

ASSESSMENT

GEOPHYSICAL & GEOLOGICAL REPORT

ON THE

JEWEL CREEK MINERAL CLAIM  
GREENWOOD, BRITISH COLUMBIA  
GREENWOOD MINING DIVISION

118 38'W : 49 08'N

82E 2E

FOR

ROANOKE EXPLORATIONS LTD

(owner)

GEAREX ENGINEERING

(operator)

Gerhard von Rosen, M.Sc., P.Eng.

(May 16, 1980)

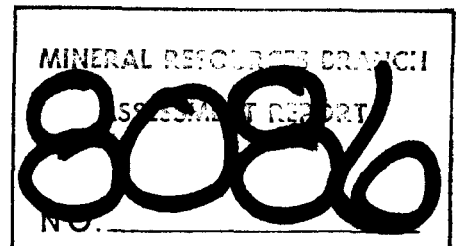


TABLE OF CONTENTS

Title Page	-----1
Table of Contents	-----2
Summary	-----3
Introduction	-----4
Location	-----4
Instrumentation	-----4
Index Map <b>FIG A</b>	-----5
Claim Topography <b>PLATE B</b>	-----6
Geology	-----7
Survey Method	-----8
EM16 Survey	-----9
Survey Data <b>FIG C</b>	-----10
In-Phase & Quad Curves <b>PLATE D</b>	-----11
Interpretation	-----12
Interpreted EM anomalies <b>FIG E</b>	-----13
EM anomalies and Geology <b>FIG F</b>	-----14
Conclusions and Recommendations	-----15
References	-----16
Statement of Qualifications	-----17
Itemized Cost Statement	-----18

INDEX OF ILLUSTRATIONS

<u>FIGURE A</u>		INDEX MAP-----5
<u>PLATE B</u>	[ 1:5,000 ]	TOPOGRAPHY OF CLAIM-----6
<u>FIGURE C</u>	[ 1:2,500 ]	INPHASE & QUAD EM16 VALUES-----10
<u>PLATE D</u>	[ 1:2,500 ]	SECTION OF EM 16 PROFILES-----11
<u>FIGURE E</u>	[ 1;2,500 ]	INTERPRETED CONDUCTORS-----13
<u>FIGURE F</u>	[ 1:2,500 ]	GEOLOGY, ANOMALIES, DRILL SITES---14

### SUMMARY

The Jewel Creek mineral claim, comprising eight units [2E4S], near its southern extremity, covers the contact of granitic intrusives and metamorphic rocks. Skarn metamorphic variations occur within limy beds with strong garnet formation, and some sulfide mineralization, notably copper.

Historic workings of the skarn consist of one short adit, a caved-adit open cut, and trenches, testing what appears to be pyrrhotite, chalcopyrite, and pyrite mineralization.

This extent of this contact zone, and the possible parallel coexistence of the skarn zone, was explored using a ground electromagnetic survey, which resulted in the detection of EM anomalies, with an approximate 100 m. depth source, paralleling the presumed strike continuation of the contact. Percussion drilling is recommended to test this anomaly.

### INTRODUCTION

During the period April 25 through May 2, 1980 an electromagnetic survey was conducted over a portion of the Jewel Creek mineral claim by the writer.

### LOCATION

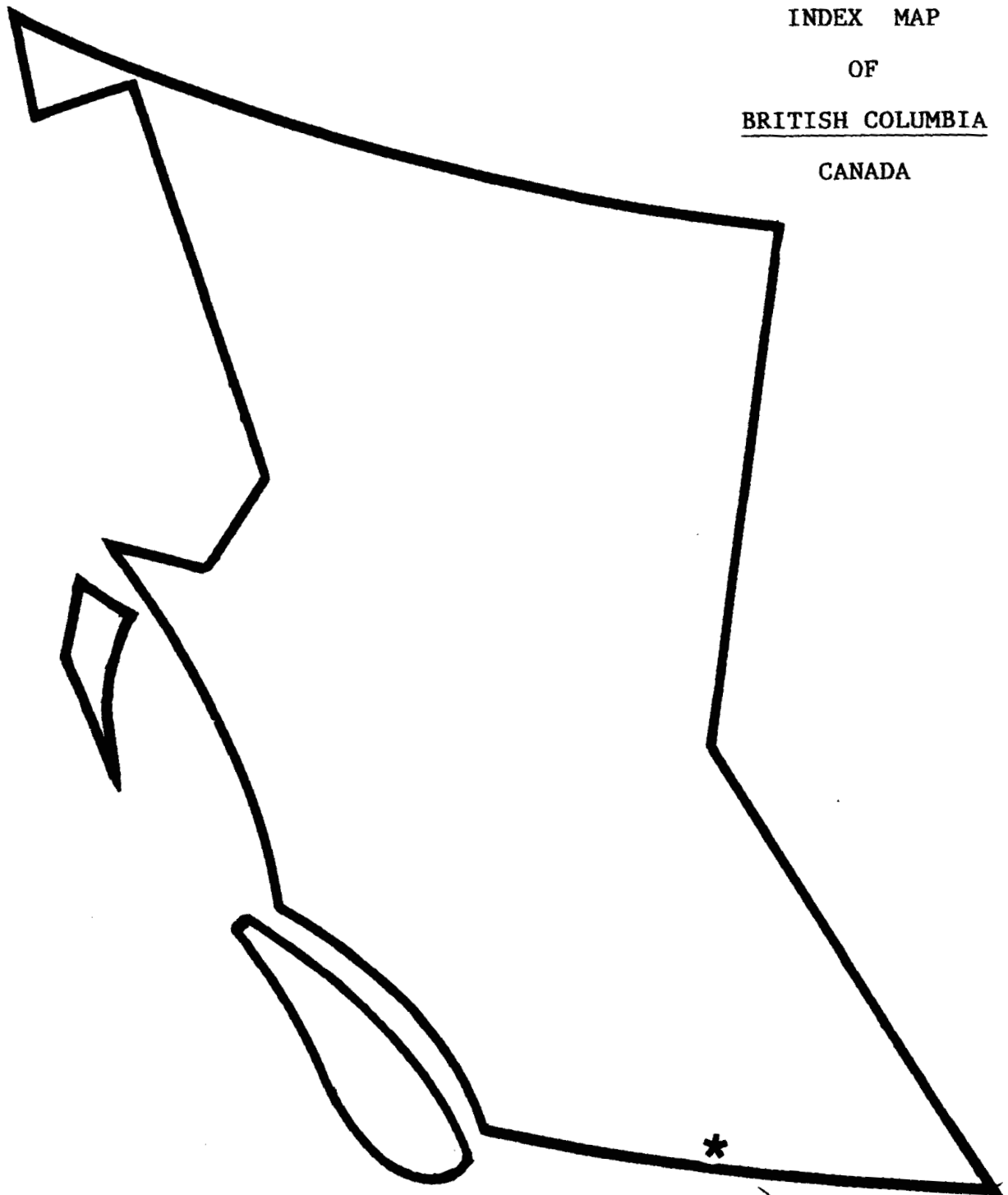
The property lies in the Greenwood camp, near Phoenix copper, about 5 kilometers by highway #3 east of Greenwood, B.C., in the Greenwood Mining Division, at 49 08'N and 118 38'W.

### INSTRUMENTATION

A GEONICS EM16 instrument was employed tuning into Jim Creek, Washington (Seattle) station NPG at 18.6 kHz.

FIGURE "A"

INDEX MAP  
OF  
BRITISH COLUMBIA  
CANADA



JEWEL CREEK PROPERTY

GREENWOOD, B.C., GREENWOOD M.D.

## GEOLOGY

The purpose of the survey was to locate conductivity anomalies which may indicate the strike and dip extensions of existing contact metamorphic skarn development evident at the South Zone. The zone straddles the contact between granodiorite to the north intruding Anarchist formation metamorphic rocks to the south. The general dip of the beds is moderately north, an attitude which the contact vaguely follows.

The skarn, possibly originally limestone, is brown and strongly garnetiferous. It contains sulfides and displays some copper stain in the trenches. Its extent is shown on Figure 'F' (stippled). Outcrop areas are shown with dotted outlines. It is evident that the zone crops out only for a short distance, and that considerable strike extension is possible.

### SURVEY METHOD

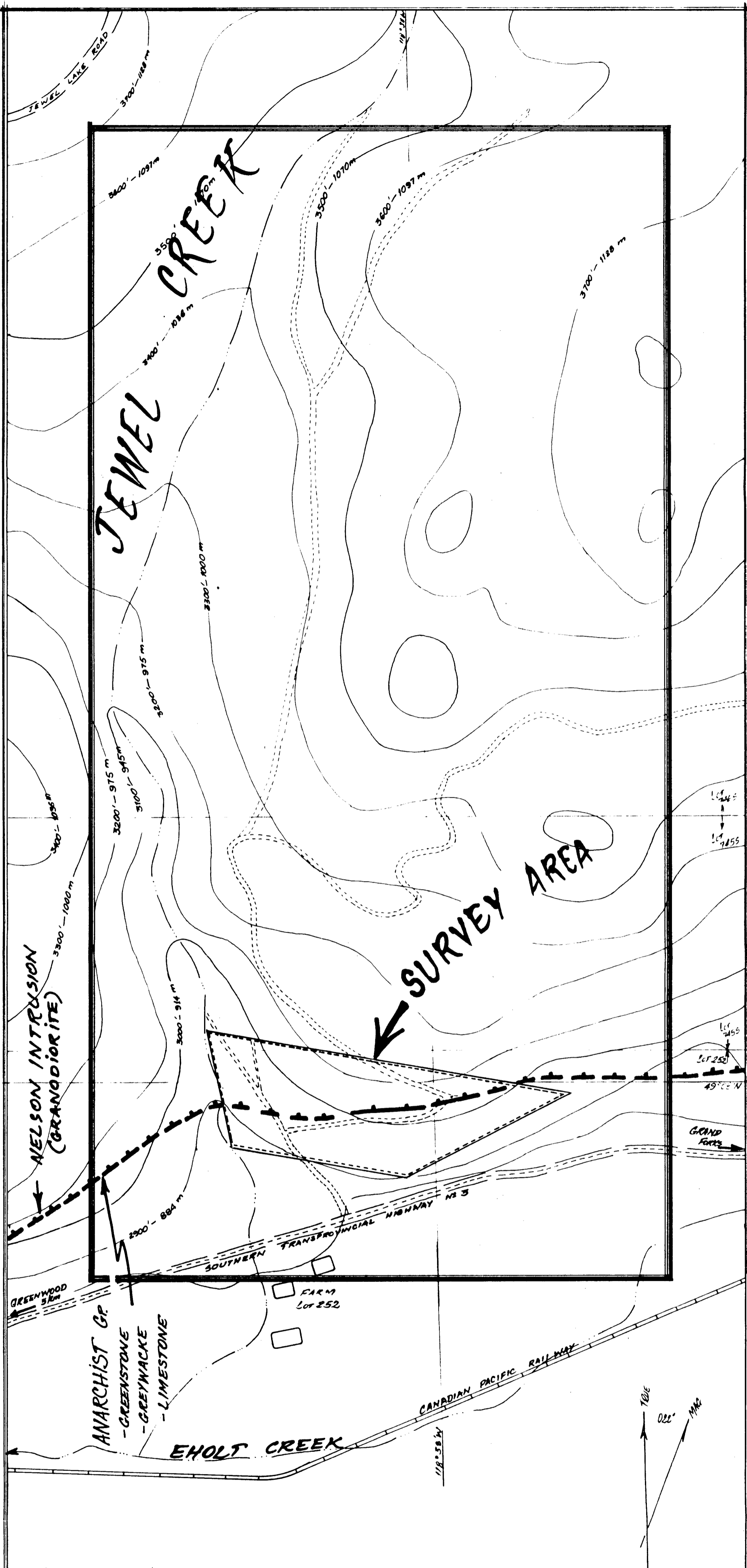
Previous assessment work consisted of a geochemical survey [Assessment Report 7297]. The southern line of this survey was called "11". Station "11" consists of an aluminum tag on a pine tree. This was chosen as the starting point of the present survey. The line appeared to run at 100 Az. which was also employed by the writer, and was used for the remainder of the grid even though the geochemical line followed the topographic contours. Stations, as in the previous survey were marked on flags every 25 meters (hip-chain), as 1E, 2E, etcetera. From Station "11" a baseline was run at 010 degrees Azimuth. The slope is steep N-S, dipping gradually to east and west. No slope correction was employed. In effect a 25 meter equidimensional grid was strived for.

EM 16 SURVEY

Seattle (NPG) came in at 240 deg. Az. and the instrument was read facing 330 deg. Az. This station appeared to be off the air at times during two separate days, during which the operator attempted to work with Hawaii. This signal was so weak that nulling was difficult, especially with the noisy highway nearby, so that the lines had to be re-done, especially because the readings were difficult to correlate between different stations.

Results were plotted as Figure "C". Fraser filtering was applied (not shown) to reduce the topographic effect, but results appeared clearer using the simple graphic method as shown as Plate "D". These curves are derived by taking values on the equidimensional grid at right angles to 'Seattle'.





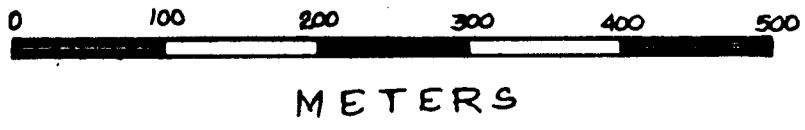
MINERAL RESOURCES BRANCH  
**8086**  
 NO.

PROFESSIONAL  
 PROVINCE OF  
**G.E.A. VON ROSEN**  
 BRITISH COLUMBIA  
 ENGINEER  
*[Signature]*  
 10/9/80

PLATE 'B'

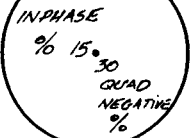
ROANOKE EXPLORATIONS LTD  
 JEWEL CREEK PROPERTY  
 Greenwood, B.C.  
 82E2E  
 TOPGRAPHY  
 of  
 JEWEL CREEK MINERAL CLAIM

GEAREX ENGINEERING  
 Mission, B.C.



**LEGEND**

(Ronka EM-16)



*Rosen*  
*June 09 80*

**FIGURE 'C'**

**ROANOKE EXPLORATIONS LTD**

**JEWEL CREEK PROPERTY**

Greenwood, B.C.

82E2E

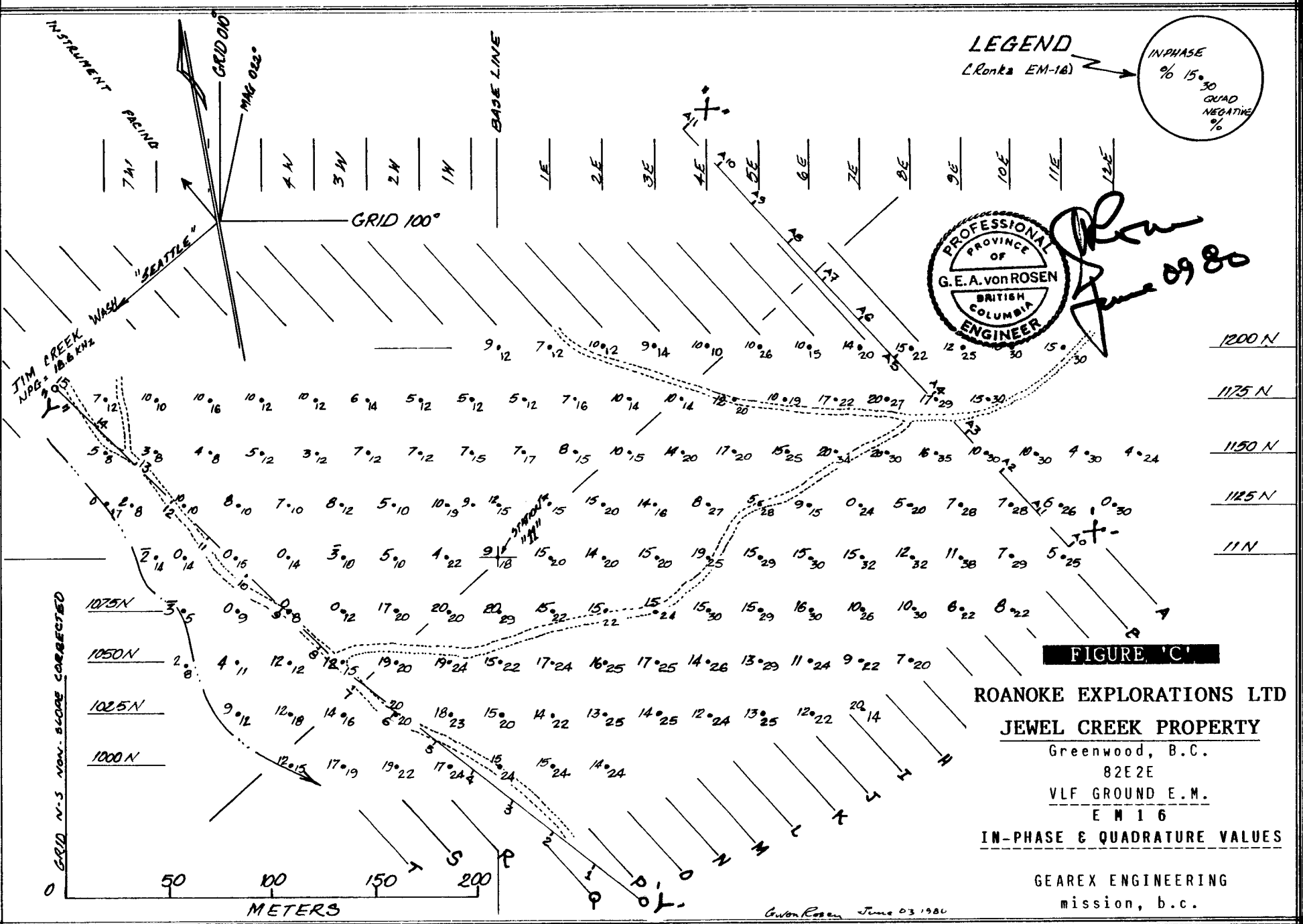
VLF GROUND E.M.

EM 16

**IN-PHASE & QUADRATURE VALUES**

GEAREX ENGINEERING

mission, b.c.

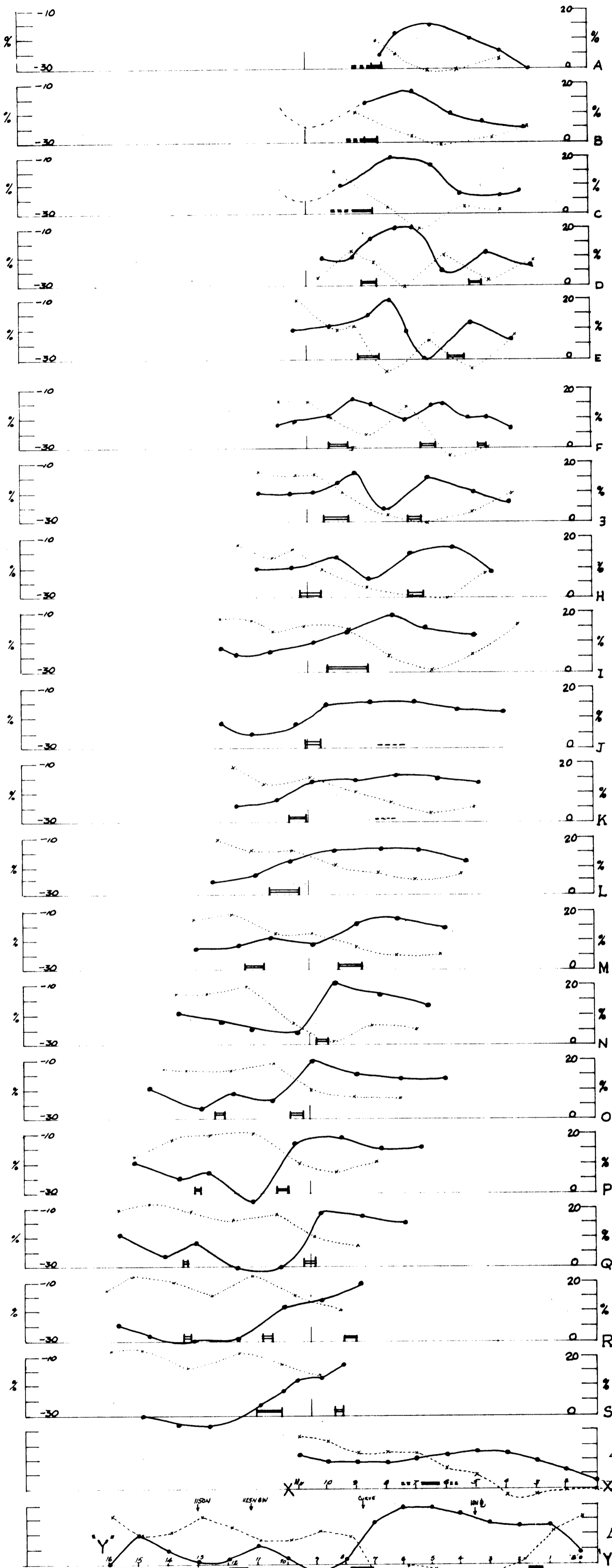


*Gwen Rosen June 03 1980*

INSTRUMENT FACING ←

QUADRATURE

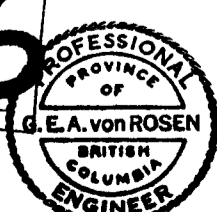
IN-PHASE



LEGEND

EM-16 DIP SLIP  
 QUADRATURE  
 IN-PHASE  
 ANOMALY

8086



*[Signature]*  
 June 09 1980

PLATE 'D'

ROANOKE EXPLORATIONS LTD  
 JEWEL CREEK PROPERTY

Greenwood, B.C.  
 82E2E

SECTION OF  
 IN-PHASE & QUADRATURE  
 EM16 CURVES

GEAREX ENGINEERING

mission, b.c.

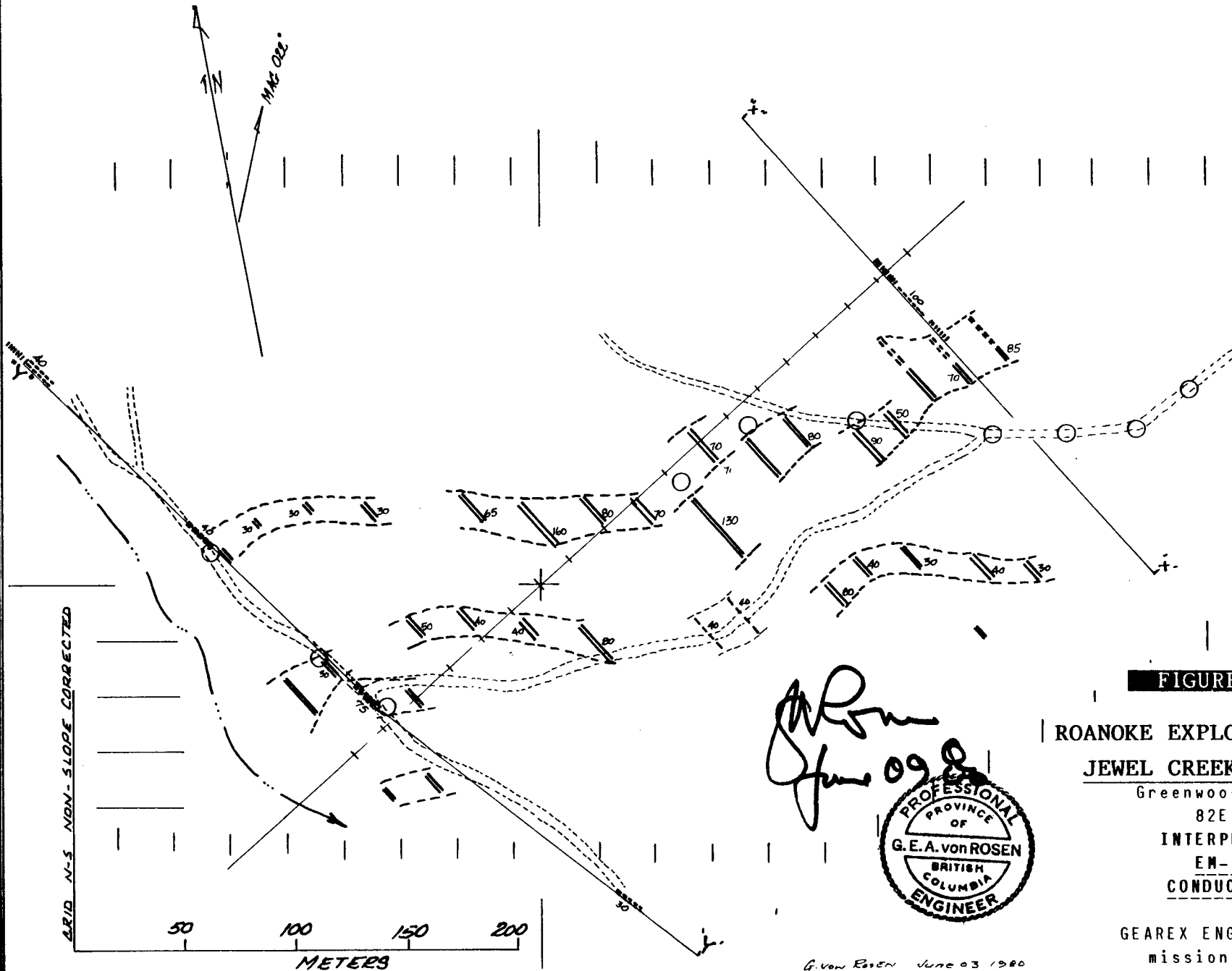


Greenwood June 10 1980

### INTERPRETATION

Inflection points on the slopes of the In-Phase curves, going from higher to lower in the direction the instrument was facing, were picked, and marked as anomalies. These are shown in section on Plate "D", and in plan on Figure "E". The Quadrature curves behave opposite to the In-Phase, indicating that the conductivity anomalies may be worth considering.

Once the linearity of the conductive anomaly was noted, careful mapping of the various outcrops was undertaken, as shown on Figure "F". The anomalies do trend parallel to the mapped contact area, and are thus possibly associated with a) either the contact, or b) the skarn zone, if it has conductive material associated with it. If the latter case is valid, then the possibility exists of conductive sulphide mineralization occurring within the skarn. This being the 'hopeful' case, it is more likely that the conductivity is related to the contact generally.



**FIGURE 'E'**

**ROANOKE EXPLORATIONS LTD**

**JEWEL CREEK PROPERTY**

Greenwood, B.C.

82E2E

INTERPRETED

EM-16

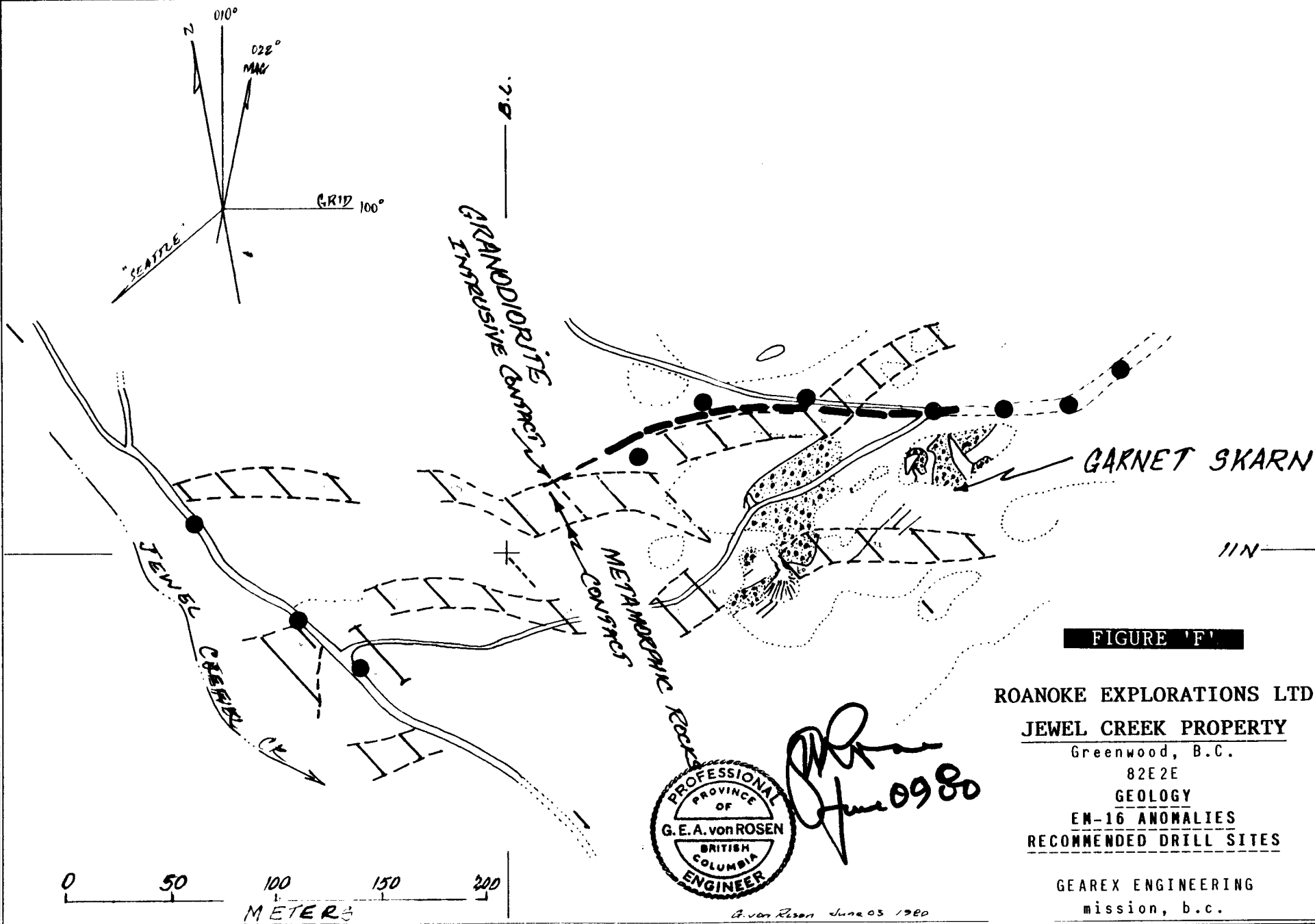
CONDUCTORS

GEAREX ENGINEERING

mission, b.c.



G. von ROSEN June 03 1980



**FIGURE 'F'**

**ROANOKE EXPLORATIONS LTD**

**JEWEL CREEK PROPERTY**

Greenwood, B.C.

82E2E

**GEOLOGY**

**EM-16 ANOMALIES**

**RECOMMENDED DRILL SITES**



**GEAREX ENGINEERING**

mission, b.c.

### CONCLUSIONS AND RECOMMENDATIONS

The VLF ground electromagnetic survey conducted over the southern portion of the Jewel Creek mineral claim, indicates conductive zones originating around 80 meters below surface along a moderately steep sidehill, paralleling the apparent contact extrapolations of the contact of granitic rocks intruding limy metamorphic rocks. (with attendant garnet skarn development)

It is recommended therefore that this anomalous contact area be tested using inexpensive subsurface sampling methods capable of penetrating beyond 100 m. Percussion drilling should work ideally in this situation.

REFERENCES

McLeod, James W.: June 8, 1979, Assessment Report #7297, Geochemical Report on the Jewel Creek Property, for ROANOKE EXPLORATIONS LTD.

Jewel Lake gold camp (Colt Resources):  
many references over the years.

Phoenix Copper camp (Granby):  
many references over the years.




QUALIFICATIONS

I, Gerhard von Rosen, reside at 33176 Richards Road, Mission, British Columbia.

I have been practicing my profession since my graduation from the University of British Columbia in 1962 with B.Sc., and in 1966 with M.Sc. degrees in Honours Geology.

I have been involved with this kind of survey many times before, and am qualified to compile and interpret this information.

*G. von Rosen*  
*June 09 80*

A circular professional seal for G. E. A. von Rosen, a Professional Engineer in the Province of British Columbia. The seal contains the text: "PROFESSIONAL PROVINCE OF G. E. A. von ROSEN BRITISH COLUMBIA ENGINEER".

ITEMIZED COST STATEMENTDURATION

April 25 : mobilization  
 April 26 : reconnaissance  
 April 27 : grid  
 April 28 : survey  
 April 29 : survey  
 April 30 : survey  
 May 1 : mapping  
 May 2 : demobilization

<u>FEES</u>	8 days @ \$300	\$2400
<u>ROOM</u>	7 days @ \$ 20	140
<u>BOARD</u>	8 days @ \$ 18	160
<u>TRUCK</u>	8 days @ \$ 20	160
<u>ODOMETER</u>	700 miles @ 20¢	140
<u>GAS &amp; OIL</u>		35
<u>INSTRUMENT</u>	EM16	250
<u>REPORT FEES</u>		900
<u>REPORT COSTS</u>		175
<b>TOTAL COST</b>		<b><u>\$4364</u></b>
<b>TOTAL LENGTH EM16 SURVEY</b>	5 kilometers	

