4980

92I/6E

Geophysical Report on the
KEN 21-22 and NEW KEN 23-26 Fr. Mineral Claims,
Highland Valley 50 26'; 121 02'W:(NTS 92'/SW)
Kamloops Mining Division.
Highmont Mining Corp. Ltd. and
Kennco Explorations (Western) Ltd.
16th April,1974- 7th May, 1974

By

A. J. Reed, P. Eng.

May 31st, 1974 Ashcroft, B.C.

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ILLUSTRATIONS

All on one map #1

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INTRODUCTION

This report describes approximately 8 miles of VLF electromagnetic survey and 4¼ miles of magnetometer survey performed by Highmont Mining Corp. Ltd. on the KEN 21-22 M.C.'s and the NEW KEN 23-26 Fr. M.C.'S which are owned by Kennco Explorations (Western) Ltd. and under option to Highmont Mining Corp. Ltd. These claims are situated in the Highland Valley between the Highmont and Lornex mine properties.

Access to the KEN claims is by 7 miles of bush road from the Lornex turn-off on the Highland Valley road. This survey was performed from 16th April - 7th May 1974, under winter conditions with a snowpack of 3 feet on the ground. Four - wheel drive vehicles were used from Ashcroft to the Lornex turn-off and snowmobiles were used from the Lornex turn-off through the Highmont property to the survey area.

The Lornex and the Highmont mineralised zones occur along the North side of a dyke of quartz-feldspar porphyry which extends from the top of Gnawed Mountain westnorthwestward until it meets the Award Creek Fault on the Lornex property.

On the Highmont property, narrow zones of above-average grade copper and molybdenum mineralisation occur in association with northnorthwest trending shear zones in the area south of the Gnawed Mountain porphyry dyke. The northnorthwesterly strike of these zones is toward the KEN claims. Recent drilling at Lornex has shown their mineralisation to extend further to the south than was previously recognised, that is closer towards the KEN 21 and 22 mineral claims. The aim of the present geophysical survey was to find the trace of the Gnawed Mountain porphyry dyke across the KEN claims and to seek northnorthwesterly - trending structures in the area to the south of the dyke.

VLF - EM SURVEY

Grid lines were cut and picketed across the KEN claims several years ago. The present survey used these grid lines, but because most of the pickets were buried under snow, a Topofil measurer was used to establish distances from the legal survey post at the southwest corner of the New KEN 26 Fractional Mineral Claim which was used as the origin of the present survey. Under these conditions the Topofil measures with an error of less than 50 feet in a mile.

The electromagnetic survey was performed by using a Ronka EM 16 Electromagnetic Detector (Serial #78) made by Geonics Ltd. of Toronto, facing east to monitor the VLF radio signals transmitted from Cutler, Maine. Figure 2 shows the numerical dip angle data recorded on a plan of the grid lines, together with filtered values obtained by the method described by Fraser (1969, 1971). Contours are drawn on the filtered results at values of +10%, +20%, +30% and +40% .

The Award Creek Fault crosses the survey area at 0N,2E and 3N,0E causing the strongest anomaly obtained during the present VLF-EM survey (+48% filtered value). East of the Award Creek Fault weak anomalies occur from 0N,6E to 3N,7E and at 0N,10E. A weak northnorthwest-trending anomaly extends from 18N,9E to 42N,4E with a branch to 34N,1E. A weak anomaly extends from 38N,23E to 42N,23E and a slightly wider weak anomaly extends northnortheasterly from 50N,20E to 61N,25E.

MAGNETOMETER SURVEY

The magnetometer survey was performed by using a MF-1 magnetometer (Serial # 811377) made by Scintrex Ltd. of Downsview , Ontario to read relative values of the vertical component of the earth's magnetic field. The observations were corrected for diurnal variation by reading back to a base - station at 30 N, 10 E every hour. Figure 3 shows the magnetic observations on a plan of the grid-lines at a scale of 1 inch represents 300 feet.

The magnetic observations show an unusually small range varying between a maximum reading of 448 x 10^2 grammas in the northeast corner of the survey area to a minimum reading of 421 x 10^2 gammas in the southeast corner. The aeromagnetic map of this area (B.C. Dept. of Mines and Petroleum Resources Map 5211 G) shows a steep magnetic gradient along a zone including the Lornex and Highmont ore-bodies with an area of low magnetic intensity and low magnetic relief lying to the southwest of the steep magnetic gradient. It would appear that our magnetic survey was conducted entirely within this area of low magnetic intensity and relief.

CONCLUSIONS

The VLF - EM survey and the magnetometer survey have failed to give any clear indication of the presence of either the Gnawed Mountain porphyry dyke or strong northnorthwest - trending, potentially - mineralised structures on the KEN group of mineral claims.

A. J. Reed, P. Eng.

May 31st, 1974

REFERENCES

1. B.C. DEPT. OF MINES AND PETROLEUM RESOURCES (1968)
Map 5211 G - Aeromagnetic Series -
Spences Bridge, 1968.

2. FRASER, D.C. (1969)
"Contouring of VLF-EM Data", Geophysics XXX1V,6,
pp. 958-967, December, 1969.

3. FRASER, D.C. (1971)
"VLF-EM Data Processing " , CIM Bulletin ,
January , 1971 pp 39-41.

STATEMENT OF PERSONNEL AND COSTS

A.J. Reed Box 158 Ashcroft, B.C.	Geologist	April 16 - May 7, 1974	$1,100
M.J. Porter Box 44 Savona, B.C.	Superintendent	April 16-May7,1974	650
2 4x4 Pickup Trucks	- April 16-May7,1974		580
2 Skidoos	- April 16-May7, 1974		580
MAGNETOMETER & ELECRO-MAGNETIC DETECTOR RENTAL			150
	TOTAL		$ 3,060

CERTIFICATE

I, Alan James Reed of Ashcroft, British Columbia, do hereby certify that :

1. I am a geologist employed by Highmont Mining Corporation Ltd. of 700-1177 West Hastings Street, Vancouver, B.C.

2. I am a Professional Engineer registered in the Province of British Columbia and the Province of Ontario.

3. I am a graduate of the University of Leeds with a B.Sc. (Hons.1963) in Geology.

4. I have practised my profession since 1963 while employed with the Geological Survey of Jamaica, Siscoe Metals of Ontario Ltd., and Highmont Mining Corporation Ltd.

5. This report deals with work performed on the KEN group of mineral claims under my supervision during the period April 16th to May 7th, 1974.

Alan J. Reed, P. Eng.

May 31st, 1974
Ashcroft, B.C.

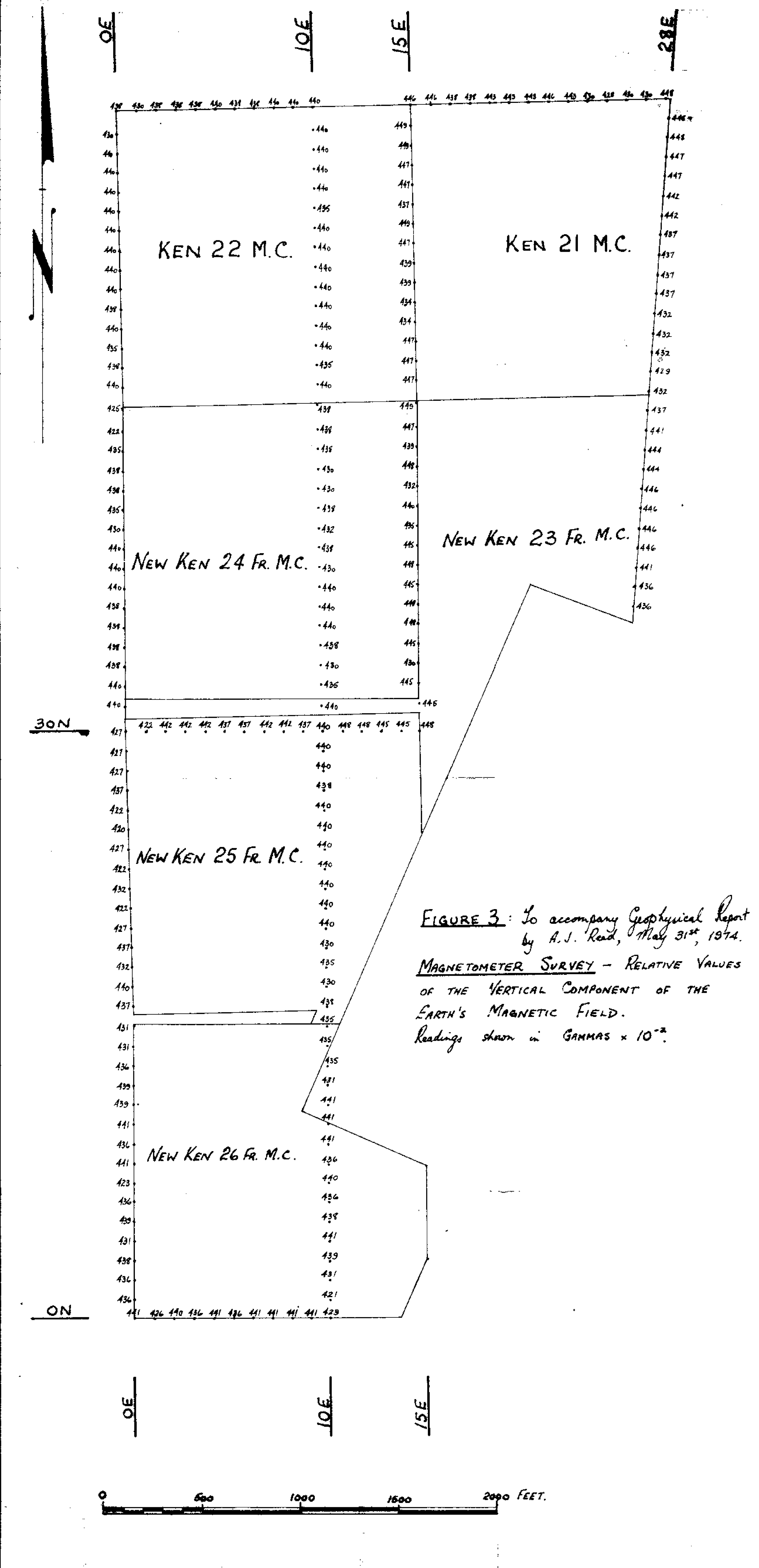


FIGURE 3: To accompany Geophysical Report by A. J. Reed, May 31st, 1974.
MAGNETOMETER SURVEY – Relative Values of the Vertical Component of the Earth's Magnetic Field.
Readings shown in Gammas × 10^{-2}.

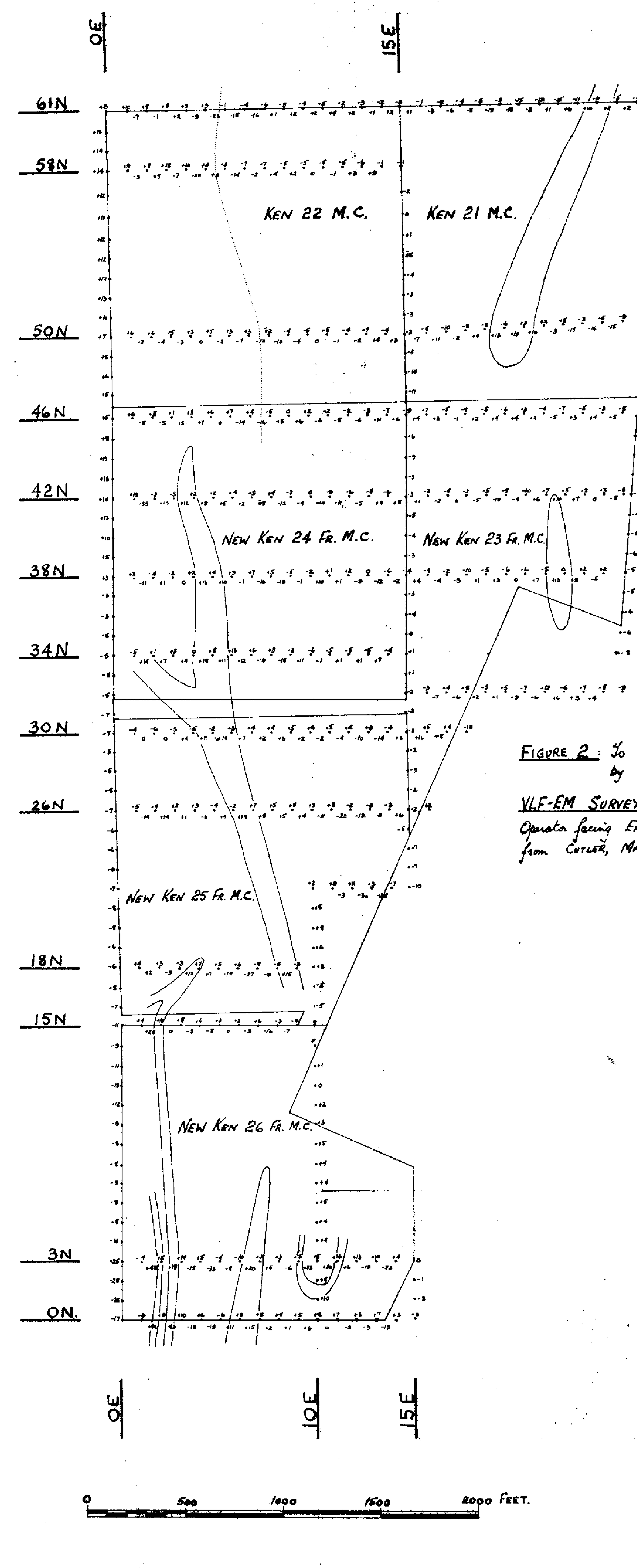
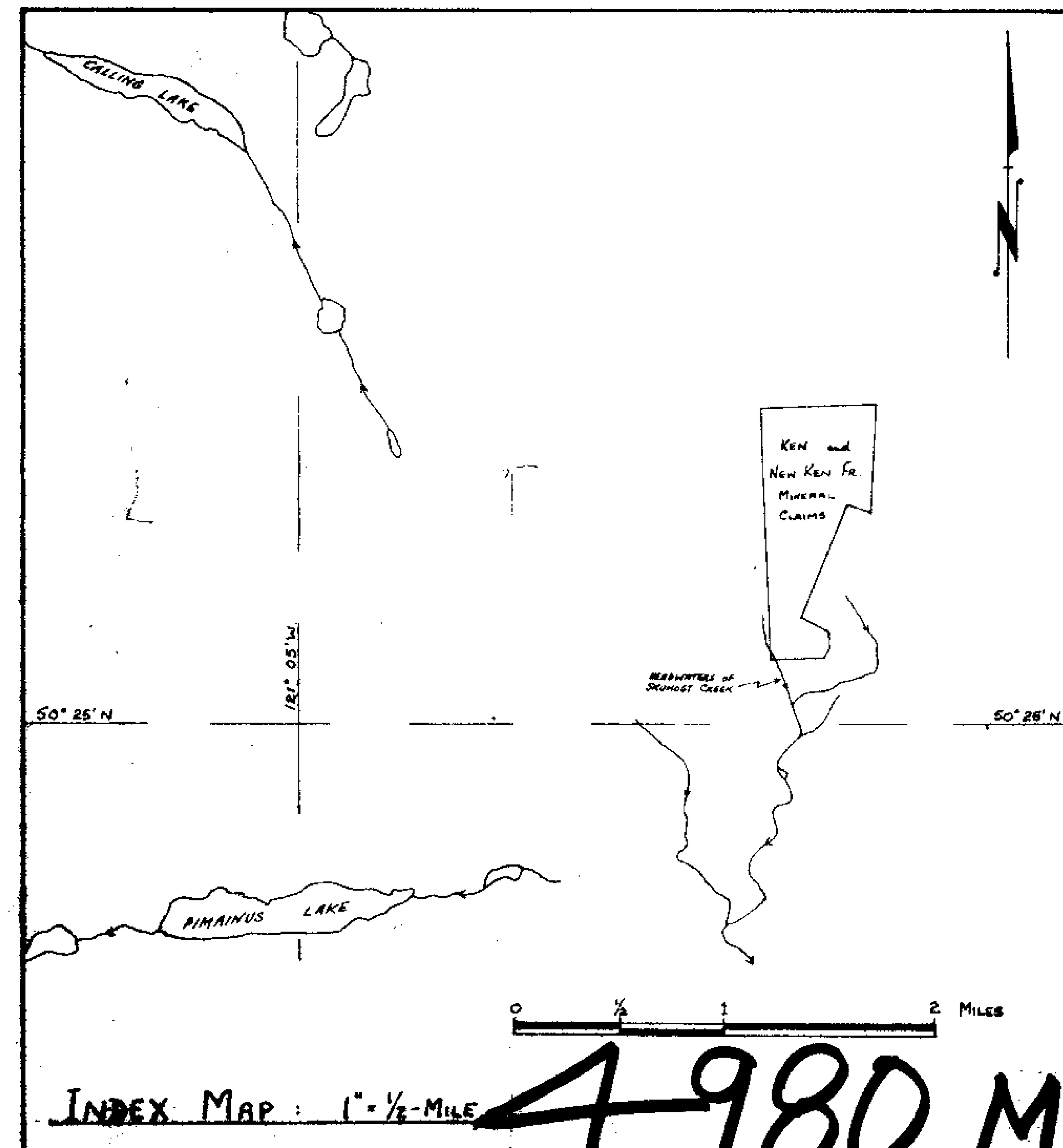


FIGURE 2: To accompany Geophysical Report by A. J. Reed, May 31st, 1974.
VLF-EM SURVEY – Ronka EM-16, Operator facing East, monitoring signal from Cutler, Maine



INDEX MAP: 1" = ½-MILE

Alan J. Reed
31 May, 1974.

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4980 MAP #1

PURCHASE ORDER		
	NUMBER	DESCRIPTION

ASSOCIATED DRAWINGS

	DATE	ISSUE	DR.	CH.	APP

CERTIFIED FOR CONSTRUCTION

TECK PROJ. ENG. HAS PROJ. ENG.

TECK CORPORATION LTD.
HIGHMONT PROJECT

H.A. SIMONS (INTERNATIONAL) (1967) LTD.
CONSULTING ENGINEERS
PROJECT 1961
VANCOUVER CANADA

AREA: KEN & NEW KEN FR. MINERAL CLAIMS.

SUBJECT: VLF-EM & MAGNETOMETER SURVEYS.

SCALE: 1" = 300'

Drawing No.: A. J. REED, 31 MAY, 1974.

H.A.S. DRAWING No.: E1961-

4980 M1