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GEOPHYSICAL REPORT

on a

VLF-EM SURVEY

TIL CLAIM

STEFFENS CREEK AREA, NICOLA M.D., B.C.

Til Claim	:	18.5 kms N05°W Merritt, B.C.
	:	50° 120° SW
	:	N.T.S. 92I/7W
Written for	:	Ashcroft Resources Ltd., 728-510 West Hastings St, Vancouver, B.C.
by	:	David G. Ma GEOTRONICS 420-890 W P Vancouver,
Dated	:	March 22nd,

GEOTRONICS

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Engineering & Mining Geop
VANCOUVER, CANADA

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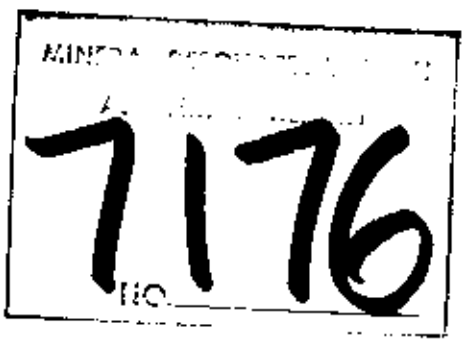

ILLUSTRATIONS

SUMMARY

During the last part of June and the beginning of July, 1978, a VLF-EM survey was carried out on the Til Claim. The Til Claim is located 18.5 kms. N05°W of Merritt, abutting the west side of Neville Creek. Access to much of the property is easily gained by a two-wheel drive vehicle. The terrain consists of mainly moderate slopes forested with moderately dense coniferous trees and open grasslands. The purpose of the survey was to map geological structure that through future exploration may be found to contain lead, zinc and copper mineralization.

There is no known previous work on the property.

The property is mainly underlain by Upper Triassic Nicola Group volcanics. The rock types are greenstone, andesite, basalt, agglomerate, breccia, tuff, minor argillite, limestone and conglomerate. Faulting on the property is predominantly north-south, as is evidenced by the government aeromagnetic survey. The writer is unaware of any known mineralization occurring on the property.

The VLF-EM readings were taken every 30 meters on 120-meter separated east-west lines. They were then Fraser-filtered, plotted and contoured.

CONCLUSIONS

1. The VLF-EM anomalies have reflected mainly faults and possibly some lithologic contacts.

   Some of the most interesting parts of the VLF-EM anomalies are those that appear to indicate cross-structure since these would be prime areas to look for sulphide mineralization. All of the anomalies are at least somewhat indicative of cross-structure.

2. The southern parts of anomalies b and c are considered to be of prime importance because of their complex nature. A number of conductors appear to be reflected striking in different directions.

3. The aeromagnetic map has revealed several lineations that strike through and nearby the property. These likely reflect regional faults. An area where these faults cross each other occurs north and northeast of the property. This is, therefore, considered a prime area to look for sulphide mineralization.

RECOMMENDATIONS

1. The geology of the property should be mapped for locating promising areas of mineralization as well as aiding in the interpretation of geophysics and geochemistry.

2. A soil geochemistry survey should be carried out over the whole property using the same grid. The samples should be tested for lead, zinc and copper. It would be preferable to take samples every 15 meters on 60 meter-separated lines.

3. A magnetometer survey over the property would aid in geological mapping.

4. Sulphides should be prospected for to the immediate north and northeast of the property.

5. Further work that may be recommended is an induced polarization survey and a diamond drilling program but these are contingent upon the results of the soil geochemistry and magnetic surveys.

GEOPHYSICAL REPORT

on a

VLF-EM SURVEY

TIL CLAIM

STEFFANS CREEK AREA, NICOLA M.D., B.C.

INTRODUCTION AND GENERAL REMARKS

This report discusses the survey procedure, compilation of data, and the interpretation of a very low frequency electromagnetic (VLF-EM) survey carried out on the Til Claim during the period of June 20th to July 4th, 1979.

The survey was done under the supervision of the writer and under the field supervision of R.R. Fassler with the aid of a helper. A total of 19.5 line kms. of VLF-EM were done.

The primary purpose of the VLF-EM survey was to map geological structure such as faults, shear, and contact zones that may be associated with lead, zinc and copper mineralization similar to that found in the Tolman Lake area, 5 kms. to the northeast.

PROPERTY AND OWNERSHIP

The Til Claim consists of one claim of 9 units as shown on Sheet 1 and as described below:

Claim Name	No. Units	Record No.	Tag No.	Expiry Date
Til	9	381(2)	19859	Feb 8/79

The survey described within this report will advance the expiry date to 1981.

The property is owned by Ashcroft Resources Ltd. of Vancouver, British Columbia, although the recorded owner at this time is A. Chunick, of Vancouver, British Columbia.

LOCATION AND ACCESS

The Til Claim is found about 18.5 km. N05^{o}W of the town of Merritt, British Columbia, and about 10.0 kms. due south of Mamit Lake. The east side of the property abuts Neville Creek.

The geographical coordinates are 50^{o} 16' N latitude, and 120^{o} 38' W longitude.

Access to the property is quite good and can be gained by a passenger car providing the road is dry (See Figure 2). One travels along the Logan Lake Road for 21 kms. north of Merritt or 27 kms. south of Logan Lake and then turns east onto a dirt road. The western boundary of the Til Claim is about 0.6 kms. along the dirt road.

PHYSIOGRAPHY

The Til Claim lies in the southern part of the physiographic division known as the Thompson Plateau which is part of the Interior Plateau System. The terrain is generally that of flat or rolling hills over most of the property, with the

slope being mainly to the west. The general trend of the topography runs north-south. Elevations vary from 1,030 meters a.s.l. in the northwest corner to 1250 meters a.s.l. in the northeast corner to give a relief of only 220 meters.

The main water source would be Neville Creek or a few small swamps within the property.

Vegetation on the property could be considered to be open-forested grassland with the trees being pine, fir and spruce.

HISTORY OF PREVIOUS WORK

As far as the writer knows, no previous work has been carried out on the property.

GEOLOGY

According to the G.S.C. map of the area, the property is underlain only by the Upper Triassic Nicola Group of rocks. These are comprised of greenstone, andesite, basalt, agglomerate, breccia tuff, minor argillite, limestone and conglomerate.

The closest intrusive is the Guichon Creek Batholith which is of Upper Triassic to Middle Jurassic Age and which is about two kms. to the west. It is composed of acidic intrusives, the main ones being quartz monzonite, granodiorite, and quartz diorite.

The mineralization on the Tolman Lake property centered about 5 kms. to the northeast, is found within three zones. The mineralization within zones 2 and 3 is found in a strong brecciated shear zone striking N35E. The sulphides consist of sphalerite, galena, chalcopyrite and pyrite with silver values, which is found in a zone of brecciated and bleached andesite, with quartz and calcite forming the matrix.

Zone No. 1 contains the same sulphides, but the mode of mineralization is more the vein-type.

AEROMAGNETIC INTERPRETATION

The aeromagnetic survey was flown by the Lockwood Survey Corporation Ltd from June to September, 1967 for the governments of both British Columbia and Canada. It was flown at a terrain clearance of 1,000 feet on east-west lines at about one-half mile apart.

The magnetic expression for the area on and around the property is rather typical of the Nicola volcanics. It consists of small, low-intensity magnetic highs and lows, varying from 2,480 gammas to 2,850 gammas. A local exception is a 3,700-gamma high found 8 kms. N70E on Swakum Mountain.

The Til Claim for the most part is found within a north-trending magnetic low that probably is a reflection of a regional fault. On the southeast part of the property is a low-magnitude 30-gamma high. The high is likely due to a phase, or possibly a rock change, within the Nicola volcanics.

A number of aeromagnetic lineations run through and close to the Til Claim (see Sheet 1). In addition to the one mentioned above, there is a second one that strikes northerly along the eastern property boundary and along Neville Creek, as well as others that strike N20W, N65W, N50E, and due west. These lineations are very likely regional faults. To the immediate north and northeast of the claim is the main area where these lineations cross.

VLF-EM SURVEY

1. Instrumentation and Theory:

A VLF-EM Receiver, Model 27, manufactured by Sabre Electronic Instruments Ltd. of Burnaby, B.C. was used for the survey. This instrument is designed to measure the magnetic component of a very low frequency (VLF) electromagnetic field. The U.S. Navy submarine transmitter located at Seattle, Washington and transmitting at 18.6 KHz. was used.

In all electromagnetic prospecting, a transmitter produces an alternating magnetic field (primary), by a strong alternating current usually through a coil of wire. If a conductive mass such as a sulphide body is within this magnetic field, a secondary alternating current is induced within it which in turn induces a secondary magnetic field that distorts the primary magnetic field. It is this distortion that the EM receiver measures. The VLF-EM uses a frequency range from 16 to 24 KHz. whereas most EM instruments use frequencies ranging from a few hundred to a few thousand Hz. Because of its relatively high frequency, the VLF-EM can pick up bodies of a low conductivity and therefore is more susceptible to clay beds, electrolyte-filling fault or shear zones and porous horizons, graphite, carbonaceous sediments, lithological contacts as well as sulphide bodies of too low a conductivity for other EM methods to pick up.

Consequently, the VLF-EM has additional uses in mapping structure and in picking up sulphide bodies of too low a conductivity for conventional EM methods and too small for induced polarization (in places it can be used instead of IP). However, its susceptibility to lower conductive bodies results in a number of anomalies, many of them difficult to

explain and, thus, VLF-EM preferably should not be interpreted without a good geological knowledge of the property and/or other geophysical and geochemical surveys.

2. Survey Procedure:

The VLF-EM survey was run on a grid in which the lines run east-west, at 120-meter intervals from a baseline running due south starting from a point 750 meters due east of the legal claim post. Dip angle readings were taken every 30 meters with the instrument facing towards the transmitter at Seattle. Fluorescent pink flagging was placed at each 30-meter station with the grid coordinates marked thereon.

3. Compilation of Data:

The readings were reduced by applying the Fraser Filter. Filtered data, as shown on Sheet 1, are plotted between the reading stations. The positive filtered values were contoured at intervals of 4° starting at 4°.

The Fraser Filter is essentially a 4-point difference operator which transforms zero crossings into peaks, and a low pass smoothing operator which reduces the inherent high frequency noise in the data. Therefore, the noisy, non-contourable data are transformed into less noisy, contourable data. Another advantage of this filter is that a conductor that does not show up as a cross-over on the unfiltered data quite often will show up on the filtered data.

DISCUSSION OF RESULTS

The major cause of VLF-EM anomalies, as a rule, are geologic structures such as fault, shear and breccia zones. It is therefore logical to interpret VLF-EM anomalies to likely be caused by these structural zones. Of course, sulphides may also be a causitive source. But in the writer's experience, when VLF-EM anomalies correlate with sulphide mineralization, the anomalies are usually reflecting the structure associated with the mineralization rather than the mineralization itself.

The anomalies are also very long and linear in shape which is also suggestive of structure being the causitive source.

The major trend of the VLF-EM anomalies, as seen on Sheet 2, is primarily north and, to a much lesser extent, secondarily northeast. Considering the VLF-EM anomalies are likely reflecting structure, the major strike of structure on this property is concluded to be in both these directions. This is in agreement with the aeromagnetic interpreted lineations.

There is considerable variation in intensity from one VLF-EM anomaly to the next. This may not only be due to the conductivity of a causitive source, but also the direction it strikes relative to the direction to the transmitter. In other words, those conductors lying closer to the same direction as the direction to the transmitter (S25W in this case), can be picked up easier than those that are lying at a greater angle. Depending upon its conductivity, a conductor may not be picked up at all if it's at too great an angle. For example, the VLF-EM survey has shown few conductors striking northwesterly, a low optimum direction for the VLF-EM using the Seattle transmitter.

For ease of identification, the VLF-EM anomalies have been lettered by the small letters a to h.

The following table is given as a summary of the main characteristics of each anomaly.

Anomaly	Minimum Length	Anomaly Ends that are open	Strike	Highest Intensity
a	720m	S, W	N,NW(?)NE	11°
b	1440m	N, S	N,NW,NNE	25°
c	1440m	N, S	N,NNE,NNW	29°
d	1440m	N, S	N,NNE,NNW	23°
e	1200m	N, S	N,NNW	13°
f	360m	S	N to NNW	9°
g	840m	SSE	NNW to N	34°
h	600m	N, SSE	N, NNW	13°

Anomaly a appears to be composed of more than one conductor since its strike changes from line to line. Line 96S appears to be the start of a northwest striking conductor.

Anomalies b and c appear to be the two most interesting anomalies from the standpoint of possible mineralization, especially south of Line 96S. These two anomalies are rather complex looking and indicate structure striking in several different directions. Where these structures cross, are areas more amenable to sulphides. The writer has interpretted a WNW structure that cuts across anomalies b and c, and for which a creek appears to be a surface expression.

Either one or both of these anomalies correlate with the north-trending aeromagnetic low the writer mentioned previously.

Anomaly d is also rather complex looking and probably is caused by several different conductors as well. Part of the anomaly appears to be joined to anomaly c.

Anomaly g reaches a fairly good intensity of 34° on Line 84S that is likely caused by the confluence of the two telephone lines. However, the anomaly as a whole is a result of geological structure with the increase in intensity only abetted by the telephone line.

Respectfully submitted,
GEOTRONICS SURVEYS LTD.,

David G. Mark
Geophysicist

March 22nd, 1979

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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 420-890 West Pender Street, Vancouver, British Columbia.

I further certify:

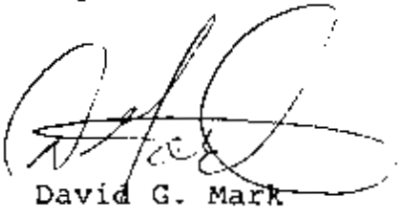
1. I am a graduate of the University of British Columbia (1968) and hold a B.Sc., degree in Geophysics.

2. I have been practising my profession for the past eleven years and have been active in the mining industry for the past fourteen years.

3. I am an active 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 a VLF-EM survey carried out by a field crew under the supervision of myself during the last part of June, 1978.

5. I have no direct or indirect interest in the properties or securities of Ashcroft Resources Ltd., Vancouver, B.C. nor do I expect to receive any interest therein.



David G. Mark

March 22nd, 1979

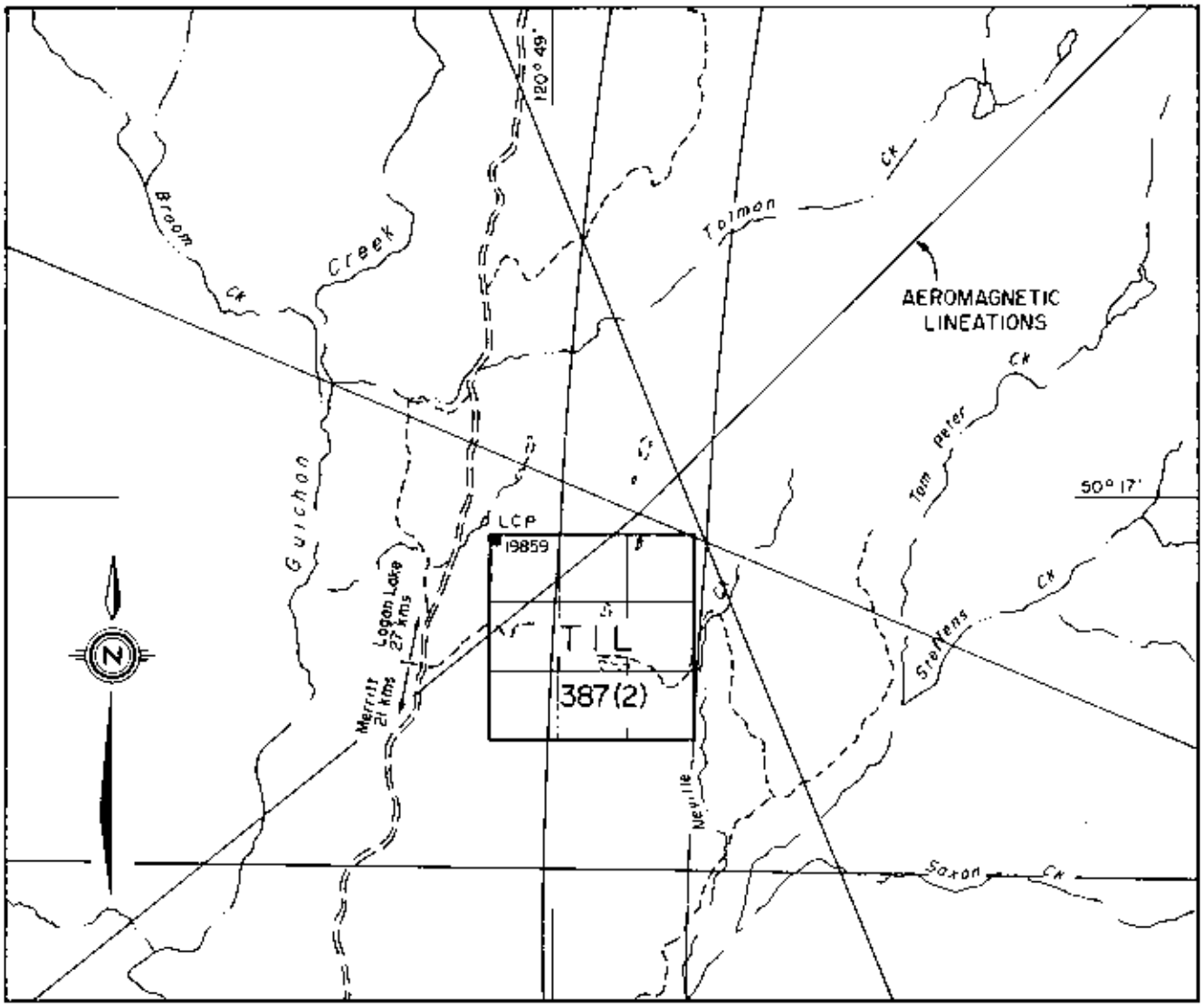
AFFIDAVIT OF EXPENSES

The VLF-EM survey was carried out on the Til Claim, Steffens Creek Area, Nicola M.D., B.C. to the value of the following:

FIELD	
Geophysical Technician and helper 30 hours at $35/hour	$1,050.00
Vehicle rental, 4 days at $60/day	240.00
Room and Board, 2 men at $30/man day, 40 days	240.00
Survey supplies	40.00
VLF-EM instrument rental, 1 week at $75/week	75.00
	$1,645.00
REPORT	
Geophysicist, 7 hours at $30/hour	$ 210.00
Office Assistant, 5 hours at $15/hour	75.00
Drafting and Printing	100.00
Typing, xeroxing and compilation	70.00
	$ 455.00
TOTAL	$2,100.00

Respectfully submitted,
GEOTRONICS SURVEYS LTD.,

David G. Mark, Manager



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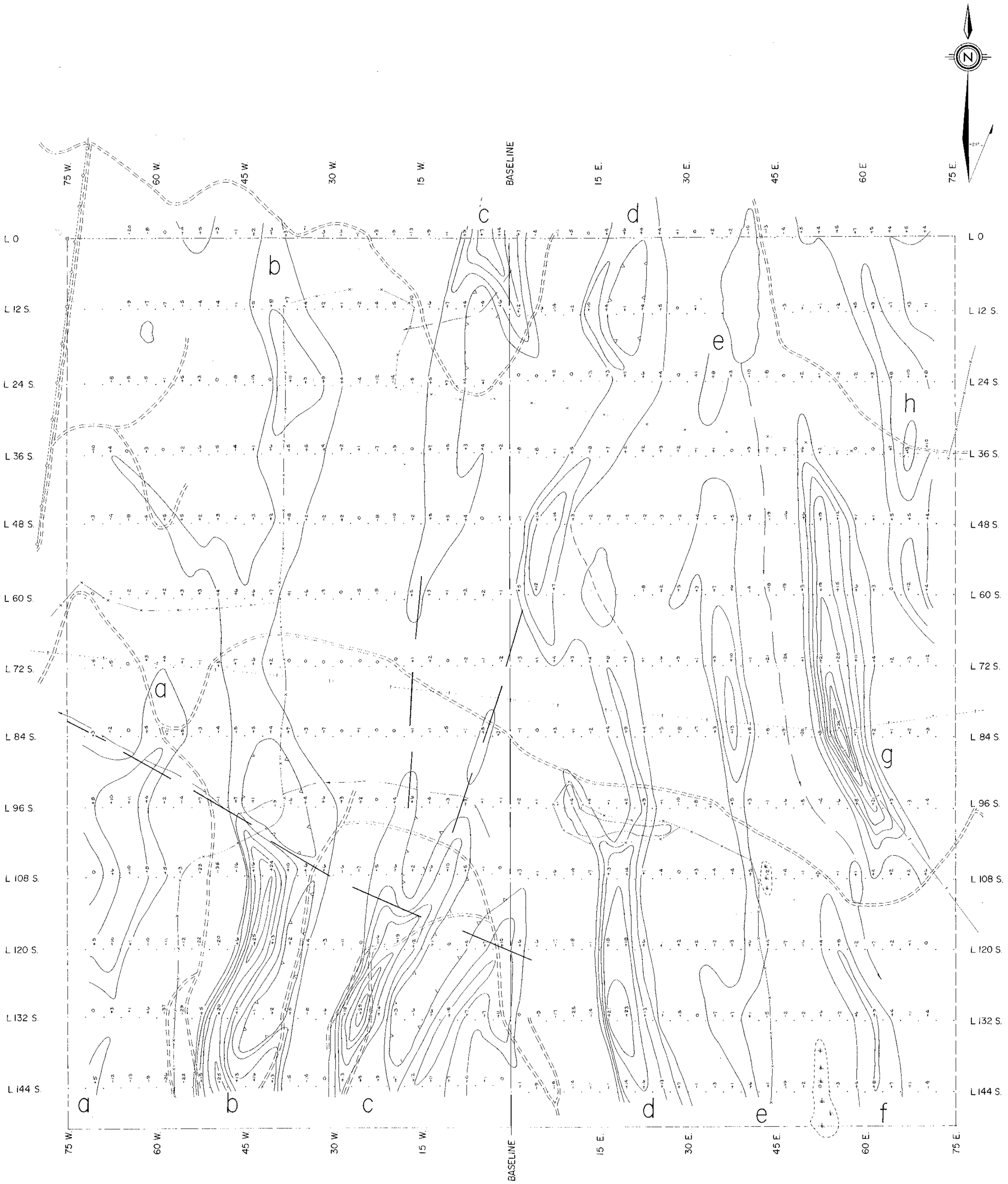
ASHCROFT RESOURCES LTD.
TIL CLAIM

STEFFENS CREEK AREA, NICOLA M.D., B.C.

CLAIM MAP

DRAWN BY.	JOB No.	DATE	SCALE	SHEET No
Altair	78-39	March 1979	1:50,000	1



LEGEND

- Telephone line
- Fence
- Claim line showing claim post
- Center of power line
- Creek
- Intermittent stream
- Logging road
- Lake
- Swamp
- Lineations not apparent from the contours

Instrument SABRE MODEL 27
Contour Interval 4°

SCALE
METRES 0 50 100 150 200 250 METRES

To accompany geophysical report by DAVID G. MARK, geophysicist.

GEOTRONICS SURVEYS LTD.

ASHCROFT RESOURCES LTD.
TIL CLAIM
STEFFENS CREEK AREA, NICOLA MD, B.C.

VLF-EM SURVEY
FRASER FILTERED
DATA & CONTOURS

DRAWN BY	JOB No.:	DATE:	SCALE:	SHEET No.:
D.G.M. & R.R.F.	78 - 39	JULY 1978	1 : 3000	2