparation:

Author	\$ 200	
Drafting	100	
Typing	<u>50</u>	
	Total	\$ 350

TOTAL \$ 5,025

APPENDIX I

STATEMENT OF COST
COST BREAKDOWN

a) HLEM Survey:

Wages - 8 mandays @ \$125/day	\$ 1,000
(K. Lilli - Oct 10-13, 1986)	
(L. Randall - Oct 10-13, 1986)	
Food & Accommodations	400
Transportation	500
Report Preparation	<u>150</u>
	\$ 2,050

b) Mag Survey:

Wages - 3 mandays @ \$125/day	\$ 375
(B. Kirby - Oct 10-13, 1986)	
Food & Accommodations	150
Transportation	125
Report Preparation	<u>50</u>
	\$ 700

c) Geology:

Wages - 4 mandays @ \$200/day	\$ 800
(G. Maxwell - Oct 10-13, 1986)	
Food & Accommodations	200
Transportation	125
Report Preparation	<u>150</u>
	\$ 1,275

d) Linecutting:

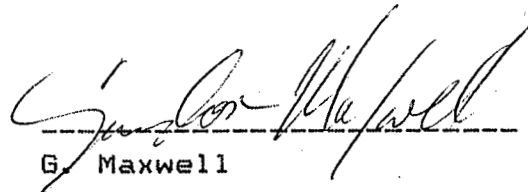
Wages - 5 mandays @ \$100/day	\$ 500
(B. Elasoff - Oct 10-12, 1986)	
(D. Rozek - Oct 10-11, 1986)	
Food & Accommodations	250
Transportation	<u>250</u>
	\$ 1,000

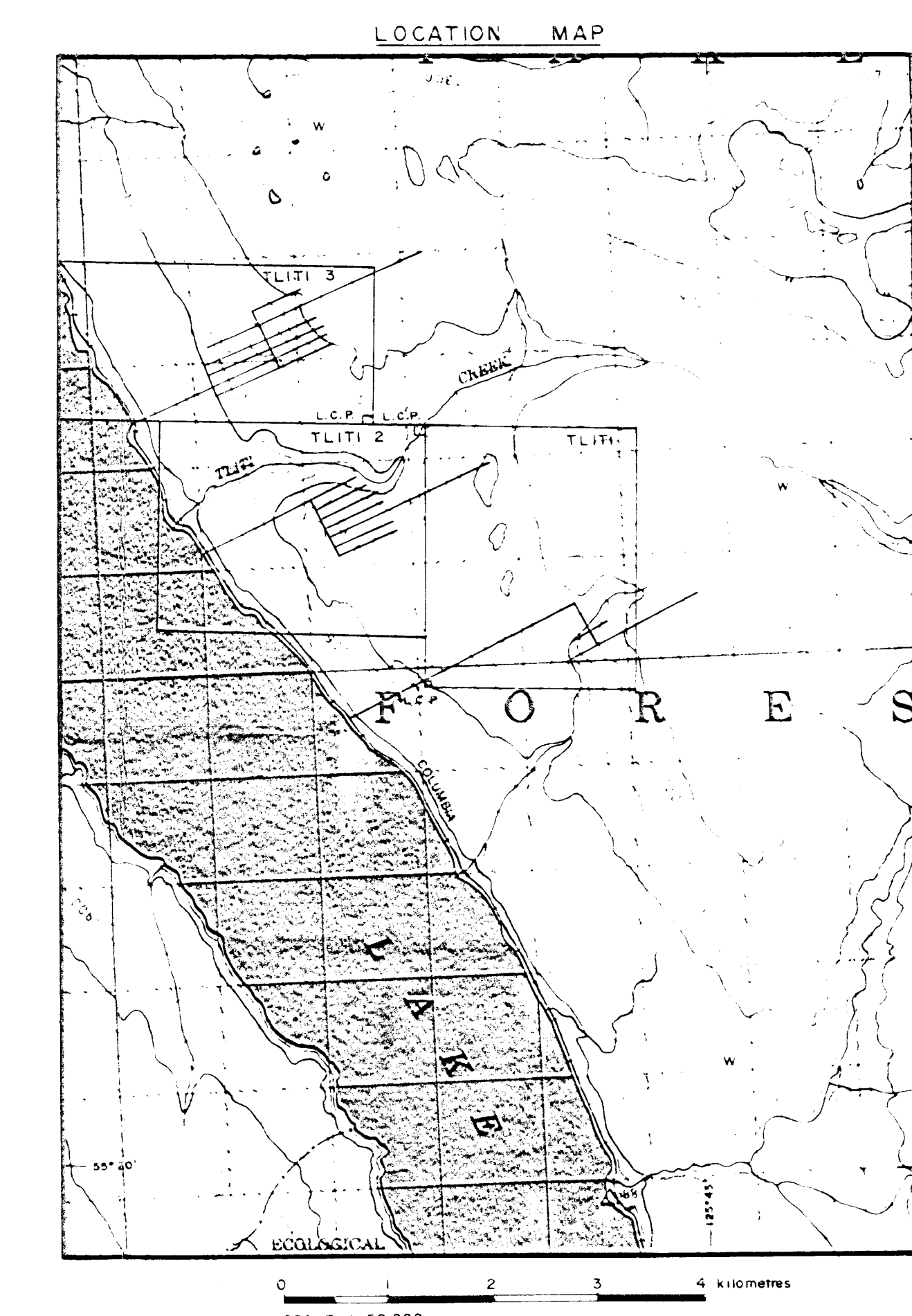
APPENDIX II

STATEMENT OF QUALIFICATIONS

I, Gordon Maxwell of Prince George, Province of British Columbia, do hereby certify that:

1. I am a Geologist residing at 5905 Rideau Street, Prince George, British Columbia.
2. I am a graduate of the University of Manitoba with an Hons. B. Sc. (geology).
3. I am a member in good standing of the Canadian Institute of Mining and the Prospector's and Developer's Association.
4. I presently hold the position of Project Geologist with Noranda Exploration Company, Limited and have been in their employ since 1980.


G. Maxwell



LEGEND

- | | |
|---|--|
| <p>UPPER CRETACEOUS AND LOWER TERTIARY</p> <p>13 Sediments</p> <p>(a) conglomerate
(b) sandstone
(c) shale</p> <p>12 Volcanics</p> <p>(a) rhyolite
(b) andesitic
(c) basalt</p> <p>EARLY JURASSIC</p> <p>11 Pelvic Intrusives</p> <p>(a) granite
(b) granodiorite
(c) diorite</p> <p>UPPER TRIASSIC - LOWER JURASSIC</p> <p>SITILKA GROUP</p> <p>10 Basite or Mnyolite</p> <p>(a) massive
(b) porphyritic
(c) amygdaloidal or vesicular
(d) pillow
(e) tuff
(f) lapilli tuff
(g) tuff breccia
(h) agglomerate
(i) tuffite schist</p> <p>9 Andesite</p> <p>(a) massive
(b) porphyritic
(c) amygdaloidal or vesicular
(d) pillow
(e) tuff
(f) lapilli tuff
(g) tuff breccia
(h) agglomerate
(i) chlorite schist</p> <p>8 Basalt</p> <p>(a) massive
(b) porphyritic
(c) amygdaloidal or vesicular
(d) pillowed</p> | <p>7 Clastic Sediments</p> <p>(a) conglomerate
(b) sandstone
(c) argillite
(d) silty phyllite
(e) phyllite
(f) graphitic phyllite</p> <p>6 Chemical Sediments</p> <p>(a) iron formation
(b) ironstone
(c) chert
(d) chert breccia</p> <p>PERMIAN TO TRIASSIC</p> <p>5 Ultramafic Intrusives</p> <p>(a) serpentine
(b) gabbro</p> <p>PERMIAN</p> <p>CACHE CREEK</p> <p>4 Basalt</p> <p>(a) massive flows
(b) pillowed flows
(c) chloritic schists</p> <p>3 Chert</p> <p>(a) massive chert
(b) laminated chert
(c) chert breccia</p> <p>2 Clastic Sediments</p> <p>(a) grey to black phyllite
(b) graphitic phyllite
(c) maroon siltstone
(d) greywacke/siltstone
(e) sandstone/siltstone
(f) conglomerate</p> <p>1 Limestone (marble)</p> |
|---|--|

GEOLOGICAL BRANCH ASSESSMENT REPORT

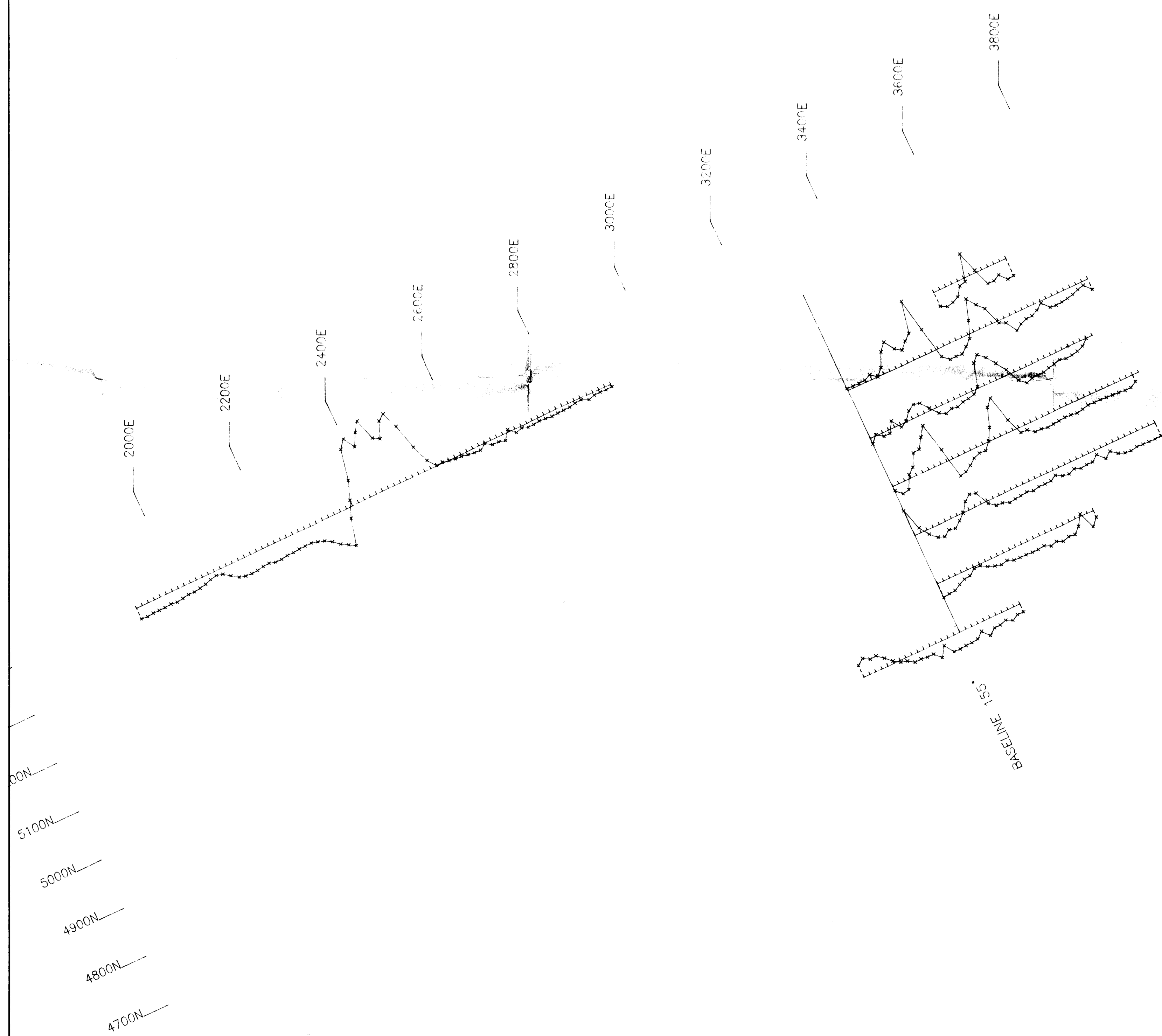
16,654

- Chalcopyrite Cp
- Pyrrhotite Py
- Pyrite Py
- Malachite Mal
- Magnetite Mag
- Sphalerite Sph
- Graphite Gr
- Gossan G
- Epistote Epi
- Calcite Cal

- SYMBOLS:**
- LAKE
 - ⊖ SWAMP
 - RIVER, STREAM
 - RAILWAY
 - ROAD (SECONDARY)
 - CLAIM BOUNDARY
 - ⊙ HELICOPTER LANDING
 - ⊖ 1985 NORANDA CHIDS
 - CLEAR CUT
- GEOLOGICAL SYMBOLS:**
- AREA OF ROCK OUTCROP
 - × ROCK OUTCROP
 - ⊙ FLOAT
- GEOLOGICAL BOUNDARY:**
- Defined
 - Assumed
 - SCHISTOSITY CLEAVAGE, FOLIATION (Vertical, inclined, dip unknown)
 - FAULT (Defined, approximate, assumed)



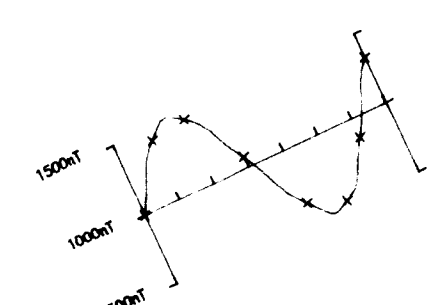
REVISED	TAKLA NAK	
	TLITI CLAIM	
	GEOLOGY MAP	
PIC. No. 5-10	SURVEY BY G.M., L.W.	DATE Oct., 1986
N.T.S. 93N/3	DRAWN BY S.K.B.	SCALE 1:5000
DWG No.	NORANDA EXPLORATION	
MAP I	OFFICE PRINCE GEORGE, B.C.	



**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

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Instrument : MP-3
Field : TOTAL
Datum : 57000.0 nT
Contour Interval : *SH*
Profile Amplitude : 500 nT / Cm
Conductor Axis :



TLTI

MAGNETOMETER SURVEY

PROJECT: TAKLA-NAK PROJECT # : 248
BASELINE AZIMUTH : 155 Deg.

SCALE = 1: 5000 DATE : 9/ 2/85
SURVEY BY : SH NTS : 93/N/5

FILE: MG248TLI
MAP 3b **NORANDA EXPLORATION**



7600N

7450N

7300N

7150N

7000N

6850N

6750N

6650N

6550N

2600E

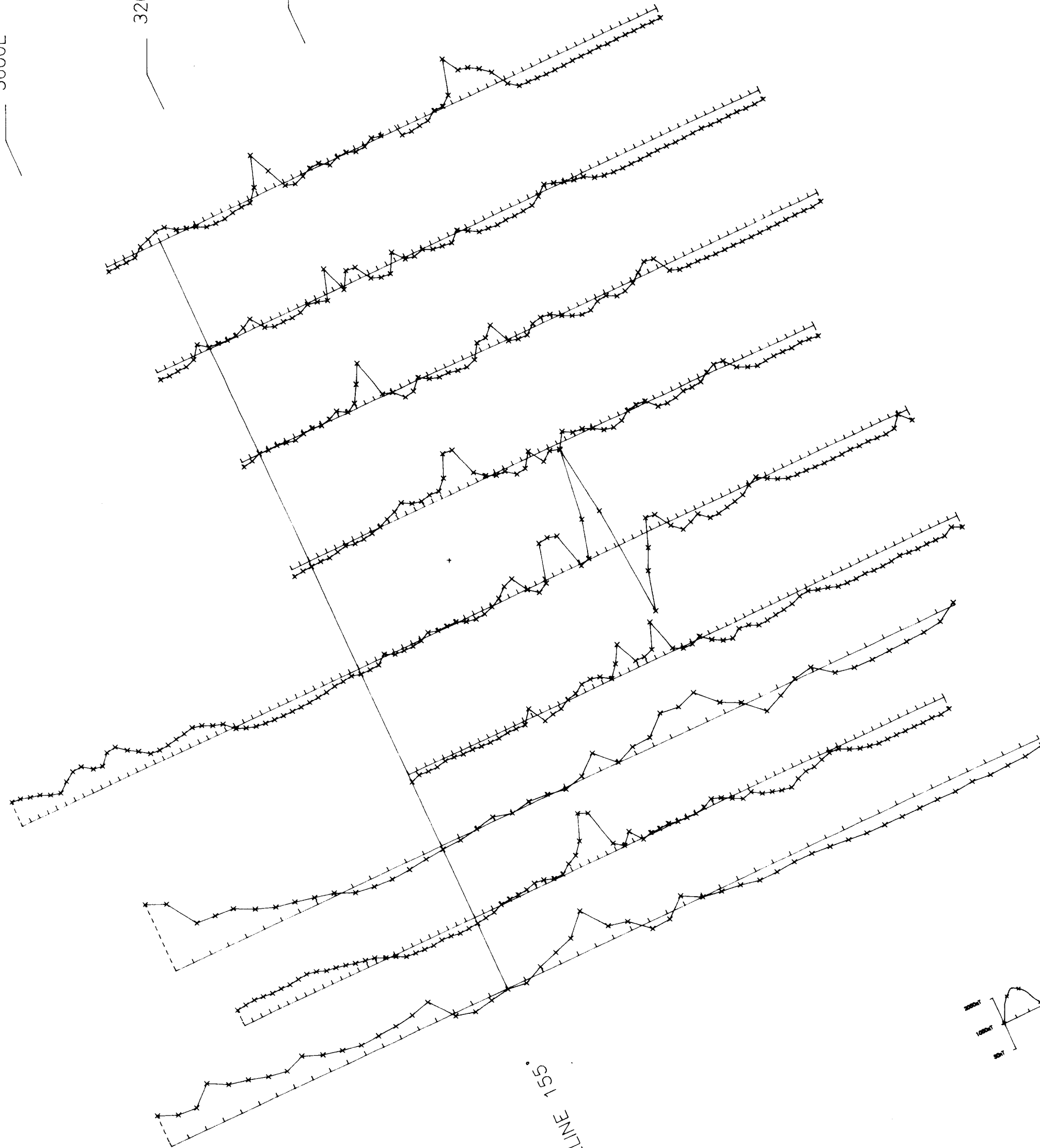
2800E

3000E

3200E

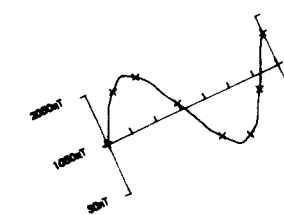
3400E

36



**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

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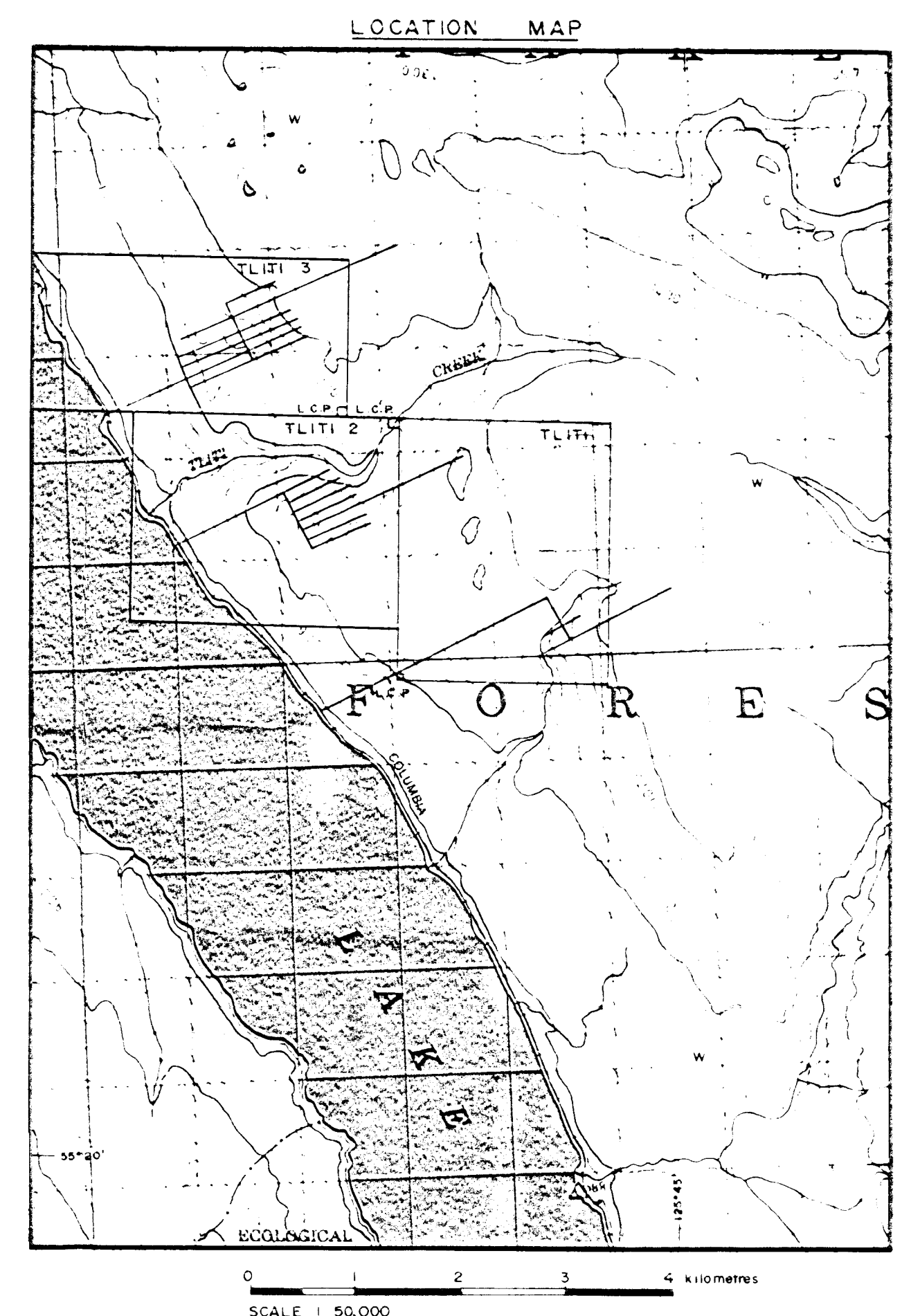
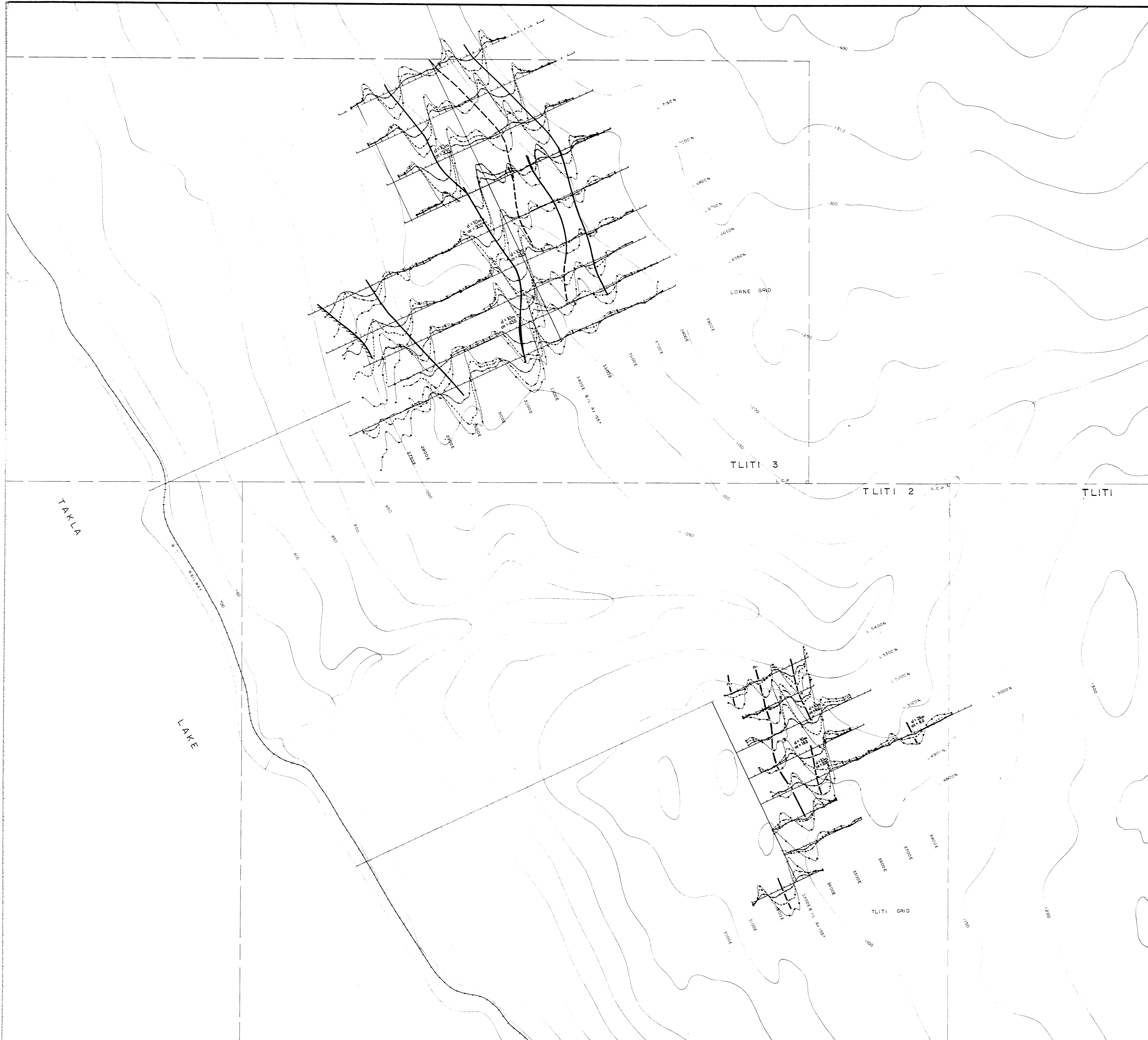


Instrument	: MP-3
Field	: TOTAL
Datum	: 57000.0 nT
Contour interval	:
Profile Amplitude	: 1000 nT / Cm
Conductor Axis	:







MAP 3c

LORNE	
MAGNETOMETER SURVEY	
PROJECT: TAKLA-NAK	PROJECT # : 248
BASELINE AZIMUTH : 155 Deg.	
SCALE = 1: 5000	DATE : 9/ 3/85
SURVEY BY : SH	NTS : 93/N/5
FILE: MG248LOR	
NORANDA EXPLORATION	

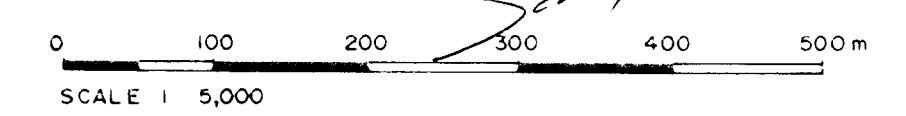


LEGEND

Instrument : SE-88 GENI
 Coil Spacing : 100m
 Surf. Frequency : 112 Hz
 Vertical Spacing : 1 cm = 200
 Conductor Axis : 
 337 Hz : 
 1812 Hz : 
 3837 Hz : 

**GEOLOGICAL BRANCH
 ASSESSMENT REPORT**

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REVISED	TAKLA NAK	
G.M. DEC. 1986	TLITI CLAIM	
G.M. FEB. 1987	SE-88 SURVEY	
PRG. No. 5-48	SURVEY BY: R.S./B.G.	DATE: Oct. 1986
N.T.S. 92N/5	DRAWN BY: S.K.B.	SCALE: 1:5000
DWG. No.	NORANDA EXPLORATION	
MAP 2	OFFICE: PRINCE GEORGE, B.C.	