



320125E0072 63.2995 FRECHEVILLE

010

**GEOPHYSICAL SURVEYS**  
**MAPPING AND PROSPECTING**  
**Property of 22 Claims**  
**FRECHEVILLE TOWNSHIP, ONTARIO**  
**Larder Lake Mining Division, Ontario**

**Timmins, Ontario,**  
**June 22, 1972.**

**R. J. Bradshaw, P. Eng.,**  
**Consulting Geologist.**

## INTRODUCTION

A group of claims was staked in Frecheville Township, Ontario, as a result of chalcopryite mineralization discovered in rhyolitic rocks during a prospecting programme in the summer of 1971. This work was undertaken by the writer, W. Gilman, geologist, and C. Campeall.

Geophysical surveys, mapping, prospecting, trenching, and drilling with a portable unit were planned for further investigation of the claim group. This report is concerned with the electromagnetic and magnetic surveys, geological mapping and prospecting. The field data was acquired along flagged pace and compass lines.

The object of the programme was to locate unexposed sulphide bodies utilizing the geophysical instrumentation or exposed mineralization, of economic significance, by prospecting.

## PROPERTY, LOCATION AND ACCESS

A contiguous block of 22 unpatented mining claims, designated L327879 to L327900, forms the property.

A mile east of Trollop Lake in Frecheville Township, the property is situated 75 miles east of Timmins, Ontario.

Float or ski-equipped aircraft to Trollop Lake provides the most convenient means of access to the property. Alternatively a snow machine may be utilized to reach the claim group from Highway 101, four miles to the south.

## PREVIOUS WORK

Apart from the prospecting undertaken by the writer, W. Gilman and assistant in the summer of 1971, the writer is not aware of any previous work which has been completed in the area. The results of this work are described under the heading GEOLOGY.

## GEOLOGY

### General

A truncated syncline whose axis plunges northwest along the northeast shore of Trollop Lake is the dominant structure of the area. At the nose of this syncline small amounts of chalcocopyrite was observed in rhyolitic rocks. It was, therefore, decided to stake and very carefully prospect an area on the nose of the syncline on strike and including the initially observed rhyolitic rocks.

### Local

On the property a repetitive series of two types of basic volcanic flow rocks, of about equal proportion, comprises the main mass of rock within the synclinal remnant. A uniform, massive, coarse grained dioritic basic flow, containing minor pyrite is the most prominent rock, forming the hills of the area. Alternating with the dioritic flow is a basic volcanic horizon having a massive fine grained base but which is essentially a pillow lava.

About the centre of the area examined between a bed of pillow lava and massive dioritic flow, limited exposures of massive rhyolite were observed. On the basis of the few rock exposures

and float distribution a thin horizon is assumed to be continuous through the area examined.

### Structural

The volcanic beds forming the plunging syncline have a steeper dip on the north limb than on the south limb. Individual horizons, therefore, are apparently wider on the south limb than on the north limb. This is thought to account for the diverging magnetic susceptibilities along strike of the horizons.

No faults or other structures of significance were noted.

### Economic

Pyrite and minor pyrrhotite are found in the volcanic rocks, particularly the massive dioritic flows. Their concentrations, however, in any of the rocks is not untypical of Precambrian terrans.

A careful examination, of the rhyolitic rocks particularly, did not reveal any base metal sulphide mineralization in addition to that noted in 1971.

## GEOPHYSICAL SURVEYS

### Magnetic Survey

A plan at a scale of one inch to four hundred feet of the magnetic survey accompanies this report. The survey covers the main central portion of the claim group interpreted to be underlain by a felsic volcanic horizon.

The magnetic susceptibilities range from -2305 to 1850 gammas. Areas of more pronounced magnetic gradient are present

in the south portion of the area surveyed. The isomagnetics conform to the expected strike of the rocks varying from east to north to northwest. Nevertheless individual volcanic horizons are not characterized by a particular range of magnetic susceptibilities. It is thought that the change in attitude of the volcanic horizons may account for the change in magnetic susceptibilities along a particular horizon.

#### Electromagnetic Survey

A Crone JEM unit was used for the survey in an in-line configuration with 300 foot coil separation. The survey results are plotted on the accompanying plan at a scale of one inch to four hundred feet.

No anomalous zones were detected.

#### CONCLUSIONS AND RECOMMENDATIONS

An area within the claim group at the nose of a synclinal structure, postulated to have base metal sulphide potential, has been carefully prospected and surveyed utilizing magnetic and electromagnetic methods. Since no significant base metal sulphide mineralization was discovered, no further work is justified on the property.

Respectfully submitted,  
SHIELD GEOPHYSICS LIMITED,

  
R. J. Bradshaw, P. Eng.,  
Consulting Geologist.

  
W. Gilman, M. Sc.,  
Geologist.

Timmins, Ontario,

June 22, 1972.

C E R T I F I C A T E

I, Ronald J. Bradshaw, residing at 480 Howard Street, Timmins, Ontario, a consulting geologist with office at 26 Pine Street South, Timmins, Ontario, do hereby certify that:

I attended Queen's University, Kingston, Ontario, and graduated with an Honours B.A. degree in Geological Sciences in 1958.

I am a Fellow of the Geological Association of Canada, a Member of the Canadian Institute of Mining and Metallurgy and of the Association of Professional Engineers of the Province of Ontario.

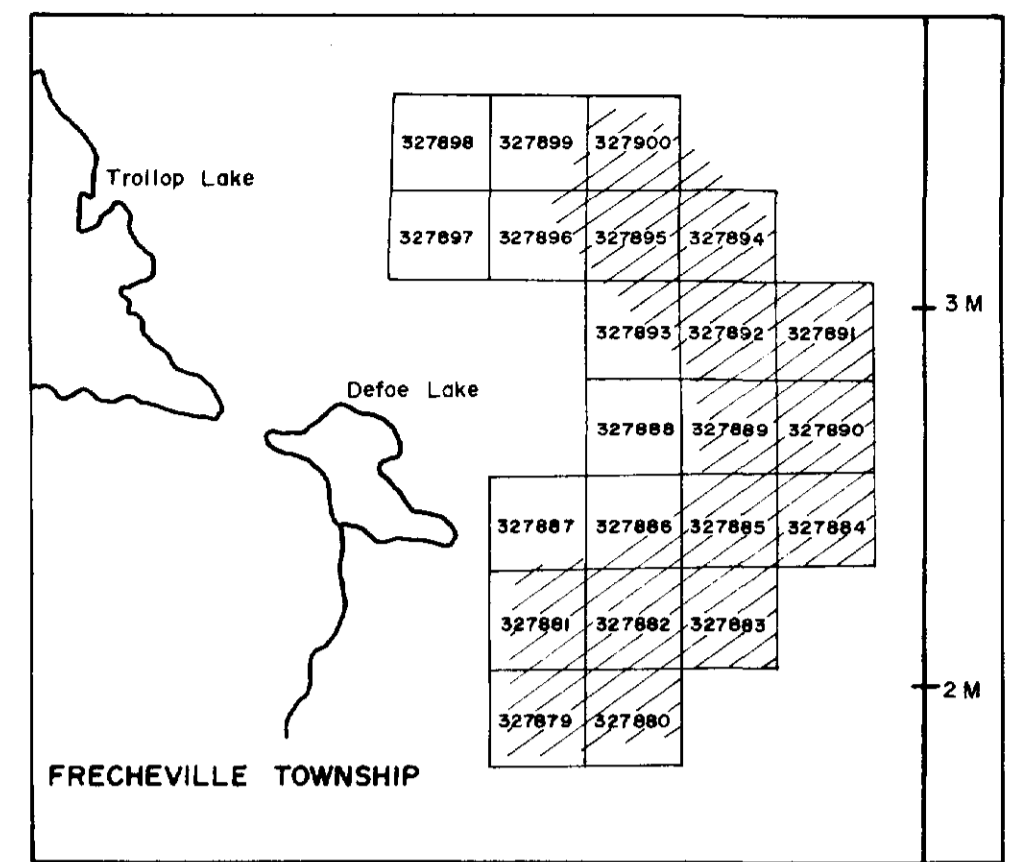
Timmins, Ontario,

June 22, 1972.

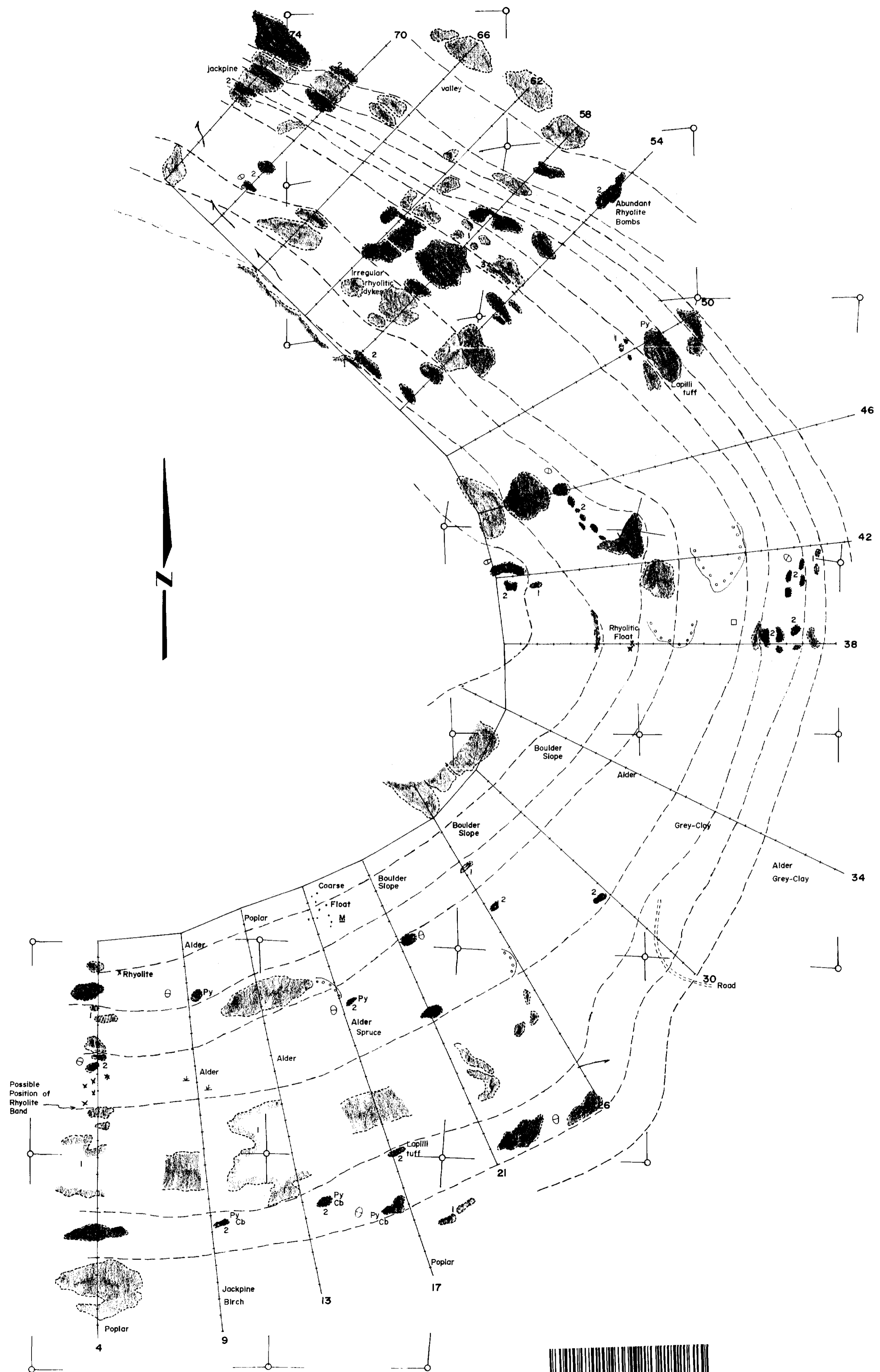


R. J. Bradshaw, P. Eng.,

Consulting Geologist.



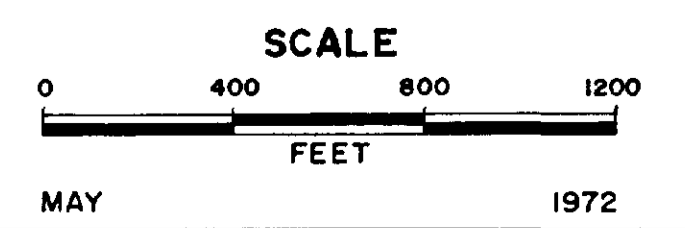
KEY MAP  
 one inch to one half mile

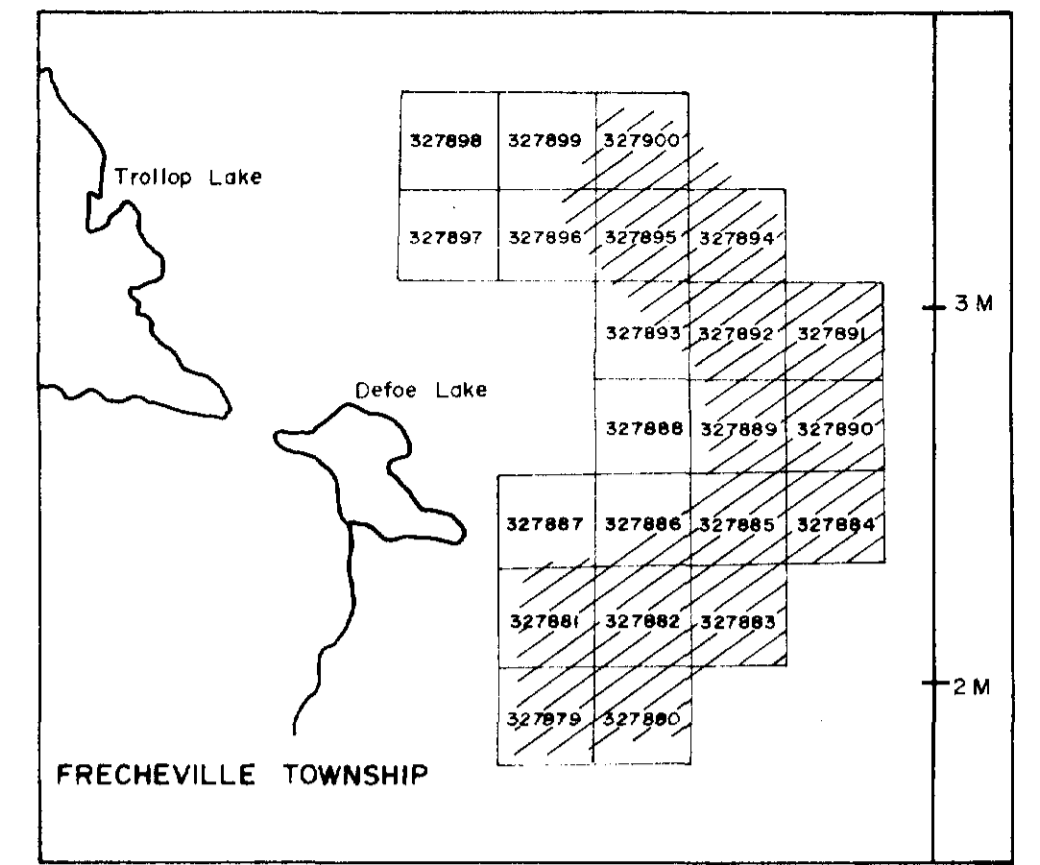
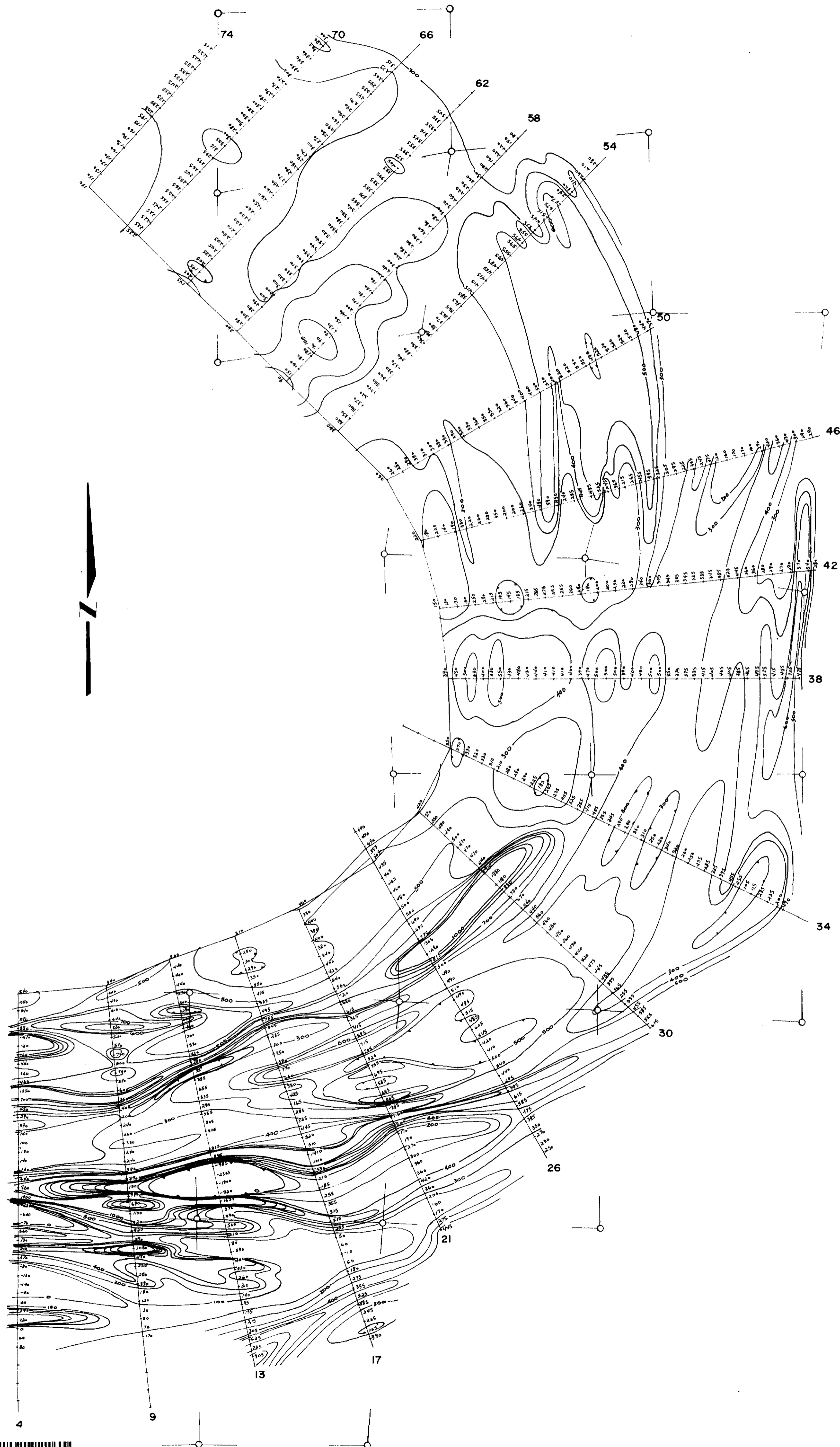


LEGEND

- Massive Diorite Flows
- Pillowed f.g. Andesite (Basic lava)
- Rhyolite, f.g. glassy
- Geological contact
- Pillowed basic lava
- Strike & dip & pillow facing
- Large float
- Float
- Beaver pond
- Cabin
- Stream direction
- Py Pyrite
- Cb Carbonate
- M Massive

63-2995  
*4 sq. ft.*  
**GEOLOGICAL SURVEY**  
 ON THE PROPERTY OF  
**CALTOR SYNDICATE**  
 FRECHEVILLE TOWNSHIP, ONTARIO  
 BY  
**SHIELD GEOPHYSICS LIMITED**





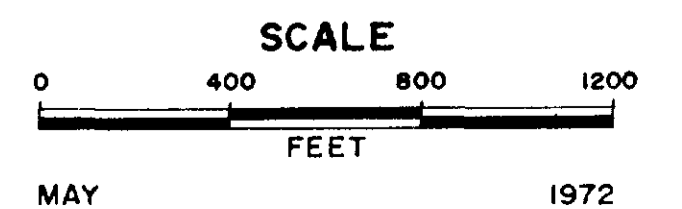
KEY MAP  
one inch to one half mile

LEGEND

- Measurement station along picket line
- Relative value of the vertical component of the earth's magnetic field in gammas
- Magnetic contour
- Magnetic depression

INSTRUMENT: Sharpe M.F.-1 fluxgate magnetometer

*4.58 ft.*  
**MAGNETOMETER SURVEY**  
 ON THE PROPERTY OF  
**CALTOR SYNDICATE**  
 FRECHEVILLE TOWNSHIP, ONTARIO  
 BY  
**SHIELD GEOPHYSICS LIMITED**

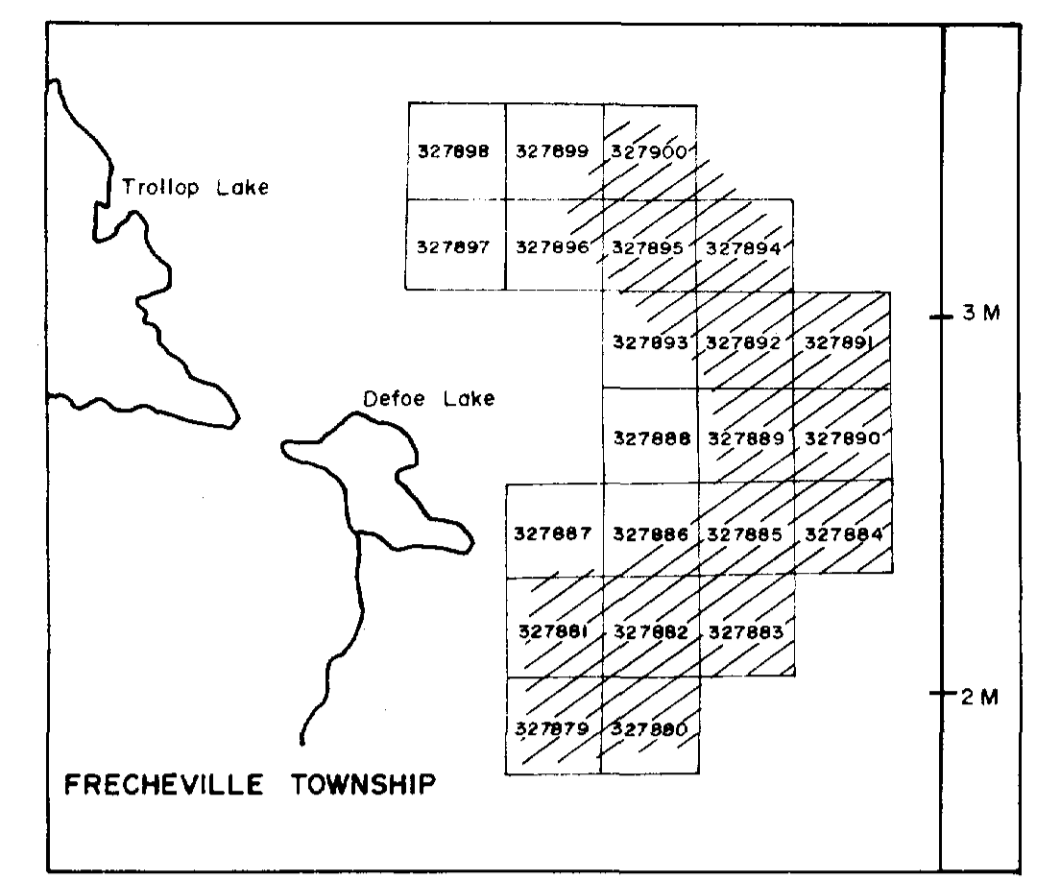
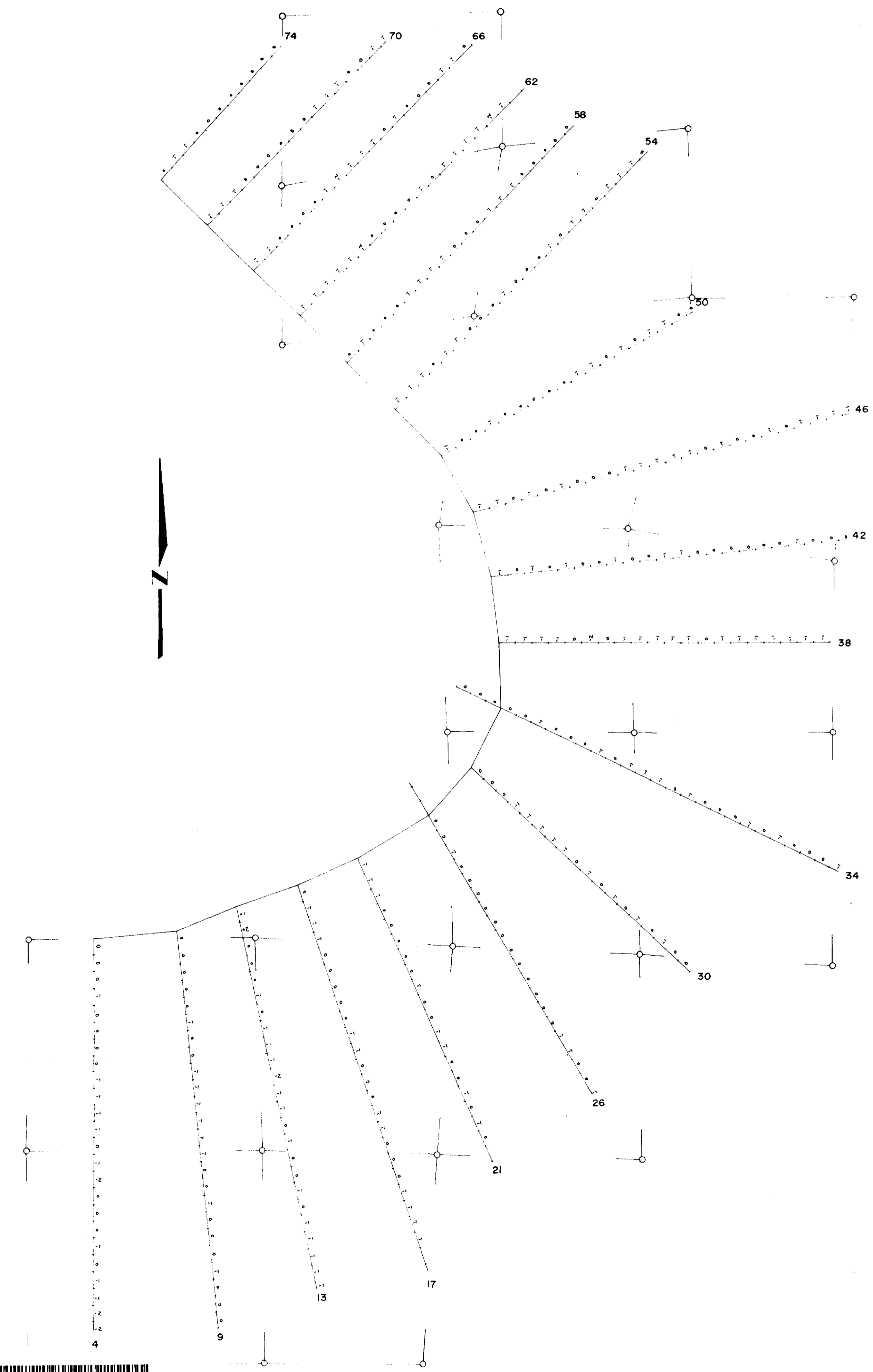


*63-2995*

*1. Bannockin  
June 23, 72*







KEY MAP  
one inch to one half mile

**LEGEND**

- Measurement station along picket line
  - High frequency
- INSTRUMENT: Crone JEM unit, 480 & 1800 cps,  
300' coil separation.

*63.2995 459 ft.*

**ELECTROMAGNETIC SURVEY**  
ON THE PROPERTY OF  
**CALTOR SYNDICATE**  
FRECHEVILLE TOWNSHIP, ONTARIO  
BY  
**SHIELD GEOPHYSICS LIMITED**

