GEOPHYSICAL SURVEYS

Geophysical Engineering & Surveys'
~~CLEMENT TOWNSHIP~~ CLAIMS

CLEMENT TOWNSHIP

PROVINCE OF ONTARIO

ABSTRACT

During the fall and winter of 1960-61 a magnetometer survey along the N.S. claim lines was completed.

A long wire electromagnetic survey on part of the claims was carried out with detailed self-potential determinations on claim T49154.

No bodies of massive sulphides were encountered and the areas of disseminated sulphides were erratic and not easily detected.

If further geophysical work is done it is recommended that it take the form of an Induced Polarization survey.

The results are described in a three (3) page report with two accompanying maps on a scale of 1 inch to 200 feet. (Drawings 1805, 1806)

GEOPHYSICAL SURVEYS

CLEMENT TOWNSHIP CLAIMS

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INTRODUCTION

The geophysical surveys were conducted with two purposes in mind, one to aid in the interpretation of the known geology, the other to detect and outline any possible veins carrying minerals of economic value.

LOCATION AND ACCESS

The east-west centre line of Clement Township divides the claim group, the centre of the group being approximately one and three quarter miles east of the boundary with Vogt Township.

The claims may be reached from Cull Lake, from Lake Temagami or from the motor road into Emerald Lake.

GEOLOGY

The geology of the area will be described in a separate report and need not be discussed here.

GEOPHYSICAL SURVEY

(a) Magnetic

Variations in the vertical component of the earth's magnetic field was measured at 100 foot intervals along the north-south claim lines. The values were corrected for diurnal variations and the results plotted on a map to a scale

of 1 inch equals 200 feet. The lines of equal magnetic values were drawn.

(b) Electromagnetic

A long wire was grounded at the N.E. corner of claim T49444. It was placed along the east boundary of the claim and along the south boundary of T49444, T49509 etc. The other ground was on the base line in claim T49834. One-half ampere of 1000 cycle current was fed into the ground through the electrodes.

The horizontal component of the resulting alternating magnetic field was measured at 100 foot intervals along N.S. lines spaced 200 feet apart.

The results were plotted and contours drawn.

(c) Self-Potential

Due to the presence of sulphide mineralization in outcrops on claim T49134, self-potential values were measured at 50 foot intervals along lines spaced 100 feet apart. The results were plotted and contoured.

DISCUSSION OF RESULTS

(a) Magnetic

The magnetic relief in the western section was small, the magnetic trends being E.W. Toward the east boundary there was a marked increase as though a highly magnetic body existed farther east.

No evidence of geological structures crossing the general east-west contours was apparent.

(b) Electromagnetic :

There were very few electromagnetic values which were more than 1.5 times background. The weak anomaly pattern in general followed the swampy ground accompanying the creek.

It is of interest to note that the higher valued anomalies were on the lines closest to the electrodes and were likely due to the accentuation of the effect of a minor conductor by the closeness of the electrodes.

It is possible that a very weak shear zone extends across the claims, approximately parallel to the base line at 1+00 to 2+00 north.

(c) Self-Potential

The values were very small and erratic even over the observed mineralized outcrop. No marked trends were evident.

CONCLUSIONS

There are no large bodies of massive sulphides in the region covered by the electromagnetic and self-potential surveys.

What mineralization exists is too disseminated and probably too erratic to be outlined by the methods used.

RECOMMENDATION

If the existing mineralization has sufficient copper so that it would be amenable to a low grade, high tonnage operation it is suggested that an Induced Polarization survey might outline the areas of dissemination.

Respectfully submitted,

GEOPHYSICAL ENGINEERING & SURVEYS LTD.

A. R. Clark

Toronto, Ontario,

A. R. Clark,

APPENDIX TO REPORT NO. 342 T

PROPERTY CLEMENT TOWNSHIP

TYPE OF SURVEY 1. Magnetic
2. Electromagnetic and Self-Potential

INSTRUMENTS		SENSITIVITY
1.	Watts Magnetometer	28.0 gammas/S.d.
2.	Long Wire E.M., Self-Potential	Not applicable

NO. MILES OF LINE
1. ~~4.2~~ 3.1
2. 10.8
TOTAL ~~15.0~~ 13.9

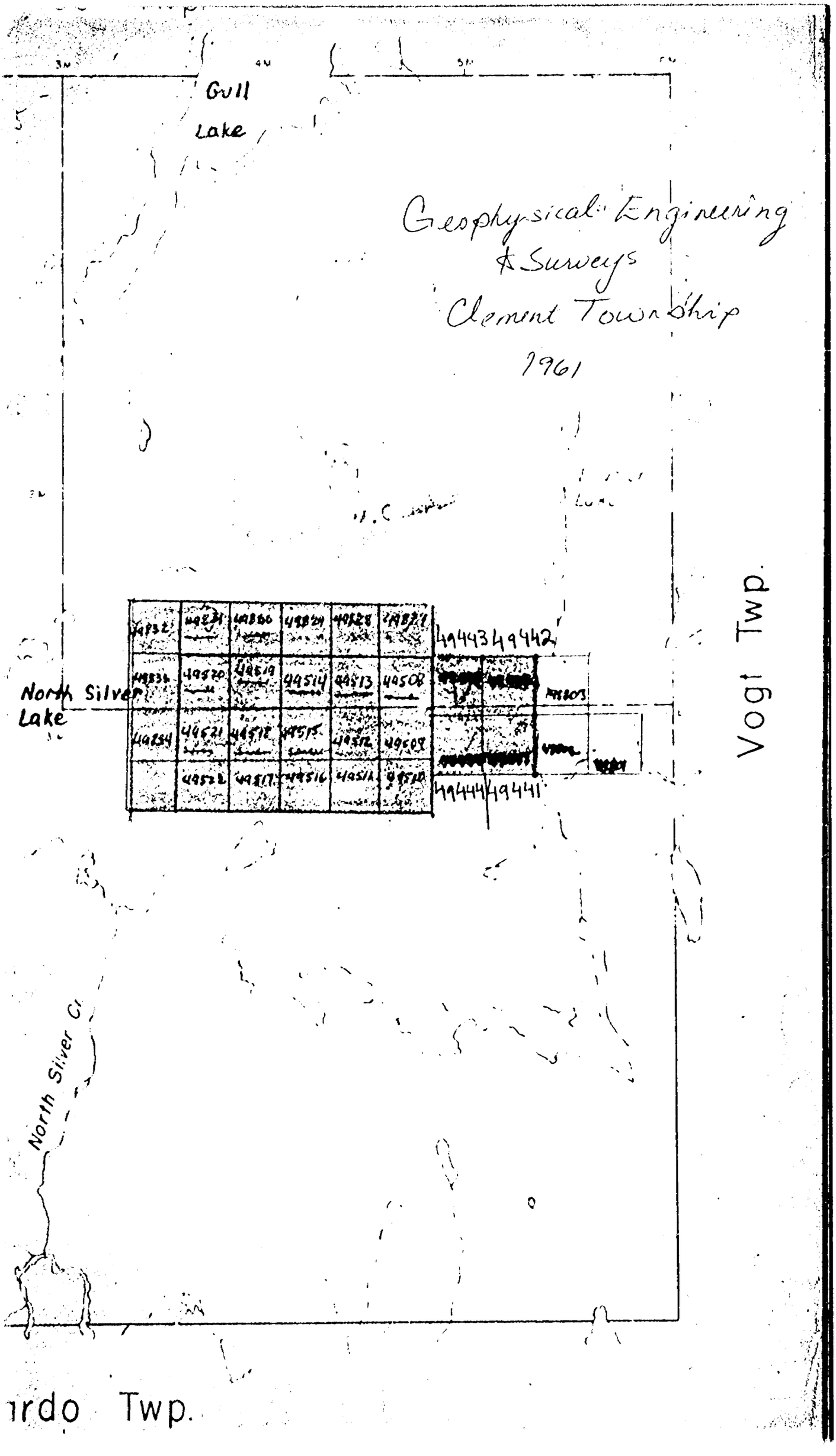
NO. OF STATIONS
1. ~~231~~ 168
2. 378
TOTAL ~~609~~ 546

PERSONNEL AND TIME DISTRIBUTION

NAME	ADDRESS	TYPE OF WORK	PERIOD	DAYS
A. Linecutting, Picketing, Chaining:				
Q. Montroy	North Bay	Linecutter	Sept. 29, 30	2
R. Humphrey	Temagami	"	Nov. 5-Nov. 26	16
G. Riddler	North Bay	"	Nov. 5-Nov. 26	16
T.G. Robinson	North Bay	Supervisor	Sept. 24-Dec. 10	7-1/2
			TOTAL 8 HOUR DAYS	41-1/2
B. Geophysical Survey:				
G. Burton	North Bay	Geophysical Operator	Nov. 10-Dec. 10	28
R. Cochrane	North Bay	" Helper	Nov. 16-19	3
E. Mitchell	North Bay	" "	Nov. 10-Dec. 17	27
			TOTAL 8 HOUR DAYS	58
C. Calculating, Plotting, Drafting, Report:				
H. Davison	North Bay	Drafting	Oct. 22-Jan. 7	1
B. Murrant	North Bay	"	Dec. 24-Jan. 28	10
Mrs. E. Pennylegion	Scarboro	Typing	Sept. 8	1
A. R. Clark	Toronto	Report	Sept. 8	1
			TOTAL 8 HOUR DAYS	13

TOTAL ALL DAYS 112-1/2

Signed: A. R. Clark


Gull
Lake
Geophysical Engineering
& Surveys
Clement Township
1961
North Silver
Lake
49443 49442
49444 49441
Vogt Twp.
North Silver Cr
rdo Twp.

APPENDIX TO REPORT NO. 342 T

PROPERTY Clement Township

TYPE OF SURVEY 1. Magnetic
2.

INSTRUMENTS		SENSITIVITY
1.	Watts Magnetometer	28.0 gammas/S.D.
2.		

NO. MILES OF LINE		NO. OF STATIONS	
1. 3.1		1. 168	
2.	TOTAL 3.1	2.	TOTAL 168

PERSONNEL AND TIME DISTRIBUTION

NAME	ADDRESS	TYPE OF WORK	PERIOD	DAYS
A. Linecutting, Picketing, Chaining:				
		TOTAL 8 HOUR DAYS		
B. Geophysical Survey:				
Q. Montray	North Bay	Linecutter and Mag Helper	Sept. 29,30/60	2
T.G. Robinson	North Bay	Supervisor and Operator	Sept. 24,25,29, 30/60	4
		TOTAL 8 HOUR DAYS		6
C. Calculating, Plotting, Drafting, Report:				
H. Davison	North Bay	Drafting	Oct. 27 - Jan 7/61	1/2
B. Murrant	North Bay	Drafting	Dec. 24 - Jan 28/60	5
Mrs. E. Pennylegion	Scarboro	Typing	September 8/61	1/2
A. R. Clark	Toronto	Report	September 8/61	1/2
		TOTAL 8 HOUR DAYS		6 1/2

TOTAL ALL DAYS 12,1/2

Signed: A R Clark

APPENDIX TO REPORT NO. 342 T

PROPERTY Clement Township

TYPE OF SURVEY 1. Electromagnetic and Self-Potential
2.

INSTRUMENTS 1. Long Wire E.M., Self-Potential — SENSITIVITY: Not Applicable
2.

NO. MILES OF LINE
1. 10.8
2. TOTAL 10.8

NO. OF STATIONS
1. 378
2. TOTAL 378

PERSONNEL AND TIME DISTRIBUTION

NAME	ADDRESS	TYPE OF WORK	PERIOD	DAYS
A. Linecutting, Picketing, Chaining:				
R. Humphry	Temagami	Linecutter	Nov. 5-26/60	16
G. Riddler	North Bay	Linecutter	Nov. 5-26/60	16
T.G. Robinson	North Bay	Supervisor	Oct. 1 - Dec. 10/60	3 1/2
			TOTAL 8 HOUR DAYS	35 1/2
B. Geophysical Survey:				
G. Burton	North Bay	Geophysical Operator	Nov. 10 - Dec. 10/60	28
R. Cochrane	North Bay	Geophysical Helper	Nov. 16-19/60	3
K. Mitchell	North Bay	Geophysical Helper	Nov. 10 - Dec. 17/60	27
			TOTAL 8 HOUR DAYS	58
C. Calculating, Plotting, Drafting, Report:				
H. Davison	North Bay	Drafting	Oct. 22 - Jan. 7/61	1/2
B. Murrant	North Bay	Drafting	Dec. 24 - Jan. 28/60	5
Mrs. E. Pennylegion	Scarboro	Typing	September 8/61	1/2
A. R. Clark	Toronto	Report	September 8/61	1/2
			TOTAL 8 HOUR DAYS	6 1/2
			TOTAL ALL DAYS	100

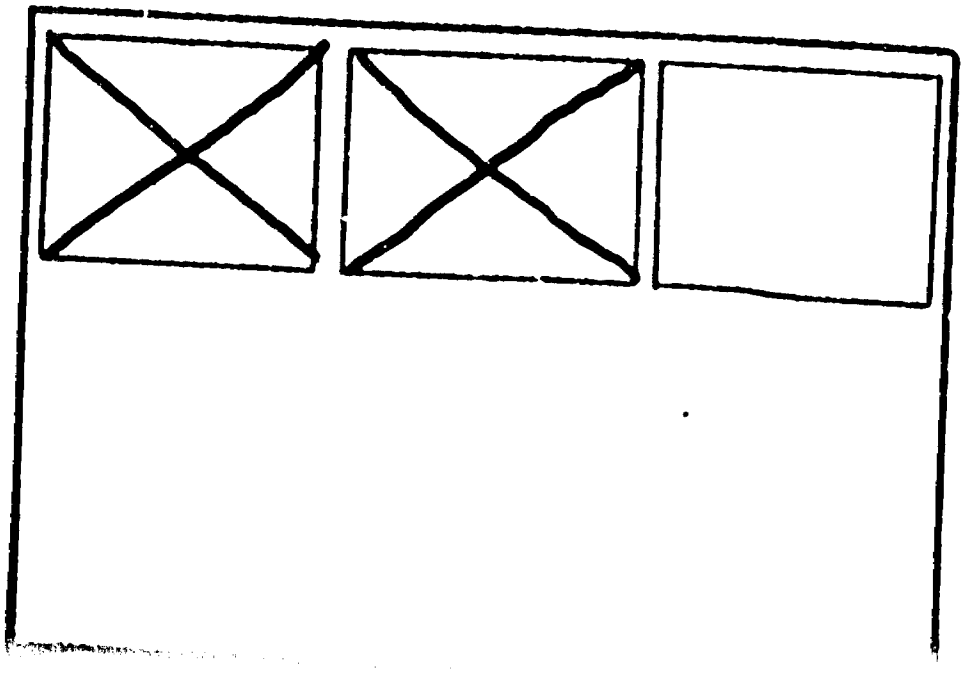
Signed: A. R. Clark

SEE ACCOMPANYING MAP(S) IDENTIFIED AS

CLEMENT-0016-A1-#1

CLEMENT-0016-A1-#2

LOCATED IN THE MAP CHANNEL IN THE FOLLOWING SEQUENCE (X)



TOWNSHIP OF CLEMENT

T-49837 T-49831 T-49830 T-49829 T-49828 T-49827

T-49520 T-49519 T-49513 T-49443

T-49833 T-49514 T-49508

T-49518 T-49515 T-49512 T-49509 T-49444

T-49834 T-49521

T-49522 T-49517 T-49516 T-49511 T-49510

Baseline

Electrode line

Lumber road

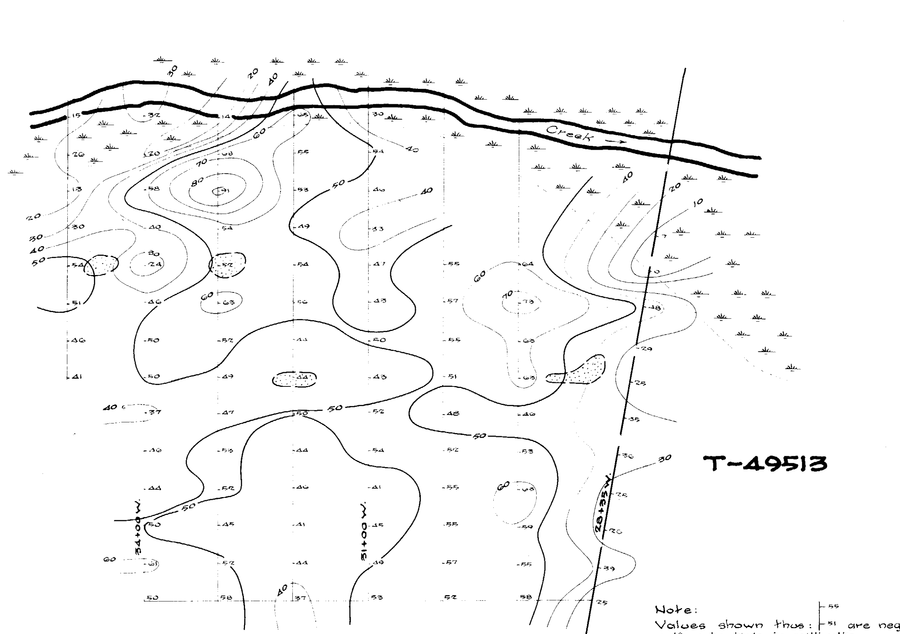
Trail

Creek

N

ELECTROMAGNETIC SURVEY

Note:
Values shown thus: 740/660 are in microvolts.
Isodynamic contours at 50 microvolt intervals shown thus: —250—

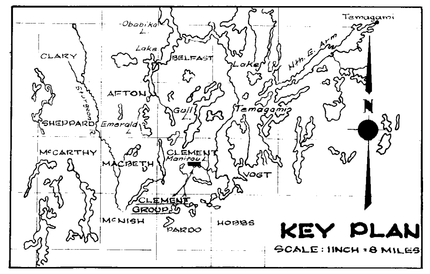


Note:
Values shown thus: +40 are negative self-potentials in millivolts.
Contours shown thus: —80— at 10 millivolt intervals.

DETAILED SELF-POTENTIAL SURVEY

SCALE : 1 INCH = 100 FEET

0 100 200 300



LEGEND

- Swamp
- Lumber road
- Trail
- Mineralized zone
- 0 to 400 microvolts
- 400 to 600 "
- 600 to 700 "
- 700 to 800 "
- 800 to 900 "
- 900 to 1000 "
- 1000 and up "

SELF-POTENTIAL AND ELECTROMAGNETIC SURVEY

LONG WIRE METHOD

OF

CLEMENT GROUP

TOWNSHIP OF CLEMENT
PROVINCE OF ONTARIO

FOR

63-1124

BY

GEOPHYSICAL ENGINEERING AND SURVEYS LIMITED

SCALE : 1 INCH = 200 FEET

0 200 400 600

CLEMENT-0016-A1-#1

Drawn by: B.L.M. / Checked: H.D.	N.T.S. 41 1/16	NOV. 1960	JOB 493	DWG. 1805

200

TOWNSHIP OF CLEMENT

T-49832 T-49831 T-49830 T-49829 T-49828 T-49827

T-49833 T-49519 T-49514 T-49520 T-49508 T-49443

T-49513

℄ Township of Clement — Baseline — 1 Mile Post — 2 Mile Post — Baseline

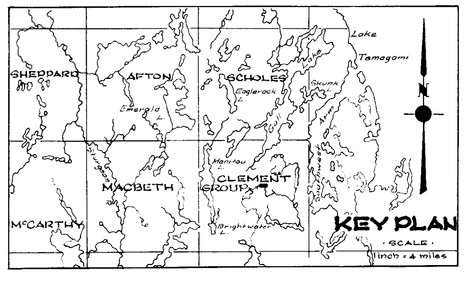
T-49518 T-49515 T-49512

T-49834 T-49521 T-49509 T-49444

T-49516

T-49517

T-49522 T-49511 T-49510



Note:
Values shown thus: 579 / 503 are in gammas.
Contours shown thus: (400) at 100 gamma interval.
See also Dwg 1805 for Self-potential and Electromagnetic Surveys.

MAGNETOMETER SURVEY
OF
CLEMENT GROUP
TOWNSHIP OF CLEMENT
PROVINCE OF ONTARIO
FOR

BY
GEOPHYSICAL ENGINEERING AND SURVEYS LIMITED

SCALE : 1 INCH = 200 FEET
0 200 400 600

CLEMENT-0016-A1-#2

Drawn by: BLM / Checked: HD	N.T.S. 41 1/16	JAN. 1980	JOB 493	DWG. 1806