

3620

Department of  
Mining and Petroleum Resources  
ASSESSMENT REPORT  
No. 3620 MAP

GEOPHYSICAL REPORT  
ON AN  
INDUCED POLARIZATION SURVEY  
ON THE  
B CLAIM GROUP  
IRON MASK AREA, KAMLOOPS M. D., B.C.,

92I/10E

APRIL 1972

B Claim Group: 9.5 miles S85W of the city of Kamloops

o o  
: 50 120 NW

NTS : 92I/10E

Written for:

Equatorial Resources Limited  
#3-588 Howe Street  
Vancouver, British Columbia

by:

David G. Mark, Geophysicist  
Howard A. Larson, Geophysicist  
GEOTRONCIS SURVEYS LTD  
514-602 W Hastings Street,  
Vancouver 2, B.C.

May 5, 1972

**Geotronics Surveys Ltd.**

Vancouver, Canada

## TABLE OF CONTENTS

SUMMARY	
CONCLUSIONS AND RECOMMENDATIONS	
INTRODUCTION AND GENERAL REMARKS	1
PROPERTY AND OWNERSHIP	2
LOCATION AND ACCESS	2
PHYSIOGRAPHY	3
GEOLOGY	4
AEROMAGNETICS	8
HISTORY OF PREVIOUS WORK	8
INSTRUMENTATION AND THEORY	9
SURVEY PROCEDURE	12
TREATMENT OF DATA	14
Induced Polarization	14
Resistivity	14
Self Potential	14
Magnetic Soil Sample Survey	15
Composite	16
DISCUSSION OF RESULTS	17
Induced Polarization	17
Resistivity	19
Self Potential	19

TABLE OF CONTENTS (continued)

SELECTED BIBLIOGRAPHY 21

GEOPHYSICIST'S CERTIFICATE 22

D.G. Mark

GEOPHYSICIST'S CERTIFICATE 23

H.A. Larson

ENGINEER'S CERTIFICATE 24

T.R. Tough

COST BREAKDOWNS

MAPS - at end of report

Scale

#1 Location Map

1" - 134 miles

#2 Property Location Map

1" - 10,000'

#3 Claim Map

1" - 1000'

#4 "B" Claim Group - Chargeability

#5

"

- Resistivity

#6

"

- Self Potential Gradient

#7

"

- Magnetic Survey

#8

"

- Soil Sample Survey - Copper

#9

"

- Composite

### SUMMARY

A time-domain induced polarization survey was completed over the B Claim Group located on the Trans-Canada Highway about 2000 feet west of Hughes Lake within the Kamloops Mining Division. The survey was carried out during April, 1972. Its objective was to locate any possible areas of large, low-grade mineralization, such as native copper or chalcopyrite.

The Trans-Canada Highway, the Dominic Lake road, as well as a farmer's dirt track all pass through the property giving it excellent access. The terrain is hilly with the relief being no more than 300 feet. Both Alkali Creek and Cherry Creek drain northwesterly through the property and Ned Roberts Lake is located on its southwest corner.

According to the sparse outcroppings on the property, it appears that it is almost totally underlain by four different rock-types

of the Kamloops volcanics. These are a feldspar porphyry, an andesite, an andesite-basalt, and a trachyte. From the aeromagnetics, the writers feel that the volcanics is a thin capping overlying the Iron Mask batholith.

The self-potential results are almost all considered to be close to background. The resistivity results appear only to be a reflection of the soil's conductivity and its thickness. Near rock outcrops, the resistivity increased. Though the induced polarization response was low, there seems to be some correlation with the soil sample results and the magnetics.

#### CONCLUSIONS AND RECOMMENDATIONS

The writers felt that geochemistry anomaly 1 should be further explored for the following reasons:

- (a) Correlation with induced polarization and magnetics.
- (b) Iron Mask batholith probably underlies a relatively thin capping of Kamloops volcanics. In fact in areas underneath the soil cover, there may be no volcanic cover.


(c) Proximity to the Afton orebody.

It is recommended to diamond drill the anomaly vertically as is shown on sheet 6. Depending on these results, it may also be desirable to drill geochemical anomaly 2.



Respectfully submitted,  
GEOTRONICS SURVEYS LTD

  
David G. Mark  
Geophysicist

  
Howard A. Larson  
Geophysicist

May 5, 1972

GEOPHYSICAL REPORT  
ON AN  
INDUCED POLARIZATION SURVEY  
B CLAIM GROUP  
IRON MASK AREA, KAMLOOPS M. D., B. C.

---

INTRODUCTION AND GENERAL REMARKS:

This report discusses the procedure, compilation, and interpretation of an induced polarization (IP) survey carried out on the B Claim Group during April, 1972.

The field work was carried out by the writers and two assistants. The amount of the IP survey completed was 39,200 feet or 7.8 line miles.

The object of the survey was to locate any possible areas of sulphide mineralization, and therefore, any targets for diamond drilling.

PROPERTY AND OWNERSHIP:

The B Claim Group consists of 14 contiguous mineral claims, five of which are fractions. The claims are shown in Figure 3 and pertinent data is given in the table below. Because the B 1-5 fr. claims were recently staked, record numbers were not available and therefore metal tag numbers are given instead.

<u>Name</u>	<u>Record No.</u>	<u>Tag No.</u>	<u>Expiry Date</u>
B # 1-9	100218-226		October 7, 1972
B # 1-4 Fr.		302956M- 59M	April 4, 1973
B # 5 Fr.		273742M	April 4, 1973

All claims are wholly owned by Equatorial Resources Limited of Vancouver, B.C.

LOCATION AND ACCESS:

The property is centered about 9.5 miles S85° W of the City of Kamloops (in a straight line) the north part of which straddles the Trans-Canada Highway. Hughes Lake is located about 2000 feet to the east and the Afton orebody, about 1 1/2 miles N75E of the claim group. By highway from Kamloops, the distance is about eleven miles.



The geographical coordinates are  $50^{\circ} 39.5'$  N latitude and  $120^{\circ} 33'$  W longitude.

Access to the property is excellent being that the Trans-Canada Highway No. 1 runs through the northern part. Also a gravel road to Dominic Lake leaves Highway No. 1 at Cherry Creek Esso and passes through the southern part of the property. A farmer's dirt track runs through the centre of the claim group.

#### PHYSIOGRAPHY

The property is found within the physiographic unit known as the Thompson Plateau which forms part of the Interior Plateau system. The terrain in the immediate area of the claim group is that of gently rolling hills with the local relief being not more than 300 feet. The claims sit at an elevation of about 2000 to 2300 feet.

For any diamond drilling purposes there is sufficient water on or near the claims. Both Cherry Creek and Alkali Creek flow northwesterly through the south central and north central part of the claims respectively. Ned Roberts Lake is found on the southwestern part and Hughes Lake is found not far off the eastern edge.

The vegetation is that of open forests of pine trees and open areas of grasslands.

Pleistocene ice occupied the Thompson Plateau and thus much of the claims area is probably covered by glacial drift which could become fairly deep over the flatter areas.

The climate is semi-arid with annual precipitation varying from 10 to 11 inches. Temperatures vary from the high extreme in summer of over  $100^{\circ}\text{F}$  to the low extreme in winter of around  $-30^{\circ}\text{F}$ , though the usual temperature during a summer day would be  $60^{\circ}\text{F}$  to  $80^{\circ}\text{F}$  and that in winter  $20^{\circ}\text{F}$  to  $40^{\circ}\text{F}$ .

#### GEOLOGY

According to the G.S.C. map of the area (Cockfield, 1947) the property is largely covered by Kamloops volcanics with the southwestern part being covered by rocks of the Nicola Group. L. Sookochoff, geologist, mapped the property while the IP survey was being carried out and therefore much of the following is taken from his preliminary map.

The Nicola Group was not identified on the property by Sookochoff. However, where it should occur, little or no outcrop was noted. The Nicola Group is Upper Triassic in age and is composed of greenstone, andesite, basalt, agglomerate, breccia, tuff, minor argillite, limestone, and conglomerate.

The rest of the property is underlain by Miocene volcanics of the Kamloops Group. According to Sookochoff, these are divided into four principle rock-types; a feldspar porphyry in the central part of the claim group, andesites to the north, a maroon trachyte to the west and south, and a ridge of andesite-basalt between the andesites and feldspar porphyry.

The feldspar porphyry is comprised of phenocrysts of feldspar laths up to 0.5 cm. long in a fine-grained to microcrystalline matrix. It is relatively more magnetic than the adjacent rocks and increases in magnetism to the west where it also exhibits greater alteration.

The andesites to the north are dense, aphanitic, slightly magnetic, and exhibit some columnar jointing.

The andesite-basalt is greyish-black, dense, aphanitic and lightly magnetic.

The maroon trachyte is microcrystalline, dense, hard, non-magnetic and may contain subhedral feldspar phenocrysts.

The trachyte contains prolific, incipient iron oxides which usually weather to a rusty brown on an exposed surface.

Sookochoff infers mainly from topographical features a north-westerly-trending fault which is assumed to be a contact between the feldspar porphyries to the south and the andesites to the north. The more prominent and prevalent joints trend northerly with a subsidiary set trending northeasterly. Fracture zones in both the diorite and the volcanics trend northeast and could be subsidiary structures to the major fault.

No sulphide mineralization was apparently noted on the B Claim Group.

In the general area many copper occurrences are found both within the Iron Mask Batholith and the older, intruded Nicola rocks close to the batholith. Generally, they are in veins, impregnations, stockworks and mineralized shear zones in the country rock with the principal copper minerals being chalcopyrite and bornite as well as some chalcocite, cuprite, azurite and malachite. Additional minerals that often occur with the copper are magnetite and pyrite. There have been shipments of ore, though small, from many of the prospects. The largest producer was the Iron Mask Mine which shipped a total of 189,230 tons of ore.

The main developer in the area presently is Afton Mines Ltd which, as of February 21, 1972 has blocked out 36 million tons of 0.66% copper. The main mineral form is native copper found within an intrusive breccia at the contact of the Nicola Volcanics and the Iron Mask Batholith.

Leemac Mines is also carrying out a drilling programme on a very promising prospect. Its main copper mineral is chalcopyrite with some bornite within a porphyritic diorite.

### AEROMAGNETICS

The aeromagnetic contours on the G.S.C. Geophysics Papers 5216-5217 (92I/9, 10) appear to reflect the Iron Mask batholith fairly well, that is, the occurrences at Sugarloaf Hill, Cherry Bluff and Battle Bluff. The contours also join the main body of the intrusive with the occurrence at Cherry Creek, between which is underlain by Kamloops volcanics, according to the G.S. C. geology map. It is therefore felt by the writers that these two occurrences of the Iron Mask are connected underneath, what is probably, a thin capping of Kamloops volcanics. From the writers' interpretation of the aeromagnetics all of the B claim group, except for the southwest corner, would be underlain by this intrusive.

### HISTORY OF PREVIOUS WORK

The property came into being when the B 1-9 mineral claims were staked near the beginning of October, 1971.

A combined vertical component fluxgate magnetometer and a copper soil sample survey was carried out by Geosurveys

Consultants Ltd of Vancouver, B.C. during February, 1972.

### INSTRUMENTATION AND THEORY

The instrument used was a Geotronics Model A-2 portable time-domain pulse type manufactured by Geotronics Surveys Ltd. of Vancouver, B.C. A 12-volt lead acid storage battery (rechargeable) was used as a power supply. This unit has a transmitter power output of 300 watts normal and up to 400 watts with fully charged battery. Output voltage is 400, 800 or 1,200 volts (800 used almost exclusively in this survey) with selection by a switch. The time of pulse length is 1 to 12 seconds, variable, delay time is 250 milliseconds and integration time is 1 second. The self-potential buckout is operated manually by a ten turn precision pot with a range of  $\pm 1$  volt.

There are basically two methods of IP surveying, frequency-domain and time domain. Both methods are dependent on a current flowing across an electrolyte-electrode interface or an electrolyte-clay particle interface, the former being called electrode polarization and the latter being called membrane polarization.

In time-domain electrode polarization, a current is caused to flow along electrolyte-filling capillaries within the rock. If the capillaries are blocked by certain mineral particles that transport current by electrons (most sulphides, some oxides, graphite), ionic charges build up at the particle-electrolyte interface, positive ones where the current enters the particle, and negative ones where it leaves. This accumulation of charge creates a voltage that tends to oppose the current flow across the interface. When this current is stopped the created voltage slowly decreases as the accumulated ions diffuse back into the electrolyte. Thus is produced the induced polarization effect.

In membrane polarization a similar effect occurs. A charged clay particle attracts opposite charged ions from the electrolyte in the capillary around the particle. If a current is forced through the capillary, the charged ions are displaced. When the current is stopped, the ions slowly diffuse back to the same equilibrium state as before the current flow. This explains IP anomalies where no metallic-type minerals exist.



Frequency-domain IP is based on the fact that the resistance produced at the electrolyte-charged particle interface decreases with increasing frequency. Two parameters commonly used for measuring frequency-domain induced polarization are frequency effect and metal factor. The one used for time-domain measurements is chargeability (as in this survey).

In the process of carrying out an IP survey, two other geophysical methods are used and measured. These are self-potential (SP) and resistivity. The SP, its phenomenon described in the following paragraph, must be nulled by the IP receiver in order to obtain accurate IP measurements. The resistivity value is calculated from the voltage and current readings obtained while measuring the IP effect and therefore can be utilized to determine how resistive (or conductive) the ground is.

Self-potentials are produced in the crust of the earth from a variety of processes that are chemical, physical and electromagnetic inductive. Sulphide bodies produce a potential from chemical processes that range in magnitude from a few tens of millivolts to several hundred millivolts and, in rare cases,

above 1,000 millivolts. The causes of sulphide self-potentials is not fully understood or agreed upon by geophysicists. However, the more accepted theory is that this 'battery action' is caused by a difference in pH in the upper ground water electrolytes (more acidic) and the lower ground water electrolytes (less acidic) and is abetted by the oxidation of sulphides near the surface forming acids that, therefore, increase the contrast. The current caused by the potential flows from the apex of the sulphide body to some point at depth (terminus of deposit or point of minimum acidity), into the wall rock, back to the surface and back into the sulphide apex. A negative pole is thus created at ground surface and, therefore, except for a few rare cases, sulphide bodies are reflected by negative anomalies.

The gradient of the self-potential (millivolts/electrode spacing in feet) is what is measured in an IP survey.

#### SURVEY PROCEDURE

A grid was first set up by using Highway No. 1 as a baseline and running the survey lines in the same direction shown on the magnetics-soil sample map which was N10°E-S10°W. It was found much easier to put a new one in. The line-spacing was 400

feet and 100-foot intervals on the lines where marked by red flagging or fluorescent-pink flags (4" - square vinyl on 2 1/2-foot wire staff). In the cultivated and open fields immediately south of the highway, the wire flags were removed after the IP survey was completed.

The Wenner array was used, which has a constant and equal electrode separation. The two potential (or probing) electrodes are in the center, and the two current electrodes are on the outside. The distance between each electrode as 300 feet and readings were taken every 200 feet. Non-polarizing, unglazed, porous pots with a copper electrode and a copper sulphate electrolyte were used for the potential electrodes. Steel stakes were used for the current electrodes. The charge time for each reading throughout the survey was seven seconds and the voltage used to drive the current into the ground was 400 volts. Since the stake resistance varied from about 400 ohms to 1000 ohms, the power pulsed into the ground varied from 400 watts to 160 watts, though it was more usually 250 to 300 watts. Around the alkali swamps, the stake resistance was so low that the instrument could not handle the resulting increase in current. Therefore, no IP readings were obtained.

## TREATMENT OF DATA

### 1. Induced Polarization

The IP results were normalized by dividing the integrated IP reading in millivolt second by the impressed emf (or primary voltage) in millivolts and multiplied by 1000 to get what is generally referred to as chargeability in millivolt seconds/volt or milliseconds. These results were then plotted on sheet 1. Since the results were very low, only the 1 millisecond contour was drawn in.

### 2. Resistivity

To get the resistivity value in ohm-feet, the primary voltage was divided by the constant, 1886 feet (which is a geometric factor peculiar to the Wenner array with an electrode spacing of 300 feet). The results were then plotted on sheet 2 and contoured at an interval of 100 ohm-feet.

### 3. Self Potential

The SP gradient values were plotted on sheet 3. An anomalous condition on this survey, since the positive electrode is always to the south, is indicated by the

0 value between the negative high to the north and the positive high to the south which gives a negative SP anomaly or, vice versa, which gives a positive SP anomaly.

SP readings from an IP survey are often erratic because of the residual voltage left in the ground from previous IP pulses and therefore do not reflect the true ground potential. For this reason, it is meaningless to calculate and plot the self-potential from the self-potential gradient readings and often, the gradient readings themselves add little to the geological picture. Furthermore, the gradient readings are low on this survey, as seen on sheet 3, and therefore, it was felt unnecessary to profile the SP readings.

4. Magnetic-Soil Sample Survey

The magnetic results of the previously done survey were interpreted differently by the writers and therefore were recontoured. The direction of the survey lines are also different as was noted in the field by the writers. The magnetic results were

therefore remapped as shown on sheet 4. The soil sample copper results were remapped on sheet 5.

5. Composite

A composite map of all the surveys with the known geology was drawn on sheet 6.

## DISCUSSION OF RESULTS

### 1. Induced Polarization (chargeability)

As is shown on sheet 1, the chargeability results are relatively low with the average being around 0.6 milliseconds and the highest value, 3.0 milliseconds. The generally low values over the property are largely a result of the low surface resistivity which prevents most of the current from penetrating very deeply and thus the results do not indicate a lack of sulphide mineralization in the area. There are a few small areas with readings above background and therefore, considering the masking effect of the overburden, do merit further discussion.

The two anomalous zones labelled A and B are found to be located around copper geochemical anomaly I (sheet 6). This suggests that the IP could be reflecting a peripheral zone of pyrite that surrounds a body of copper mineralization. However, anomaly A does correlate with a swamp and therefore could possibly be caused by membrane polarization of clay particles that may underlie the swamp.

There is a magnetic low that partially surrounds the geochemical anomaly and lies between it and IP anomaly B. In addition, a magnetic high is found to correlate with IP anomaly B and another is found immediately east of the geochemical anomaly. It is possible, therefore, that IP anomaly B is reflecting disseminated magnetite either within the Iron Mask intrusive or within Kamloops volcanics that may be overlying the intrusive. The magnetic low may be due to the dipole effect associated with both magnetic highs or it could be caused by a zone of alteration that is associated with the possible copper mineralization as reflected by the geochemical anomaly.

There is a relatively strong IP anomaly labelled C, in the southwest corner of the survey area near Ned Roberts Lake. No soil samples were picked up in this area and therefore it is questionable what the causative source could be.

The northern two-thirds of L-0 appears to be anomalous, though this is questionable for there is little correlation on the adjoining L-4E. Instrument malfunction is ruled out since the IP receiver was tested periodically along the line. Two other possibilities are that L-0 is near a contact with a



different rock-type or soil conditions were sufficiently different to enable greater penetration. Both of these would result in a higher chargeability background. If the anomalous level is increased to 2.0 milliseconds, there is a large anomaly of low magnitude a few hundred feet south of the highway. However, there is no geochemical correlation.

## 2. Resistivity

The resistivities of the survey area are extremely low having a maximum value of only 700 ohm feet. Some of the higher values correlate with rock outcroppings and the lower values are found around the alkali swamps. In fact, over the swampy areas the resistivities were so low that readings could not be made without exceeding the power limits of the instrument. It therefore appears that the resistivity survey only reflected both the variation in soil resistivity and the soil thickness.

## 3. Self-potential

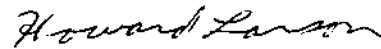
There was little anomalous response from the self-potential gradient survey. One anomaly of low magnitude is found on the south end of L-20E and has a positive high of 29 millivolts and a negative high of 20 millivolts. However, there

is no definite correlation with results from other surveys.

Respectfully submitted,



David G. Mark  
Geophysicist



Howard A. Larson  
Geophysicist

May 5, 1972

## SELECTED BIBLIOGRAPHY

- Aeromagnetic Map, Cherry Creek, British Columbia,  
Geol. Surv. of Can., Map 5217G Sheet 92I/10,  
1968.
- Aeromagnetic Map, Kamloops, British Columbia, Geol. Surv.  
of Can., Map 5216G, Sheet 92I/9, 1968.
- Carr, J.M., Deposits Associated with the Eastern Part of  
the Iron Mask Batholith near Kamloops, Annual Report  
of the Minister of Mines of British Columbia, pp.47-69,  
1956.
- Cockfield, W.E. Geology and Mineral Deposits of the Nicola  
Map-Area, British Columbia, Geol. Surv. of Canada.,  
Mem. 249, 1948.
- Mathews, W.H. Geology of the Iron Mask Batholith; unpublished  
thesis for the degree of Master of Science, University  
of British Columbia, about 1942.
- Preto, V.A.G. Geology of the Eastern Part of the Iron Mask  
Batholith, Report of the Minister of Mines and Petroleum  
Resources, 1967.
- Sookochoff, L. Preliminary Map and Descriptions of the Geology  
of the B Claim Group, Kamloops, M.D., B.C.  
Equatorial Resources Limited, April, 1972.

GEOPHYSICIST'S CERTIFICATE

I, Howard A. Larson, of the City of Vancouver,  
in the Province of British Columbia, do hereby certify:

That I am a Consulting Geophysicist of  
GEOTRONICS SURVEYS LTD., with offices  
at 514-602 West Hastings Street, Vancouver 2,  
B.C.

I further certify that:

1. I am a graduate of the University of  
British Columbia (1971) and hold a B.Sc. degree  
in Geophysics.
2. I have been practicing in my profession for the  
past year and have been active in the mining  
industry for the past four years.
3. This report is compiled from data obtained  
from an induced polarization survey carried out  
by David G. Mark, geophysicist, in April 1972  
on the B Claim Group and pertinent data  
from published maps and reports as listed under  
Selected Bibliography.
4. I have no direct or indirect interest in the  
properties or securities of Equatorial Resources  
Limited, Vancouver, B.C. nor do I expect to  
receive any interest therein.

*Howard Larson*  
Howard A. Larson  
Geophysicist

May 5, 1972

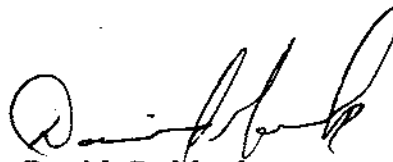
GEOPHYSICIST'S CERTIFICATE

I, DAVID G. MARK, of the City of Vancouver,  
in the Province of British Columbia, do hereby certify:

That I am a Consulting Geophysicist of  
GEOTRONICS SURVEYS LTD., with offices  
at 514-602 W Hastings Street, Vancouver 2,  
B.C.

I further certify that:

1. I am a graduate of the University of  
British Columbia (1968) and hold a B.Sc.  
degree in Geophysics.
2. I have been practicing in my profession  
for the past four years and have been active  
in the mining industry for the past seven years.
3. I am an associate member of the Society  
of Exploration Geophysicists and a member of  
the European Association of Exploration Geophysicists.
4. This report is compiled from data obtained from  
an induced polarization survey carried out by  
myself in April 1972, on the B Claim Group, and  
pertinent data from published maps and reports  
as listed under Selected Bibliography.
5. I have no direct or indirect interest in  
the properties or securities of Equatorial  
Resources Limited, Vancouver, B.C. nor do  
I expect to receive any interest therein.

  
David G. Mark  
Geophysicist

May 5, 1972

ENGINEER'S CERTIFICATE

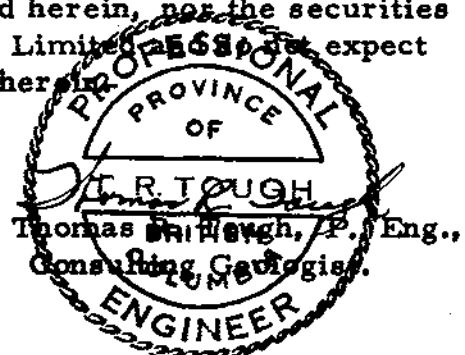
I, THOMAS R. TOUGH, of the City of Vancouver,  
in the Province of British Columbia, do hereby certify:

That I am a Consulting Geologist and an  
associate with T.R. Tough & Associates Ltd.,  
with offices at 519-602 W Hastings Street,  
Vancouver 2, B.C.

I further certify that:

1. I am a graduate of the University of British  
Columbia (1965) and hold a B.Sc. degree in  
Geology.
2. I have been practising in my profession for the  
past six years and have been active in the mining  
industry for the past thirteen years.
3. I am registered with the Association of  
Professional Engineers of British Columbia.
4. I have studied the accompanying report dated  
May 1972, on an induced polarization survey  
submitted by Geotronics Surveys Ltd., written  
by David G. Mark, B.Sc., Geophysicist and  
concur with findings therein.
5. I have no direct or indirect interest whatsoever  
in the property described herein, nor the securities  
of Equatorial Resources Limited, and do not expect  
to receive any interest therefrom.

May 7, 1972.



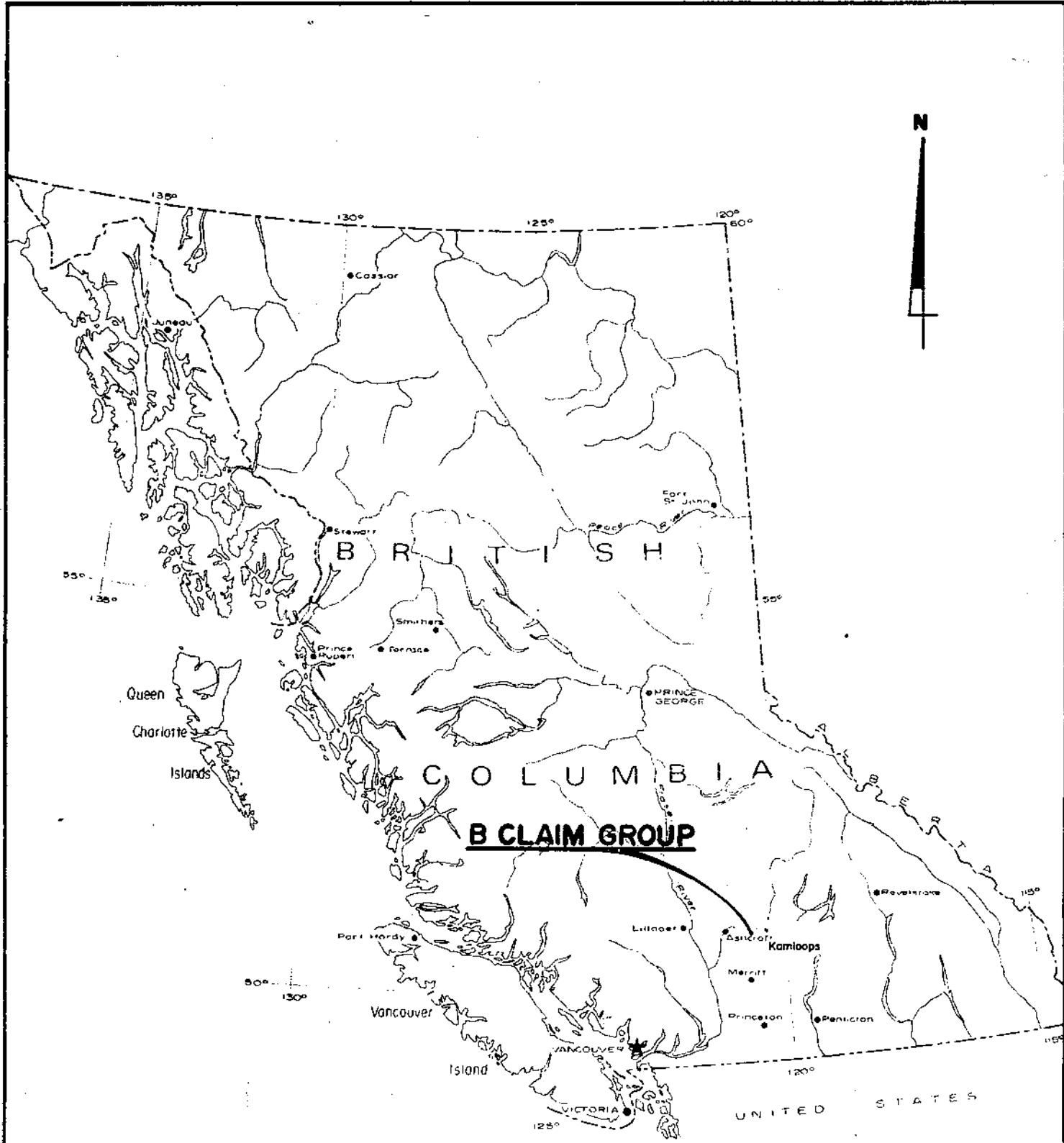
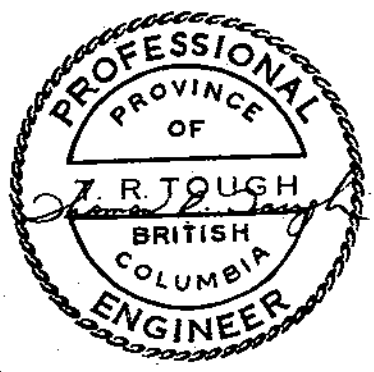


FIG. 1



G E O T R O N I C S S U R V E Y S L T D .

**EQUATORIAL RESOURCES LTD.**

**B CLAIM GROUP  
LOCATION MAP**

Kamloops M.D., B.C.

SCALE 1" = 134 mi

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT

NO. 3626 MAP #1



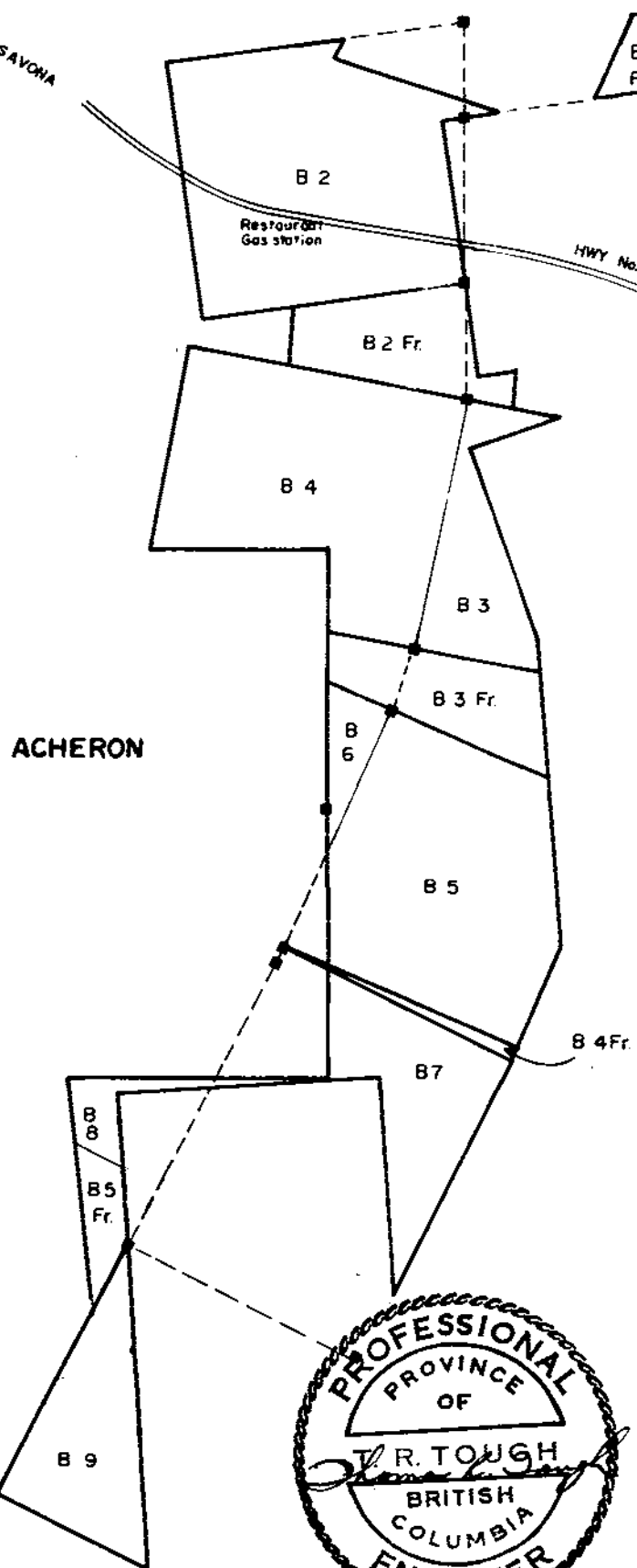
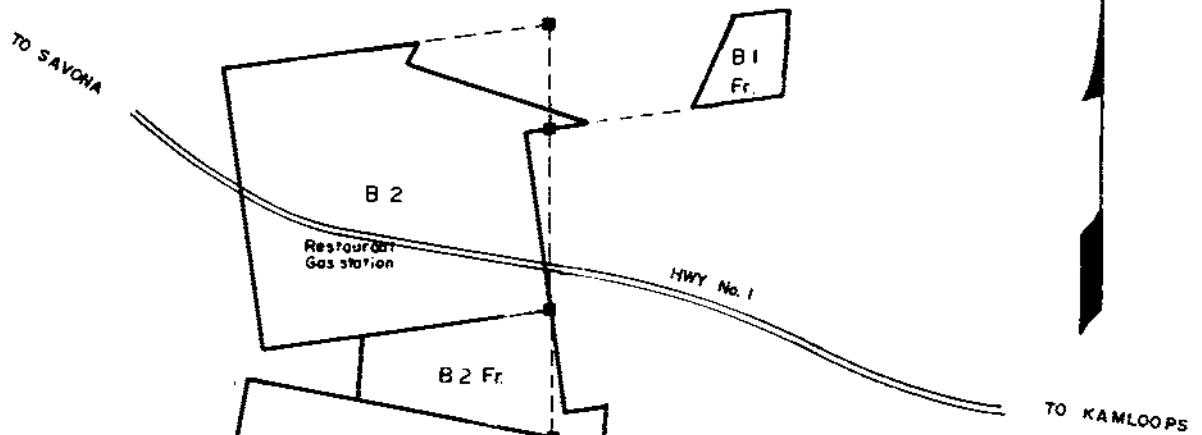


Department of  
Mines and Petroleum Resources

ASSESSMENT REPORT

NO. 3626 MAP #2

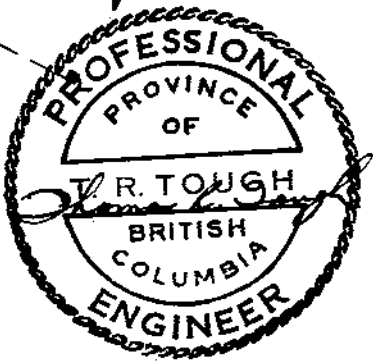
N



ACHERON

AFTON

- Claim post
- Claim line
- - - Location line
- Property boundary



GEOTRONICS SURVEYS LTD.	
EQUATORIAL RESOURCES LTD. B CLAIM GROUP <b>CLAIM MAP</b> Kamloops M.D., B.C. SCALE 1" = 1000'	
PDT	MAY 1972

Department of  
Mines and Petroleum Resources

ASSESSMENT REPORT

NO. 3626 MAP #3



COST BREAKDOWN

Job No. 72-44  
Equatorial Resources Ltd.  
B - 1-9 Mineral Claims  
Kamloops Mining Division

Wages:  
Geophysicists:

H. Larson,	7 days @ 125.00 / day	\$875.00
D. Mark,	6 days @ 125.00 / day	750.00
D. Morral,	7 days @ 50.00 / day	350.00
R. Tremblay,	7 days @ 50.00 / day	350.00.....\$2225.00

Instrument & Equipment Rentals	
7 days at \$55.00 / day	385.00.....\$ 385.00

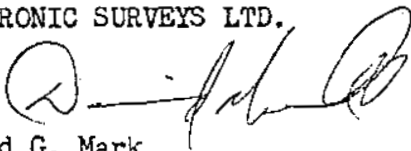
Drafting , mapping & geophysical report	1261.00.....\$1261.00
---	-----------------------

Engineering Fees T.R.Tough & Associates	300.00.....\$ 300.00
---	----------------------


TOTAL COSTS	<u>\$4271.00</u>
-------------	------------------

As a representative of GEOTRONIC SURVEYS LTD., Suite 514, 602 West Hastings Street, Vancouver 2, B.c., I hereby declare that I have done, or caused to be done, work on B - 1-9 mineral claims, to the value of four thousand two hundred and seventy-one Dollars. (\$4,271.00).

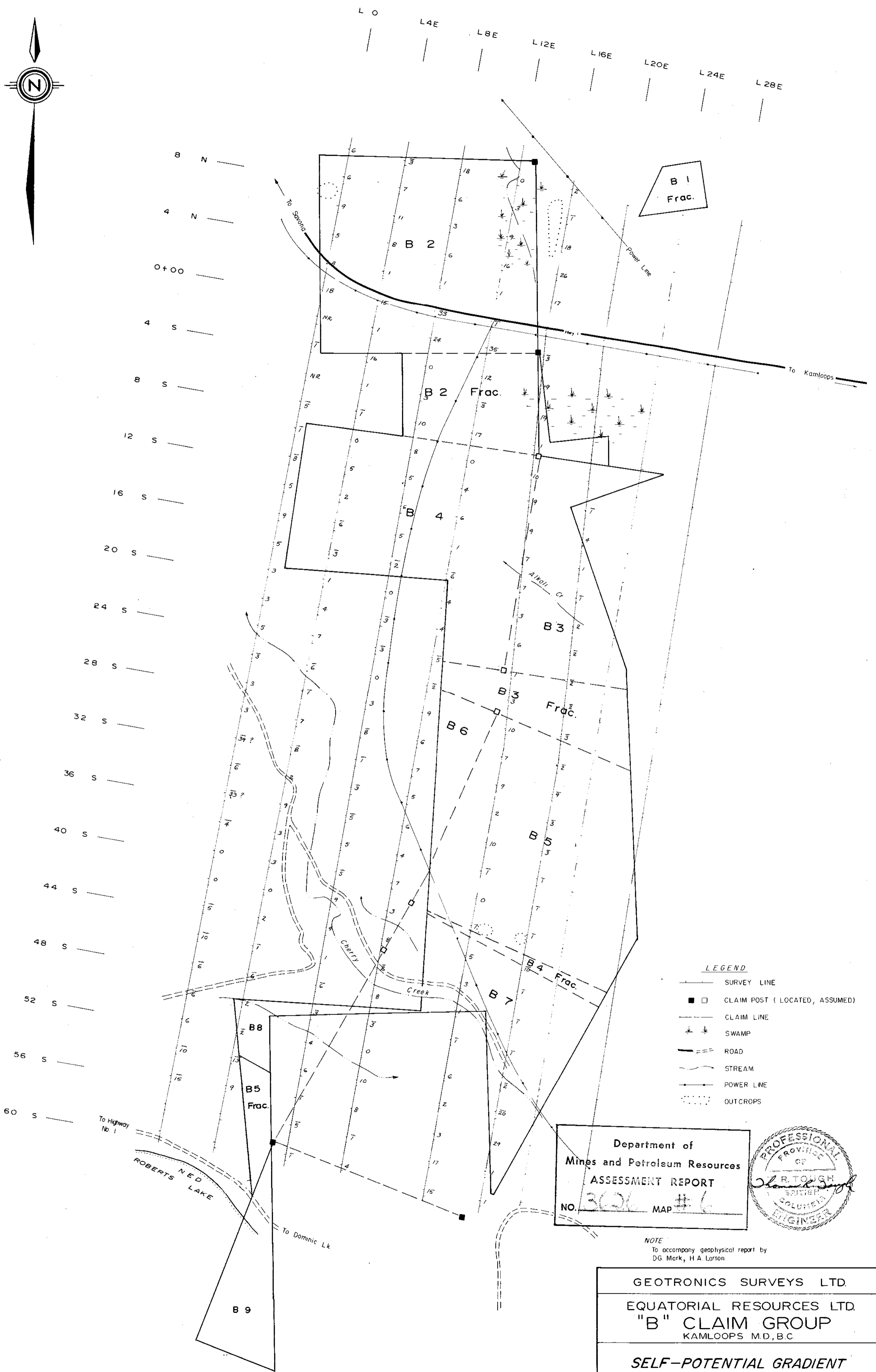
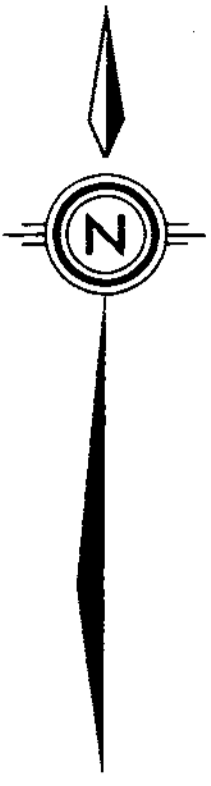
GEOTRONIC SURVEYS LTD.

Per:   
David G. Mark  
Geophysicist

Declared before me at the City  
of Vancouver, in the  
Province of British Columbia, this 16<sup>th</sup>  
day of May 1972, A.D.

  
A Commissioner for taking Affidavits within British Columbia or  
A Notary Public in and for the Province of British Columbia.

SUB-MINING RECORDER



**LEGEND**

- SURVEY LINE
- □ CLAIM POST (LOCATED, ASSUMED)
- - - CLAIM LINE
- ⊕ ⊖ SWAMP
- == ROAD
- ~ STREAM
- POWER LINE
- ⋯ OUTCROPS

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 3006 MAP # 6



NOTE:  
To accompany geophysical report by  
DG. Mark, H.A. Larson.

GEOTRONICS SURVEYS LTD.  
EQUATORIAL RESOURCES LTD.  
"B" CLAIM GROUP  
KAMLOOPS M.D., B.C.

**SELF-POTENTIAL GRADIENT  
DATA**

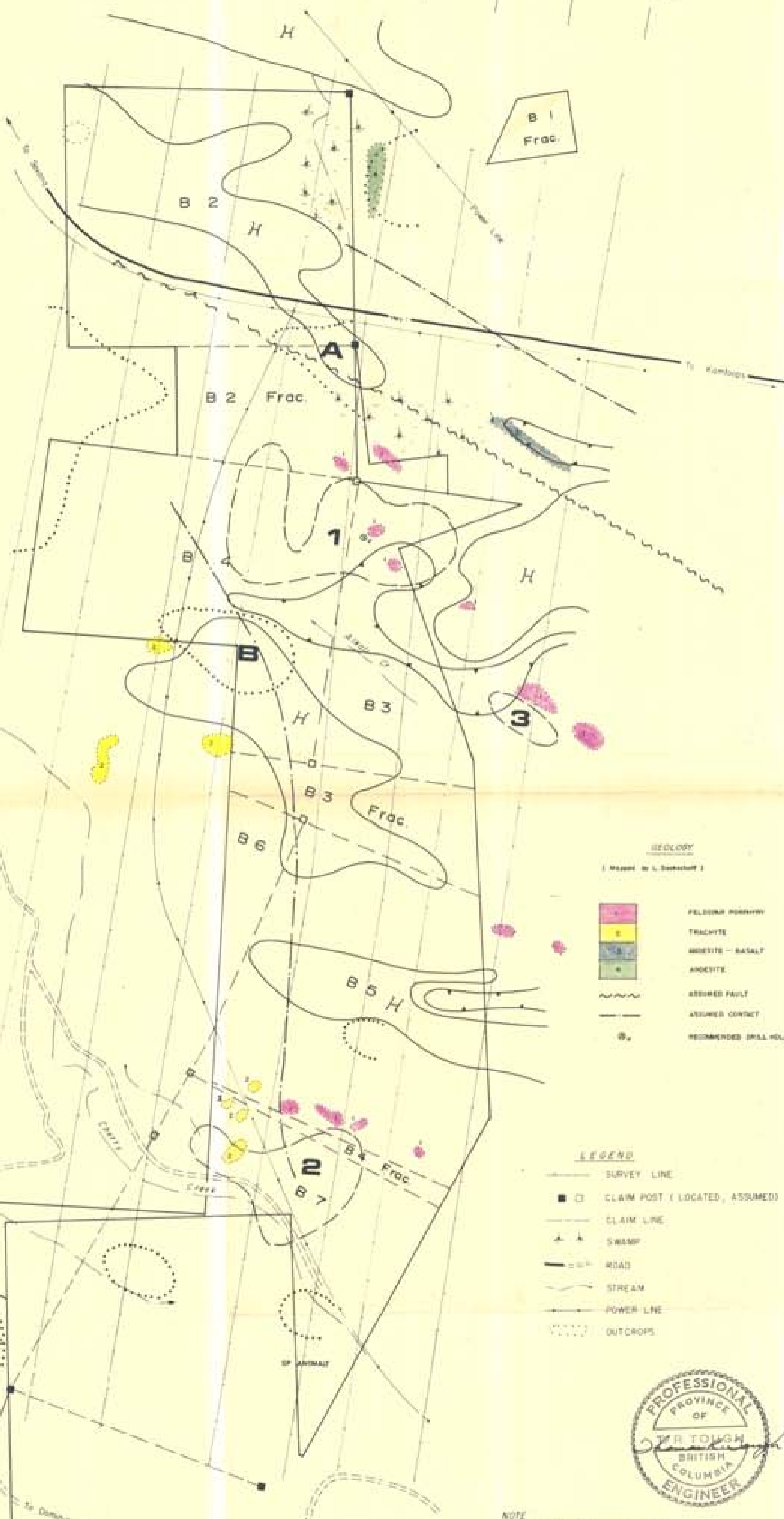
SCALE:	DATE	JOB No.	SHEET:	DRAWN BY:
1" = 400'	MAY, 1972	72-44	3	TGB.

NOTE:  
Electrode spacing — 300 ft.  
Units — millivolts



L 0 L 4E L 8E L 12E L 16E L 20E L 24E L 28E

B N  
4 N  
0+00  
4 S  
8 S  
12 S  
16 S  
20 S  
24 S  
28 S  
32 S  
36 S  
40 S  
44 S  
48 S  
52 S  
56 S  
60 S



**GEOLOGY**  
(Report by L. Sorensen)

	FELDSPATHIC PORPHYRY
	TRACHYTE
	ANDESITE - BASALT
	ANDESITE
	ASSUMED FAULT
	ASSUMED CONTACT
	RECOMMENDED DRILL HOLE

**LEGEND**

	SURVEY LINE
	CLAIM POST (LOCATED, ASSUMED)
	CLAIM LINE
	SWAMP
	ROAD
	STREAM
	POWER LINE
	OUTCROPS



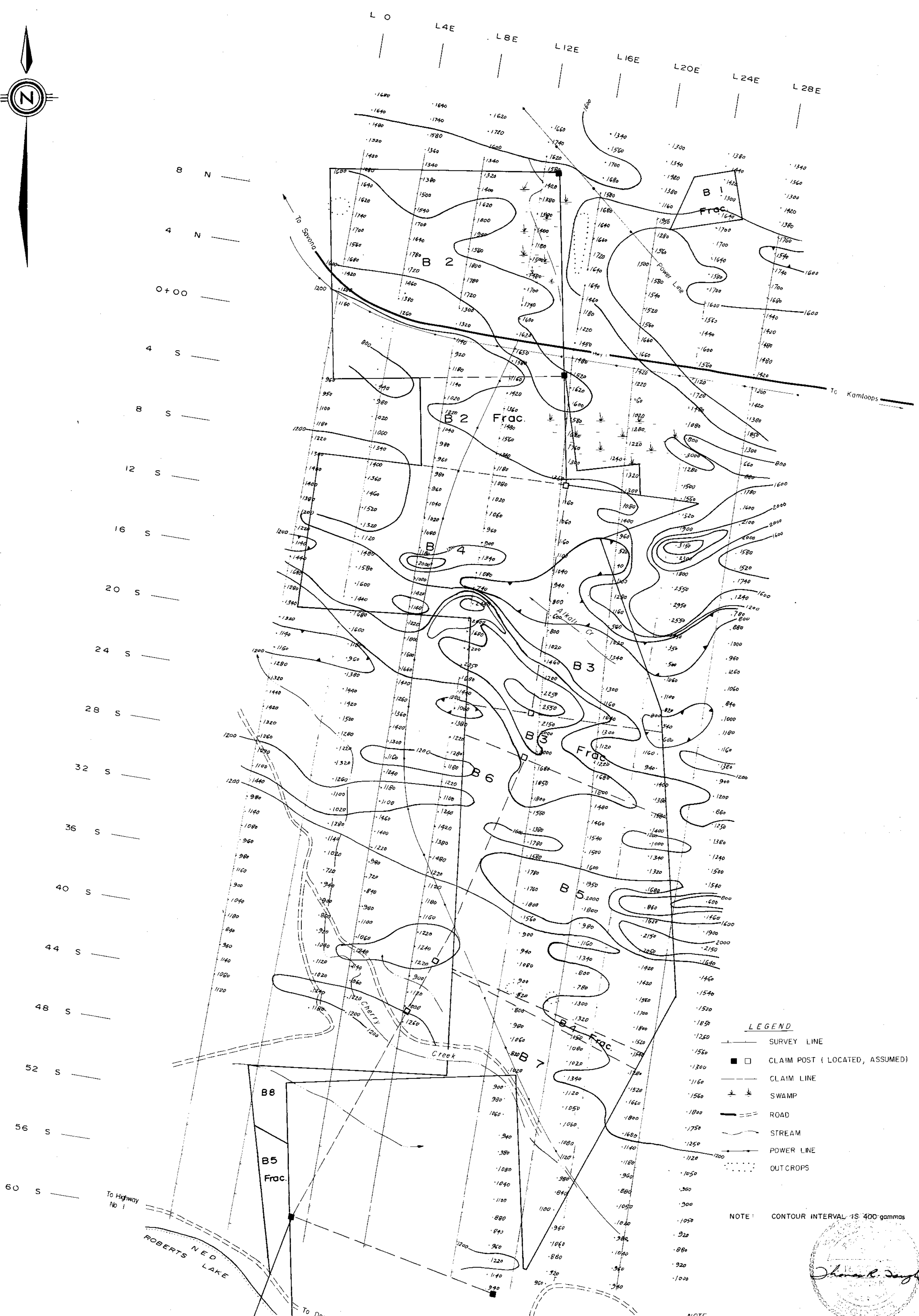
NOTE  
To accompany geophysical report by  
G.S. Mark, H.A. Larson

**GEOPHYSICS**

	COPPER SOIL SAMPLE ANOMALY
	MAGNETIC HIGH
	MAGNETIC LOW
	CHARGEABILITY ANOMALY

Department of  
 Mines and Petroleum Resources  
 ASSESSMENT REPORT  
 NO. 3626 MAP #9

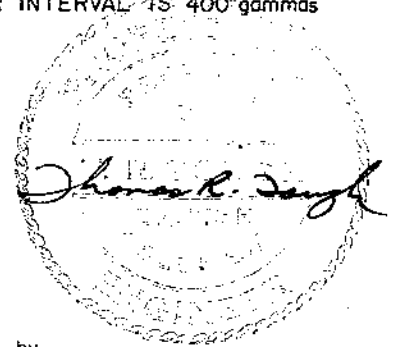
GEOTRONICS SURVEYS LTD			
EQUATORIAL RESOURCES LTD			
"B" CLAIM GROUP			
KAMLOOPS M.D., B.C.			
<b>COMPOSITE</b>			
SCALE 1" = 400'	DATE MAY, 1972	JOB No. 72-44	SHEET 6
			DRAWN BY POT DRAFTING SERVICES



**LEGEND**

- SURVEY LINE
- □ CLAIM POST (LOCATED, ASSUMED)
- - - CLAIM LINE
- ≡ SWAMP
- == ROAD
- ~ STREAM
- POWER LINE
- ... OUTCROPS

NOTE: CONTOUR INTERVAL: 15' 400 gammas



NOTE: To accompany geophysical report by DG. Mark, H.A. Larson

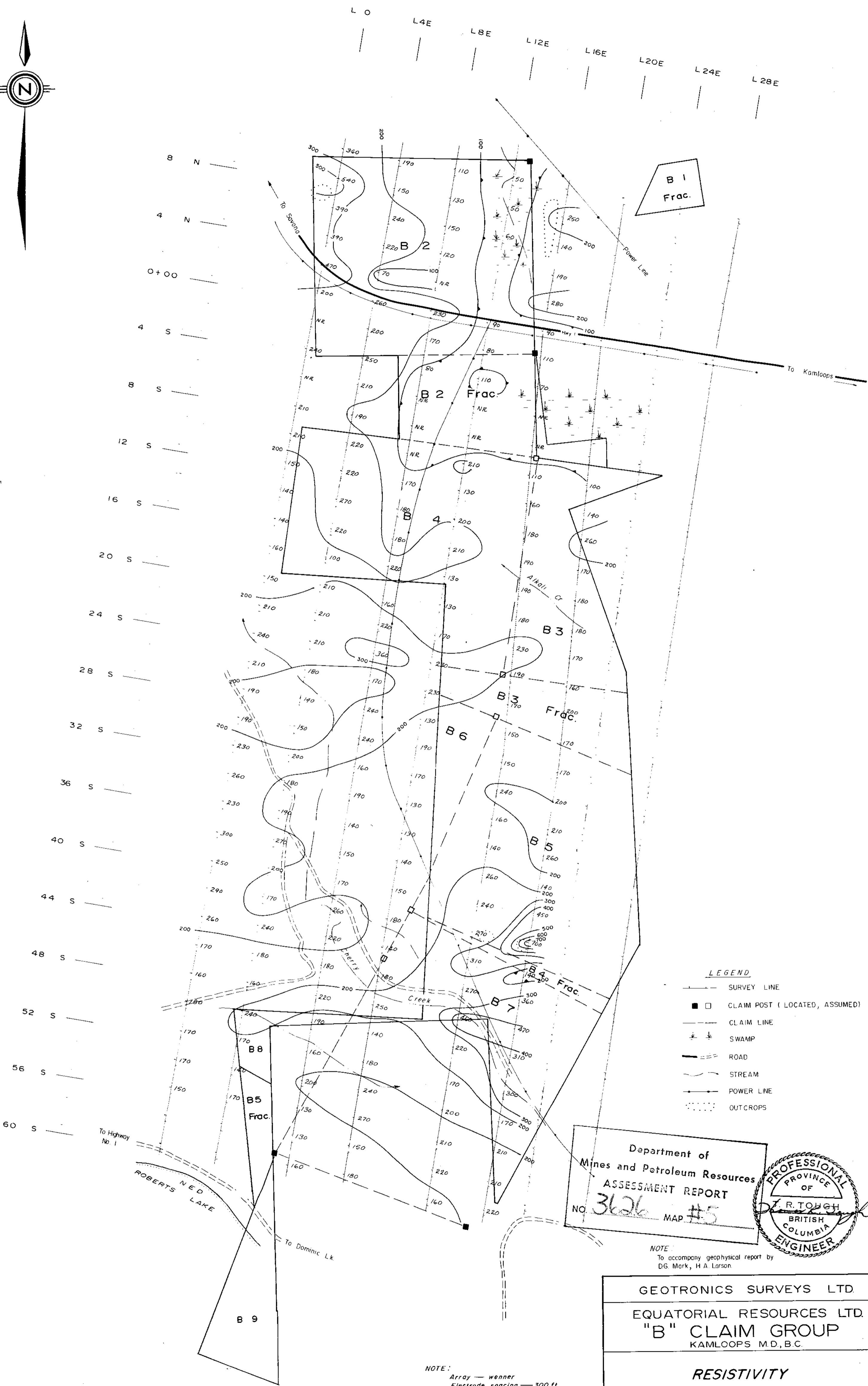
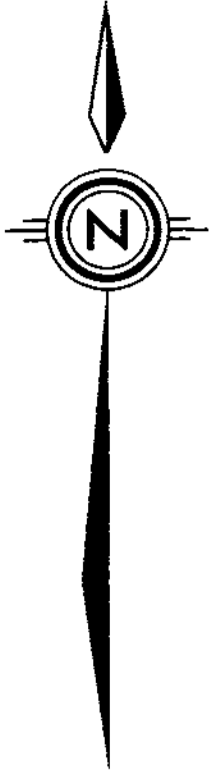
Department of  
 Mines and Petroleum Resources  
 ASSESSMENT REPORT  
 NO. 3626 MAP 44

GEOTRONICS SURVEYS LTD.  
 EQUATORIAL RESOURCES LTD.  
 "B" CLAIM GROUP  
 KAMLOOPS M.D., B.C.

MAGNETIC SURVEY  
 Data & Contours

SCALE: 1" = 400'	DATE: MAY, 1972	JOB No. 72-44	SHEET: 4	DRAWN BY:
---------------------	--------------------	------------------	-------------	-----------

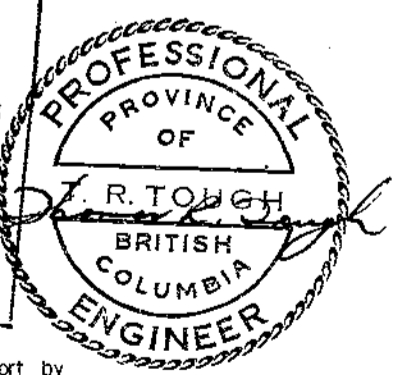




**LEGEND**

- SURVEY LINE
- □ CLAIM POST (LOCATED, ASSUMED)
- CLAIM LINE
- ± ± SWAMP
- ROAD
- STREAM
- POWER LINE
- ⋯ OUTCROPS

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 3626 MAP #5



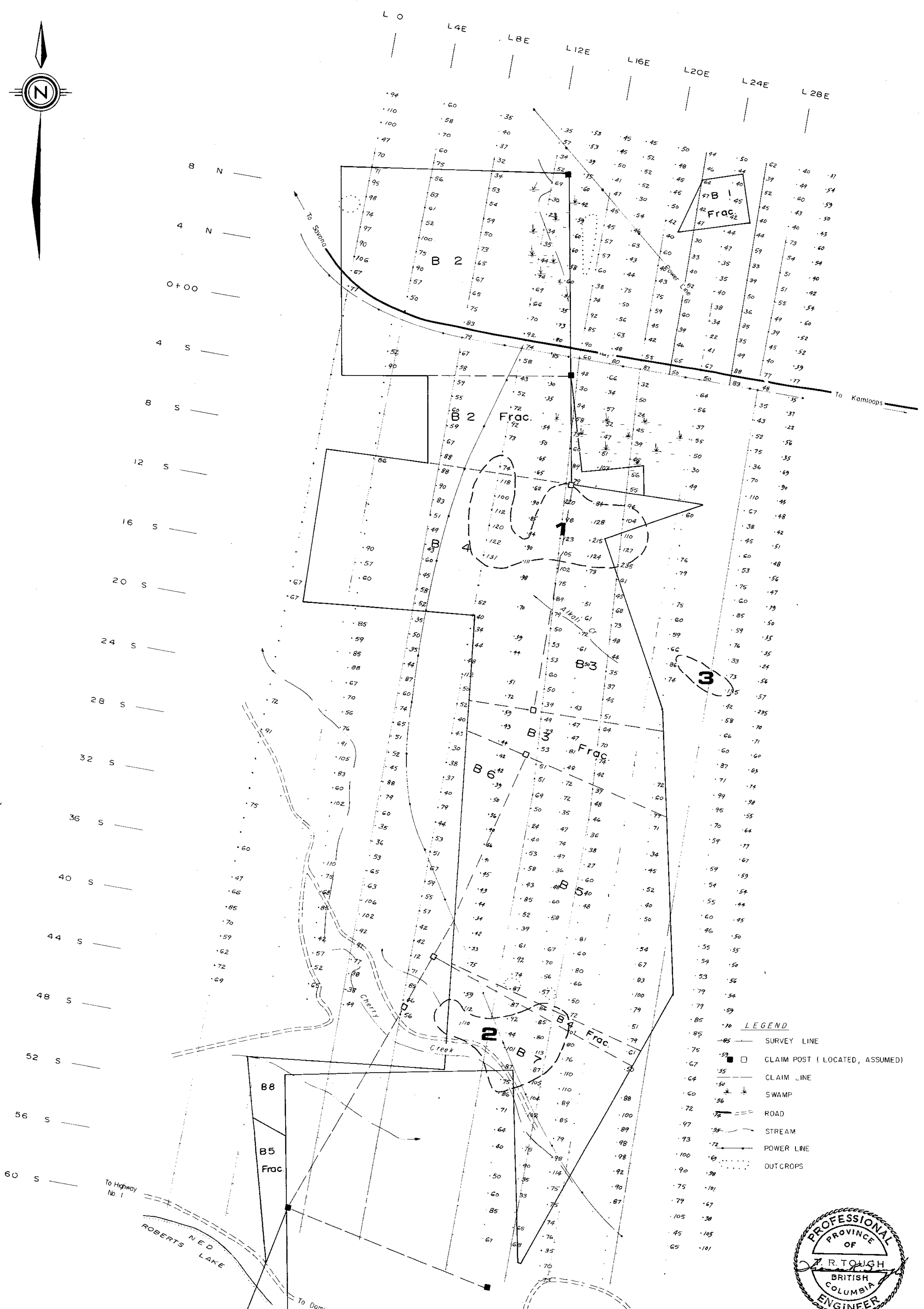
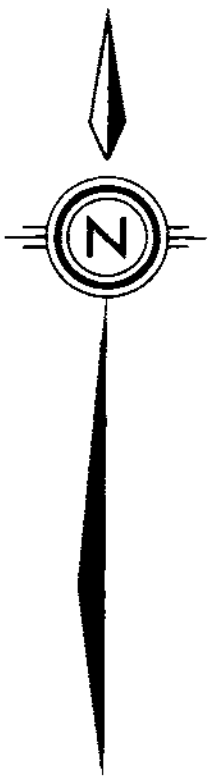
NOTE:  
To accompany geophysical report by  
D.G. Mark, H.A. Larson

GEOTRONICS SURVEYS LTD  
EQUATORIAL RESOURCES LTD.  
"B" CLAIM GROUP  
KAMLOOPS M.D., B.C.

**RESISTIVITY  
DATA AND CONTOURS**

NOTE:  
Array — wenner  
Electrode spacing — 300 ft.  
Contour interval — 100 ohm-feet

SCALE: 1" = 400'	DATE: MAY, 1972	JOB No 72-44	SHEET 2	DRAWN BY T.G.B.
---------------------	--------------------	-----------------	------------	--------------------



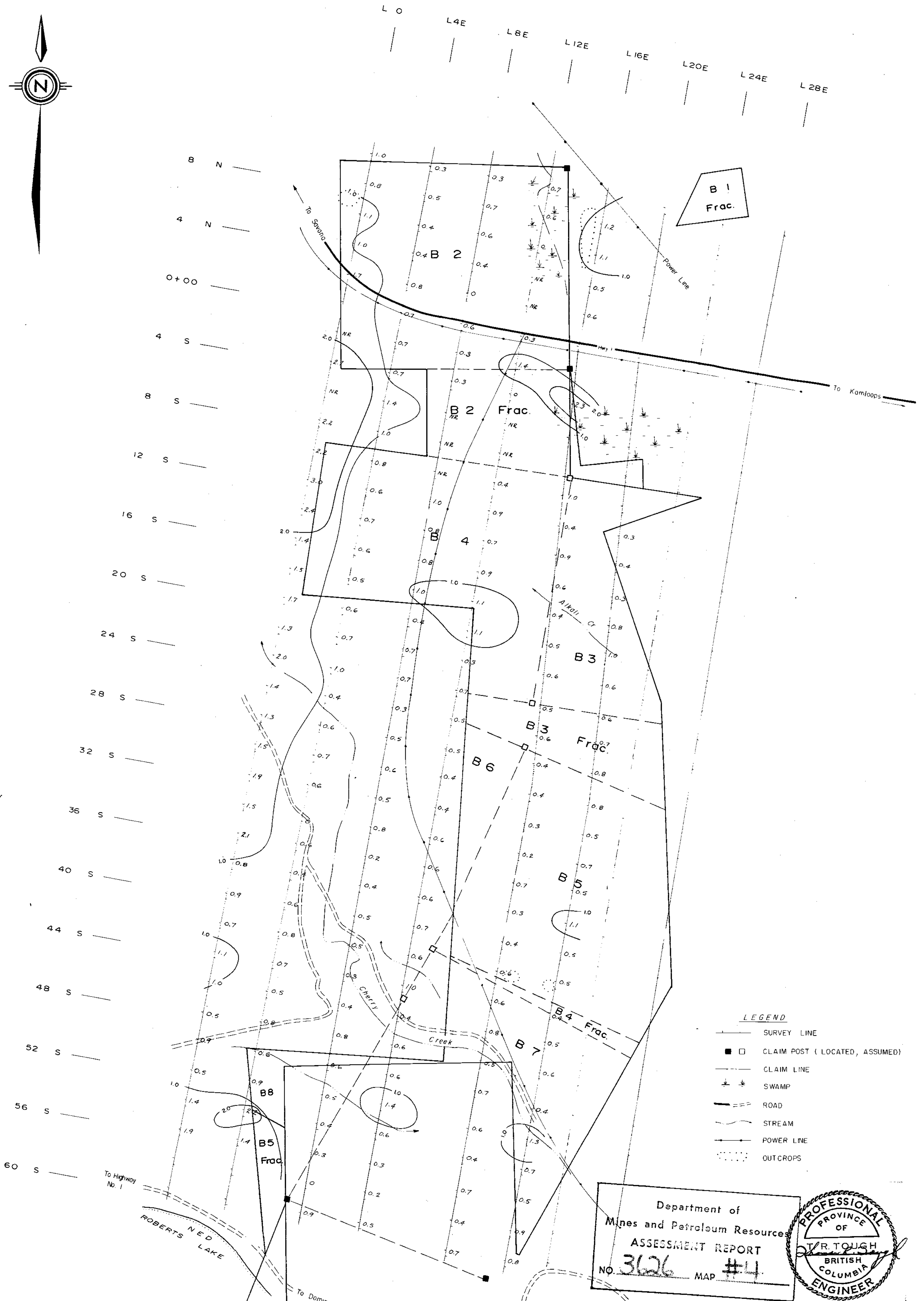
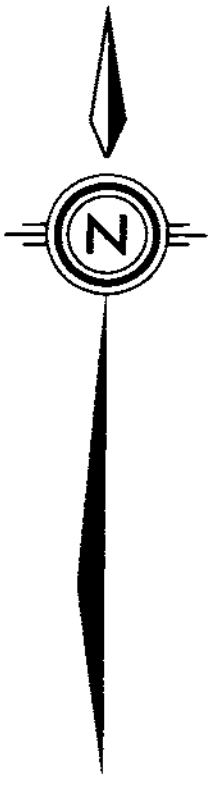
- LEGEND**
- SURVEY LINE
  - CLAIM POST (LOCATED, ASSUMED)
  - - - CLAIM LINE
  - ⊕ SWAMP
  - ROAD
  - ~ STREAM
  - POWER LINE
  - ⋯ OUTCROPS



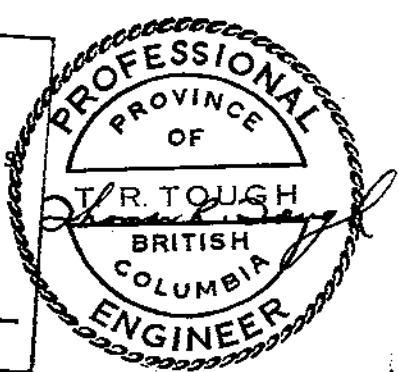
**NOTE**  
To accompany geophysical report by  
DG Mark, H.A. Larson

Department of  
 Mines and Petroleum Resources  
 ASSESSMENT REPORT  
 NO. 3622 MAP # 8

<b>GEOTRONICS SURVEYS LTD.</b>				
<b>EQUATORIAL RESOURCES LTD.</b>				
<b>"B" CLAIM GROUP</b> KAMLOOPS M.D., B.C.				
<b>SOIL SAMPLE SURVEY - COPPER</b> <i>Data and Anomalous Zones</i>				
SCALE:	DATE:	JOB No.	SHEET:	DRAWN BY:
1" = 400'	MAY, 1972	72-44	5	



Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 3626 MAP #4



NOTE:  
To accompany geophysical report by  
DG Mark, H.A. Larson

M-4

3626

NOTE:  
Array — wenner  
Electrode spacing — 300 ft.  
Contour interval — 1 millisecond

GEOTRONICS SURVEYS LTD.				
EQUATORIAL RESOURCES LTD.				
"B" CLAIM GROUP KAMLOOPS M.D., B.C.				
CHARGEABILITY DATA AND CONTOURS				
SCALE: 1" = 400'	DATE: MAY, 1972	JOB No. 72-44	SHEET: 1	DRAWN BY: T.G.B.