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GEOPHYSICAL REPORT

ON A

MAXMIN II ELECTROMAGNETIC SURVEY

OVER THE

SALT CLAIM

QUILCHENA CREEK, ASPEN GROVE AREA

NICOLA M.D., B.C.

SALT CLAIM : 11 km due East of Aspen Grove and 29 km S50E of Merritt, B.C.

: 49° 120° NE

: N.T.S. 92H/16W

WRITTEN FOR : OMENICA RESOURCES LTD.
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DATED : March 5, 1981

GEOTRONICS SURVEYS LTD.
Engineering & Mining Geophysicists
VANCOUVER, CANADA

TABLE OF CONTENTS

SUMMARY

CONCLUSIONS

RECOMMENDATIONS ii

INTRODUCTION AND GENERAL REMARKS 1

PROPERTY AND OWNERSHIP 1

LOCATION AND ACCESS 2

PHYSIOGRAPHY 2

HISTORY OF PREVIOUS WORK 3

GEOLOGY 3

INSTRUMENTATION AND THEORY 3

SURVEY PROCEDURE 5

COMPILATION OF DATA 5

DISCUSSION OF RESULTS 5

SELECTED BIBLIOGRAPHY 8

GEOPHYSICIST'S CERTIFICATE 9

AFFIDAVIT OF EXPENSES 10

MAPS - At back of report		SHEET
Location Map		1
Claim Map	1:50,000	2
MaxMin EM Survey Profiles	1:5,000	3

SUMMARY

A MaxMin II survey was carried out over the SALT Claim during October and November, 1980. The purpose of the survey was to further detail anomalies found in a VLF-EM survey carried out earlier in 1980.

The claim is located 11 km due east of Aspen Grove in the Nicola Mining District, B.C. Access is by highway and secondary road out of Aspen Grove. The terrain is generally flat or rolling hills. Vegetation varied from light to moderately dense forest.

The property is underlain by felsic plutonic igneous rocks in the form of a batholith intrusion.

Numerous copper, silver and molybdenum showings are found in the Penask Batholith. The most significant one to date is the Brenda molybdenum mine in the southern part of the Penask Batholith.

The MaxMin survey was carried out with a two-man portable unit. Dip angle, depth to the top and thickness-conductivity factor of the conductor readings were calculated. The analysis involced complex ratios and picking out the critical values of the resultant curves or the extreme high and low readings.

CONCLUSIONS

1. Mineralization in this area is mainly copper and molybdenum sulphides associated with shear zones.

2. Three MaxMin EM anomalies were located which have moderate co-relation with VLF-EM and magnetics surveys previously carried out.

3. The anomalies were of low conductivity indicating that they are recording the existence of a geologic structure such as shear zones.

4. It is reasonable to expect, because of the general geologic environment in this region, that these shear zones could contain mineralization.

RECOMMENDATIONS

Further MaxMin work could be done to further delineate anomalies a, b and c since each one is open in at least one direction. However, each anomaly should be checked first, through geological mapping as well as diamond drilling.

The drill holes recommended are as follows:-

Anomaly	Collar Location	Dip	Direction	Mininum Depth
a	L 6+00 S, 4+00 E	-45°	270° Az	100 meters
b	L 15+00 S, 1+00 E	-55°	065° Az	150 meters
c	L 19+00 S, 3+75 W	-45°	115° Az	100 meters

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QUILCHENA CREEK, ASPEN GROVE AREA

NICOLA M.D., B.C.

INTRODUCTION AND GENERAL REMARKS

This report discusses the survey procedure, compilation of data, and the interpretation of a MaxMin II Electromagnetic Survey carried out on the Salt Claim during October and November, 1980.

The survey was done under the supervision of the writer and under the field supervision of S. Seney with the aid of a helper. A total of 6.45 line km of MaxMin II Electromagnetic were done.

The primary purpose of the MaxMin II EM survey was to further detail anomalies from a VLF-EM survey carried out in the first part of 1980. A MaxMin II EM survey gives much more definitive drill targets than a VLF-EM survey does.

PROPERTY AND OWNERSHIP

The Salt Claim consists of one claim of 20 units as shown on Figure 2 and as described below:

Claim Name	No. Units	Record No.	Tag No.	Expiry Date
Salt	20	790	48846	Jan. 28, 1985

The property is owned by Omenica Resources Ltd. of Vancouver, British Columbia.

LOCATION AND ACCESS

The center of the Salt Claim is found about 11 km due east of Aspen Grove and about 29 km S50E of Merritt, B.C.

The geographic coordinates are 49° 56' N latitude, and 120° 28.5' W longitude.

Access to the property is quite good and can be gained by a passanger car providing the road is dry. One travels along Highway 5 for 30 km south of Merritt or 5 km south of Aspen Grove and then turns east on a well-used gravel road. The property is about 26 km from the Highway 5 turnoff along a series of gravel and dirt roads.

PHYSIOGRAPHY

The Salt 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. The general trend of the topography runs north-south. Elevations vary from 1,120 meters a.s.l. in the northwest corner to 1,280 meters a.s.l. in the southwest corner and the center to give a relief of only 160 meters.

There are four small lakes located around the perimeter of the Salt Claim as well as two intermittent streams on the eastern and western edges of the property, respectively.

Vegetation on the property varies from lightly dense to moderately dense forest. In consists of pine, fir and spruce.

HISTORY OF PREVIOUS WORK

There has been extensive physical work done on the property but the writer in unsure of the dates. The trenches and several shafts probably predate 1940.

Since Omenica Resources Ltd. filed the claim, VLF-EM and magnetometer surveys as well as trenching have been carried out.

GEOLOGY

The property is located in the Penask Batholith which was formed in the lower Jurassic or later. The rock types are mainly biotite and hornblende rich granodiorite and quartz monzonite. Several km to the west is the Nicola suite of rock types; these being mainly grey to green, massive andesite (pyroxene-rich) of Triassic Age.

Numerous copper, silver and molybdenum showings are to be found in both the Nicola Group and the Penask Batholith. The most significant of these showings is the Brenda molybdenum mine, whose host rocks are granodiorite of the southern portion of the Penask Batholith.

INSTRUMENTATION AND THEORY

A MaxMin II portable 2-man electromagnetometer, manufactured by Apex Parametrics Ltd. of Toronto, Ontario was used for this survey. This instrument is designed for measuring the electromagnetic field which results from a conductive body; that is a structure which conducts electricity better than barren rock-types do. This particular instrument has the advantage of flexibility over most other EM units in that it can

operate with different modes, frequencies and distances between transmitter and receiver. Five frequencies can be used (222, 444, 888, 1777 and 3555 Hertz) and six different coil separations (25, 50, 100, 150, 200 and 250 meters).

In all electromagnetic prospecting, a transmitter produces an alternating magnetic field (called the primary field) by having a strong alternating current move through a coil of wire. This primary field travels through any medium and if a conductive mass such as a sulphide body is present the primary field induces a secondary alternating current in the conductor and this current in turn induces a secondary magnetic field. The receiver picks up the primary field and, if a conductor is present, the secondary field. The fields are expressed as a vector which has two components, the in-phase (or real) component and the out-of-phase (or quadrature) component. The results are expressed as the percent deviation of each component from what the values would be if no secondary field (and therefore no conductor) was present. Since the fields loose strength proportionally with the distance they travel a distant conductor has less of an effect, than a close conductor. Also the lower frequency of the primary field, the further the field can travel and so the greater the depth penetration. This unit can vary the strength of primary field and so use different coil separation between transmitter and receiver coils, change the frequency of the primary field for varying depth penetration, and use three different ways of orienting the coils to duplicate the survey in three styles so that more accuracy is possible in the interpretation of the data.

The use of the MaxMin electromagnetometer allows for better

discrimination between low conductive structures such as clay beds and barren shear zones and more conductive bodies like massive sulphide mineralization. It also gives several different types of data over a given area so that statistical analysis can result in less error in the interpretation.

SURVEY PROCEDURE

The survey was carried out over 2 anomalous zones labelled "A" and "B" by D. Tully. 6 lines were run across anomaly "A", and 4 across anomaly "B". The line separation was 100 m and readings were taken every 25 m, except in anomalous areas where they were reduced to 12.5 m. The coil separation used was 100 m and the frequency, 444 Hz and 1777 Hz. Line 1500 S was also run using a coil separation of 200 m.

COMPILATION OF DATA

The results were profiled on Sheet 3. From these profiles, the anomalous sections were reprofiled for easy comparison with published type curves. The type curves are the result from laboratory situations using models.

After correction of conductive overburden, the anomalous curve was analyzed to give the dip, depth to the top and the thickness conductivity factor of the conductor. This analysis involves complex ratios and picking out the critical values of the resultant curves which are the extreme high and low readings.

DISCUSSION OF RESULTS

The MaxMin electromagnetic survey picked up three conductors on the property, none of which extended beyond 4 lines (500 meters) and all had low to medium conductivity. As in many cases these conductors are of a thin sheet or tabular nature

and specific analysis of each anomaly follows.

On Lines 6+00 South and 7+00 South an anomaly can be found centered at 3+50° East on both lines giving it a strike of 355° Az.

The line 6+00 South resultant fields show, upon analysis, a dip of 42° ± 7° East with the top of the conductor to be at a depth of 13 meters ± 4 meters. These results were obtained using the out-of-phase response to a much greater degree than the in-phase component as is common when analyzing conductors of low value. The same anomaly on line 7+00 South has an incomplete out-of-phase response and so the dip can not be calculated using the out-of-phase component. When the in-phase was analyzed a dip of 60° in the other direction (west) and a much greater depth (32 meters ± 5) meters resulted. The results from the anomaly at line 6+00 South should be relied upon over those from the line 7+00 South response but the wide variation requires noting.

This anomaly coincides with the VLF anomaly but there is no magnetic variation from normal background in its vicinity.

Anomaly b extends across two lines, being centered at 1+75 East on line 14+00 South and 2+00 East on line 15+00 South. The line 15+00 South response was the stronger and analysis of it reveals a thin sheet striking at 335° Az and dipping 35° ± 3° West at a depth of 65 meters ± 10 meters. This anomaly has no corresponding VLF or magnetic anomalies associated with it.

Anomaly c, found on the two most southerly lines, is striking at 010° Az. It ends before line 17+00 South but on line 18+25

South it is centered at 2+50 West while on line 20+00 South the center is at 3+00 West. This anomaly is difficult to analyze due to what appears to be conductive overburden on line 18+25 South. Having corrected for this overburden the response on line 18+25 South reveals a shallow conductor (depth of 15 meters $\pm$ 4 meters) dipping to the west at $65^{o} \pm 8^{o}$. Line 20+00 South is less of a problem with the anomaly being calculated to be 15 meters $\pm$ 2 meters below the surface at 3+00 West and dipping at $60^{o} \pm 5^{o}$ to the west. The close correlation between responses is encouraging.

No VLF or magnetic anomalies are located in the same proximity to this MaxMin anomaly.

In general when the three conductors strike in a north-south direction as do the VLF conductors. The only conductor which coincides in both surveys is the one on lines 6+00 South and 7+00 South but this is not usual of anomalies of low conductivity. The VLF also has limitations as far as depth penetration is concerned due to the much higher frequencies that they utilize.

These conductors probably are resulting from some geologic structure like shear or fault zones, but mineralization can be associated with such structures.

Respectfully submitted,
GEOTRONICS SURVEYS LTD.

David G. Mark,
Geophysicist

March 5, 1981

SELECTED BIBLIOGRAPHY

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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 #403-750 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 13 years and have been active in the mining industry for the past fifteen 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 MaxMin II Electromagnetic survey carried out under the supervision of myself during October and November, 1980.

5. I do not hold any interest in Omenica Resources Ltd., or the SALT Claim, nor do I expect to receive any interest as a result of writing this report.

David G. Mark.
Geophysicist

March 5, 1981

AFFIDAVIT OF EXPENSES

The MaxMin II EM survey was carried out on the SALT Claim, Quilchena Creek, Nicola M.D., B.C. to the value of the following:

FIELD:

Geophysical Technician and helper 98 hours at $40/hour	$3,940.00
Vehicle rental, 13 days at $60/day	780.00
Room and board, 2 men at $40/man/day, 13 days	1,040.00
MaxMin II EM instrument rental, 2 weeks at $350/week	700.00
	$6,460.00

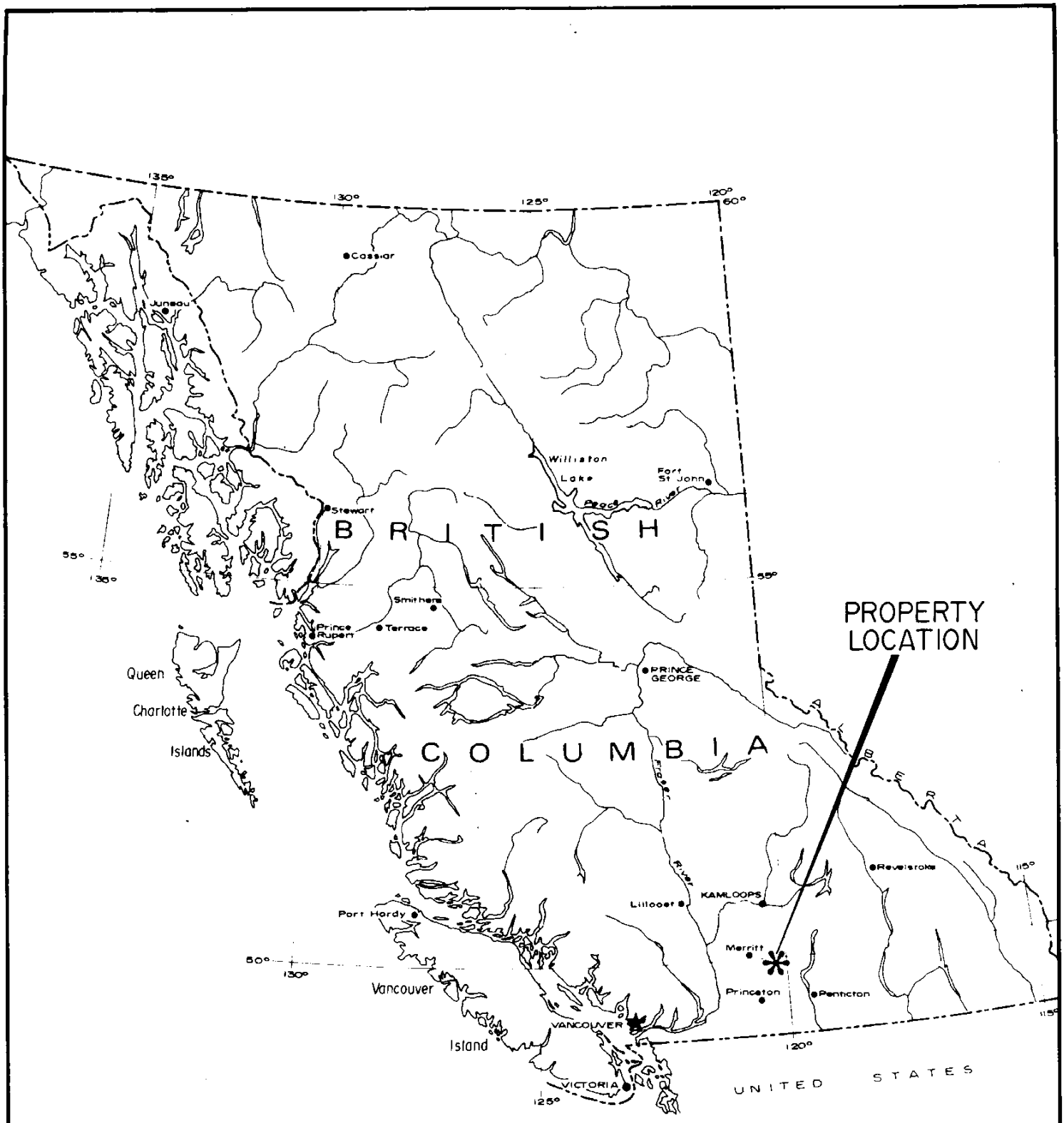
REPORT:

Geophysicist, 16 hours at $37.50/hour	$ 600.00
Geophysical Technician, 20 hours at $22.50/hour	450.00
Drafting and printing	370.00
Typing, photocopying and compilation	120.00
	$1,540.00

TOTAL	$8,000.00

Respectfully submitted,
GEOTRONICS SURVEYS LTD.

David G. Mark,
Manager



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OMENICA RESOURCES LTD.

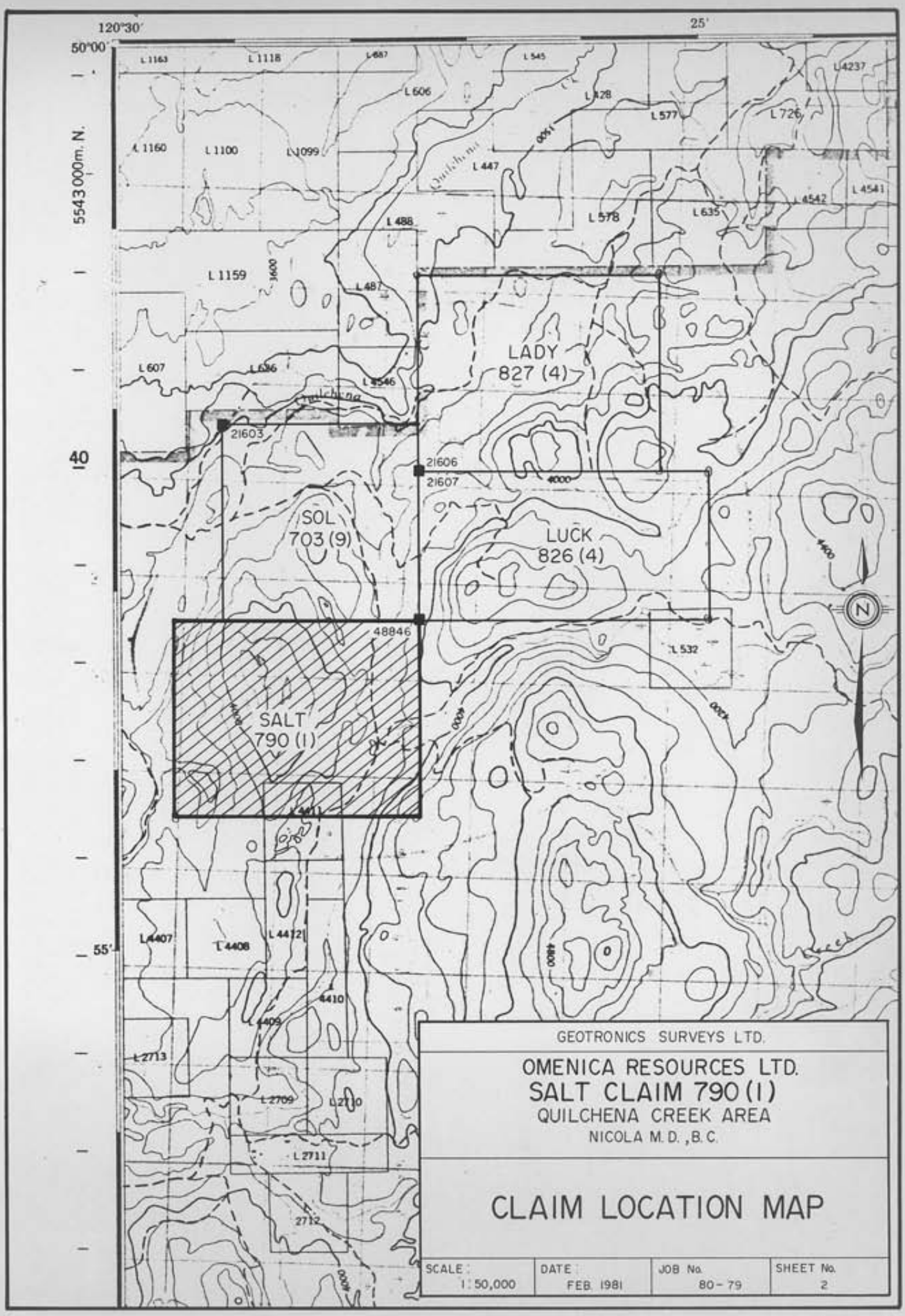
SALT CLAIM 790 (1)

QUILCHENA CREEK AREA

NICOLA M.D., B.C.

LOCATION MAP

SCALE:	DATE:	JOB No.	SHEET No.
As shown	FEB. 1981	80-79	1



GEOTRONICS SURVEYS LTD.

OMENICA RESOURCES LTD.

SALT CLAIM 790 (1)

QUILCHENA CREEK AREA

NICOLA M.D., B.C.

CLAIM LOCATION MAP

SCALE	DATE	JOB No.	SHEET No.
1:50,000	FEB. 1981	80-79	2

1600 W. | 1500 W. | 1400 W. | 1300 W. | 1200 W. | 1100 W. | 1000 W. | 900 W. | 800 W. | 700 W. | 600 W. | 500 W. | 400 W. | 300 W. | 200 W. | 100 W. | B.L. 0 | 100 E. | 200 E. | 300 E. | 400 E. | 500 E. | 600 E. | 700 E. | 800 E. | 900 E. | 1000 E.

IW./0 S.

SALT L.C.P. — L. 0

APPROXIMATE SOUTH BOUNDARY SOL NO. 703(9)

— L. 100 S.
— L. 200 S.
— L. 300 S.
— L. 400 S.
— L. 500 S.
— L. 600 S.
— L. 700 S.
— L. 800 S.
— L. 900 S.
— L. 1000 S.
— L. 1100 S.
— L. 1200 S.
— L. 1300 S.
— L. 1400 S.
— L. 1500 S.
— L. 1600 S.
— L. 1700 S.
— L. 1800 S.
— L. 1900 S.
— L. 2000 S.

a

L. 500 S.
L. 600 S.
L. 600 S.
L. 700 S.
L. 600 S.
L. 800 S.
L. 700 S.
L. 700 S.
L. 800 S.
L. 700 S.

b

L. 1500 S. (200m.)
L. 1500 S. (200m.)
L. 1400 S.
L. 1500 S.
L. 1500 S.
L. 1500 S.
L. 1500 S. (200m.)
L. 1600 S.
L. 1700 S.

4S/3W
4S/2W
L. 1825 S.

c

L. 2000S
L. 2000 S.

L.C.P. SALT 2 No. 806(2)

To accompany geophysical report by David G. Mark, geophysicist, dated Mar. 5, 1981

LEGEND

% 5 + 10 5 0 5 — 10 15

FREQUENCY 1777

FREQUENCY 444

MAX. MIN. EM. CONDUCTOR

IN-PHASE RESPONSE

OUT-OF-PHASE RESPONSE

N

20%

COIL SPACING 100m.
(UNLESS OTHERWISE MARKED)

GEOTRONICS SURVEYS LTD.

OMENICA RESOURCES LTD.

SALT CLAIM

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

MAX. MIN. II
ELECTROMAGNETIC SURVEY
PROFILES

DRAWN BY:	JOB No.:	DATE:	SCALE:	SHEET No:
J W	80—79	FEB.—1981	1: 5000	3