



31M04SE9450 2.343 CASSELS

2.343

Page 1.

010

REPORT  
ON  
LAKE BEAVERHOUSE MINES LIMITED  
PLATINY - CASSELLS TWPS.  
Temagami Area, Ont.

SUMMARY AND CONCLUSIONS

Several weak conductors, one line conductors and probable conductors were observed from the results. Two major conductors were observed.

One major conductor is 8,200' long, trends east-westerly along Link Creek, across Boot Bay and to eastward with the strongest conductivity being located in Boot Bay at a point where the conductor is intersected by a north-south trending probable conductor. Whereas this conductor lies in the projected region of the geological Link Lake SHEAR ZONE which is a carbonatized and sericitized zone associated with mineralized graphitic areas, this is a target area for exploration.

Another major conductor is observed north of Leroy Lake on claims 266985 and 266986. Another lies in Leroy Lake and is adjacent to a probable conductor in Leroy Lake which adds some validity to it.

Another conductor trends south-easterly through claims 266996 and 267001 for 3,200' and appears to be of moderate strength near its centre point.

No geological or magnetic results are available to attempt correlation with the E.P. results.

RECOMMENDATIONS

It is recommended that detail E.M. survey using the Balboa station be carried out in the areas of the probable conductors as listed in the Results of Survey and when completed the results be correlated with presently known results and assessed accordingly. This should be done immediately as some of the areas are located in lake areas and also should be done at 50' intervals. All conductors should be ~~exam~~ examined on surface, but since the winter season prevents this at the present time and since some of the favourable areas are hidden by natural topographic features, some diamond drilling targets will have to be selected on geophysical results and for convenience would have to be drilled from the ice as soon as possible.

# REPORT ON VLF - EM SURVEY

FOR

## LAKE BEAVERHOUSE MINES LIMITED

Strathy and Cassells  
Townships

Temagami Area, Ontario

### INTRODUCTION

A detailed VLF-EM survey was conducted on a group of 50 unpatented, contiguous mining claims located in Strathy and Cassells Twps., Timiskaming Mining Division, Ontario. Thirteen claims numbered 267007-267019 inclusive are located in Strathy Twp., and thirty-seven claims numbered 267020-267031 inclusive and 266982-267006 inclusive are located in Cassells Twp. The group of claims is owned by Lake Beaverhouse Mines Ltd. of Toronto, Ontario.

Access to the property is by paved highway No.11 and different parts of the property were reached by snow machine. Heavy Slush, open water and deep fluffy snow contributed to difficult progress during the survey. The survey was conducted in the field by T.D.Brown of North Cobalt, Ontario, and the engineering, office and consulting work by the writer during December 1970 and January 1971.

### Method of Survey

A system of grid lines was cut using east-west base lines and traverse lines at 400' intervals in a north-south direction. A total of 47.2 miles of line was cut by T.D. Brown of North Cobalt, Ontario, of which 15.3 miles were in Strathy Twp., and 31.9 miles were in Cassells Twp. Readings were taken at 100' stations along picket lines, base lines and tie lines. Readings were not available at some stations due to power line affect, open water and deep slush. Two Ronka EM.16 instruments were used during the survey and readings were taken employing two transmitting stations: namely Seattle, Washington to search for east-west trending conductors and Balboa, Panama to search for north-south trending conductors.

Profile maps were drawn for the results of the readings taken from the Seattle source of transmission. Contouring of the results taken from the Balboa source of transmission was done since in effect the distance between stations is 400' and a conductor is probable and detail traverses between lines are necessary to confirm the suggestion. Conductors are probable between high positive and high negative readings.

#### THEORY OF THE EM SURVEY METHOD

A Ronka EM 16 instrument is simply a sensitive receiver unit which detects radio signals from VLF transmitting stations operating for communications with submarines. There are several of these stations in the world and the selection of the one to use depends upon its orientation. The direction to the station that is most closely aligned to the general trend of the country rocks is usually the factor considered. The stations have vertical antenna and as a result transmit a concentric field around them. Any conductive body lying in this field will create a secondary field.

The receiver unit contains a crystal of the same frequency as the transmitting station and a means of measuring the vertical field components. It has two inputs with two receiving coils built into the instrument. One coil has a normally vertical axis and the other is horizontal.

The signal from one of the coils (vertical axis) is first minimized by tilting the coil. The tilt angle is calibrated in percentages. The remaining signal in this coil is finally balanced out by a measured percentage of a signal from the other coil, after being shifted by 90 degrees. The axis of this coil is at right angles to the axis of the first coil. This coil is kept normally parallel to the primary field.

Thus, if the secondary signals are small compared to the primary horizontal field, the mechanical tilt-angle is an accurate measurement of the vertical real-component and the compensation  $/2$  - signal from the horizontal coil is a measurement of the quadrature vertical signal.

RESULTS OF THE SURVEY

The results from both transmission sources clearly defined the H.E.P.C. transmission line and O.N.R. railway as good conductors but not of economic mineral potential.

With reference to the profile map results drawn from readings of Seattle transmission, several valid conductors are observed. In the north central part of the property a continual conductor trends east-westerly for a length of 8,200 ft. along Link Creek in Strathy Twp., through the centre of Boot Bay and traversing Net Lake to the east in Cassells Twp. The most intense conductivity is in its central portion which occurs in Boot Bay. Several weaker and smaller conductors approximately parallel to this major conductor are observed.

In the eastern part of the property a conductor 3,200' long trends southeasterly across claims 266996 and 267001. The pattern of this conductor is straight and regular. In the lower central part of the property in Cassells Township a conductor 2,000' long is located on claims 266985 and 266986 and trends east-west. The strongest conductivity is at the east end on claim 266986. The west end is in part masked by power line affect.

South of the above conductor, a conductor 1,200' long is observed in Leroy Lake. This conductor may be due in part to overburden affects.

Individual line conductors are located at L-50E, 5300' N. and L - 90E, 1250' S. and L - 54E, 4800' N.

Weak conductivity which patterns in parallel form is located in the southwest part on claims 267007 and 267008, and in the south central part on claims 267030 and 267031. This is probably due to narrow fractures.

With reference to the Contour Map results drawn from readings of Balboa transmission, several valid probable conductors were observed. These are located on claims:

- A- 267016, Strathy Twp. trending North-South between Line 16E and Line 20E.

- B- 267023, Cassells Twp. trending north-south in Boot Bay between L.34<sup>N</sup> and L.38<sup>E</sup>.
- C- 266987 and 266990, Cassells Twp. trending northeast-southwest in Leroy Lake on L.66<sup>E</sup> and L. 74<sup>E</sup>.
- D- 266999 and 267000, Cassells Twp. trending north-south between L.126<sup>E</sup> and L. 130<sup>E</sup>.

In addition individual conductors on L.38<sup>E</sup>, 4300' N. and L.50<sup>E</sup>, 5300' N. and L54<sup>E</sup>, 4800' N. and the south ends of L.34<sup>E</sup> and L.38<sup>E</sup> confirm conductors described in the Profile Map results.

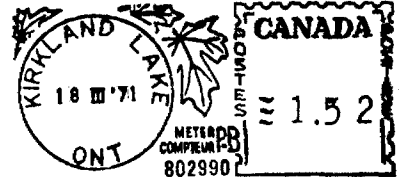
Respectfully submitted,



Jack G. Willars B.A.Sc., P.Eng.

New Liskeard, Ontario  
January 26, 1971.

DEPARTMENT OF MINES  
OFFICE OF MINING RECORDER  
BOX 984  
KIRKLAND LAKE, ONT.



31M04SE9450 2.343 CASSELS

900



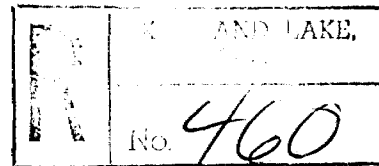
ONTARIO

DEPARTMENT OF MINES AND NORTHERN AFFAIRS

RETURN TO POINT OF MAILING

Mr. Fred W. Matthews,  
Supervisor, Projects Section,  
Dept. of Mines & Northern Affairs,  
Parliament Buildings,  
TORONTO, 182, Ontario.

*Registered*



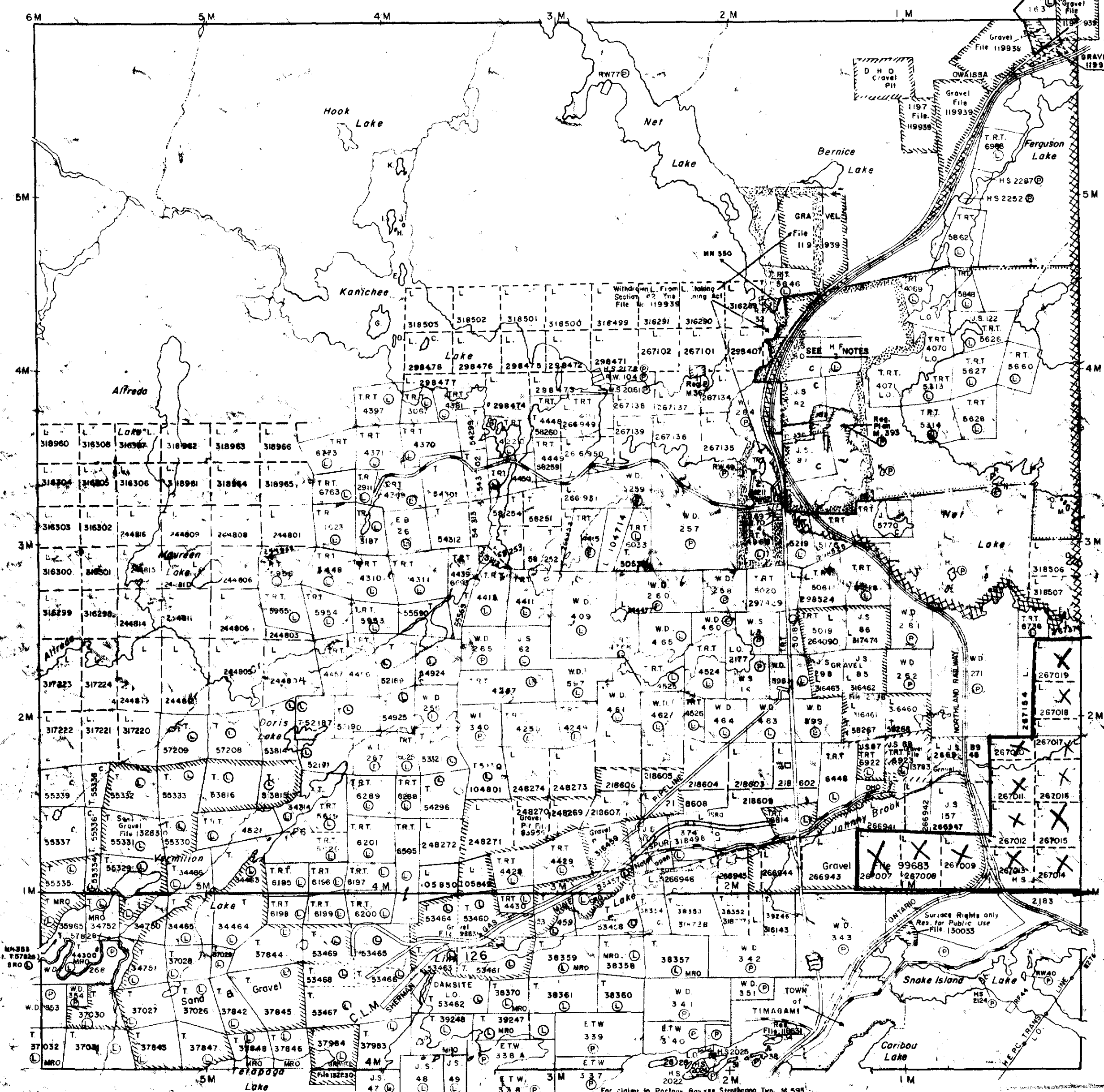




Best Twp. (M-417)

Chambers Twp. (M-447)

Casels Twp. (M-444)



Strathcona Twp. (M-595)

For claims in Portage Bay Strathcona Twp. M.595  
LAKE TIMAGAMI  
(North East Arm)

DATE OF ISSUE  
SEP 24 1971  
ONT. DEPT. OF MINES  
AND NORTHERN AFFAIRS

THE TOWNSHIP  
*Claim OF Map*  
**STRATHY**  
DISTRICT OF  
NIPISSING  
LARDER LAKE  
MINING DIVISION  
SCALE: 1-INCH=40 CHAINS

**LEGEND**

PATENTED LAND	⊙
CROWN LAND SALE	C.S.
LEASES	⊙
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
ROADS	—
IMPROVED ROADS	—
KING'S HIGHWAYS	—
RAILWAYS	—
POWER LINES	—
MARSH OR MUSKEG	—
MINES	—
CANCELLED	—

**NOTES**

400' Surface Rights Reservation  
ground all Lakes & Rivers.

Area reserved to Dept. of Highways shown thus  
First Mile Line surveyed by E.L. Moore 1928

Area within mining claims T.53460 T.53461 T.53463  
R.53464 reserved for Sand & Gravel File No  
9863 (Part of T.53458 & T.53459 & T.53460 & T.53461 & T.53462 & T.53463)

Area shown thus reserved for  
Timagami (subject to Section 36 fo) of  
The Mining Act.  
See also O/C 2022/66 - File 3996

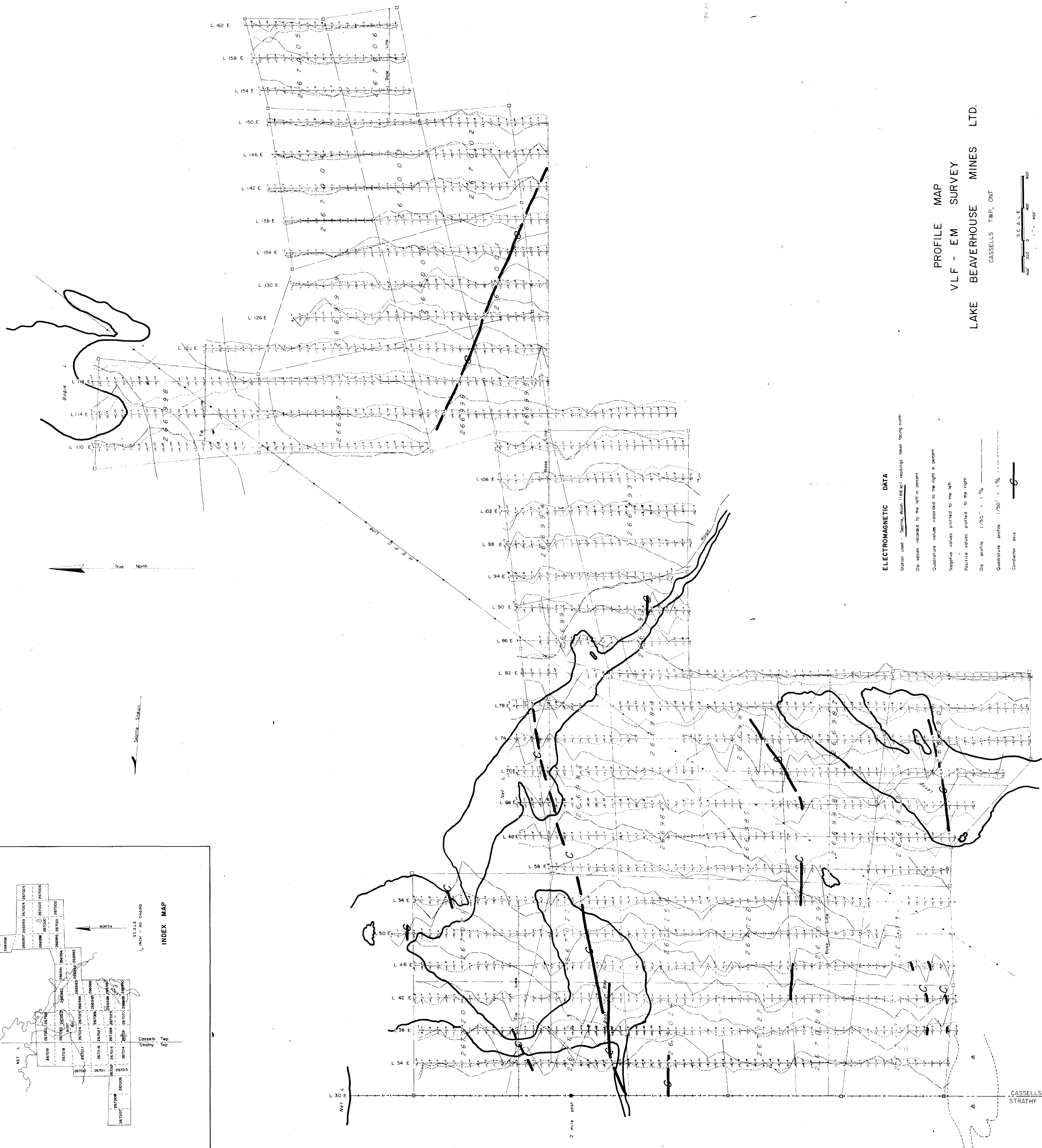
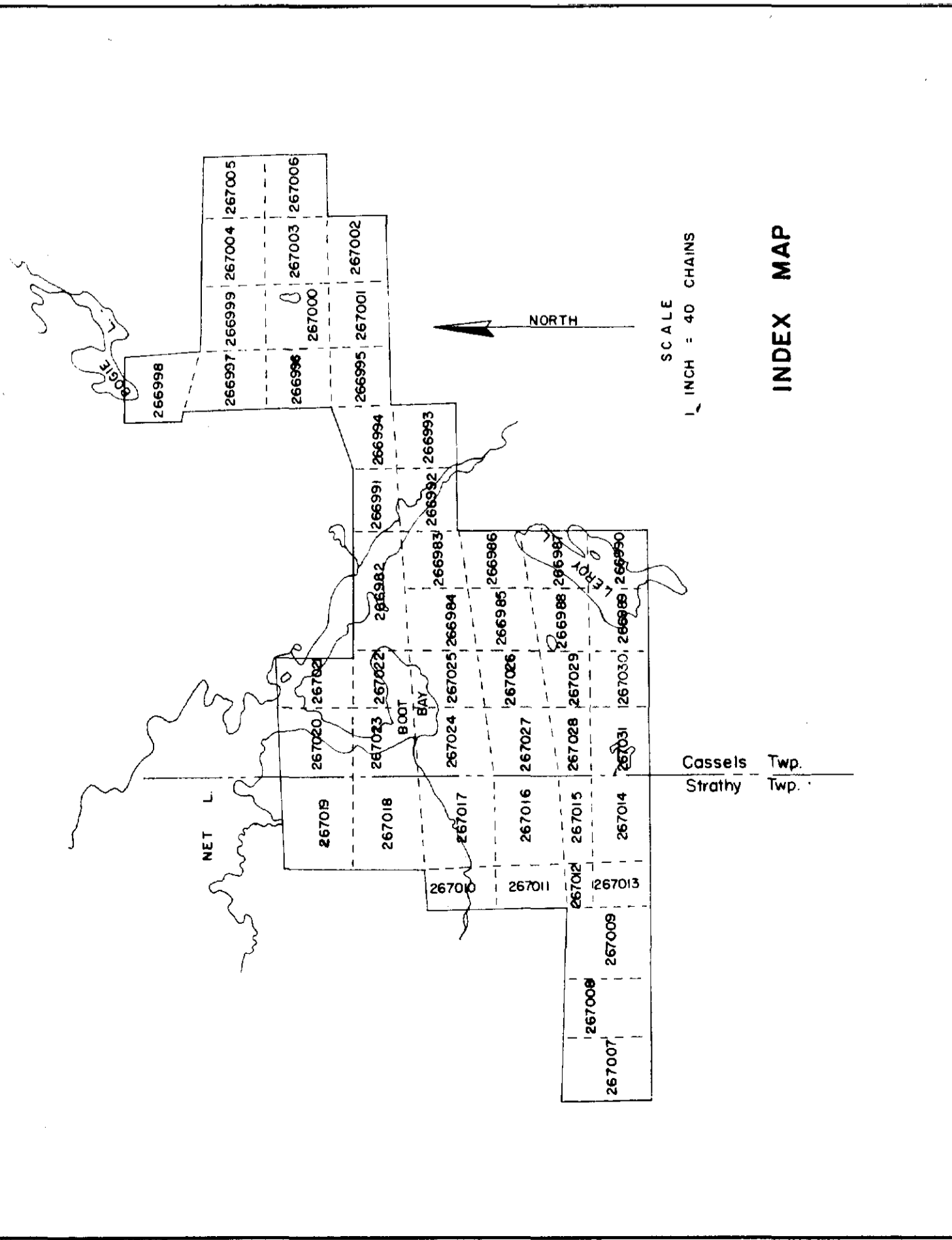
THE ESTABLISHMENT OF PITS AND QUARRIES  
IN AREA SHOWN THIS IS PROHIBITED.  
BY ORDER OF THE MINISTER OF MUNICIPAL AFFAIRS.

Mining Rights on an area shown thus  
Withdrawn from Staking under Sec.42 of The Mining Act  
Files 148517 etc

PLAN NO. M.596

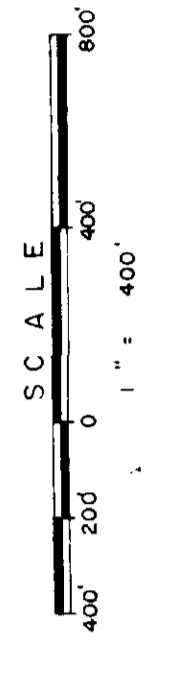
ONTARIO  
DEPARTMENT OF MINES  
AND NORTHERN AFFAIRS





**ELECTROMAGNETIC DATA**  
 Station used - Scintilla Walk (1864) readings taken facing north  
 Dip values recorded to the left in percent  
 Quadrature values recorded to the right in percent  
 Negative values plotted to the left  
 Positive values plotted to the right  
 Dip profile 1/50" = 1%  
 Quadrature profile 1/50" = 1%  
 Conductor axis

PROFILE MAP  
 VLF - EM SURVEY  
 LAKE BEAVERHOUSE MINES LTD.  
 CASSELLS TWP, ONT



J.G. Williams B.A.Sc., P. Eng.

**ELECTROMAGNETIC DATA**

Station used - Seattle, Wash (186 kc) readings taken facing north

Dip values recorded to the left in percent.

Quadrature values recorded to the right in percent.

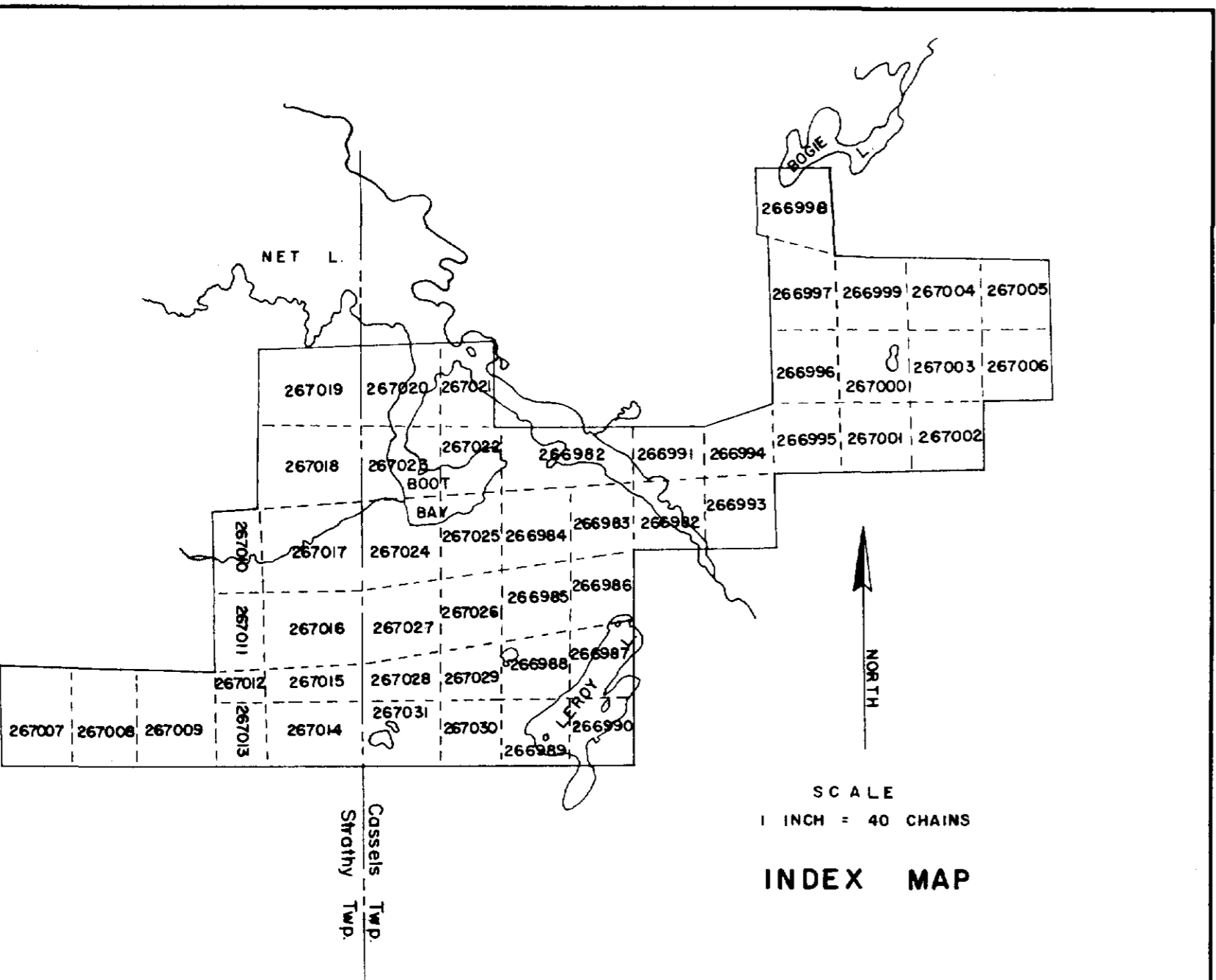
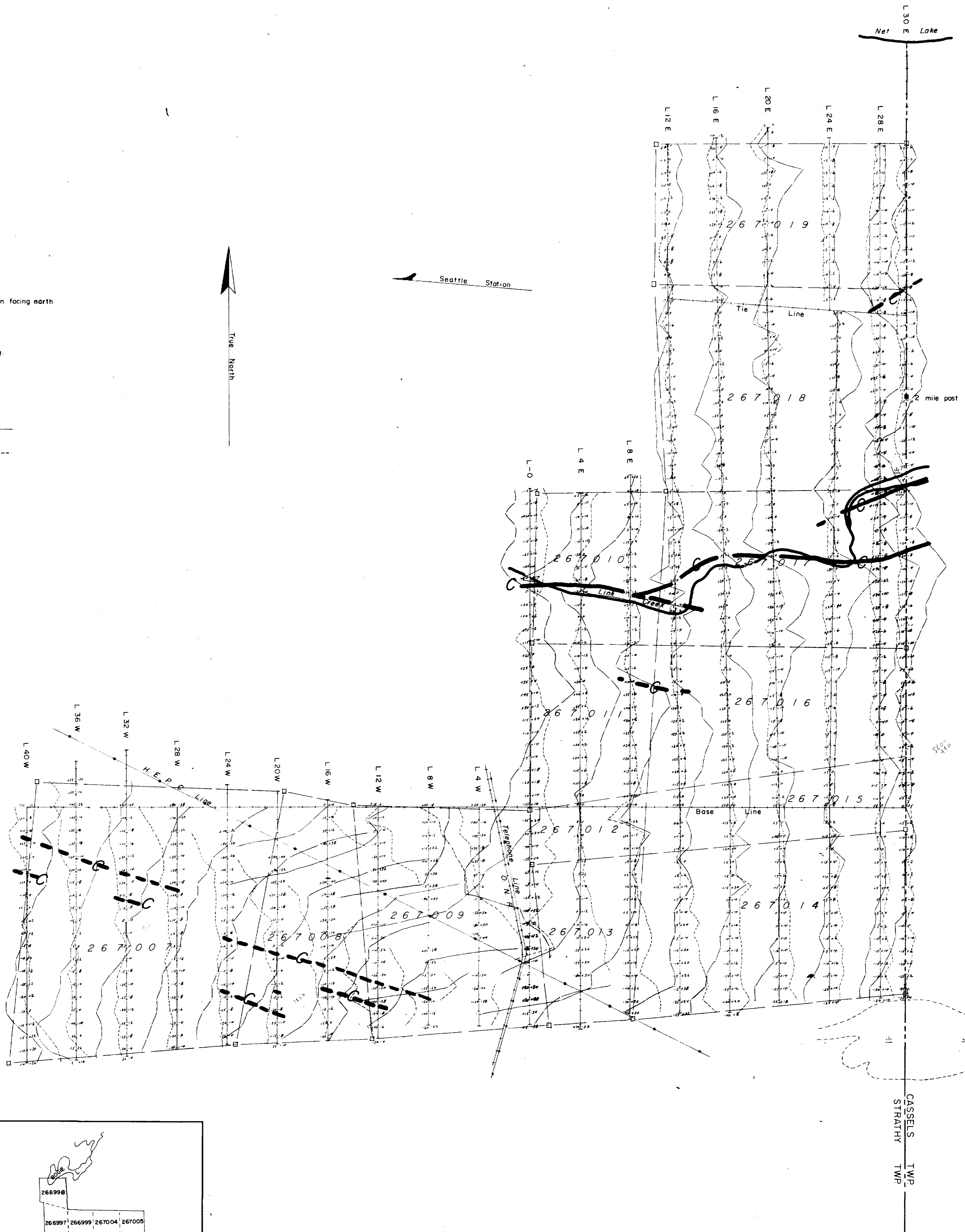
Negative values plotted to the left

Positive values plotted to the right.

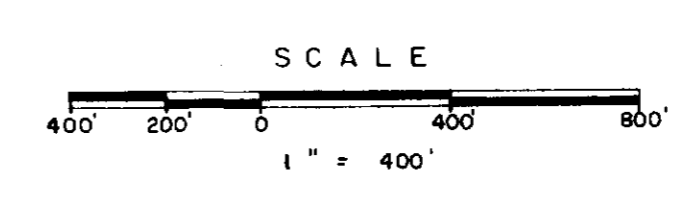
Dip profile 1/50" = 1%

Quadrature profile 1/50" = 1%

Conductor axis 



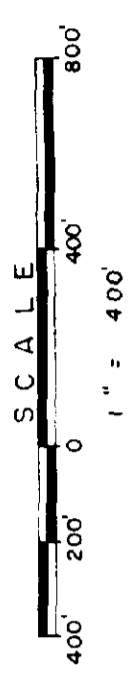
PROFILE MAP  
VLF - EM SURVEY  
LAKE BEAVERHOUSE MINES LTD.  
STRATHLY TWP, ONT



*J. G. Willars*  
J. G. Willars B.A.Sc., P. Eng.



LAKE BEAVERHOUSE MINES LTD.  
CASSELLS TWP., ONT.  
VLF - EM SURVEY  
CONTOUR MAP



ELECTROMAGNETIC DATA

Station used - Baboo, Phoenix (243k) - readings taken facing east

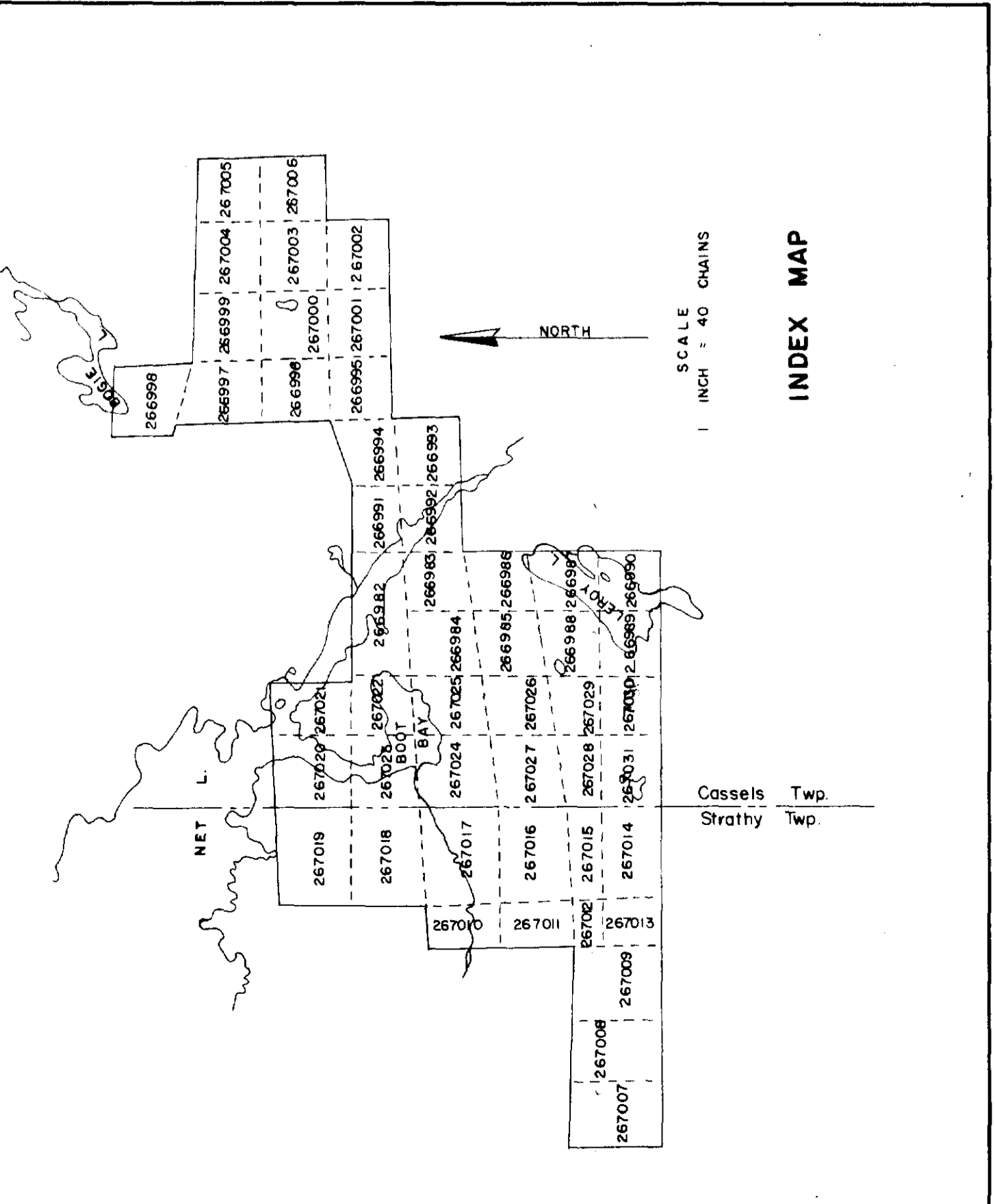
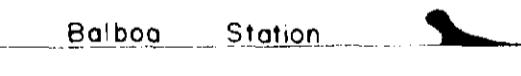
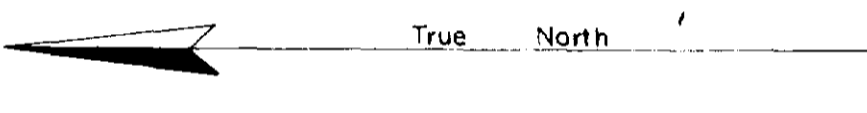
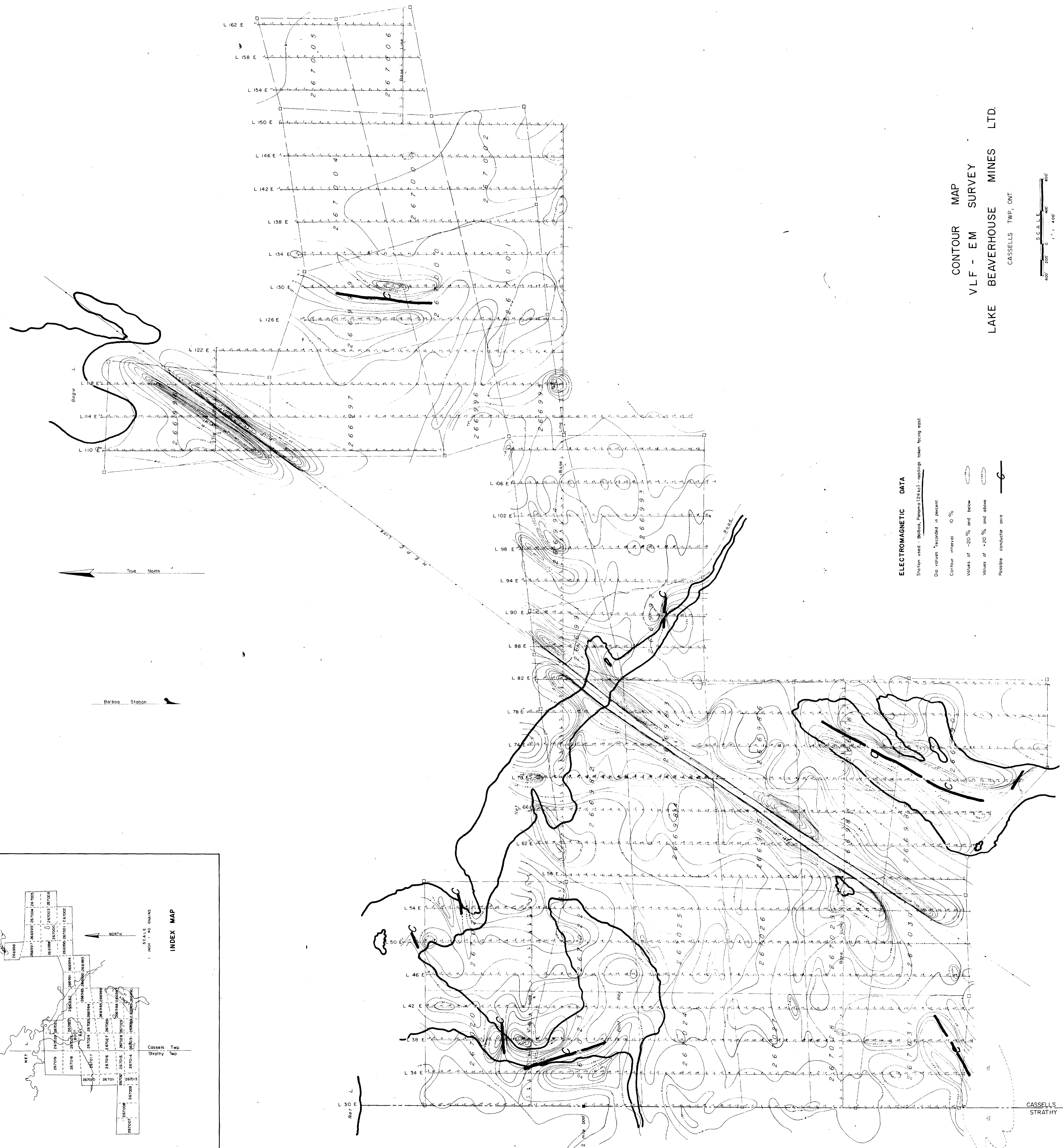
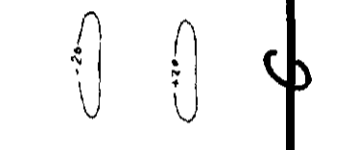
Dip values recorded in percent

Contour interval 10 %

Values of -20 % and below

Values of +20 % and above

Possible conductor axis



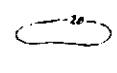
CASSELLS TWP  
STRATHLY TWP

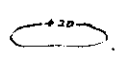
**ELECTROMAGNETIC DATA**

Station used - Balboa Emago (26 kc) - readings taken facing east.

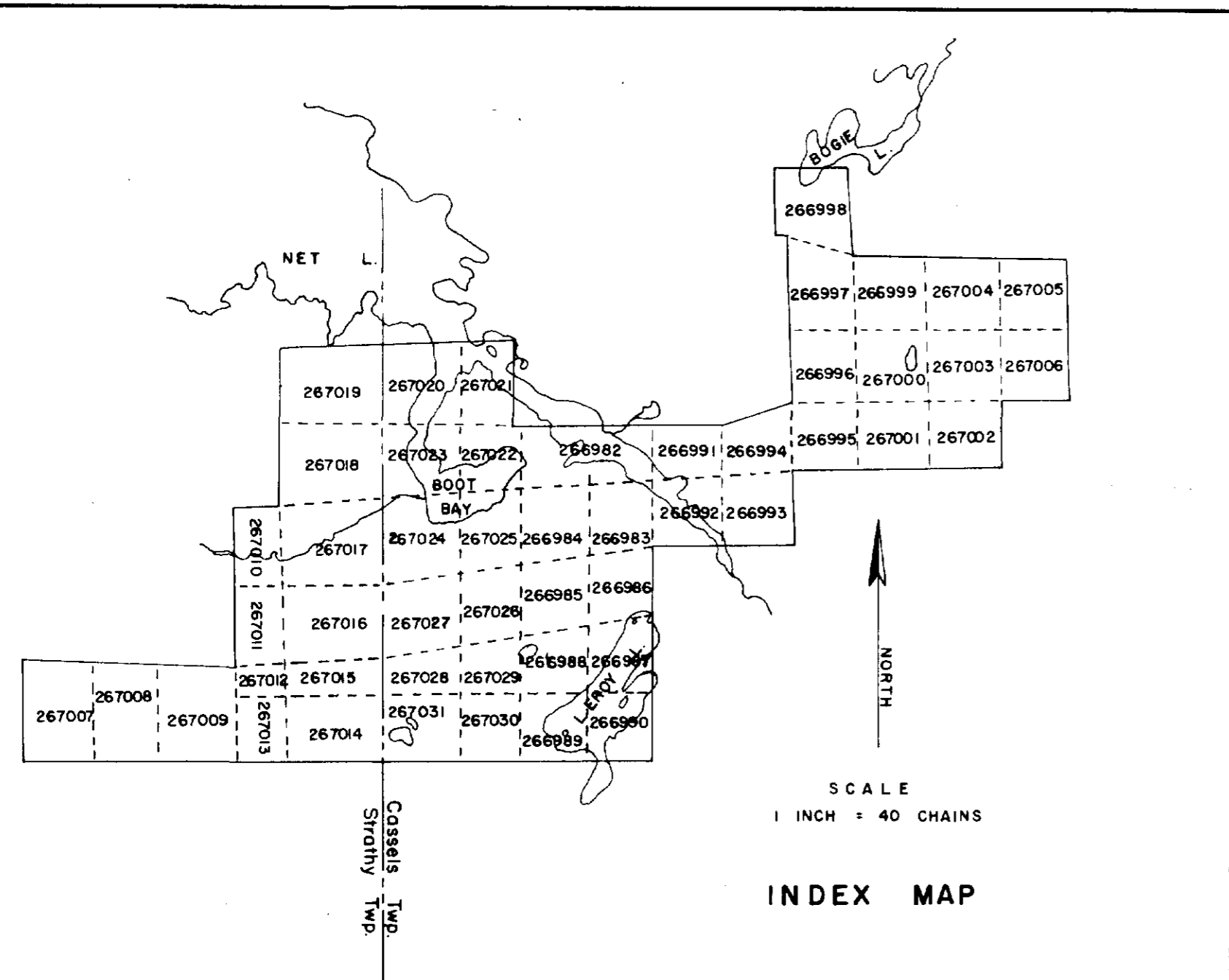
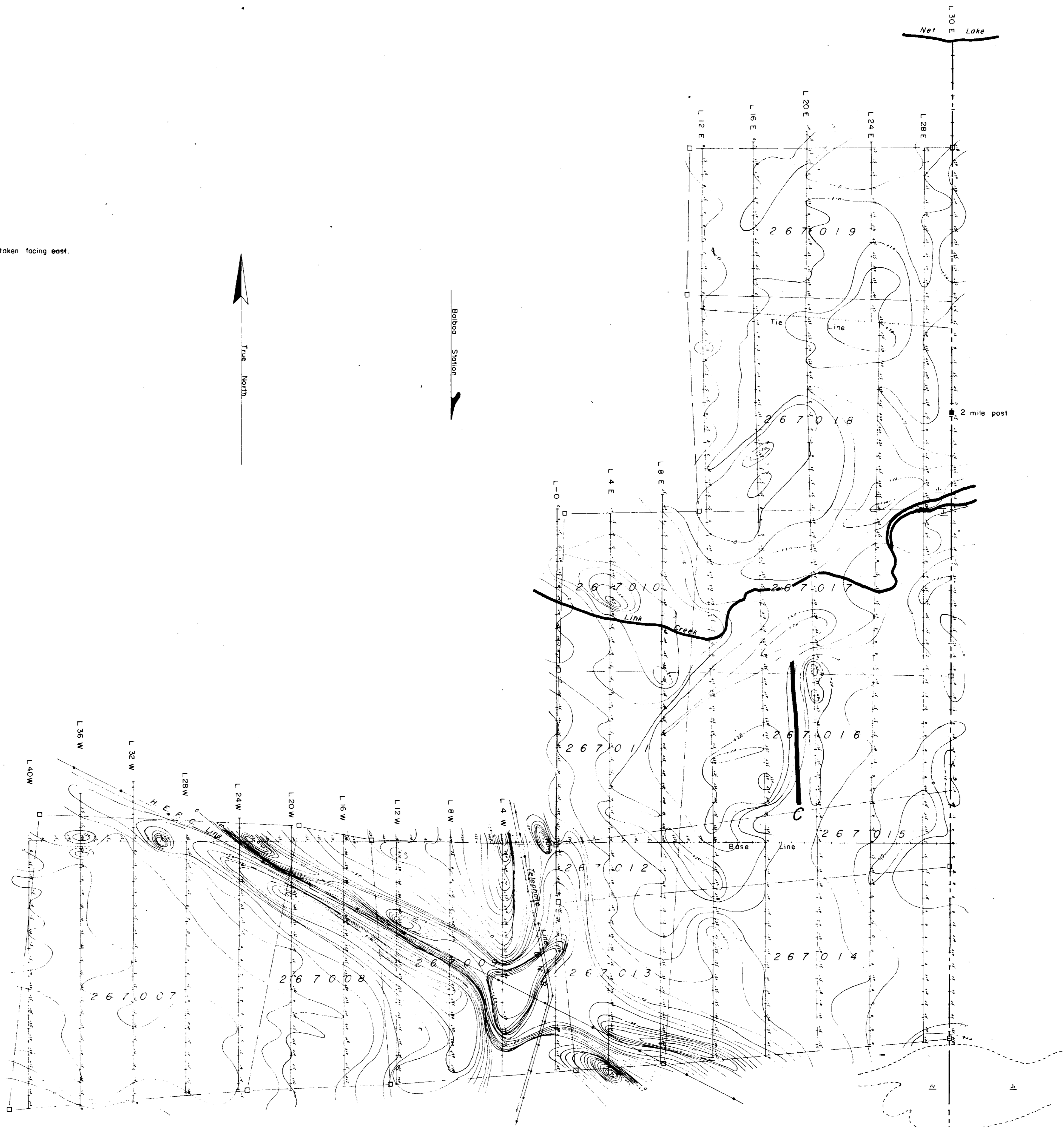
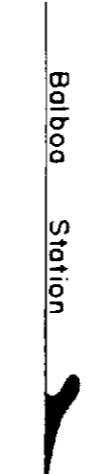
Dip values recorded in percent

Contour interval 10%

Values of -20% and below 

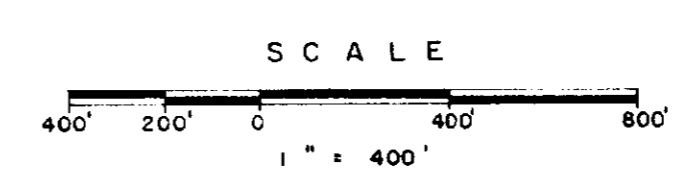
Values of +20% and above 

Possible conductor axis 



**CONTOUR MAP  
VLF - EM SURVEY  
LAKE BEAVERHOUSE MINES LTD.**

STRATHY TWP, ONT.



CASSELLS TWP  
STRATHY TWP

*J.G. Willers*  
J.G. Willers B.A.Sc., P.Eng.

