2.1849

K. & F. PROPERTY

GEOLOGICAL AND PROTON MAGNETIC SURVEYS

PLAYFAIR TOWNSHIP, ONTARIO

RECEIVED
JUL 7 1975
PROJECTS UNIT

INTRODUCTION

This report covers the results of geological and Proton magnetic surveys over 4 claims located in Playfair Township owned by J. Kakish, J. Ferguson, and H. G. Harper of Toronto.

The claims were staked in 1972 by John Ferguson. Line cutting on the property was done in March of 1973, and this was followed immediately by magnetic and electromagnetic surveys. The lines are beginning to grow in, but, can still be followed easily. The field work for the geological and Proton magnetic surveys was done by H. G. Harper and J. Kakish. The maps and report were prepared by the writer.

This report is based on the following sources of information.

1. A report on magnetic and electromagnetic surveys completed in 1973 by H. G. Harper.
2. Report in the Northern Miner, April 10, 1975.
3. The field work described herein.

PROPERTY AND LOCATION

The four claims surveyed are numbered L346406 to L346409 inclusive, and are located in the northwest

quarter of Playfair Township, Larder Lake Mining Division, Ontario.

The property lies 2 miles west of Highway 11, about 2 miles north of the Highway 11 by-pass around the town of Raymore. An improved east-west road leads from Highway 11 and lies along the north boundary of the property.

HISTORY

The claims are located in a well known mineralized area and have been staked on several occasions. However, according to the assessment work records and the records in the Resident Geologist's Office, Kirkland Lake, none except the present owners has ever done any exploratory work on the claims.

The lands lying to the east, south, and west are patented farm lots and have not been explored for minerals. Adjoining on the north is the property of Canadian Arrow Mines Ltd. Some 2000 feet north and slightly west of the northwest corner of the K. & F. property is the main Canadian Arrow gold deposit. Here, a vein of substantial width strikes roughly east-west and dips nearly vertically. The vein has been explored by a shaft to a depth of 450 feet with levels at the 250 and 450 foot horizons. The last exploration work done was completed in 1962. With respect to the develop-

ment of this property the following is quoted from the Northern Miner of April 10, 1975. "With a view to gaining further assurance as to the feasibility of developing a continuing custom milling operation at the Hislop Township gold property of Canadian Arrow Mines, Pamour Porcupine Mines is to take a further open pit bulk sample of 16,000 tons.

The net proceeds to Canadian Arrow of the initial 5000 tons taken by Pamour last year, after all expenses including some non-recurring charges, are expected to exceed $30,000...."

Some 7 miles north and west of the K. & F. property, there is a new mineral discovery controlled by a company called Tillex which is a consortium of some of the larger mining companies. It is rumored that the discovery is a copper-zinc body of significant size. Factual reports on this discovery may be anticipated within the next few weeks.

GEOLOGICAL SURVEY

The only value produced by this survey was the credit for assessment work requirements. There are no outcrops on the property. There is a convenient and steady supply of water for diamond drilling purposes. Except for portions of abandoned farm fields, the bulk

of the claims is covered by spruce and labrador tea swamp intermingled with small areas of slightly greater elevation supporting a growth of poplar. Soil types are chiefly varved clays with some gravel on claim L346406.

MAGNETIC SURVEY

The Proton magnetometer survey was done, because, in the experience of the group exploring the claims, this type of survey has proven useful on gold properties having a flat terrain and heavy overburden or underlying a lake. For example, on the property of Abino Gold Mines Ltd. in Red Lake, by correlating drill results with gradient calculations in an area underlying East Bay, it was determined that the gold values are spatially related to areas of low or negative magnetic gradient. Thus, the gradient results are used to direct diamond drilling on the Abino property. Conversely, on the Gateford property in the Kirkland Lake Area, gradient calculations in areas of shallow overburden and rough terrain proved uninterpretable.

The Proton magnetometer survey was done by taking two readings at each survey station; the lower reading 8 feet above ground level, the upper reading at 12 feet above ground level. The Proton magnetometer

measures the total magnetic field, whereas the fluxgate magnetometer measures only the vertical component. The total field results are comparable to the fluxgate vertical component results and on the K. & F. property show only minor changes in interpretation. The features of interest are identical in both surveys. The main feature remains the north-south trending zone of low magnetic intensity centered about Line 8W. There may be a north-south fault structure in this vicinity. If so, it can be better defined by surveying on ~~lands~~ lines more closely spaced than 400 feet. There are some strong magnetic effects near the center of claim L346406 which are suggestive of appreciable amounts of magnetite &/or pyrrhotite. The main electromagnetic conductor remains well on the south flank of the zone of strongest magnetic variation. Again, more detailed survey work would better define the relationship between the magnetic and the electromagnetic responses.

The gradient results add significantly to the magnetic data. A line of weak positive gradient and one of weak negative gradient cross the controversial line 8W without apparent break; thus, discounting the idea of a north-south fault. This is in marked contrast to the gradient indications on the northern part

of the property where a distinct break exists in the vicinity of line 8W. On line 12W a modest electromagnetic response coincides with a line of modest negative gradiant. The main electromagnetic response extends across line 8W, 12W, & 16W and this zone undergoes a change in strike. The zone of negative gradiant paralleling the electromagnetic response undergoes a precisely similar strike change. The two zones are roughly 150 feet apart, and this strike change is really the only feature which seems to relate the zones to each other. Again detail is lacking due to the wide line spacing.

CONCLUSIONS AND RECOMMENDATIONS

1. The geological survey of the claim has added no useful information of exploration significance.

2. The Proton magnetometer survey has added to the exploration of the property in several ways. First, the paralleling change in strike phenomenom shown by the main electromagnetic response and one of the lines of negative gradiant is the first indication, other than spatial, of a relationship between the zone of strong magnetism and the zone of best electromagnetic response. Second, the isolated electromagnetic spots on line 12W can now be correlated to a magnetic phenomenon.

3. The following geophysical survey is recommended in order that known geophysical anomolies may be better defined.

   (a) Cut lines 2W to 22W south for 1500 feet. special / This will provide a 200 foot grid. Cut ~~spatial~~

lines 7W and 9W south for 1500 feet. This will provide a 100 foot grid adjacent to line 8W.

(b) Survey all new lines with a Ronka EM16 electromagnetic unit and Proton magnetometer with station intervals at 50 feet.

(c) Survey all old lines with a Ronka EM16 electromagnetic unit and a Proton magnetometer at the 50 foot station not previously surveyed from the base line to 1500 south.

(d) All electromagnetic responses should be checked with a horizontal loop electromagnetic unit commencing with a 100 foot cable separation and increasing the cables length if overburdened conditions make it necessary to do so.

4. In view of the possibilities of gold mineralization in the area and since no geophysical methods can directly indicate the presence or absence of gold, one preliminary drill hole is recommended. It should be collared at 1000 feet south on line 12W. The hole should bear north at 45 degrees for a length of 400 feet. The collar and length of this hole are subject to change depending on the results of the geophysical work recommended above which may, in turn, lead to a recommendation for additional drilling.

File 2.1849

900

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey Magnetic & Geological

Township or Area Playfair Twp.

Claim holder(s) A39186 - John Ferguson
Suite 1216 - 1 Massey Square Toronto M4C 5L4

Author of Report J. Grant Harper, P. Eng.

Address 314 Hendon Ave, Willowdale

Covering Dates of Survey May 19/75 - June 5/1975
(linecutting to office)

Total Miles of Line cut

SPECIAL PROVISIONS CREDITS REQUESTED

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

	DAYS per claim
Geophysical	
--Electromagnetic	
--Magnetometer	20
--Radiometric	
--Other	
Geological	20
Geochemical	

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer ____ Electromagnetic ____ Radiometric ____
(enter days per claim)

DATE: June 5 /75 SIGNATURE: J.G. Harper.
Author of Report or Agent

PROJECTS SECTION

Res. Geol. L.I.D. Qualifications 63.1058

Previous Surveys 2.1218 EM and Mag different
location performed 1973 same claims

Checked by 63.3326 not for assessment credits date

GEOLOGICAL BRANCH

Approved by date

GEOLOGICAL BRANCH

Approved by date

OFFICE USE ONLY

MINING CLAIMS TRAVERSED
List numerically

May Geology

(prefix)	(number)
L.	346 406
L.	346 407
L.	346 408
L.	346 409

If space insufficient, attach list

TOTAL CLAIMS 4

Show instrument technical data in each space for type of survey submitted or indicate "not applicable"

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS

Number of Stations 189 Number of Readings 378

Station interval 100'

Line spacing 400'

Profile scale or Contour intervals variable
(specify for each type of survey)

MAGNETIC

Instrument Geometrics Model G 816 Proton Magnetometer

Accuracy - Scale constant ± 1 gamma

Diurnal correction method ½ hour checks on base station

Base station location Line 0+00 0+00

ELECTROMAGNETIC

Instrument

Coil configuration

Coil separation

Accuracy

Method: ☐ Fixed transmitter ☐ Shoot back ☐ In line ☐ Parallel line

Frequency
(specify V.L.F. station)

Parameters measured

GRAVITY

Instrument

Scale constant

Corrections made

Base station value and location

Elevation accuracy

INDUCED POLARIZATION – RESISTIVITY

Instrument

Time domain Frequency domain

Frequency Range

Power

Electrode array

Electrode spacing

Type of electrode

SELF POTENTIAL

Instrument _____ Range _____

Survey Method _____

_____

Corrections made _____

_____

RADIOMETRIC

Instrument _____

Values measured _____

Energy windows (levels) _____

Height of instrument _____ Background Count _____

Size of detector _____

Overburden _____

(type, depth – include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey Geological

Instrument one geologist - model 1924 class STD

Accuracy Traverses along picket lines at 400 foot centres - some between lines cruising

Parameters measured outcrop, overburden character & growth

_____

Additional information (for understanding results) no outcrops observed - mostly wet swamp.

_____

_____

AIRBORNE SURVEYS

Type of survey(s) _____

Instrument(s) _____

(specify for each type of survey)

Accuracy _____

(specify for each type of survey)

Aircraft used _____

Sensor altitude _____

Navigation and flight path recovery method _____

_____

Aircraft altitude _____ Line Spacing _____

Miles flown over total area _____ Over claims only _____

GEOCHEMICAL SURVEY – PROCEDURE RECORD

Numbers of claims from which samples taken _____

_____

_____

Total Number of Samples _____

Type of Sample _____
(Nature of Material)

Average Sample Weight _____

Method of Collection _____

_____

Soil Horizon Sampled _____

Horizon Development _____

Sample Depth _____

Terrain _____

_____

Drainage Development _____

Estimated Range of Overburden Thickness _____

_____

_____

SAMPLE PREPARATION
(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis _____

_____

_____

_____

General _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

ANALYTICAL METHODS

Values expressed in: per cent ☐
p. p. m. ☐
p. p. b. ☐

Cu, Pb, Zn, Ni, Co, Ag, Mo, As,-(circle)

Others _____

Field Analysis (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Field Laboratory Analysis

No. (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Commercial Laboratory (_____ tests)

Name of Laboratory _____

Extraction Method _____

Analytical Method _____

Reagents Used _____

General _____

_____

_____

_____

_____

_____

_____

_____

_____

Hislop Twp.

Proposed N.O Natural Gas Pipe Line

McCann Twp.

Cook Twp.

Black Twp.

VI

V

IV

III

II

I

13 12 11 10 9 8 7 6 5 4 3 2 1

RAMORE

Wildgoose

Wildgoose

Little

Black Cr.

Talbock L.

Dell L.

Mobbs L.

Wright L.

Ontario Northland Railway

Trans. Gas Pipe Line Prop. Lateral

Ontario Northland Railway

T.C. Pipeline Station

Mattagami River

S.R.O.

C.S.

L.O.

M.R.O.

MRO 73886

MRO 73884

MRO 73883

RY 52 L.O. 44419

27716 L.O.

429896

Gravel Pit 14133

File: 14133

THE TOWNSHIP OF 2. 1849

PLAYFAIR

DISTRICT OF COCHRANE

LARDER LAKE MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

LEGEND

PATENTED LAND	(P)
CROWN LAND SALE	(S) or C.S.
LEASES	(L)
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
ROADS	
IMPROVED ROADS	
KING'S HIGHWAYS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
MINES	

NOTES

400' Surface rights reservation around all lakes and rivers.

Ramore Townsite Shown Thus:

Millsite Shown Thus:

Gravel Reserve Shown Thus:

· MINING LANDS ·
DATE OF ISSUE
JUL - 9 1975
MINISTRY OF NATURAL RESOURCES

PLAN NO.- M. 381

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

200

42A08NW0221 2.1849 PLAYFAIR

B.C.

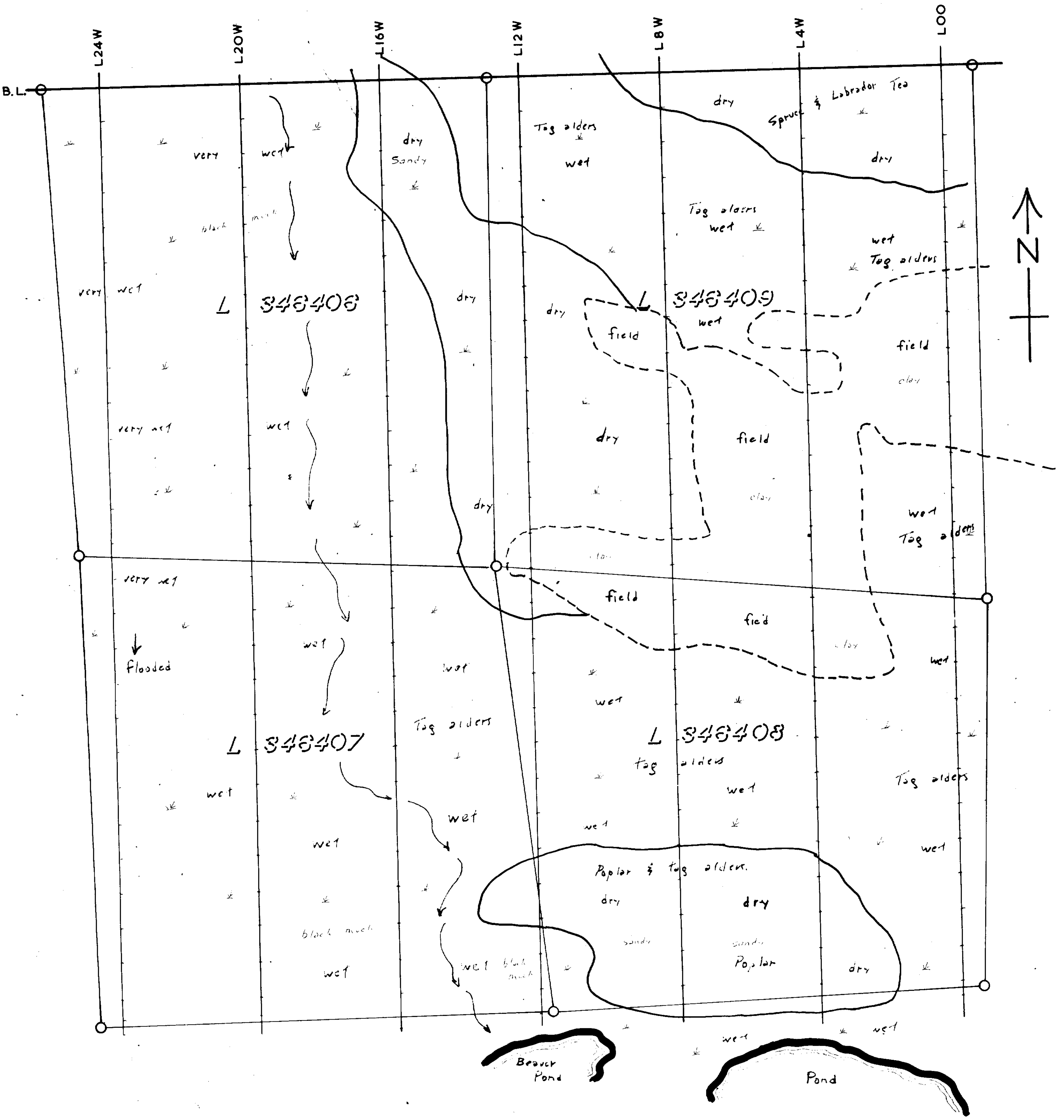


Table of Formations

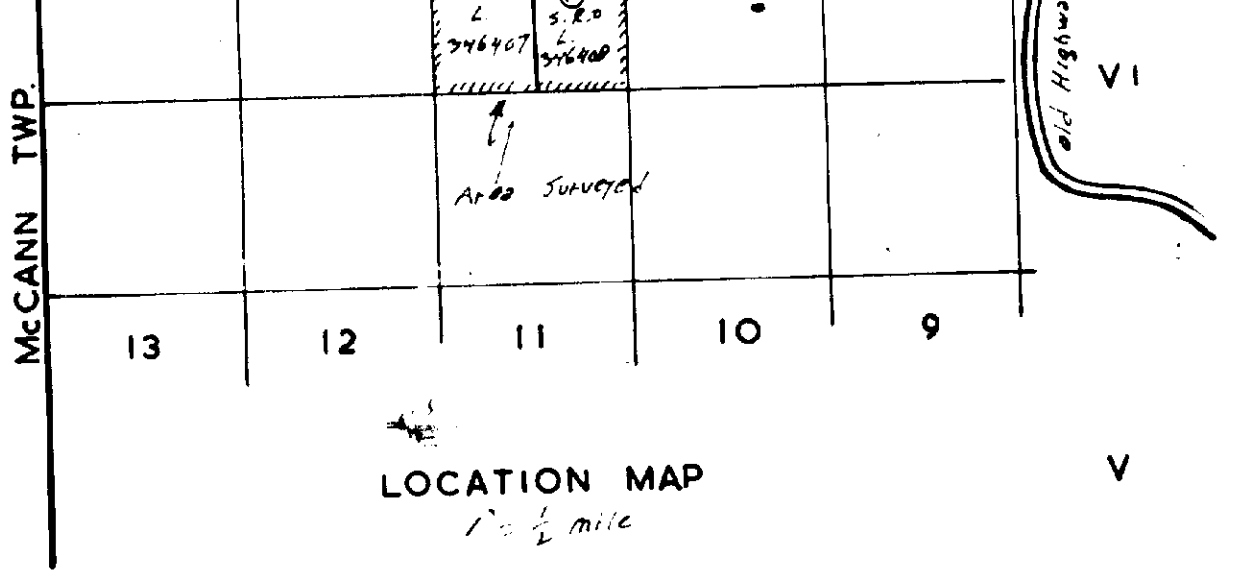
CENOZOIC
QUATERNARY
PLEISTOCENE and RECENT
Organic Deposits – black muck, peat
BARLOW – Ojibway Deposits – sand
varved clay

GEOLOGICAL ASSOCIATION OF CANADA FELLOW H. C. HARPER

REGISTERED PROFESSIONAL ENGINEER MINING H. C. HARPER PROVINCE OF ONTARIO

H. C. Harper.

JUN 27 '75



LOCATION MAP
1" = ½ mile

0 200 400 600
FEET

GEOLOGICAL SURVEY

K & F PROPERTY

PLAYFAIR TWP.

42A08NW0221 2.1849 PLAYFAIR

L24W L20W L16W L12W L8W L4W L00

B.L.

L 346406

253

L 346407

L 346408

L 346409

STEEP GRADIENT RISING

STEEP GRADIENT FALLING

HISLOP TWP.

McCANN TWP.

Old Highway 11

V1

V

Area Surveyed

13 12 11 10 9

LOCATION MAP

1" = ½ mile

0 200 400 600

FEET

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220

PROTON MAGNETOMETER SURVEY

Calculated Gradient Results

Gradient = 8' elevation readings less 12' elevation readings

REGISTERED PROFESSIONAL ENGINEER MINING H. C. HARPER PROVINCE OF ONTARIO

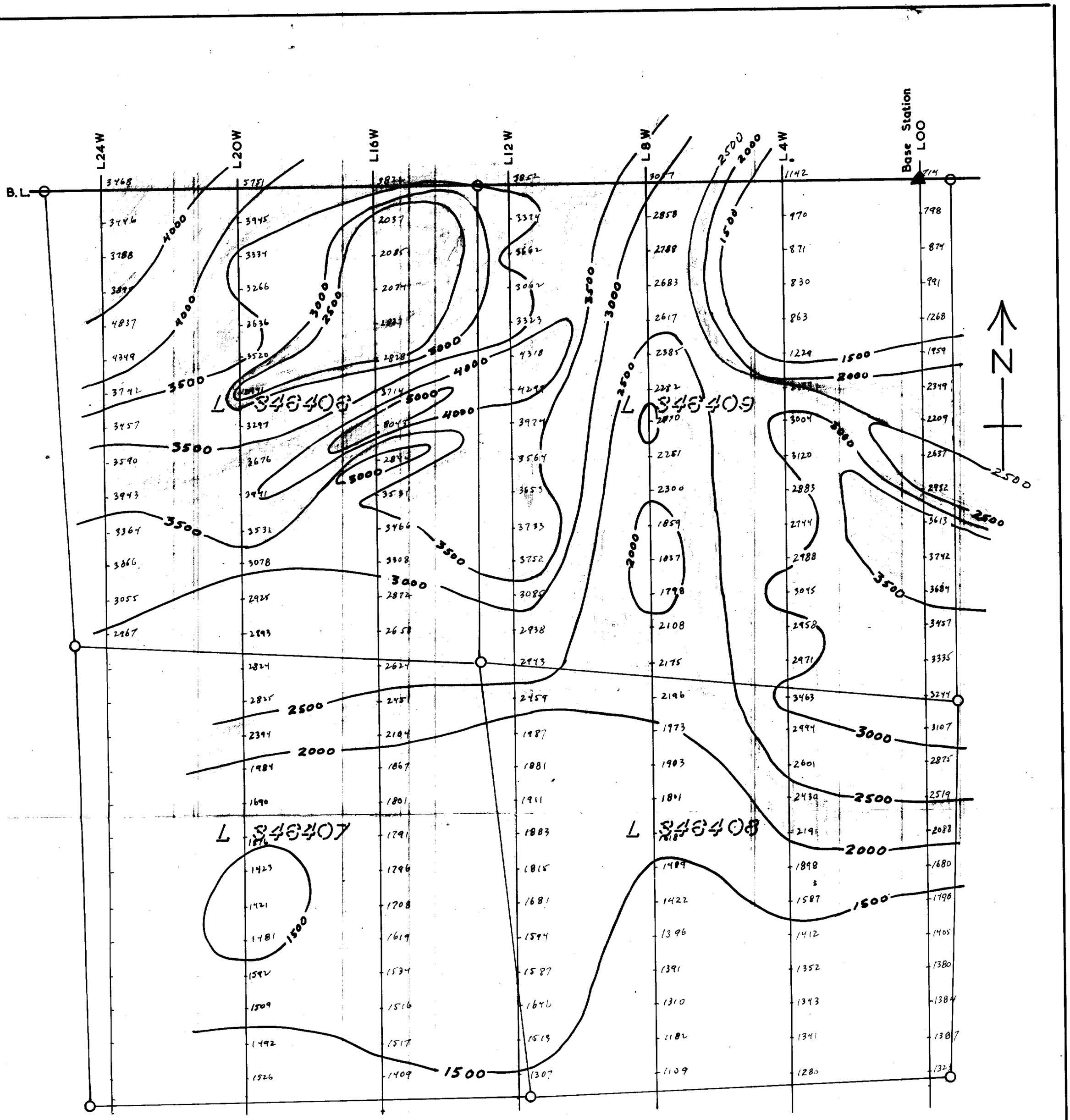
GEOLOGICAL ASSOCIATION OF CANADA H. C. HARPER FELLOW

JUN 27 '75

H. C. Harper.

K & F PROPERTY

PLAYFAIR TWP.



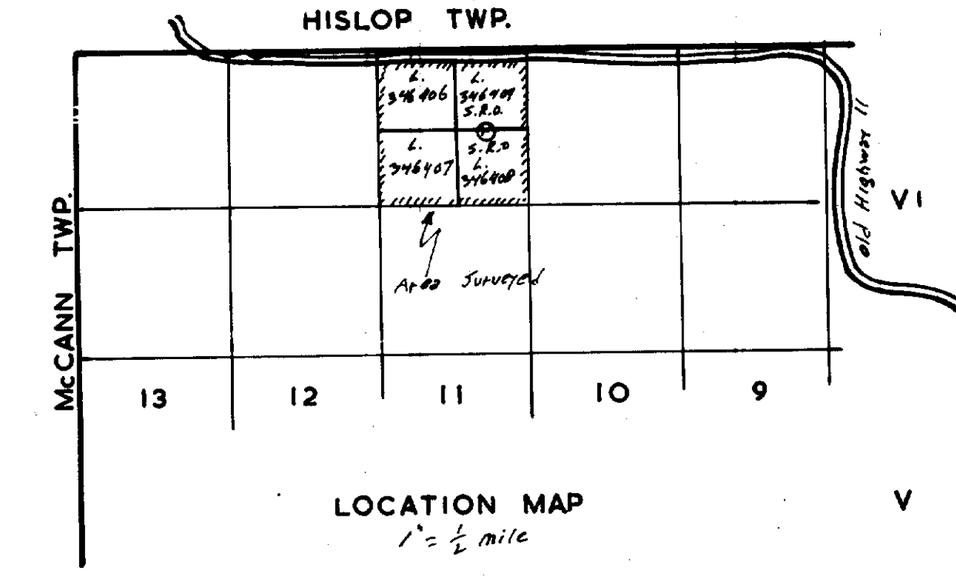
PROTON MAGNETOMETER SURVEY
Total Field Readings

Add 59000 γ to each plotted reading

Readings taken 8 feet above ground level

JUN 27 '75

H. C. Harper.



LOCATION MAP
1" = ½ mile

LEGEND

- over 5000 Gammas
- 4000 to 5000 Gammas
- 3500 to 4000 Gammas
- 3000 to 3500 Gammas
- 2500 to 3000 Gammas
- 2000 to 2500 Gammas
- 1500 to 2000 Gammas
- under 1500 Gammas

K & F PROPERTY

PLAYFAIR TWP.

230