

ASSESSMENT REPORT

on an

EM-16 SURVEY

Conducted July 30 - August 4, 1979

on the

TOKE 1 - 36 Mineral Claims

in the

Watson Lake Mining District, Y. T.

Claim Sheet 105G/7

Latitude  $61^{\circ}23'N$

Longitude  $130^{\circ}59'W$



by

Colin V. Dyson, P.Eng.

March, 1980

090600



This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of

\$ 3,600.00

J. Amourin

Geologist or  
Registered Mining Engineer

Considered as representation work under  
Section 36 of the Quartz Mining Act.

B. R. Baxter

Supervising Mining Recorder

Commissioner of Yukon Territory



by  
Cofin V. Dyson, P. Eng.  
March, 1980

090 000

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TOKE Claims EM 1-16 Survey - Seattle transmitter )	
TOKE Claims EM 1-16 Survey - Seattle transmitter )	

## INTRODUCTION

The TOKE 1 - 36 claims were staked in 1977 to cover the drainage basin above a uranium soil geochemical anomaly which was located in 1976 during regional reconnaissance surveys by Archer, Cathro & Associates. In 1977 detailed grid soil geochemistry and a ground radiometric survey was conducted over parts of the claim group, followed by hand pitting in several areas.

In 1979, a ground EM-16 survey was conducted over part of the claim area by Mr. Pat Henry of Chevron Standard Limited on behalf of Chevron Canada Limited under the supervision of Mr. U. Schmidt, Geologist for Archer, Cathro & Associates between July 30 - August 4.

## PROPERTY, LOCATION AND ACCESS

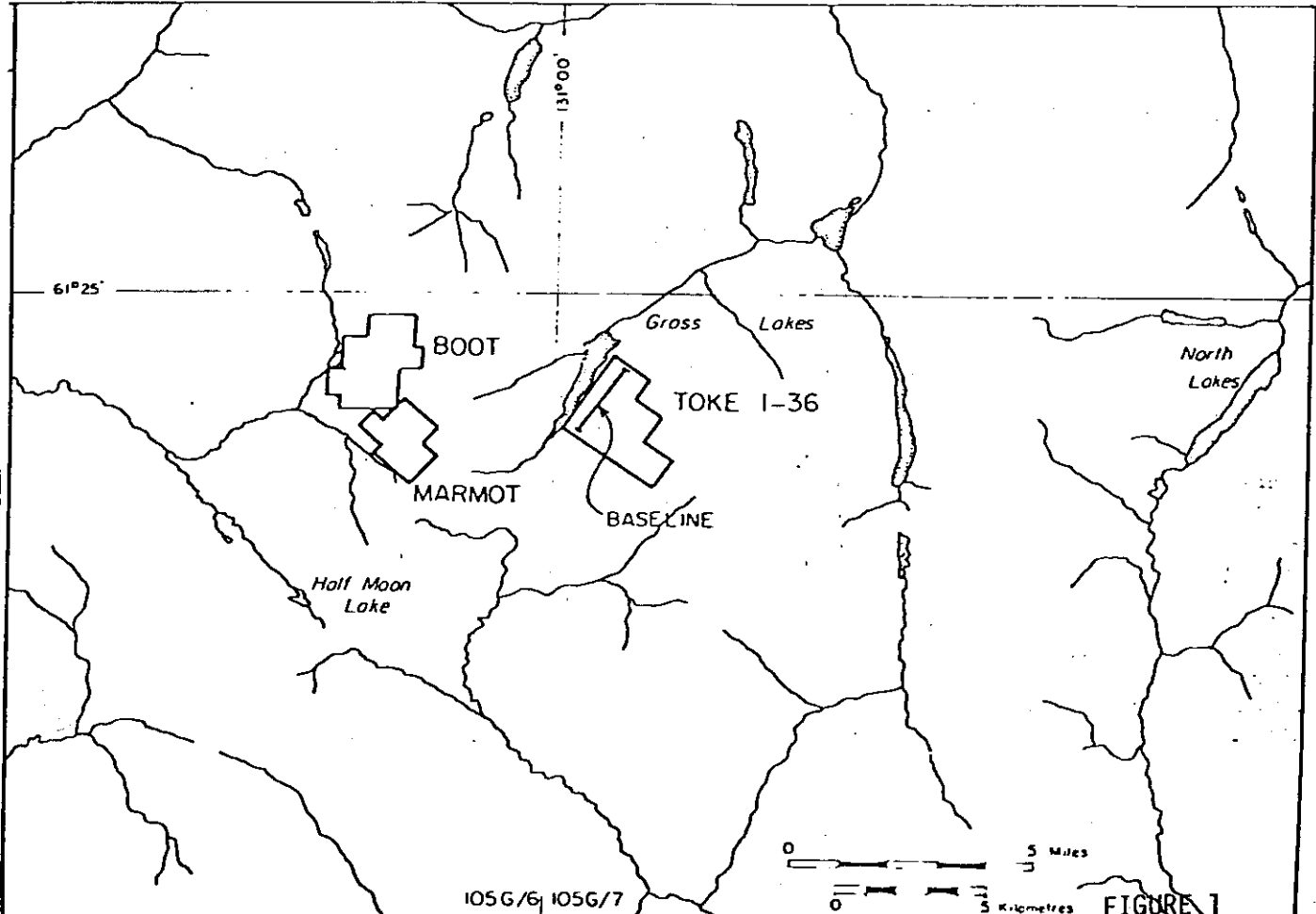
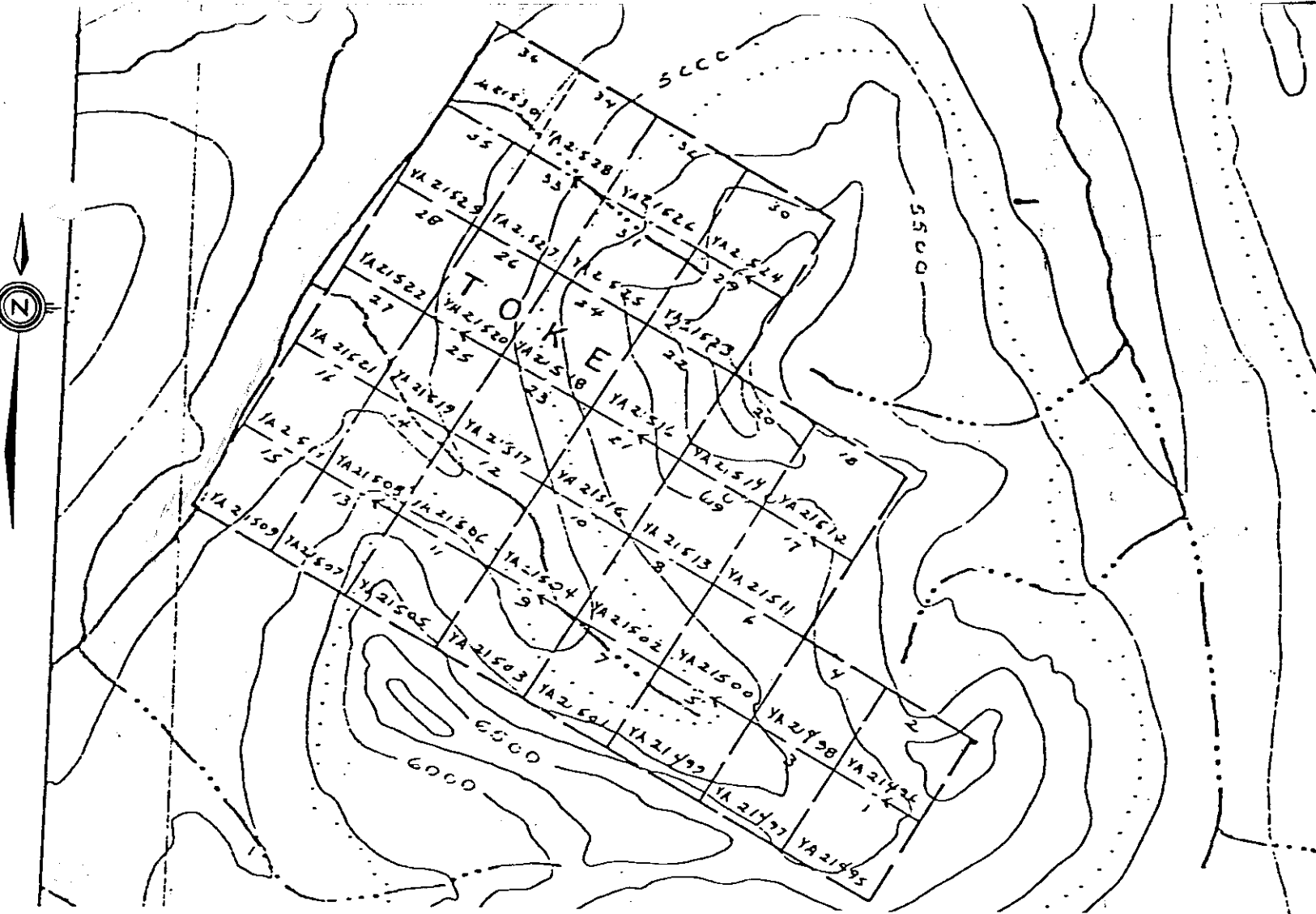
The property consists of 36 whole mineral claims recorded in the Watson Lake Mining District as follows:

<u>Claim Name</u>	<u>Grant Numbers</u>	<u>Expiry Date</u>
TOKE 1 - 36	YA21495 - YA21530	29 January 1980

The property is located at latitude  $61^{\circ}23'N$  and longitude  $130^{\circ}59'W$  on NTS claim sheet 105G/7 adjacent to Grass Lake, approximately 70 miles southeast of Ross River (Fig. 1). Access was via helicopter from Whitehorse, returning via Charter float-plane from Lampman Lake to Whitehorse.

## GEOLOGY

Regionally the Grass Lakes area is underlain by a variety of metamorphic rocks intruded by a quartz monzonite stock of Cretaceous age. The northwest trending



1" = 1/2 MILE  
 CDP

105G/6 105G/7

FIGURE 1

Tintina Fault lies approximately 6 miles south of Grass Lakes and is the dominant structural feature in the area. Locally the TOKE claims are underlain by porphyritic quartz monzonite which is cut by aplite dykes. Exposures are limited on the claim group which is covered in part by glacial till and swamps.

#### ELECTROMAGNETIC SURVEY METHODS & TECHNIQUES

The EM-16 survey was completed with a Ronka unit. The measurement range for the in-phase is  $\pm 150\%$  and for the out-of-phase  $\pm 40\%$  with an accuracy of 1%. The EM-16 is a sensitive audio-receiver that uses the signal transmitted by several American military stations in the 15-25 kHz range. For this survey the station "NPG" in Seattle, Washington at 18.6 kHz and the station Lualualei, Hawaii at 23.4 kHz were utilized. These stations are approximately  $S20^{\circ}E$  and  $S20^{\circ}W$  from the TOKE claims respectively. The primary magnetic field generated by the station is considered uniform over the surveyed area. When the primary magnetic fields meet conductive bodies in the ground, there will be secondary magnetic fields emitted. The Ronka EM-16 effectively measures the vertical components of these secondary fields. To take a reading the horizontal coil in the instrument is oriented along the magnetic field lines and the vertical coil is tilted to minimize the sound signal and the tilt angle recorded in percentage or degrees. This angle is a measure of the vertical real component (in-phase) of the induced secondary field. A second angle measurement of the minimum signal from the horizontal coil is then taken; this measurement is the quadrature or out-of-phase component. EM-16 in-phase and out-of-phase readings were taken every 25 feet along the cross lines. A total of 2.42 line miles of grid were covered with readings taken at 445 stations.


## RESULTS

The EM-16 survey results are illustrated on Figures 2. Several weak conductors are indicated; they can be caused by structural features such as faults and by conductive overburden. The unfavourable direction of the Seattle transmitter station with respect to direction of survey lines diminishes the quantitative validity of that survey.

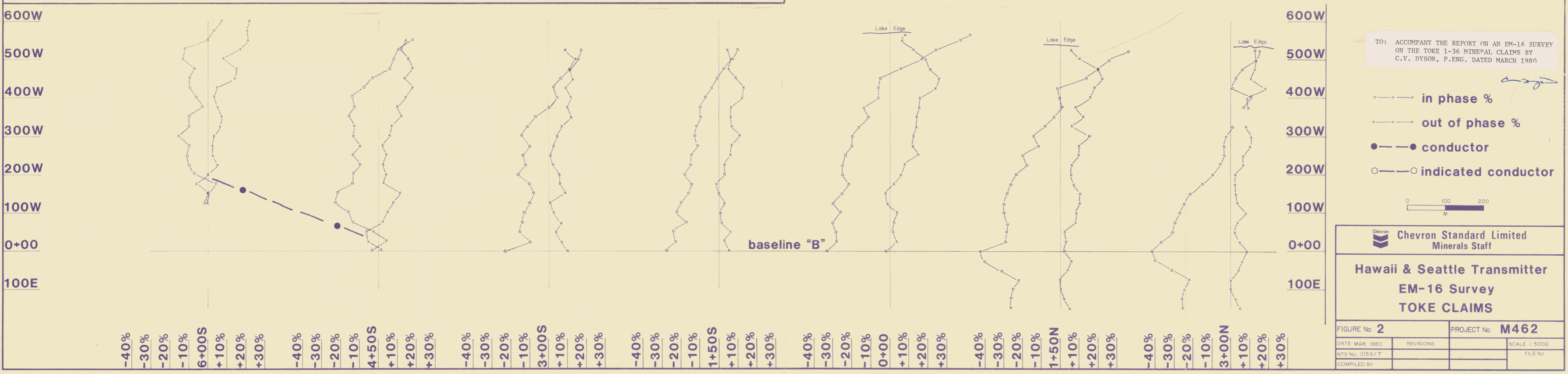
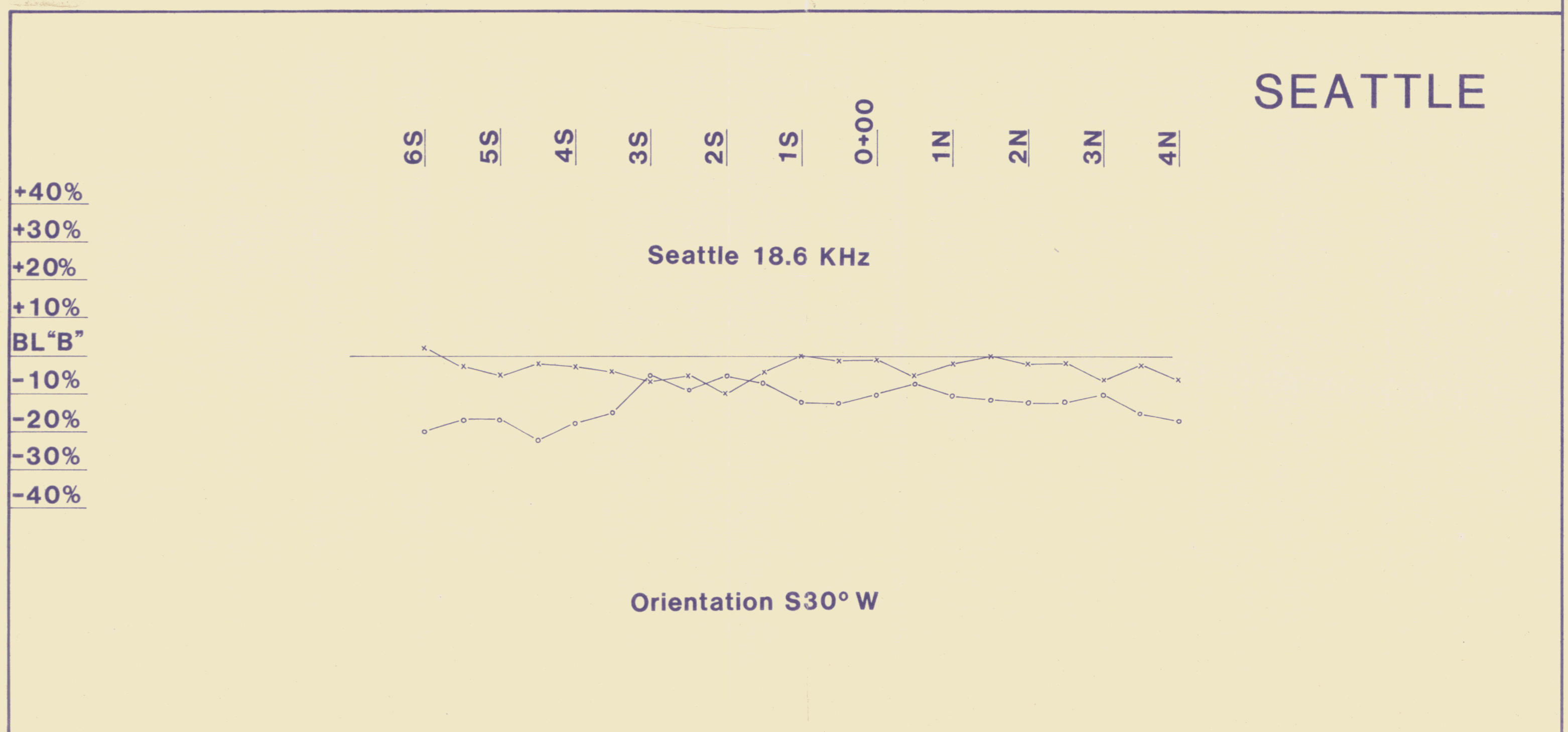
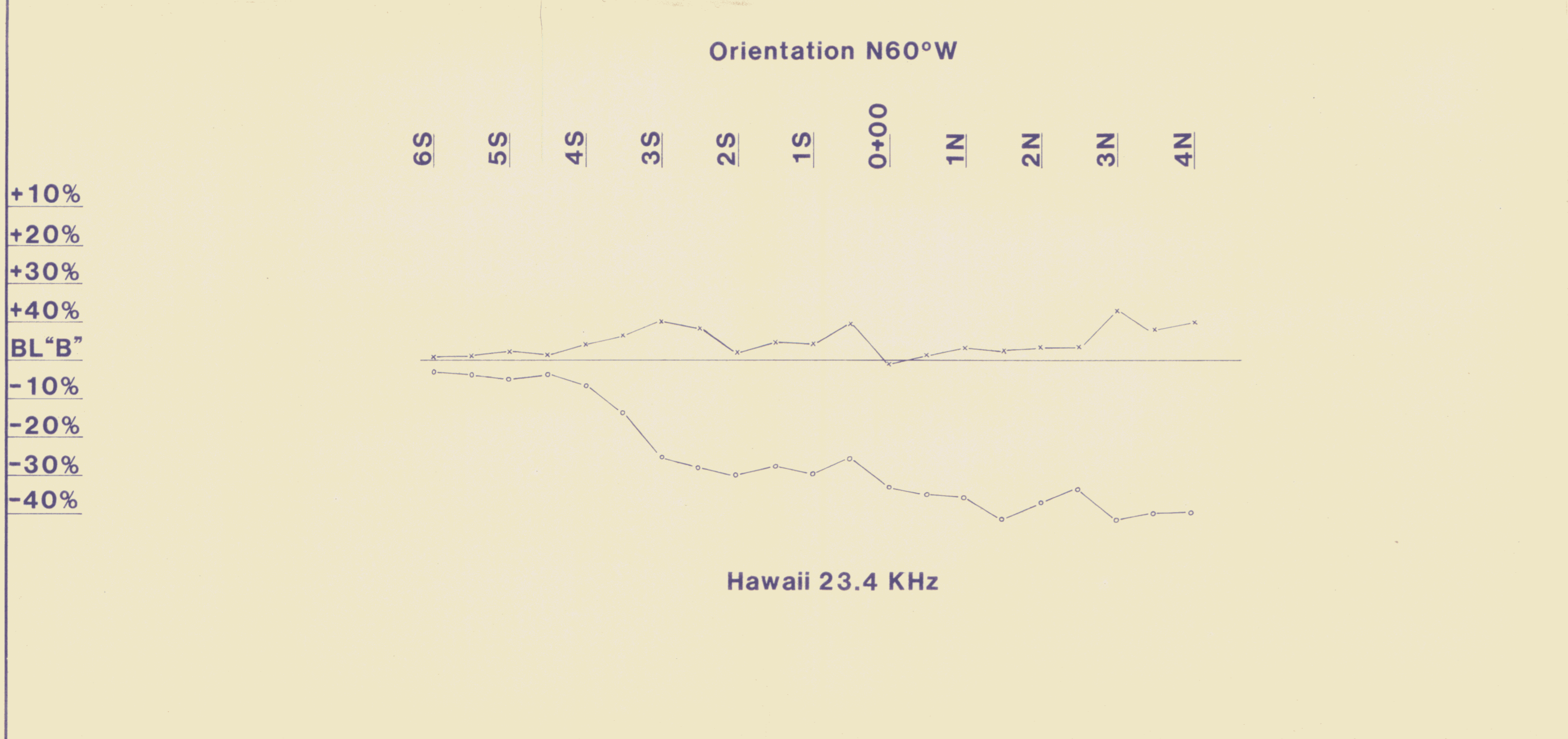
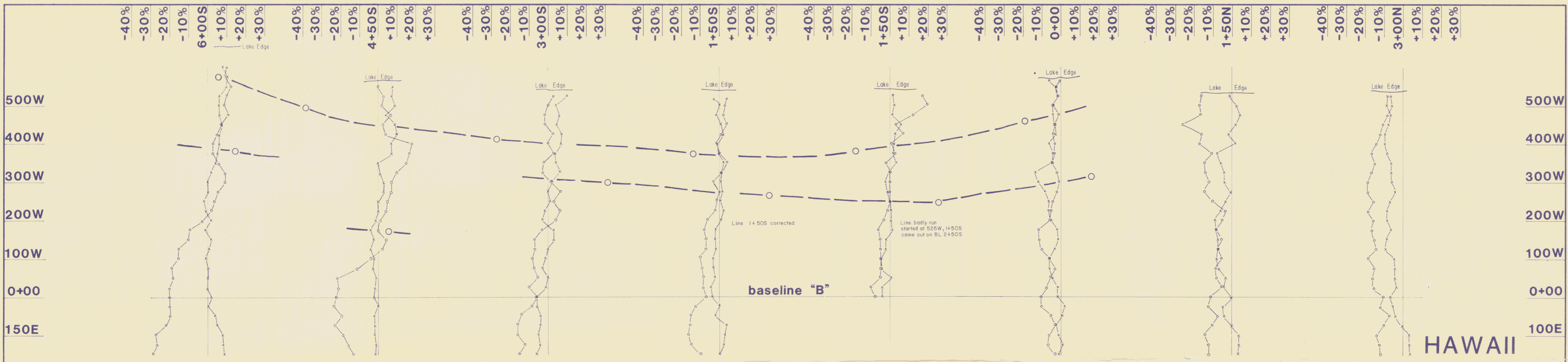
## CONCLUSION

The EM-16 survey located several weak conductors on the TOKE claim which probably reflect fault structures or conductive clay horizons in the overburden.

Respectfully submitted,

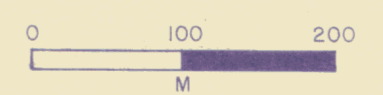


C. V. Dyson, P.Eng.



TO: ACCOMPANY THE REPORT ON AN EM-16 SURVEY ON THE TOKE 1-36 MINERAL CLAIMS BY C.V. DYSON, P.ENG. DATED MARCH 1980

- in phase %
- ×—× out of phase %
- conductor
- indicated conductor



**Chevron Standard Limited Minerals Staff**

**Hawaii & Seattle Transmitter EM-16 Survey TOKE CLAIMS**

FIGURE No <b>2</b>	PROJECT No <b>M462</b>
DATE MAR 1980	REVISIONS
NTS No 1056/7	SCALE 1:5000
COMPILED BY	FILE No

HAWAII

SEATTLE

EOL 1238A-C-C