86-543-15111

# GEOLOGICAL BRANCH ASSESSMEN ORT

GEODHYSICAL REPORT

ON THE

MAXI CLAIM

LAKE COWICHAN AREA VICTORIA MINING DIVISION 92C/9E (48°, 45'N, 124°, 04'E)

FILMED

**FOR** 

STRATA ENERGY CORPORATION #1250-800 WEST PENDER STREET VANCOUVER, B.C. V6C 2V6 (OWNER & OPERATOR)

BY

GRANT F. CROOKER, B.Sc., F.G.A.C. GEOLOGIST

AUGUST, 1986



## TABLE OF CONTENTS

	Page
SUMMARY AND RECOMMENDATIONS	(front)
INTRODUCTION  General  Location and Access  Physiography  Property and Claim Status  History	1 1 1 1 1 2
EXPLORATION PROCEDURE	2 ,
GEOLOGY AND MINERALIZATION	<b>3</b> ,
GEOPHYSICS Magnetometer Survey VLF-EM Survey	4 / 4 / 4 /
CONCLUSIONS AND RECOMMENDATIONS	<b>5</b> <sub>1</sub>
REFERENCES	6 ,
CERTIFICATE OF QUALIFICATIONS	7 ,
APPENDIX Appendix I	Cost Statement

# **ILLUSTRATIONS**

Figure		Page
1.	Location Map	follows pg 1 ,
<b>2.</b>	VLF-EM Survey, In-Phase and Quadrature data (1:2500)	pocket /
3.	VLF-EM Survey, Fraser Filter Data, (1:2500)	pocket ,
4.	Magnetometer Survey (1:2500)	pocket /
5.	Compilation (1:2500)	pocket

#### SUMMARY AND RECOMMENDATIONS

The Maxi Claim consists of 12 units and is located in the Victoria Mining Division. The property is located 8 kilometers south of Lake Cowichan, on southern Vancouver Island.

Lower Jurassic Bonanza Group Volcanics underlie the claim, with dikes and irregularly shaped bodies of granodiorite intruding the volcanics. Mineralization at the Hillcrest showing is related to skarns occurring along the contact of basalt and granodiorite. Magnetite, pyrrhotite, and chalcopyrite occur within the meta-volcanic actinolite garnet skarns. Significant copper mineralization is associated with the skarns.

The 1986 program consisted of magnetometer and VLF-EM surveys on a portion of the Maxi claim south of the Hillcrest and Anomaly showings.

The magnetometer survey indicated several magnetic highs associated with the contact of basalt and granodiorite. The VLF-EM survey indicated several weak, north trending electromagnetic conductors coincidental with the mag highs.

The coincidental mag highs and electro-magnetic conductors maybe indicating skarn mineralization.

Phase I of recommendations by Stanley B. Reamsbottom, Report on Maxi Claim should continue.

The recommendations are:

- (1) The magnetometer and VLF-EM survey be completed on the Maxi Claim.
- (2) Soil geochemical survey be carried out over the geophysical anomolies.
- (3) Trenching and sampling be carried out over strong coincidental geochemical and geophysical anomalies.

Phase II

Contingent on the results of the Phase I Program, a decision be made to drill test significant zones.

Respectfully Submitted,

Grant Crooker, B.Sc., F.G.A.C.

Geologist

#### INTRODUCTION

#### General

During August 1986, the writer and 1 field assistant continued the field exploration program on the Maxi Claim initiated in 1980 & 1981. The program was concentrated south of the Hillcrest and Arrow showings.

The program consisted of establishing a grid, and carrying out magnetometer and VLF-EM surveys on a portion of the Maxi Claim.

#### Location and Access

The Maxi Claim (Figure 1) is located at the head waters of the Robertson River, 8 kilometers south of the town of Lake Cowichan, Vancouver Island, (48 45'N lat, 124 04' E long).

Access is from the Port Renfrew - Lake Cowichan logging road, to the Robertson River, Long Creek area. At the present time all roads to the property are washed out, necessitating a  $2\ 1/2$  mile walk or motor bike ride to the claim.

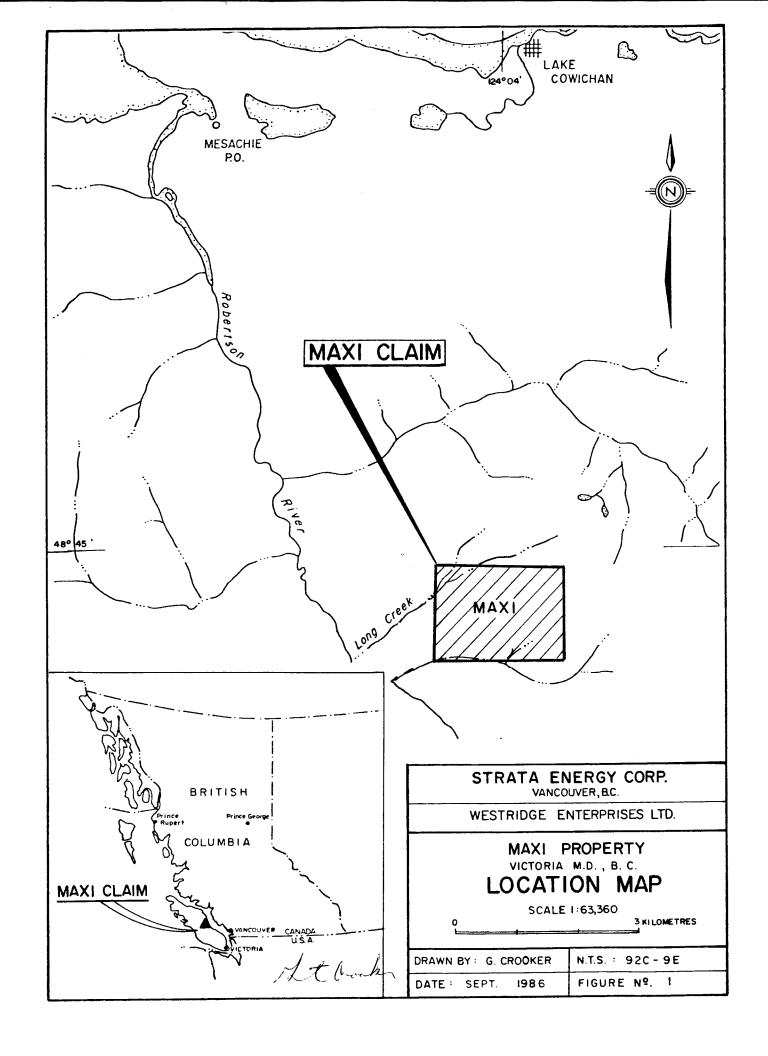
#### Physiography

The claim is located in the southern part of the Vancouver Island Mountains, at elevations of 300 to 850 meters above sea level. Topography is generally steep.

The majority of the area has been logged, and slash, and second growth timber predominate. Some areas have been "thinned". The bush is very rugged and progress on lines is extremely slow and tedious.

#### Property and Claim Status

The Maxi Claim consists of 12 units, and is located in the Victoria Mining Division. Strata Energy Corporation, Suite #1250, 800 West Pender Street, Vancouver, B.C. is the owner.



Claim Record Number Expiry Date

Maxi 275 Aug. 27, 1989\*

\* Upon acceptance of this report.

#### History

The History of the property has been discussed in the Geological Report on the Maxi Claim Group by Grant Crooker, July 15, 1980.

#### **EXPLORATION PROCEDURE**

A moderate exploration program was carried out on the property during 1986. The program consisted of establishing a grid over part of the property, and carrying out VLF-EM and Magnetometer surveys.

The program was carried out to define rock types, locate magnetic mineralization and VLF-EM conductors.

The survey was carried out south of the Hillcrest and Anomaly Showings.

A grid was established on the property. The baseline was ran north-south for 400 meters along the western claim boundary. Flagged crosslines were put in at 100 meter intervals, with stations every 15 meters along the lines. The crosslines were 1000 meters long, and 5.7 kilometers of crosslines were established.

The VLF-EM survey was carried out over 5.7 line kilometers, with readings taken every 15 meters along the lines. A Geonics EM-16 was used as a receiver, with NPM, Lualuale, Hawaii, 23.4 KHz the transmitter. This transmitter was used due to it's signal strength and orientation to the structure.

The EM-16 measures In-phase and quadrature components of vertical magnetic field as percentage of horizontal primary field (that is, tangent of the tiltangle and ellipticity). Both values are given in degrees.

Field procedure requires to always face the same

direction when taking readings. When approaching a conductor the readings will be positive, and when leaving a conductor the readings will be negative. The EM-16 is rotated in the vertical plane until a minimum signal is obtained. This reading is the "In-phase" and gives the tiltangle in degrees and the tangent of the tiltangle expressed as percent. Once this minimum signal is obtained, the "Quadrature" knob is rotated until the signal minimum is obtained. This reading is approximately the rotation of the vertical secondary field to the horizontal field.

The VLF-EM can pick up conductors caused by electrolyte-filled fault or shear zones and porous horizons, graphite, carbonaceous sediments, lithological boundaries, as well as sulphide bodies.

The In-phase and Quadrature data were plotted as degrees on figure 2 at a scale of 1:2500. The Fraser Filter method was then applied to the In-phase data, and the results plotted at a scale of 1:2500 on figure 3.

The magnetometer survey was carried out over 2.5 line kilometers, with readings taken every 15 meters along the lines. A Scintrex Model MP-2 digital proton magnetometer was used for the survey, with total magnetic readings recorded as gammas.

Field procedure requires the operator to always face the same direction when taking readings. The time is also recorded approximately every 10 minutes when taking readings along the lines. Readings were also taken at a base station every morning and evening to record the diurnal variation of the magnetic field. Readings taken during the day were then corrected for this variation. The diurnal variation was never more than 90 gammas.

The magnetic data was plotted as gammas on Figure 4, at a scale of 1:2500.

The geology, VLF-EM conductors, and magnetic highs and lows were shown on figure 5, a Compilation map. The scale is 1:2500.

#### GEOLOGY AND MINERALIZATION

The Maxi Claim is underlain by Lower Jurassic Bonanza Group Volcanics. This group is composed of lava,

tuff, and breccia of mainly basaltic and rhyolitic composition. Occasionally it contains intercalated beds and sequences of marine argillite and greywacke.

A stock of Jurassic Island Intrusive underlies parts of the Maxi claim. The intrusive is of granodiorite composition and occurs as dikes or irregularly shaped bodies.

Mineralization at the Hillcrest Showing is related to skarns occurring along the contact of a basalt flow and a fine grained granodiorite. Magnetite, pyrrhotite and chalcopyrite occur within meta-volcanic, actinolite garnet skarns. Skarn outcrops over an area 150 meters long and up to 30 meters wide. The zone appears to trend in north-easterly direction. Sampling results of up to 1.0 meters of 2.18% Cu. were returned during the 1980 program.

Several minor skarn zones also occur on the property.

#### **GEOPHYSICS**

#### Magnetometer Survey

The magnetic survey indicated a number of magnetic highs and lows. A magnetic gradient of up to 1500 gammas was observed from the data.

The two magnetic highs appear to occur along the contact of the basalt and the granodiorite. These highs may be indicating skarn zones along the contact. A lower magnetic gradient occurs towards the eastern boundary of the grid. This indicates a magnetic difference between the basalt and granodiorite.

## VLF-EM Survey

The VLF-EM Survey indicated a number of weak, north trending conductors.

Conductors A and B appear to occur coincidentally with a magnetic high along the contact of the basalt and granodiorite. These two conductors may be indicating a skarn zone along the contact.

Several strong conductors along lines one and two

south (8+00 E to 10+00 E) appear to correlate with a zone of shearing and granitedikes.

The other conductors are probably related to contacts of different rock units.

#### CONCLUSIONS AND RECOMMENDATIONS

The Hillcrest and Anomaly Showings contain copper mineralization related to skarn and shear zones.

The magnetometer survey indicated several magnetic highs associated with the contact of the basalt and granodiorite. The VLF-EM survey indicated several weak, north trending electro-magnetic conductors coincidental with the mag highs.

The coincidental mag highs and electro-magnetic conductors maybe indicating skarn mineralization.

Phase I of the recommendations by Stanley B. Reamsbottom, Report on the Maxi Claim should continue.

The recommendations are:

- (1) The magnetometer and VLF-EM survey be completed on the Maxi Claim.
- (2) Soil geochemical surveys be carried out over the geophysical anomalies.
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Phase II

Contingent on the results of the Phase I program, a decision be made to drill test significant zones.

Respectfully submitted,

It Contain

Grant F. Crooker, B.Sc., F.G.A.C.

Geologist

### **REFERENCES**

Crooker, G.F. - Geological Report on Maxi Claim Group, Cowichan Lake Area, July, 1980.

Crooker, G.F. - Geological Report on Maxi Claim Group, Cowichan Lake Area, October, 1981.

McKechnie - B.C. Minister of Mines and Petroleum Resources Report, 1962, 1963.

Muller, J.E. - Geology of Vancouver Island, 1977.

Reamsbottom, Stanley, B. - Report on the Maxi Claim, January, 1980.

White, L. - Report on the Fraser Property, Lake Cowichan, B.C., for Copper Ridge Mines Ltd., Vancouver, B.C., 1966.

## CERTIFICATE OF QUALIFICATIONS

I, Grant F. Crooker, of Upper Bench Road, Keremeos, in the Province of British Columbia, hereby certify as follows:

- 1. That I graduated from the University of British Columbia in 1972 with a Bachelor of Science Degree in Geology.
- 2. That I have prospected and actively pursued geology prior to my graduation and have practiced my profession since 1972.
- 3. That I am a member of the Canadian Institute of Mining and Metallurgy.
- 4. That I am a Fellow of the Geological Association of Canada.

Dated this 17th day of September, 1986, at Vancouver, in the Province of British Columbia.

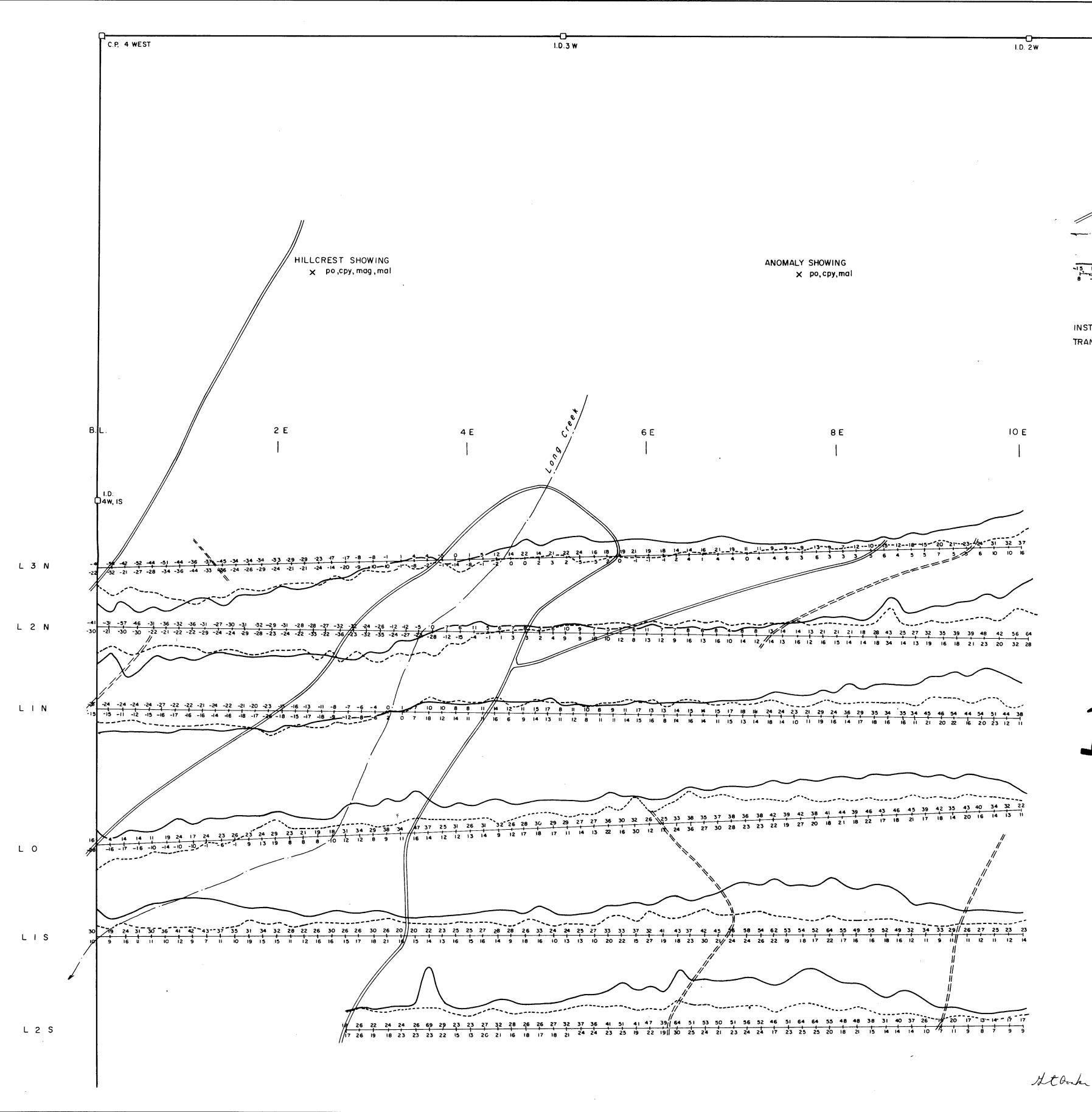
Grant F. Crooker, B.Sc., F.G.A.C.

At Confer

Geologist

# DETAILED COST STATEMENT

SALARY	1 Geologist, G. Crooker August 5-9,11,12,14,15,16 & 17, 1986 11 days @ \$350.00 per day  1 Geological Assistant, L. Mollison August 5-8, 11, & 12, 1986 6 days @ \$150.00 per day	\$3,850.00 900.00	
ACCOMM	1 Geologist, 7 days @ \$30.00 per day August 5-9, 11 & 12, 1986	210.00	
	1 Assistant, 6 days @ \$30.00 per day August 5-8, 11 & 12, 1986	180.00	
MEALS			
	1 Geologist, 7 days @ \$30.00 per day August 5-9, 11 & 12, 1986	210.00	
	1 Assistant, 6 days @ \$30.00 per day August 5-8, 11 & 12, 1986	180.00	
TRANSPORTATION			
	Vehicle Rental (Ford 3/4 Ton 4x4) 7 days @ \$50.00 per day	350.00	
	Gasoline	154.71	
INSTRUMENT RENTAL  1 EM-16, VLF unit			
	7 days @ \$25.00 per day August 5-9, 11 & 12, 1986	\$175.00	
	1 MP-2, Proton Magnetometer 7 days @ \$25.00 per day	175.00	
SUPPLIES	;	31.55	
FREIGHT		5.20	
PREPARA	ATION OF REPORT Secretarial, Draughting, Reproduct., etc.	900.00	
	TOTAL	\$7,321.46	



# LEGEND

ROAD , TR

☐ CLAIM POST

IN-PHASE (DEGREES) TANGENT OF TILT ANGLE
QUADRATURE (DEGREES)

INSTRUMENT : GEONICS EM-16

TRANSMITTER: NPN - 23.4 KHz
LUALUALEI, HAWAII

VERTICAL SCALE

GEOLOGICAL BRANCH
REPORT

15, 111

# STRATA ENERGY CORPORATION

MAXI CLAIM

VLF-EM SURVEY

IN-PHASE & QUADRATURE DATA

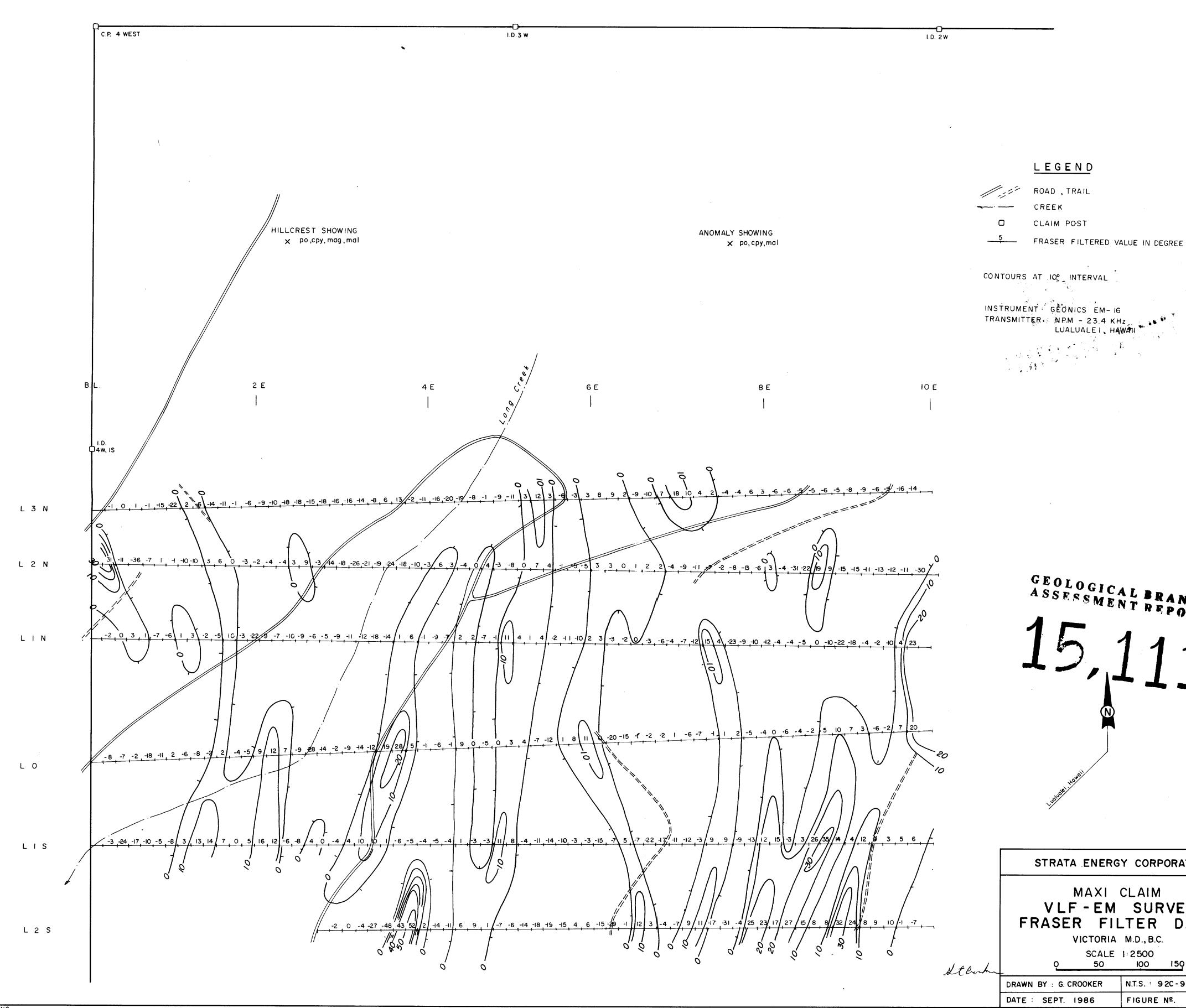
VICTORIA M.D., B.C. SCALE 1:2500

50 100 150 metres

DRAWN BY : G. CROOKER N.T.S. : 92C-9E

DATE : SEPT. 1986 FIGURE Nº. 2

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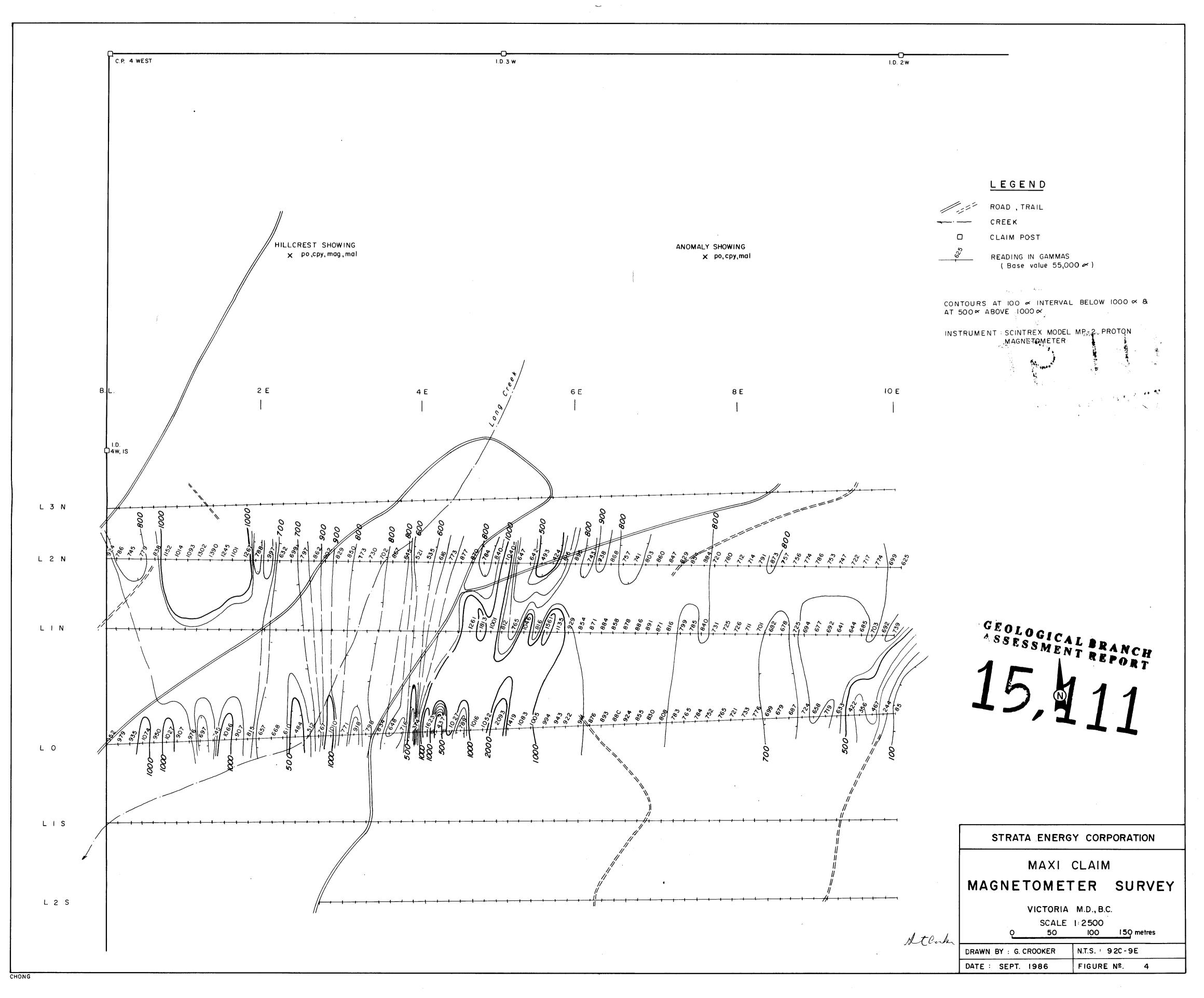
STRATA ENERGY CORPORATION

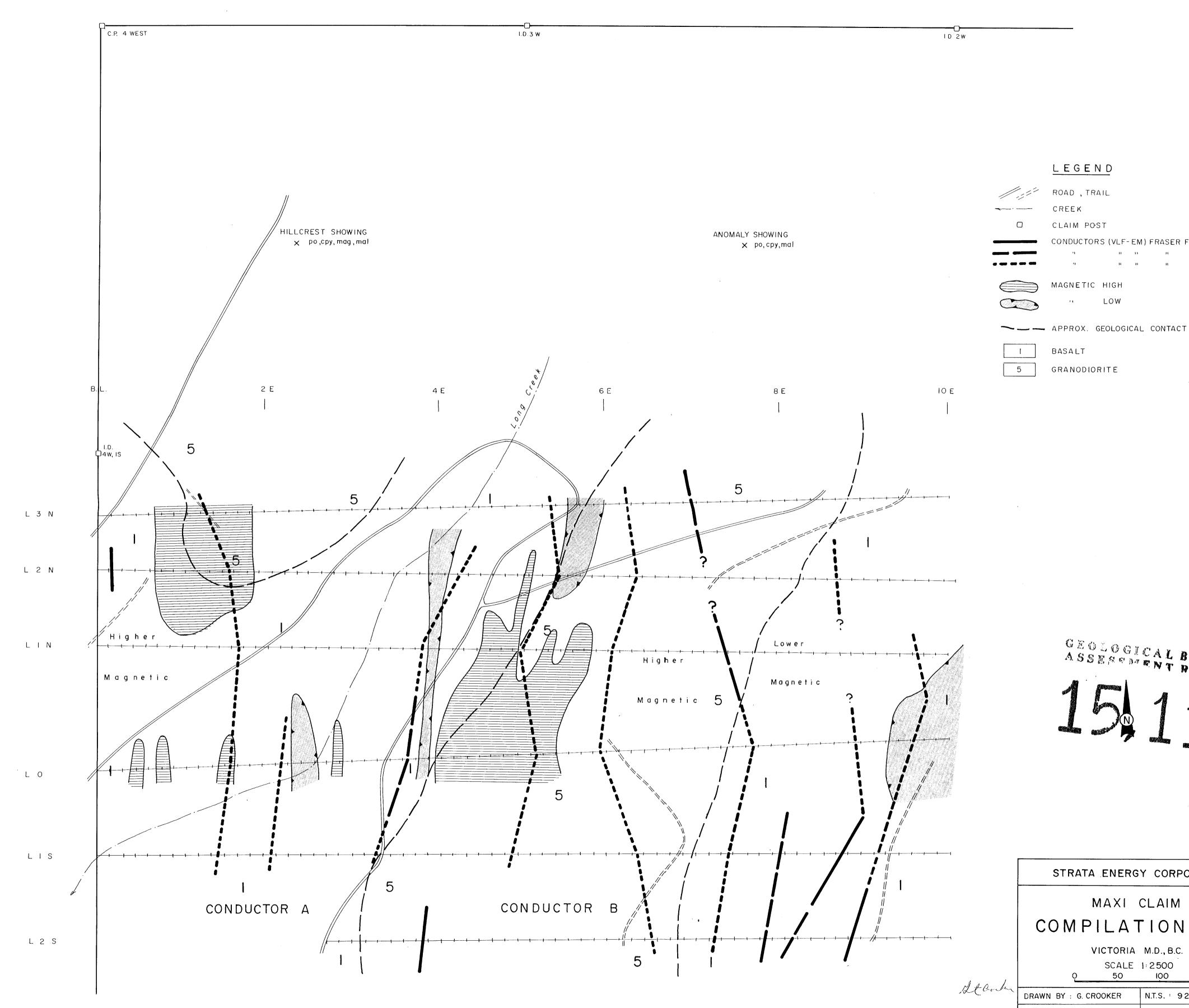
MAXI CLAIM VLF-EM SURVEY FRASER FILTER DATA

SCALE 1:2500

150 metres 100

N.T.S. : 92C-9E FIGURE Nº. 3





# LEGEND

ROAD , TRAIL CREEK

CLAIM POST

GRANODIORITE

BASALT

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MAXI CLAIM

# COMPILATION MAP

VICTORIA M.D., B.C.

SCALE 1:2500 150 metres 100

DRAWN BY : G. CROOKER N.T.S. : 92C-9E DATE: SEPT. 1986 FIGURE Nº. 5