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M.W. RESOURCES LTD.

REPORT ON GEOPHYSICS

CUNNINGHAM TOWNSHIP

VENTURE 170

BY

PLACER DEVELOPMENT LIMITED

July 1980
Toronto, Ontario

INTRODUCTION

During the fall of 1979 a program of orientation work was carried out on the M.W. Resources property. This work tested the exploration approach proposed and consolidated a mass of previous exploration information.

The text of the report on this orientation work is included here as Part I as it is pertinent to the work done later and reported here as Part II. Part I reviews the setting, geology and economic potential of the property.

Part II of this report reports on the geophysical work done in the spring of 1980.

P A R T I

Text excerpted in full from
Summary Report by C. Hilgendorf
within "Report on M.W. Resources
Cunningham Twp., Ontario, V.170
by Placer Development Limited,
February 1980, Toronto"

PART 1. SUMMARY REPORT

LOCATION & ACCESS

The M.W. Property is located in central Cunningham Twp., Porcupine Mining Division, Ontario. The centre of the property is approximately 85 air miles southwest of Timmins and 120 air miles northwest of Sudbury. Access to within ±7 miles of the property is possible with a 4-wheel drive vehicle on an unused logging road and then with an All Terrain Vehicle on the same road to the camp site at Hiram Lake. Helicopter service from Timmins also provides access to the property.

PROPERTY

The property consists of the following:

(1) Twenty patented mining claims:

Claim No.	Parcel No.
S.34944	11110
S.34945	11111
S.34946	11112
S.34947	11113
S.43946	15413
S.43947	15414
S.43948	15945
S.57536	18417
S.57537	18416
S.57538	18415
S.57539	18414
S.57540	18413
S.57541	18412
S.57542*	18411
S.57543*	18410
S.57544*	18409
S.57585	18408
S.61828	18420
S.61829	18419
S.61830	18418

*Parts not covered by water.

contd. ...

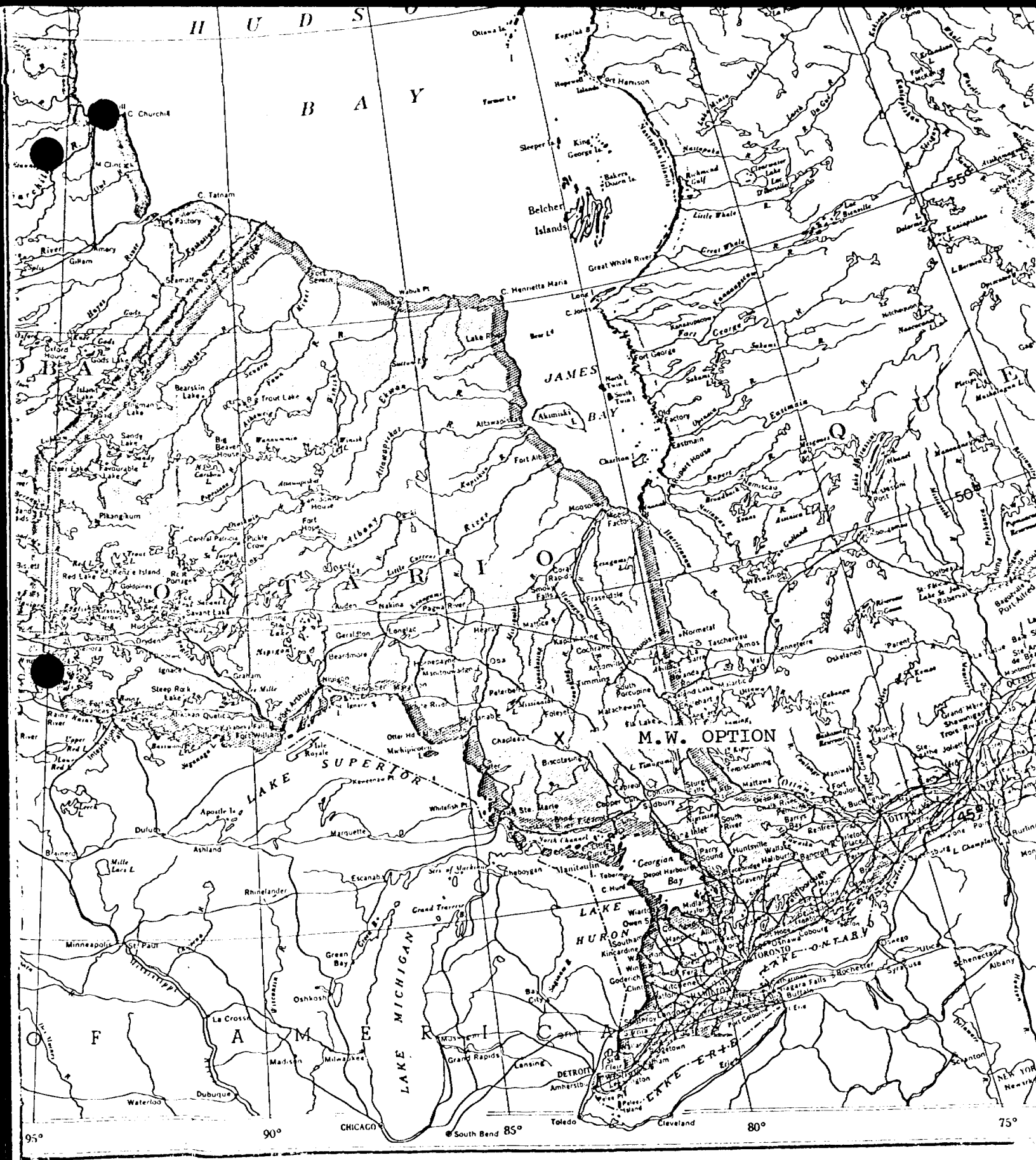

FIGURE 1 GENERAL LOCATION MAP

200 miles

200 km

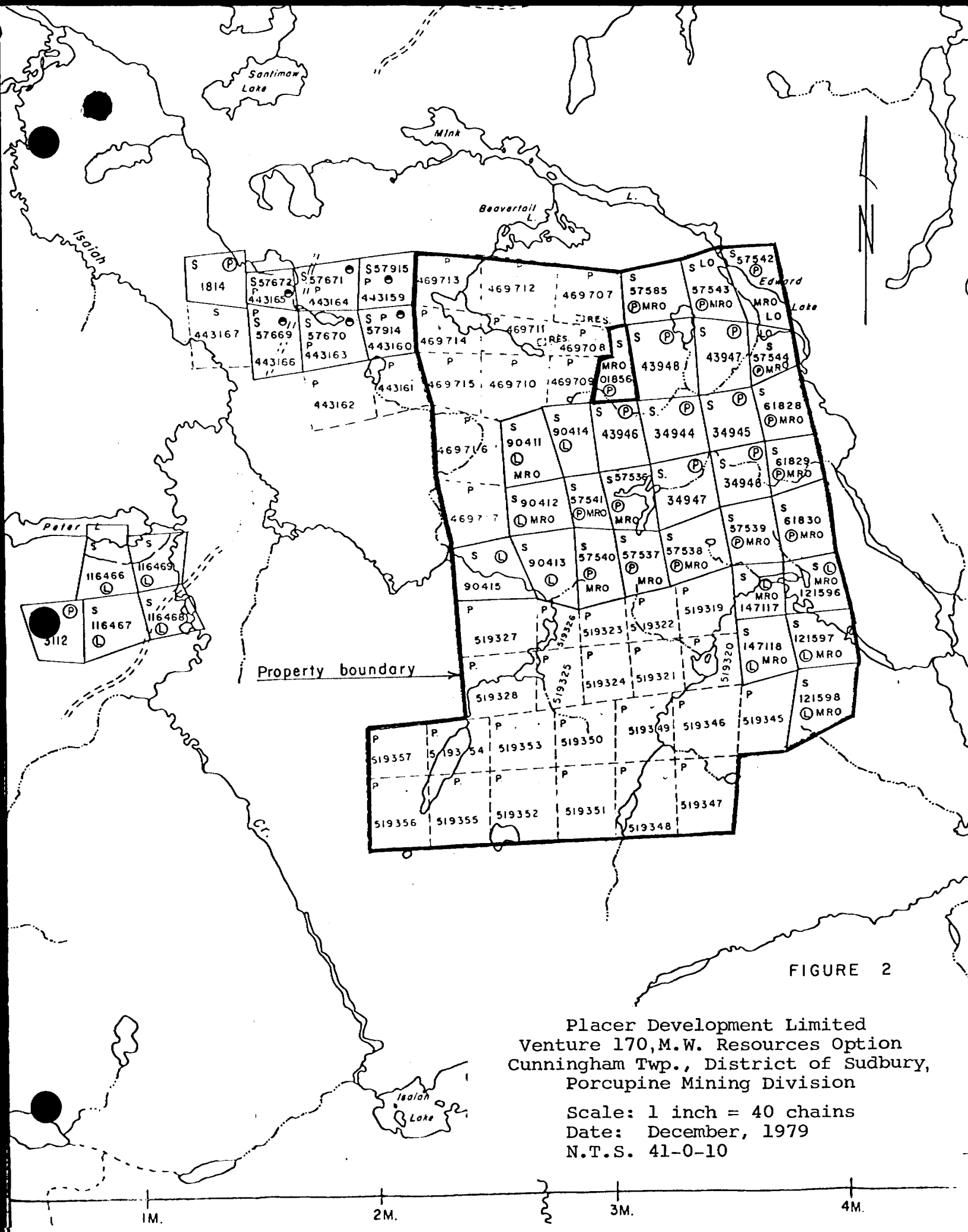

FIGURE 2

Placer Development Limited
Venture 170, M.W. Resources Option
Cunningham Twp., District of Sudbury,
Porcupine Mining Division

Scale: 1 inch = 40 chains
Date: December, 1979
N.T.S. 41-0-10

(2) License of Occupation No.13525 dated February 8, 1963, comprising those parts of claims S.57542, S.57543 and S.57544 covered by the waters of Edwards Lake, comprising 23.32 acres.

(3) Ten patented mining claims held under ten Mining Leases.

Claim No.	Mining Lease No.	Parcel No.	Registered No.
S.90411	100921	742-LSWS	1717-LSWS
S.90412	100920	739-LSWS	1714-LSWS
S.90413	100919	740-LSWS	1715-LSWS
S.90414	100918	741-LSWS	1716-LSWS
S.90415	100917	743-LSWS	1718-LSWS
S.121598	102270	904-LSWS	278782
S.147118	102271	906-LSWS	278784
S.147117	102272	905-LSWS	278783
S.121596	102273	902-LSWS	278780
S.121597	102274	903-LSWS	278781

(4) Thirty-four unpatented mining claims:

Claim No.	Claim No.
P.469707	P.519325
P.469708	P.519326
P.469709	P.519327
P.469710	P.519328
P.469711	P.519345
P.469712	P.519346
P.469713	P.519347
P.469714	P.519348
P.469715	P.519349
P.469716	P.519350
P.469717	P.519351
P.519319	P.519352
P.519320	P.519353
P.519321	P.519354
P.519322	P.519355
P.519323	P.519356
P.519324	P.519357

TOPOGRAPHY

A series of low ridges striking roughly N-S with swampy ground between are the typical topographical features on the claim group. The fire tower hill in the northwest corner of the property is at an elevation of ±300 feet above the surrounding area. There are several lakes and streams on the property providing adequate drainage.

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PREVIOUS WORK

An exploration program consisting of geological mapping, ground geophysics, trenching and 23,941 feet diamond drilling in 87 holes was carried out in the years 1955 to 1961. The majority of the drilling, 60 holes, was on Claim 34947.

During August, 1961, Sheridan Geophysics conducted electromagnetic and magnetometer surveys on Claims 34944-34947 inclusive and parts of 57538 and 57539. A number of conductors were outlined by the electromagnetic survey.

In the months of July and August 1965 H.O. Seigel and Associates Limited carried out an extensive geophysical program consisting of electromagnetic (Turam) and magnetometer (Sharpe MF-1 Fluxgate) surveys. Many anomalies were indicated and a follow-up program of diamond drilling was recommended. In 1965 and 1966, 14,279 feet of drilling was completed, with most of the footage confined to Claim 34947 in the main mineralized zone.

An additional 9,249 feet of diamond drilling in 20 holes was completed in 1968. The drilling program tested the main mineral zone on Claim 34947 at greater depth and along strike to the north and south. A limited amount of geological and geochemical work was done on the Tower Group of claims.

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In 1974 and 1975 Grandora Explorations Ltd. conducted an exploration program consisting of geochemical sampling and 7,444 feet of diamond drilling. The diamond drilling was on the main and south mineralized zones. An orientation geochemical survey was completed over the southerly extension of the South Zone and the eastern part of the Tower Group. The survey outlined anomalous zones that were followed up in the South Zone with negative results, however, there was no follow-up work on the Tower Group.

In May and June of 1978 M.W. Resources diamond drilled 5 holes totalling 1,236 feet to test the basal chert on the Tower Group claims. The result of the test was negative, with the zone being intersected and containing only pyrite and pyrrhotite.

GEOLOGY

General:

The geology of the Cunningham-Garnet area was mapped by V.L. Meen in 1941 and the geology described in Ontario Department of Mines Publication Volume 51, Part 7 and the accompanying Geological Map 51F.

Cunningham Township is underlain by Pre-cambrian rocks, predominately Keewatin basic volcanics, with thin flows of rhyolite, trachyte and dacite found locally. Beds of volcanic tuff, agglomerate and iron formation are also found intercalated with the basic volcanics.

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Lying above these volcanics are conglomerate, quartzite and greywacke, a series of sediments named the Ridout Series.

Granite, peridotite, diorite and diabase intrude the volcanics and sediments as stocks and dikes.

Property Geology:

The property is underlain by andesite intercalated with chert, chert breccia, graphitic argillite and iron formation. All of the above have been intruded by quartz feldspar porphyry, diorite and peridotite dikes and sills.

It is within the chert breccia and interbedded graphitic argillite that the copper-zinc mineralization is found; pyrite and pyrrhotite are also found in the same environment. A variolitic andesite separates the chert members; with the entire sequence dipping to the west at 30°.

The geological mapping of the property in 1965 indicated several E-W trending faults. An examination of geological cross sections indicates: N-S faulting, folding and the east limb of a westerly dipping syncline.

Economic Geology:

Diamond drilling in the mineralized zone over a strike length of 3,000 feet and down dip for 1000 feet, has indicated 2,400,000 tons of mineralized rock with a metal content of 0.39% copper and 2.37% zinc. All of the mineralized rock tonnage is within 500 feet of surface and 883,000 tons with a metal content of 0.36% copper and 3.08% zinc is within 200 feet of surface. Zinc is the principal metal present, however,

contd. ...

there is 400,000 tons of material available with a metal content of 1.25% copper and 1.70% zinc within the 2,400,000 tons of mineralized rock. More drilling would be needed to place the indicated tonnage into an ore reserve category. Based on the indicated metal content and depth of the deposit an open pit method of mining should be considered.

WORK DONE

During the months of September, October and November, 1979 Placer Development: staked 23 claims, cut 13 miles of line to establish a grid, ran 11.5 miles of EM.17 survey, ran 11.5 miles of magnetometer survey, ran 11.5 miles of EM.16 survey, conducted a geochemical survey over the grid and examined diamond drill core stored on the property. The grid was established on Claims S.57538, S.57539, S.61830, S.121596, S.147117, S.121597, S.147118, P.519319 and P.519320 to trace the mineralized zone to the southeast by geophysical and geochemical surveys. The orientation surveys were successful in tracing the geology and mineralized zone to the southeast. The examination of drill core confirmed the names assigned to the rocks by earlier geologists.

The soil samples of the geochemical survey were taken at 100 foot intervals on the established grid, analysed for copper, lead and zinc, and the results contoured on 1" = 200' maps. The contour mapsindicate an extension to the southeast for the mineralized zone.

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The geophysical survey was successful in outlining an interesting anomaly with coincident geochemical anomalies on line 4+00S at 29+00E. This anomaly is worthy of further testing.

CONCLUSIONS

The orientation geophysical and geochemical surveys were successful in tracing geology and mineralized zones to the southeast from the areas of known geology and mineralization. The success of the geophysical and geochemical surveys point toward further surveying of this type, along with geological surveying to locate targets for testing by diamond drilling on other parts of the property.

Respectfully Submitted,

Chas. Hilgendorf

CH/of

C. Hilgendorf
Project Geologist

63.2261

WORK DONE

The work done comprises the following:

March-April 1980			
Linecutting	30.65 miles	(49.32 km)	
EM.17	28.86 miles	(46.44 km)	1790 Stations
EM.16	29.58 miles	(47.59 km)	3033 Stations
Magnetic	32.09 miles	(51.63 km)	3207 Stations
Fall 1979			
Linecutting	3.2 miles	(5.15 km)	
EM.17	3.2 miles	(5.15 km)	174 Stations
EM.16	3.2 miles	(5.15 km)	347 Stations
Magnetic	3.2 miles	(5.15 km)	354 Stations

The work done on claims P.519319 and P.519320 in 1979 is reported on in an earlier report(1) but is included here for assessment purposes.

Access during March and April was by helicopter from Sultan, and by skidoo over the property. After the linecutting was completed the geophysics took 42 man days of field work.

The data is recorded in the drawings No.170-8 & 8A to No.170-16 & 16A inclusive in the pockets of this report.

GEOPHYSICAL INTERPRETATION

Several earlier E.M. surveys were done on this property. A considerable number of anomalies located have been tested by drilling. A problem occurs however, when trying to overlay the old work upon the new, as the grids are not exactly true to scale, and some juggling is required to make things fit.

contd. ...

(1) Report on M.W. Resources Ltd., Cunningham Twp., Ontario, V.170, by Placer Development Limited, February 1980.

In spite of this it is possible to generally correlate the old work and drilled anomalies with the new work and the old data has been taken into account in interpreting the anomalies and in selecting and recommending drillholes.

Strong magnetic anomalies due to iron formations found within the grid area in 1980 were a surprise as none were encountered during the orientation work done in 1979.

These iron formations complicate the geophysical results and sometimes make a numerical estimate of conductivity thicknesses and depths to tops quite difficult. Nevertheless, a fair number of anomalies have been recognized and widths and trends can often be interpreted from the data.

The very strong magnetic gradients associated with outcropping iron formations can prevent a proton precession magnetometer from operating properly. During the course of this survey, a considerable number of stations were occupied where it was not possible to take a reading, as the magnetic gradient at the station was above the tolerance of the magnetometer. In the accompanying drawings, these areas have been outlined, and labelled as areas of unreliable magnetic data. Although the boundaries of these areas do not exactly correspond with areas of iron formation, and the iron formations may extend into areas of reliable magnetic data, it may safely be assumed that these areas of unreliable magnetic data do contain a considerable amount of outcropping or suboutcropping iron formation.

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The magnetic map allows the division of the geology into two classes; magnetic iron formations, and rocks which are not magnetic in comparison. In the presence of the iron formations it is not possible to differentiate between the cherts, and the tuffs, andesites and porphyry rocks, although the cherts do have a different range of susceptibilities.

Some particular magnetic features are worthy of mention.

On the west end of line 44S (South Grid) there is an anomaly 8000 gammas above background which trends north up the west side of the lake. This is interpreted to be a banded iron formation with an estimated magnetite content of about 15%. The boundary of the formation is approximately defined by the 13000 gamma contour here.

On the North Grid the mapped occurrence of andesites corresponds well with the undisturbed magnetic reading on the north end of the grid. The mapped geologic trends and the magnetic trends here agree well, the rocks mapped as unit 17, a feldspar porphyry and its aphanitic phase correspond well to regions of magnetic lows.

The E.M. anomalies are numbered on the EM.17 drawings and are briefly tabulated here.

contd. ...

North Grid

(1) This anomaly appears to have been drilled by the Jim 2 hole shown on the geologic map of Shunsby Mines(1). Dip is interpreted to be steep and variable, eastward at 0+75W on L16S and westward at 2+00E on L24S. A trench is shown on the geologic map with pyrite and copper indicated. This trench probably lies over the anomaly trace. The anomaly does not warrant further work.

(2) This anomaly lies in a cedar swamp and has a coincident VLF E.M. anomaly. The estimated conductivity-thickness is 8 mhos on line 20S and less than 1 mho on line 24S. Dip is interpreted as near vertical. A weak magnetic association is present. This is probably a small bedrock conductor. Its narrow width and length downgrade its importance and it is not considered to be worth testing.

(3) This anomaly can be traced over a considerable strike length, from L12N to 24S and generally dips eastward. The interpreted dip varies from near flat on line 0 to near vertical on lines 12S and 16S. The anomaly trace parallels the diorite chert contact shown on the Shunsby geology map and it is plausible to say the feature is a faulted contact. However the old base-line indicated in the drawing was found and taken together with the positions of the lakes it appears to parallel the mapped contact. The anomaly trace cuts off a number of probable stratigraphic features shown in the magnetics. It is felt to be a structural feature. The drillhole, which plots at about 9+30W, 13+00S and was drilled east probably tested this anomaly.

contd. ...

(1) August 12, 1970, Shunsby Mines, Geology Map. 1" = 200'

As this anomaly appears to be a structural feature, and has been tested, while we are seeking a target we believe to be stratigraphic, no drillhole is recommended here.

(4) This is a short two line anomaly which lies close to the diorite chert boundary. There is no magnetic association with it. The conductivity thickness of 40 mhos is attractive, but it appears to have been tested by an old drillhole. No further drilling is recommended.

(5) This anomaly is seen on line 0, 4S and 8S. It is not possible to estimate the dip because of interference from other E.M. anomalies. Strikes mapped in this area cut across the E.M. anomaly and a major, parallel structure is mapped nearby, a large fault trending south from Springer Lake.

The anomaly is felt to be probably due to structure. No hole is recommended.

(6) The trace of anomaly 6 corresponds well with the trend of a strong fault going from Springer Lake south. The E.M. indicates a variable dip, generally steep, but possibly westward where the trace crosses L8N and possibly eastward at 16N.

No hole is recommended on this feature.

(7) The northern end of the anomaly trace ends in an area of extremely confused data where the line orientation almost parallels the geologic strike. The trace might easily extend north and correspond to the horizon drilled in holes 19 through 25.

The strike of the geology corresponds to the strike of the trace.

contd....

On line 4S this anomaly has a width of 30 feet or more and on L0 a probable width of 50 feet or more. Further north it is not possible to estimate the width.

There is no coincident magnetic anomaly on line 4S, and further north up the trace the magnetic data is confused.

The anomaly may not have been defined south from the area drilled because of the placement of the grid lines of the earlier E.M. survey.

A hole is recommended to test this anomaly. The geologic dip is mapped NW.

The anomaly was of interest to the north, with six holes drilled into it and as it may not have been traced to the south, a hole is recommended to trace its southern extension. This hole is recommended to be at 3+00S, 4+50W and drilled 115° true N at -45° to a depth of 250'.

(8) This anomaly is seen on only one line, although it might be possible to consider it as part of the widened anomaly 3 on line 8N. As dips here are flatlying it may trend anywhere without being transgressive.

This anomaly does not appear to have been drill tested and is probably a stratigraphic horizon.

It may be worth a hole, but the limited size of the feature, as a flatlying feature, downgrades its importance.

(9) A weak anomaly paralleling anomaly trace 6. This is probably a structural feature.

A hole is not recommended.

contd. ....

(10) This may either be a small structural feature paralleling 3 or 10 and 3 may actually be a wide, low conductivity anomaly. If this is so it would trend down through the anomaly trace of 3 on L8N to anomaly 8 on line 4N.

In either case, the anomaly appears to have been tested by drillhole 27, on the old geology map. No further hole is recommended.

(11) This anomaly trace intersects both a NS line (20W) and an EW line (BL 3). The anomaly appears short and there is considerable trenching in the immediate area.

No further work is recommended on this anomaly.

(12) This anomaly trace corresponds to a mapped fault extending south from the east end of Springer Lake.

No further work is recommended on this anomaly.

(13) This anomaly corresponds with a mapped fault in the cherts at the west end of Springer Lake. The source is considered to be structural and no hole is recommended.

(14) A small isolated anomaly in the andesites mapped. Without further encouragement no drilling is recommended.

(15) A small isolated anomaly in the andesites mapped. Without further encouragement no drilling is recommended.

(16) This anomaly coincides well with the mapped contact between the cherts and the andesites. Considerable prospecting and drilling has been done along this contact and no further work is recommended.

contd. ...

(17) This is a wide anomaly within the area of extensive iron formation occurrences. The source of the E.M. anomaly is not known but considerable work has been done in this area previously and, considering the trenching and drilling already done the anomaly may be considered tested and no further work is recommended on it.

(18) A two line flatlying anomaly within an area of extensive iron formation occurrences. Considerable work has been done in this area. No further work is recommended.

(19, 20, 21)

These anomalies are very confused and may be a group of anomalies close together or just one anomaly. The geologic dip here is quite shallow and the topography quite rugged, so the features trend all over the place. Considerable work has been done here before so no further work is recommended

(22) This anomaly is difficult to trace as it is at the ends of lines and half covered with some lines. On line 16E dip is interpreted to be shallow towards the north. Considerable work has been done in this area and no further work is recommended.

South Grid

(23) This is an isolated conductor in an area mapped as andesites. There is no magnetic association with it. Without further encouragement no further work is recommended.

contd. ...

(24) This is an isolated conductor on line 28S with a weak expression on line 24S. There is a magnetic anomaly associated with it, and it appears to parallel the banded iron formation indicated by the magnetic survey on the west shore of Forlorn Lake. Without further encouragement no further work is recommended.

(25) This anomaly was recognized in the 1964 E.M. survey as part of anomaly group B2. There is some trenching immediately east of and close to the anomaly. This anomaly and anomaly 26 & 27 are all in an apparently similar setting. A hole is recommended on anomaly 27 and without encouragement here further work is not recommended on anomaly 25. There is with anomaly 25 a strong magnetic association which has a strike length considerably longer than the E.M. conductor.

(26) This anomaly was recognized in the 1964 E.M. survey as part of anomaly group B2. There is with the anomaly a magnetic association considerably longer than the E.M. conductor. A strong similarity exists between anomalies 25, 26 & 27 and pending a drill test of anomaly 27 no further work is recommended here.

(27) This anomaly was recognized in the 1964 E.M. survey as part of anomaly group B2. There is here a magnetic association considerably longer than the strike length of the E.M. conductor. This anomaly dips eastward on line 8S and is difficult to interpret a dip on lines 12S and 16S. However on 16S anomaly 25 is interpreted to dip eastward. A drillhole is recommended on line 16+00S at station 15+75W, drill grid west (270° grid) at -45° to 250 feet.

contd. ...

(28) This anomaly was found by the 1964 E.M. survey of grid area "A". It has been tested by several drillholes and no further work is recommended.

(29) This anomaly parallels 28 and was located during the 1964 survey of grid area "A". It was tested by a drillhole after that survey and no further work is recommended.

(30) This weak anomaly trends NW through the grid surveyed in the fall of 1979. It is interpreted to be the result of a high resistivity contact and is not considered significant.

(31) This is a short shallow conductor with a 6 mho response on one line. It is associated with a strong magnetic disturbance which is probably an iron formation. Without further encouragement no further work is recommended.

(32) A weak conductor associated with a magnetic anomaly. The E.M. anomaly is probably related to the iron formation causing the magnetic anomaly, but the anomaly is not caused by the iron formation as it does not exhibit the out of phase reversal characteristic of magnetic conductors. Without further encouragement no further work is recommended.

RECOMMENDATIONS AND CONCLUSIONS

Two drillholes are recommended to test favourable targets located by the work covered in this report.

These are:

North Grid. 3+00S station 4+50W drill 115° True North at -45° to a depth of 250 feet to test a possible extension of a zone drilled to the north. The anomaly has a width of 30 feet or more and a depth to top of 10 feet indicated.

contd. ...

South Grid. L16+00S station 15+75W drill grid 270° at -45° to 250 feet. This hole will test one of a group of untested anomalies in the south grid area.

On the basis of the work done to date the two holes above are warranted. If further work prior to drilling were contemplated, it would be worthwhile doing soils geochemistry over the isolated, untested anomalies in the south grid area in order to sort them and to try to upgrade some of them to drill targets.

Respectfully Submitted,

Peter Kowalczyk

Peter Kowalczyk
Geophysicist

PK/of

2.2969

BIBLIOGRAPHY

1. Report on Consolidated Shunsby Mines Property, Cunningham Township, Sudbury Mining Division, Ontario, February 1972. R.A. Halet, Consulting geologist.

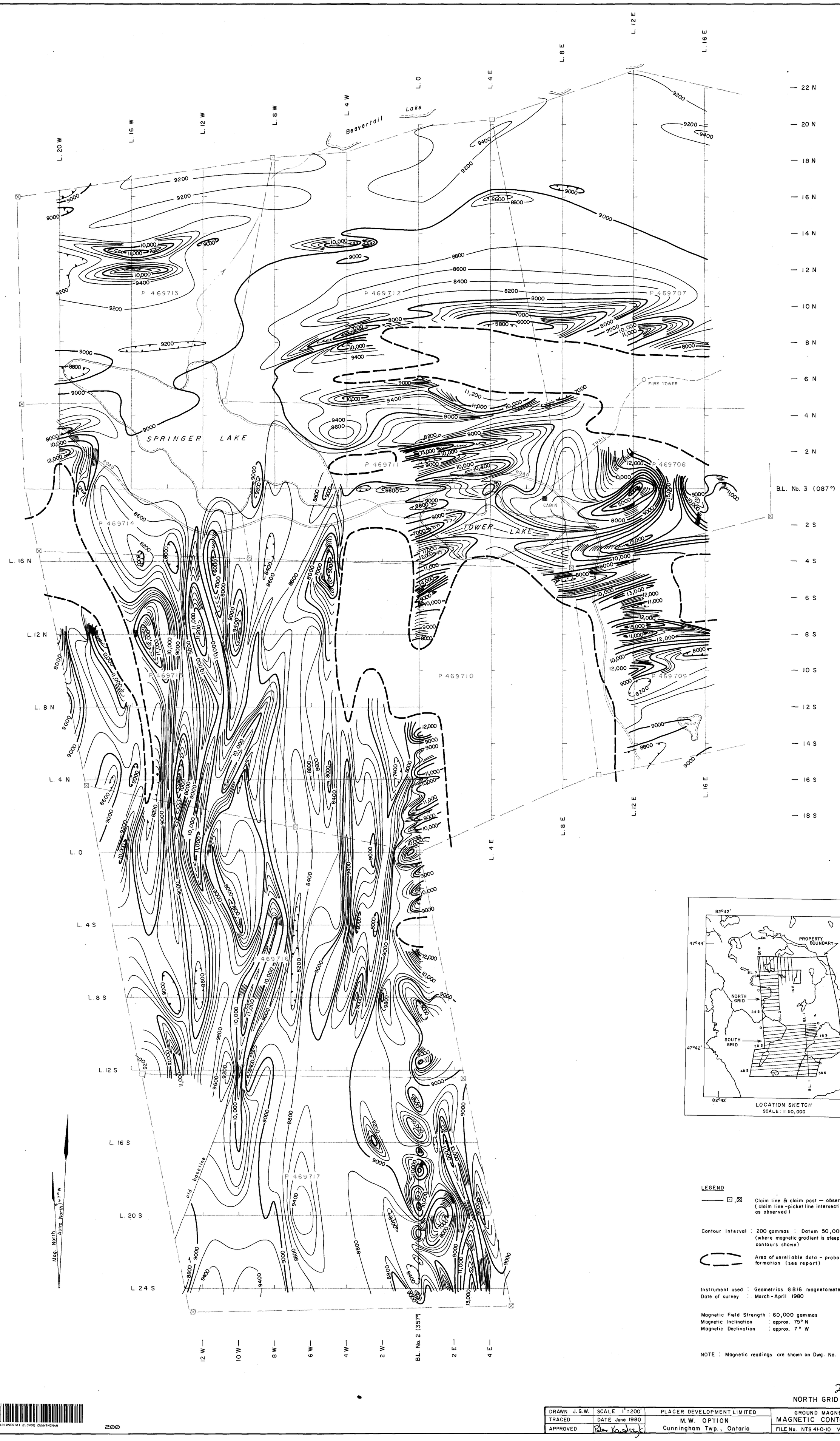
2. Summary Report, Shunsby Property, Cunningham Township, Sudbury Mining Division, Ontario, 1975 F. Holcapek for Grandora Explorations Ltd.

3. Report on M.W. Resources Ltd., Cunningham Twp., Ontario, Venture 170 by Placer Development Limited, February 1980, Toronto, Ontario.

4. Shunsby Mines Lt., Magnetic and Electromagnetic Survey in Cunningham Township, Ontario, February, 1964.

5. Geology Map: Consolidated Shunsby Mines Tower (North) Group, Cunningham Township, Sudbury Mining Division, Ontario. Scale: 1" = 200', August 12, 1970. (This map has been summarized as drawing 170-17 in this report)

6. Geology Map: Geological Plan Shunsby Mines, Cunningham Township, Scale: 1" = 400 '. (This map has been summarized as drawing 170-17 in this report)



LEGEND

——— ⊡,⊠ Claim line & claim post — observed, inferred (claim line-picket line intersections plotted as observed)

Contour Interval : 200 gammas : Datum 50,000 gammas (where magnetic gradient is steep only 1000 γ contours shown)

Area of unreliable data - probable iron formation (see report)

Instrument used : Geometrics G 816 magnetometer
Date of survey : March - April 1980

Magnetic Field Strength : 60,000 gammas
Magnetic Inclination : approx. 75° N
Magnetic Declination : approx. 7° W

NOTE : Magnetic readings are shown on Dwg. No. 170-8A

2.3452

NORTH GRID (Baselines 2&3)

DRAWN J.G.W.	SCALE 1"=200'	PLACER DEVELOPMENT LIMITED	GROUND MAGNETOMETER SURVEY
TRACED	DATE June 1980	M.W. OPTION	MAGNETIC CONTOURS - TOTAL FIELD
APPROVED	Peter Kowalczyk	Cunningham Twp., Ontario	FILE No. NTS 41-O-10 V 170 Dwg. No. 170-8

41O10NE9101 2.3452 CUNNINGHAM

200

P 469713
P 469712
P 469707
P 469714
P 469711
P 469708
P 469715
P 469710
P 469709
P 469716
P 469717

SPRINGER LAKE
Beavertail Lake
TOWER LAKE
Pond
FIRE TOWER
CABIN
ROAD
TRAIL
old baseline

L. 20 W
L. 16 W
L. 12 W
L. 8 W
L. 4 W
L. 0
L. 4 E
L. 8 E
L. 12 E
L. 16 E

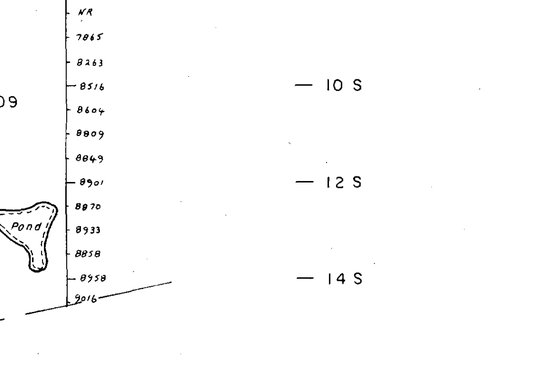
22 N
20 N
18 N
16 N
14 N
12 N
10 N
8 N
6 N
4 N
2 N
B.L. No. 3 (087°)
2 S
4 S
6 S
8 S
10 S
12 S
14 S
16 S
18 S

L. 16 N
L. 12 N
L. 8 N
L. 4 N
L. 0
L. 4 S
L. 8 S
L. 12 S
L. 16 S
L. 20 S
L. 24 S

B.L. No. 2 (357°)

12 W
10 W
8 W
6 W
4 W
2 W
2 E
4 E

Mag. North
Astro North
7° W



LOCATION SKETCH
SCALE : 1: 50,000

LEGEND

——— ⊡, ⊠ Claim line & claim post – observed, inferred (claim line – picket line intersections plotted as observed)

9280 Total magnetic intensity in gammas – datum 50,000 γ

NR no reading

△ Base station

NOTE : Magnetic contours are shown on Dwg. No 170-8

Instrument used : Geometrics G 816 magnetometer
Date of survey : March - April, 1980

Magnetic Field Strength : 60,000 gammas
Magnetic Inclination : approx. 75° N
Magnetic Declination : approx. 7° W

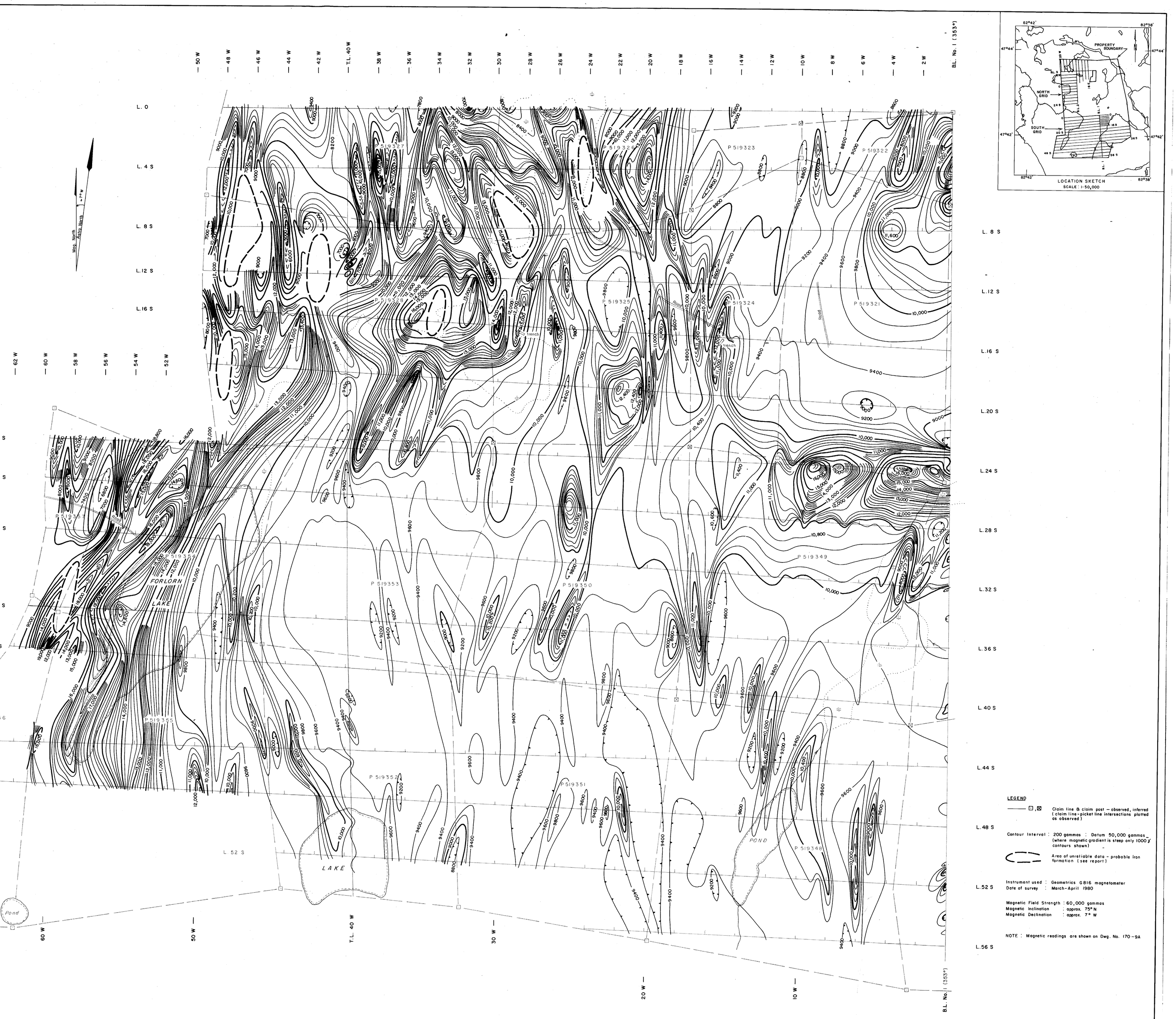
2.3452

NORTH GRID (Baselines 2 & 3)

DRAWN J.G.W.	SCALE 1"=200'	PLACER DEVELOPMENT LIMITED	GROUND MAGNETOMETER SURVEY
TRACED	DATE June 1980	M.W. OPTION	MAGNETIC READINGS - TOTAL FIELD
APPROVED	Peter Lowden	Cunningham Twp., Ontario	FILE No. NTS 41-0-10 V 170 Dwg. No. 170-8A

41010NE9101 2.3452 CUNNINGHAM

210



LEGEND

Claim line & claim post — observed, inferred (claim line-picket line intersections plotted as observed)

Contour Interval : 200 gammas : Datum 50,000 gammas (where magnetic gradient is steep only 1000 γ contours shown)

Area of unreliable data - probable iron formation (see report)

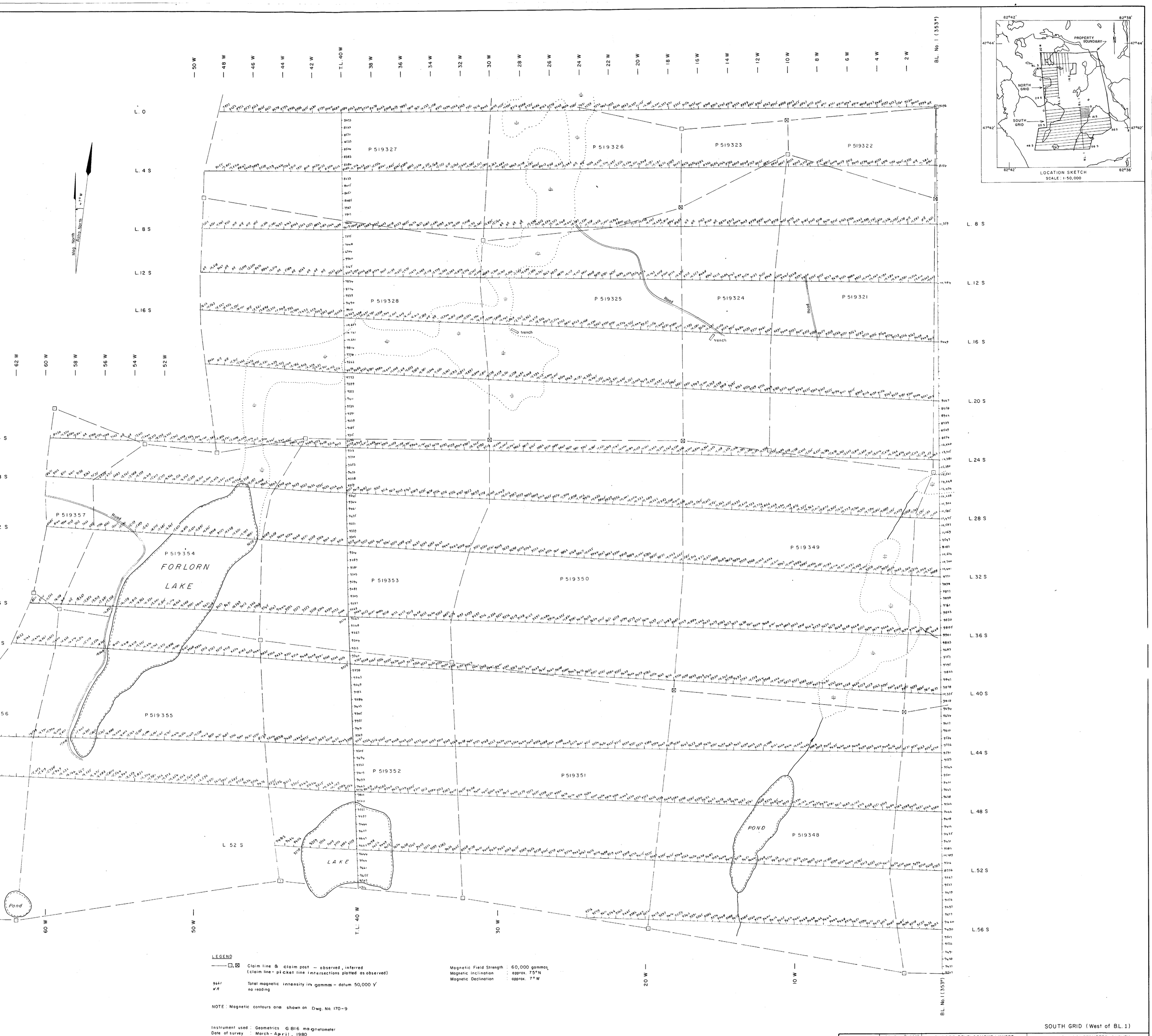
Instrument used : Geometrics G816 magnetometer
Date of survey : March-April 1980

Magnetic Field Strength : 60,000 gammas
Magnetic Inclination : approx. 75° N
Magnetic Declination : approx. 7° W

NOTE : Magnetic readings are shown on Dwg. No. 170-9A

SOUTH GRID (West of BL. 1)

DRAWN J.G.W.	SCALE 1"=200'	PLACER DEVELOPMENT LIMITED	GROUND MAGNETOMETER SURVEY
TRACED	DATE June 1980	M.W. OPTION	MAGNETIC CONTOURS - TOTAL FIELD
APPROVED		Cunningham Twp., Ontario	



LEGEND

——□,⊠ Claim line & claim post — observed, inferred
(claim line - picket line intersections plotted as observed)

9641 Total magnetic intensity in gammas - datum 50,000 γ
K/R no reading

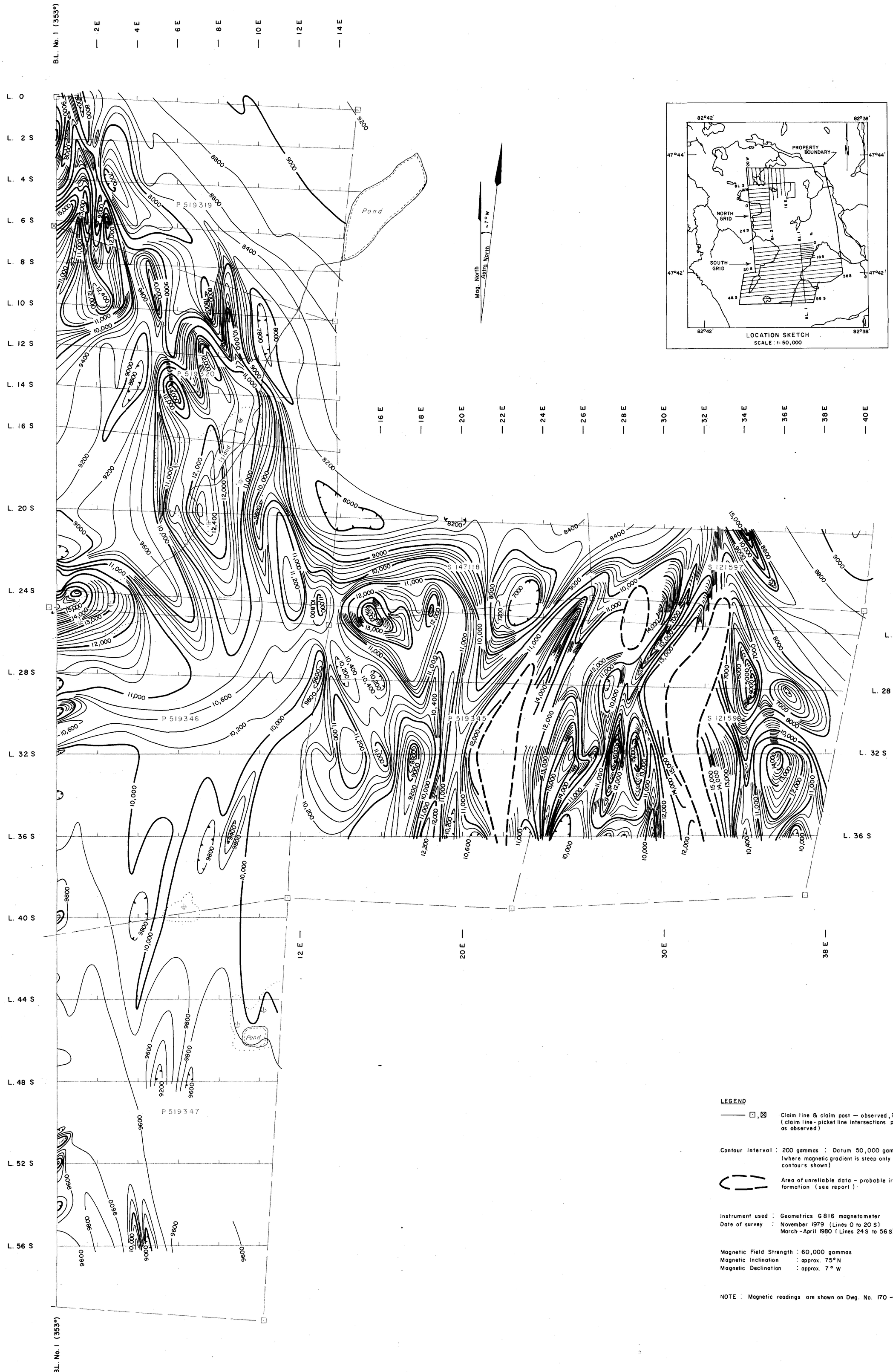
NOTE : Magnetic contours are shown on Dwg. No. 170-9

Instrument used : Geometrics G 816 magnetometer
Date of survey : March - April, 1980

Magnetic Field Strength : 60,000 gammas
Magnetic Inclination : approx. 75°N
Magnetic Declination : approx. 7° W

SOUTH GRID (West of BL. 1)

DRAWN J.G.W.	SCALE 1"=200'	PLACER DEVELOPMENT LIMITED	GROUND MAGNETOMETER SURVEY
TRACED	DATE June 1980	M.W. OPTION	MAGNETIC READINGS - TOTAL FIELD



LEGEND

——— □,⊠ Claim line & claim post — observed, inferred (claim line - picket line intersections plotted as observed)

Contour Interval : 200 gammas : Datum 50,000 gammas (where magnetic gradient is steep only 1000γ contours shown)

Area of unreliable data - probable iron formation (see report)

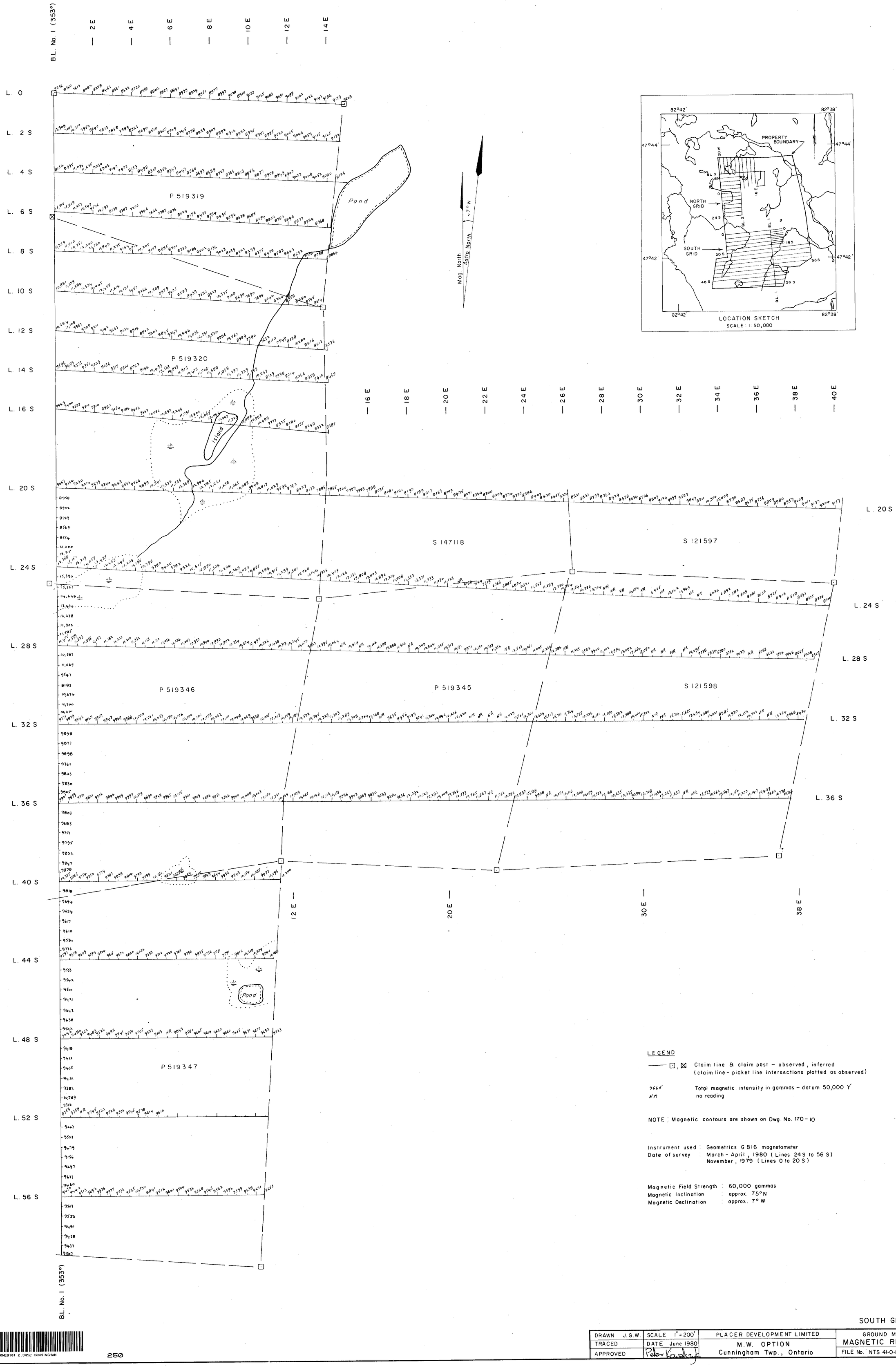
Instrument used : Geometrics G 816 magnetometer
Date of survey : November 1979 (Lines 0 to 20 S)
March - April 1980 (Lines 24 S to 56 S)

Magnetic Field Strength : 60,000 gammas
Magnetic Inclination : approx. 75° N
Magnetic Declination : approx. 7° W

NOTE : Magnetic readings are shown on Dwg. No. 170 - 10A

SOUTH GRID (East of B.L. 1)

DRAWN J.G.W.	SCALE 1"=200'	PLACER DEVELOPMENT LIMITED	GROUND MAGNETOMETER SURVEY
TRACED	DATE June 1980	M.W. OPTION	MAGNETIC CONTOURS - TOTAL FIELD
APPROVED	Peter Kowalczyk	Cunningham Twp., Ontario	FILE No. NTS 41-0-10 V 170 Dwg. No. 170-10



LOCATION SKETCH
SCALE : 1: 50,000

LEGEND

—— ⊡, ⊠ Claim line & claim post – observed, inferred
(claim line – picket line intersections plotted as observed)

9665 Total magnetic intensity in gammas – datum 50,000 γ

NR no reading

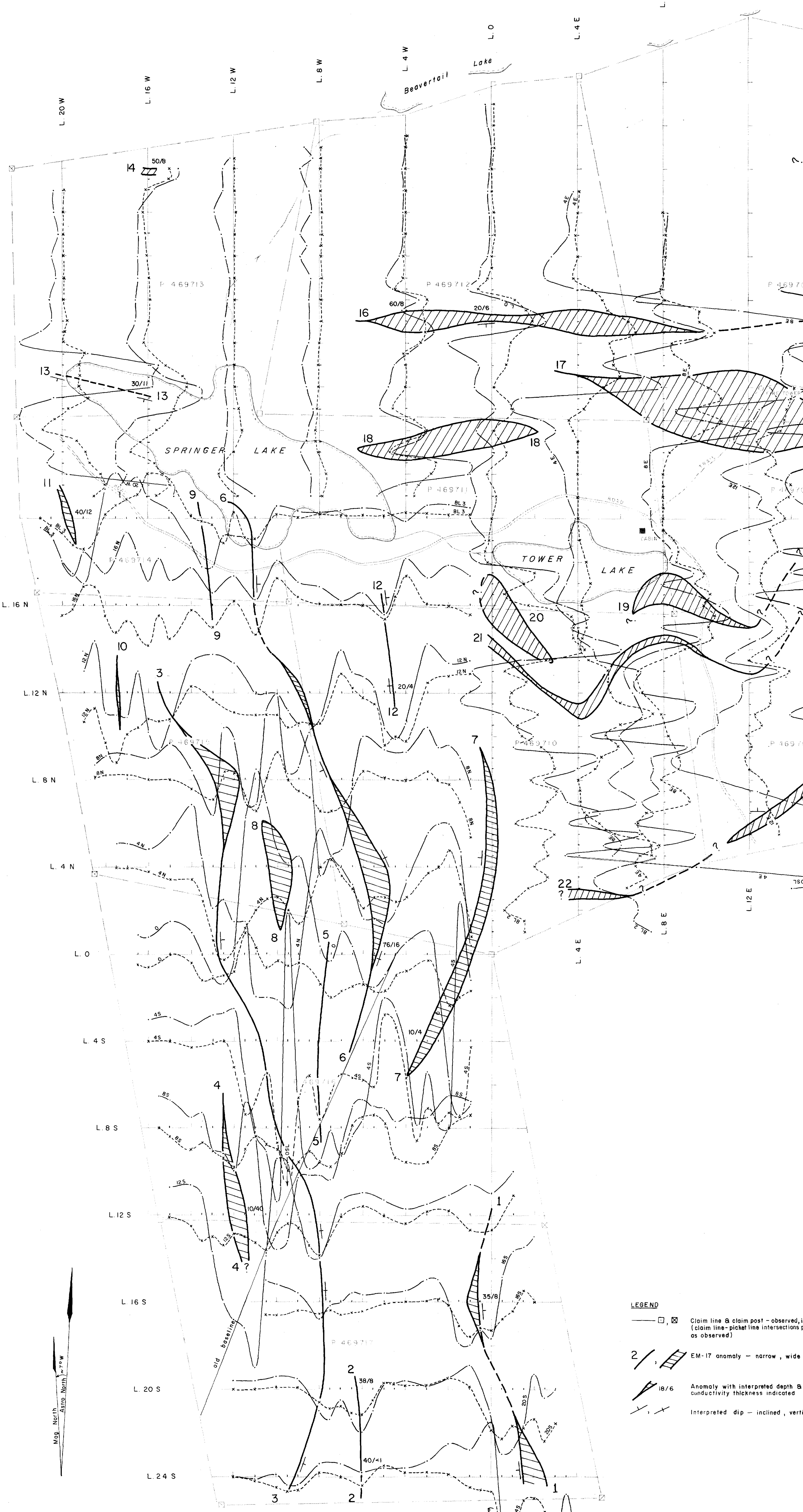
NOTE : Magnetic contours are shown on Dwg. No. 170–10

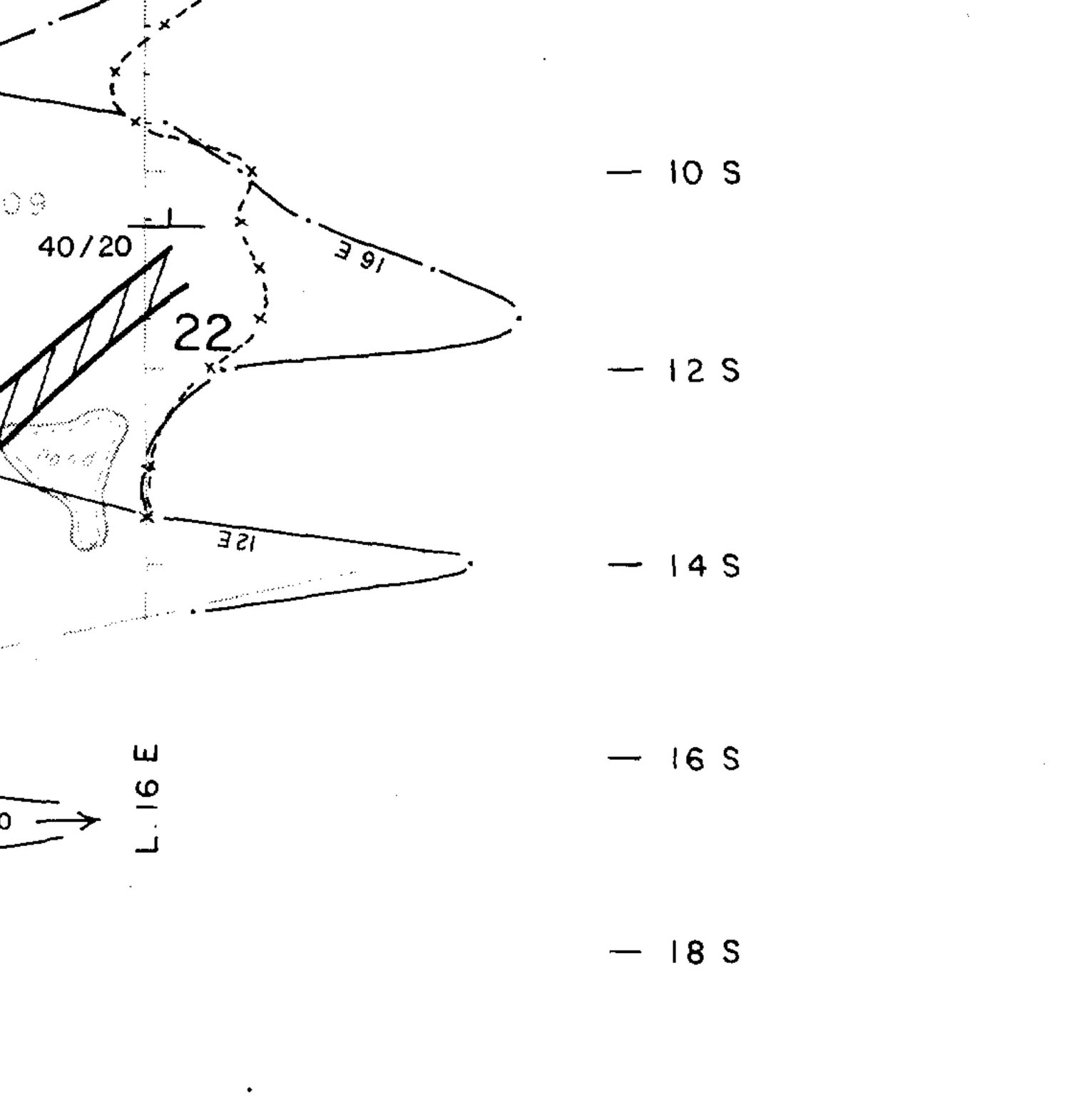
Instrument used : Geometrics G 816 magnetometer
Date of survey : March – April, 1980 (Lines 24 S to 56 S)
November, 1979 (Lines 0 to 20 S)

Magnetic Field Strength : 60,000 gammas
Magnetic Inclination : approx. 75° N
Magnetic Declination : approx. 7° W

SOUTH GRID (East of B.L. 1)

DRAWN J.G.W.	SCALE 1"=200'	PLACER DEVELOPMENT LIMITED	GROUND MAGNETOMETER SURVEY
TRACED	DATE June 1980	M.W. OPTION	MAGNETIC READINGS – TOTAL FIELD
APPROVED	Peter Kowalczyk	Cunningham Twp., Ontario	FILE No. NTS 41-0-10 V 170 Dwg No. 170-10A





LOCATION SKETCH
SCALE : 1: 50,000

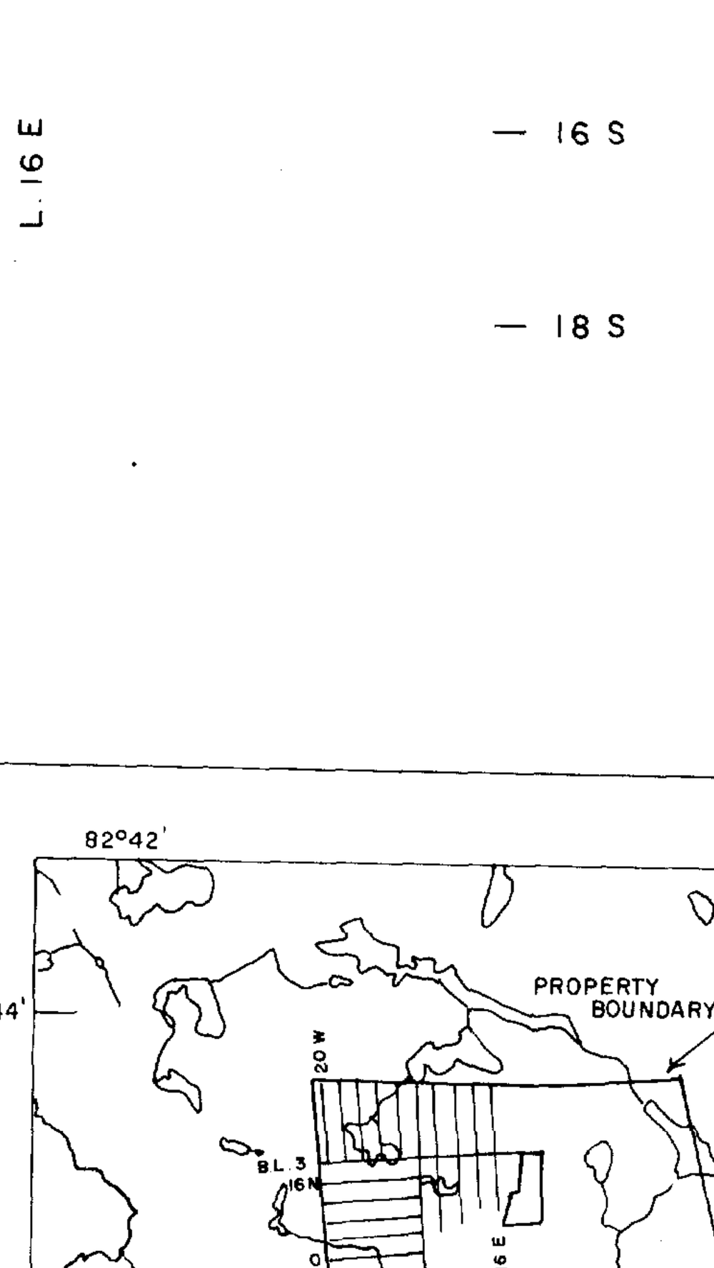
LEGEND

Claim line & claim post - observed, inferred (claim line-picket line intersections plotted as observed)

EM-17 anomaly — narrow, wide

Anomaly with interpreted depth & conductivity thickness indicated (ft./mhos)

Interpreted dip — inclined, vertical



Profile Scale : 1" = 20%

Instrument used : EM-17
Frequency : 1600 Hz.
Coil Separation : 200 feet
Date of survey : March-April 1980

NOTE: In-phase & quadrature readings are shown on Dwg. No. 170-11A

2.3452

NORTH GRID (Baselines 2 & 3)

DRAWN JGW	SCALE 1"=200'	PLACER DEVELOPMENT LIMITED	HORIZONTAL LOOP EM SURVEY
TRACED	DATE June 1980	M.W. OPTION	EM-17 PROFILED DATA & INTERPRETATION
APPROVED	[signature]	Cunningham Twp., Ontario	FILE No. NTS 41-0-10 V 170 Dwg. No. 170-11

41010NE9101 2.3452 CUNNINGHAM

260

L. 20 W
L. 16 W
L. 12 W
L. 8 W
L. 4 W
L. 0
L. 4 E
L. 8 E
L. 12 E
L. 16 E

Beavertail Lake

P 469713
P 469712
P 469707
P 469711
P 469708
P 469714
P 469710
P 469709
P 469715
P 469716
P 469717

SPRINGER LAKE
TOWER LAKE
ROAD
TRAIL
CABIN
FIRE TOWER
Pond

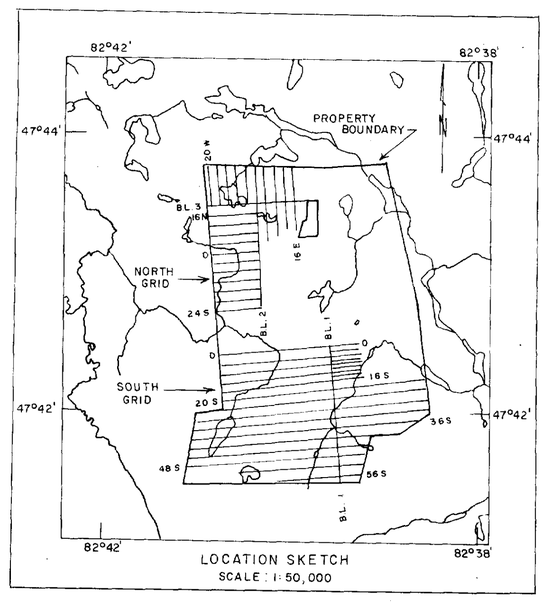
L. 16 N
L. 12 N
L. 8 N
L. 4 N
L. 0
L. 4 S
L. 8 S
L. 12 S
L. 16 S
L. 20 S
L. 24 S

22 N
20 N
18 N
16 N
14 N
12 N
10 N
8 N
6 N
4 N
2 N
B.L. No. 3 (087°)
2 S
4 S
6 S
8 S
10 S
12 S
14 S
16 S
18 S

old baseline

Mag. North
Astro North ~ 7° W

12 W — 10 W — 8 W — 6 W — 4 W — 2 W — B.L. No. 2 (357°) — 2 E — 4 E



LOCATION SKETCH
SCALE : 1: 50,000

LEGEND

——— □, ⊠ Claim line & claim post – observed, inferred (claim line – picket line intersections plotted as observed)

quadrature(%) / in-phase (%)

i p quad.
+3 −18
−3 +20

Instrument used : E M - 17
Frequency : 1600 Hz.
Coil Separation : 200 feet
Date of survey : March - April , 1980

NOTE : Profiles are shown on Dwg. No. 170 – 11

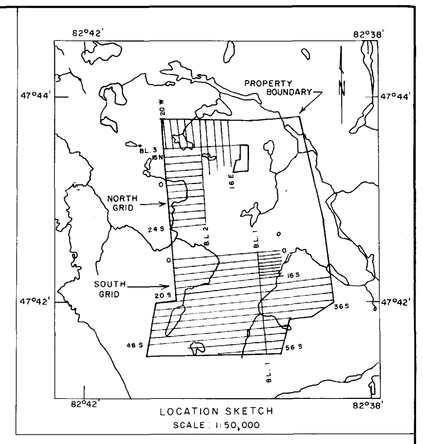
2.3452

NORTH GRID (Baselines 2 & 3)

DRAWN J. G. W.	SCALE 1"=200'	PLACER DEVELOPMENT LIMITED	HORIZONTAL LOOP EM SURVEY
TRACED	DATE June 1980	M. W. OPTION	EM - 17 READINGS
APPROVED	Peter Kowalczyk	Cunningham Twp., Ontario	FILE No. NTS 41-0-10 V 170 Dwg. No. 170-11A

41010NE9101 2.3452 CUNNINGHAM

270



— 50 W — 48 W — 46 W — 44 W — 42 W — T.L. 40 W — 38 W — 36 W — 34 W — 32 W — 30 W — 28 W — 26 W — 24 W — 22 W — 20 W — 18 W — 16 W — 14 W — 12 W — 10 W — 8 W — 6 W — 4 W — 2 W — BL. No. 1 (353°)

L. 0

L. 4 S

L. 8 S

L.12 S

L.16 S

Mag. North 7°W Astro North

— 66 W — 64 W — 62 W — 60 W — 58 W — 56 W — 54 W — 52 W

L. 24 S

L. 28 S

L. 32 S

L. 36 S

L.40 S

L. 44 S

L. 48 S

L. 52 S

L. 56 S

FORLORN LAKE

LAKE

60 W — 50 W — T.L. 40 W — 30 W — 20 W — 10 W — BL. No. 1 (353°)

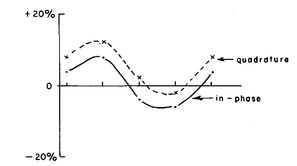
LEGEND

Claim line & claim post – observed, inferred (claim line-picket line intersections plotted as observed)

EM-17 anomaly – narrow, wide

Anomaly with interpreted depth & conductivity thickness indicated (ft./mhos)

Interpreted dip – inclined, vertical



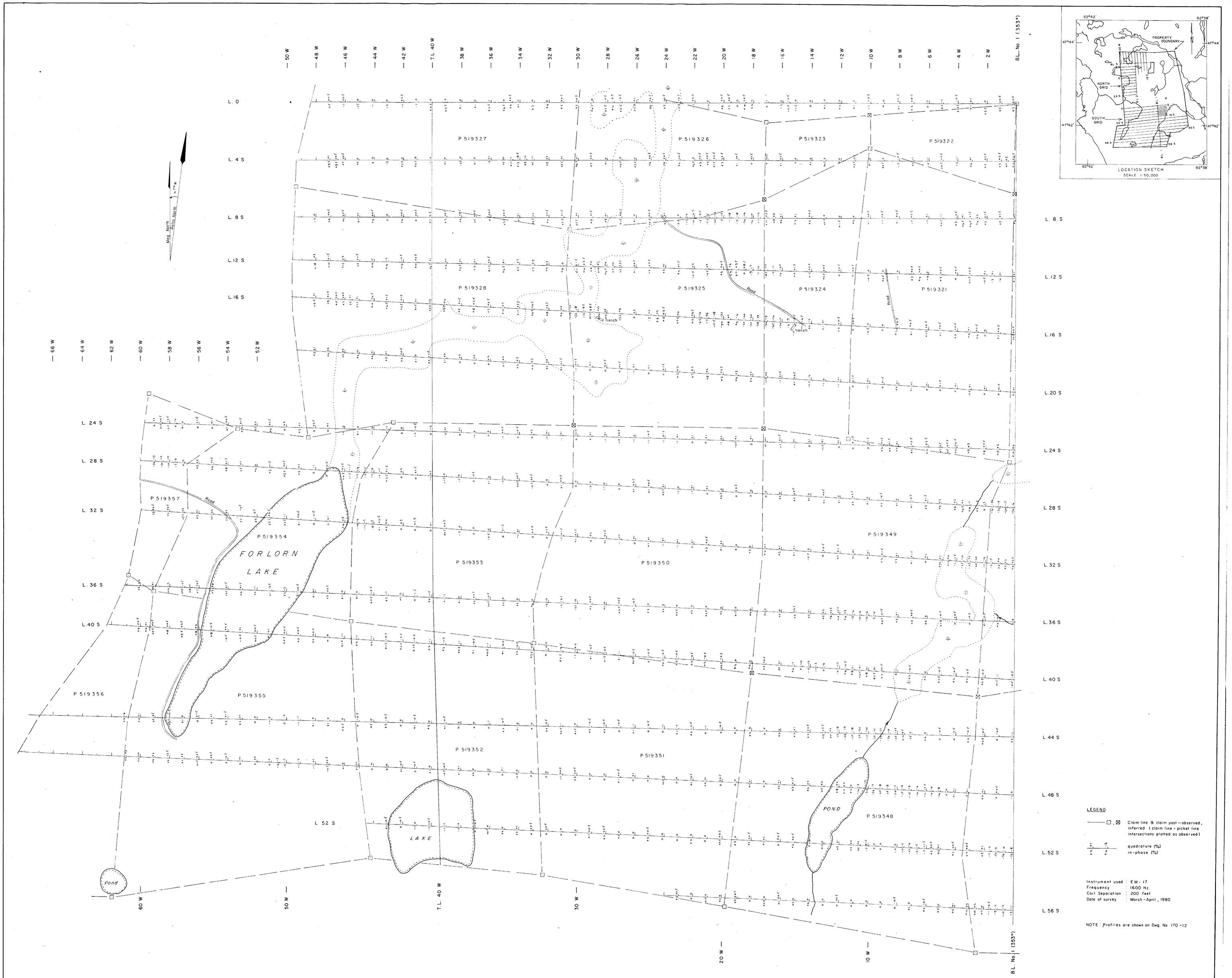
Profile Scale : 1" = 20%

Instrument used : EM-17
Frequency : 1600 Hz.
Coil Separation : 200 feet
Date of survey : March-April 1980

NOTE : In-phase & quadrature readings are shown on Dwg. No. 170-12A

SOUTH GRID (West of BL.1)

DRAWN J.G.W.	SCALE 1"=200'	PLACER DEVELOPMENT LIMITED	HORIZONTAL LOOP EM SURVEY
TRACED	DATE June 1980	M.W. OPTION	EM-17 PROFILED DATA & INTERPRETATION
APPROVED		Cunningham Twp., Ontario	FILE No. NTS 41O-10 V 170 Dwg. No. 170-12



LEGEND

Claim line & claim post – observed, inferred (claim line – picket line intersections plotted as observed)

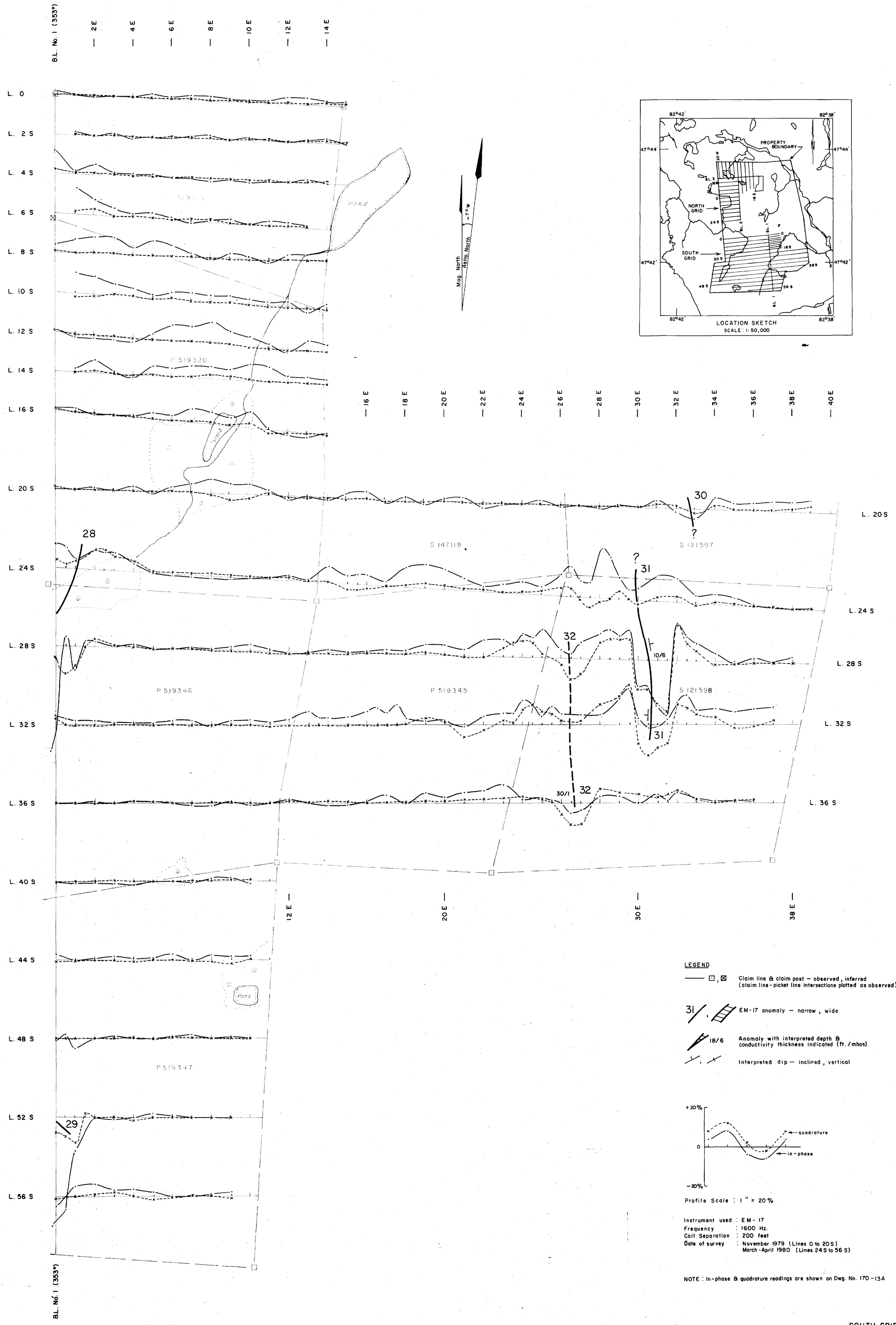
quadrature (%) / in-phase (%)

Instrument used : EM-17
Frequency : 1600 Hz
Coil Separation : 200 feet
Date of survey : March-April, 1980

NOTE : Profiles are shown on Dwg. No. 170-12

SOUTH GRID (West of BL. 1)

DRAWN J.G.W.	SCALE 1"=200'	PLACER DEVELOPMENT LIMITED	HORIZONTAL LOOP EM SURVEY
TRACED	DATE June 1980	M.W. OPTION	EM-17 READINGS
APPROVED		Cunningham Twp., Ontario	File No. NTC-81-10 Dwg. No. 170-11



LEGEND

—— ⊡, ⊠ Claim line & claim post — observed, inferred
(claim line-picket line intersections plotted as observed)

31/, EM-17 anomaly — narrow, wide

18/6 Anomaly with interpreted depth & conductivity thickness indicated (ft./mhos)

/, | Interpreted dip — inclined, vertical

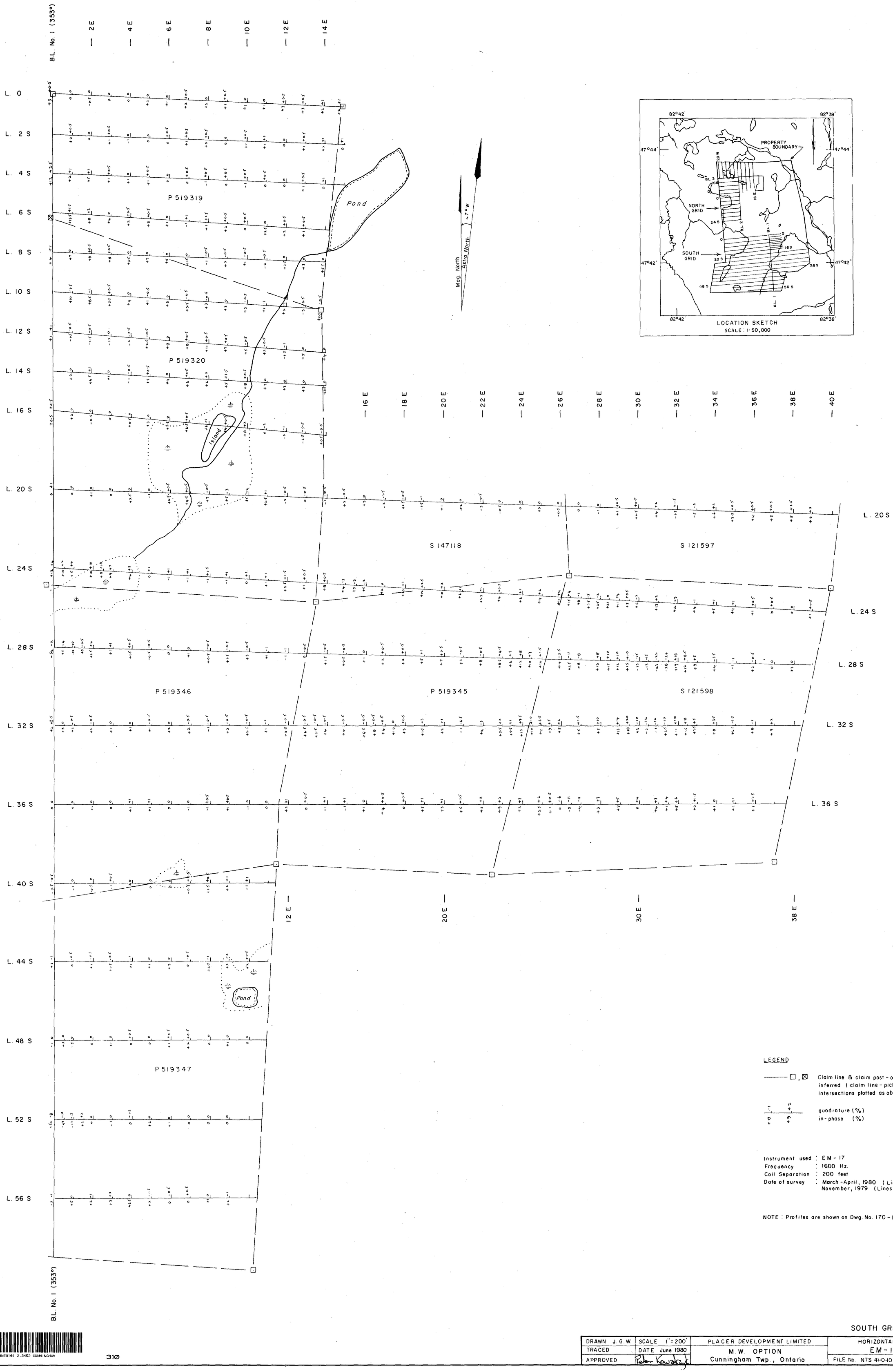
Profile Scale : 1" = 20%

Instrument used : EM-17
Frequency : 1600 Hz.
Coil Separation : 200 feet
Date of survey : November 1979 (Lines 0 to 20S)
March-April 1980 (Lines 24S to 56S)

NOTE : In-phase & quadrature readings are shown on Dwg. No. 170-13A

SOUTH GRID (East of B.L.1)

DRAWN J.G.W.	SCALE 1"=200'	PLACER DEVELOPMENT LIMITED	HORIZONTAL LOOP EM SURVEY
TRACED	DATE June 1980	M.W. OPTION	EM-17 PROFILED DATA & INTERPRETATION
APPROVED	Peter Kowalczyk	Cunningham Twp., Ontario	FILE No. NTS 41-0-10 V 170 Dwg. No. 170-13



LOCATION SKETCH
SCALE : 1:50,000

LEGEND

——— □, ⊠ Claim line & claim post - observed, inferred (claim line - picket line intersections plotted as observed)

quadrature (%)

in-phase (%)

Instrument used : EM - 17
Frequency : 1600 Hz.
Coil Separation : 200 feet
Date of survey : March - April, 1980 (Lines 24S to 56 S)
November, 1979 (Lines 0 to 20S)

NOTE : Profiles are shown on Dwg. No. 170 - 13

SOUTH GRID (East of B.L. 1)

DRAWN J. G. W.	SCALE 1" = 200'	PLACER DEVELOPMENT LIMITED	HORIZONTAL LOOP EM SURVEY
TRACED	DATE June 1980	M. W. OPTION	EM - 17 READINGS
APPROVED	Peter Kowalczyk	Cunningham Twp., Ontario	FILE No. NTS 41-O-10 V 170 Dwg No. 170-13A

L. 20 W
L. 16 W
L. 12 W
L. 8 W
L. 4 W
L. 0
L. 4 E
L. 8 E
L. 12 E
L. 16 E

Beavertail Lake

SPRINGER LAKE

TOWER LAKE

FIRE TOWER

TRAIL

ROAD

P 469713
P 469712
P 469707
P 469711
P 469708
P 469714
P 469710
P 469709
P 469715
P 469716
P 469717

22 N
20 N
18 N
16 N
14 N
12 N
10 N
8 N
6 N
4 N
2 N
B.L. No. 3 (087°)
2 S
4 S
6 S
8 S
10 S
12 S
14 S
16 S
18 S

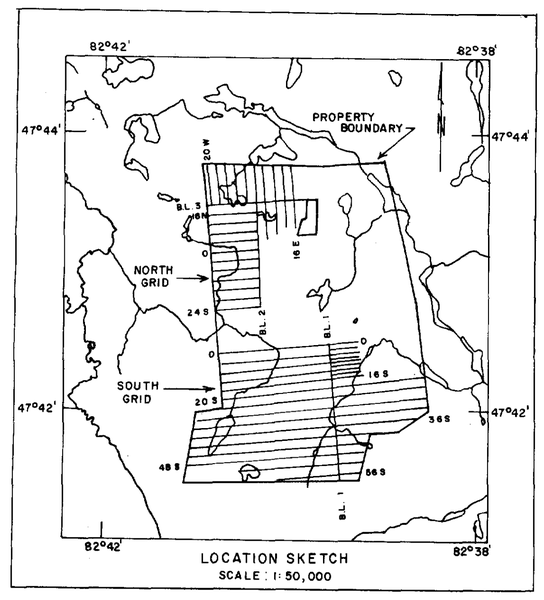
L. 16 N
L. 12 N
L. 8 N
L. 4 N
L. 0
L. 4 S
L. 8 S
L. 12 S
L. 16 S
L. 20 S
L. 24 S

off scale

old baseline

Mag. North
Astro North
7° W

12 W
10 W
8 W
6 W
4 W
2 W
B.L. No. 2 (357°)
2 E
4 E



LOCATION SKETCH
SCALE : 1:50,000

to NPG, Seattle
to NAA, Cutler, Me.
to NSS, Maryland

LEGEND

——— ⊡, ⊠ Claim line & claim post – observed, inferred
(claim line – picket line intersections plotted as observed)

+11 -9 Filtered in-phase reading

In-phase readings filtered as follows :–
Add consecutive pairs of readings
Take the difference between alternate pairs (W-E or S-N)
Plot difference & contour positive values

Contour Interval : 10

Instrument used : EM-16
Transmitter : NPG, Seattle for Lines 12N to 24S & 16W to 20W
NSS, Maryland for Line 16N & BL3
NAA, Cutler, Me. for Lines 16E to 12W & BL 2
Direction : looking grid east or north
Date of survey : March 1980

NOTE : Original readings are shown on Dwg. No. 170-14A

2.3452

NORTH GRID (Baselines 2&3)

DRAWN J.G.W.	SCALE 1"=200'	PLACER DEVELOPMENT LIMITED	GROUND ELECTROMAGNETIC SURVEY
TRACED	DATE June 1980	M.W. OPTION	EM-16 RESULTS - FRASER'S FILTER
APPROVED	Peter Kowalczyk	Cunningham Twp., Ontario	FILE No. NTS 41-0-10 V 170 Dwg. No. 170-14

L. 20 W | L. 16 W | L. 12 W | L. 8 W | L. 4 W | L. 0 | L. 4 E | L. 8 E | L. 12 E | L. 16 E

22 N | 20 N | 18 N | 16 N | 14 N | 12 N | 10 N | 8 N | 6 N | 4 N | 2 N | B.L. No. 3 (087°) | 2 S | 4 S | 6 S | 8 S | 10 S | 12 S | 14 S | 16 S | 18 S

L. 16 N | L. 12 N | L. 8 N | L. 4 N | L. 0 | L. 4 S | L. 8 S | L. 12 S | L. 16 S | L. 20 S | L. 24 S

P 469713 | P 469712 | P 469707 | P 469714 | P 469711 | P 469708 | P 469715 | P 469710 | P 469709 | P 469716 | P 469717

Beavertail Lake

SPRINGER LAKE

TOWER LAKE

ROAD

TRAIL

CABIN

FIRE TOWER

Pond

old baseline

Mag. North
Astro North 7° W

to NPG, Seattle

to NAA, Cutler, Me.

to NSS, Maryland

B.L. No. 2 (357°)

12 W | 10 W | 8 W | 6 W | 4 W | 2 W | 2 E | 4 E

LOCATION SKETCH
SCALE : 1:50,000

82°42' | 82°38' | 47°44' | 47°42'

PROPERTY BOUNDARY

NORTH GRID

SOUTH GRID

BL. 3 | BL. 2 | BL. 1

16 N | 16 E | 24 S | 20 S | 16 S | 36 S | 48 S | 56 S | 20 W

LEGEND

Claim line & claim post – observed, inferred
(*claim line – picket line intersections plotted* as observed)

Quadrature (%)
In-phase (%)

I P Quad.
-6 | +5
+4 | +2
-2 | +2

Instrument used : EM-16

Transmitter : NPG, Seattle for Lines 12N to 24S & 16W to 20W
NSS, Maryland for Line 16N & BL3
NAA, Cutler, Me. for Lines 16E to 12W & BL 2

Direction : looking grid east or north

Date of survey : March 1980

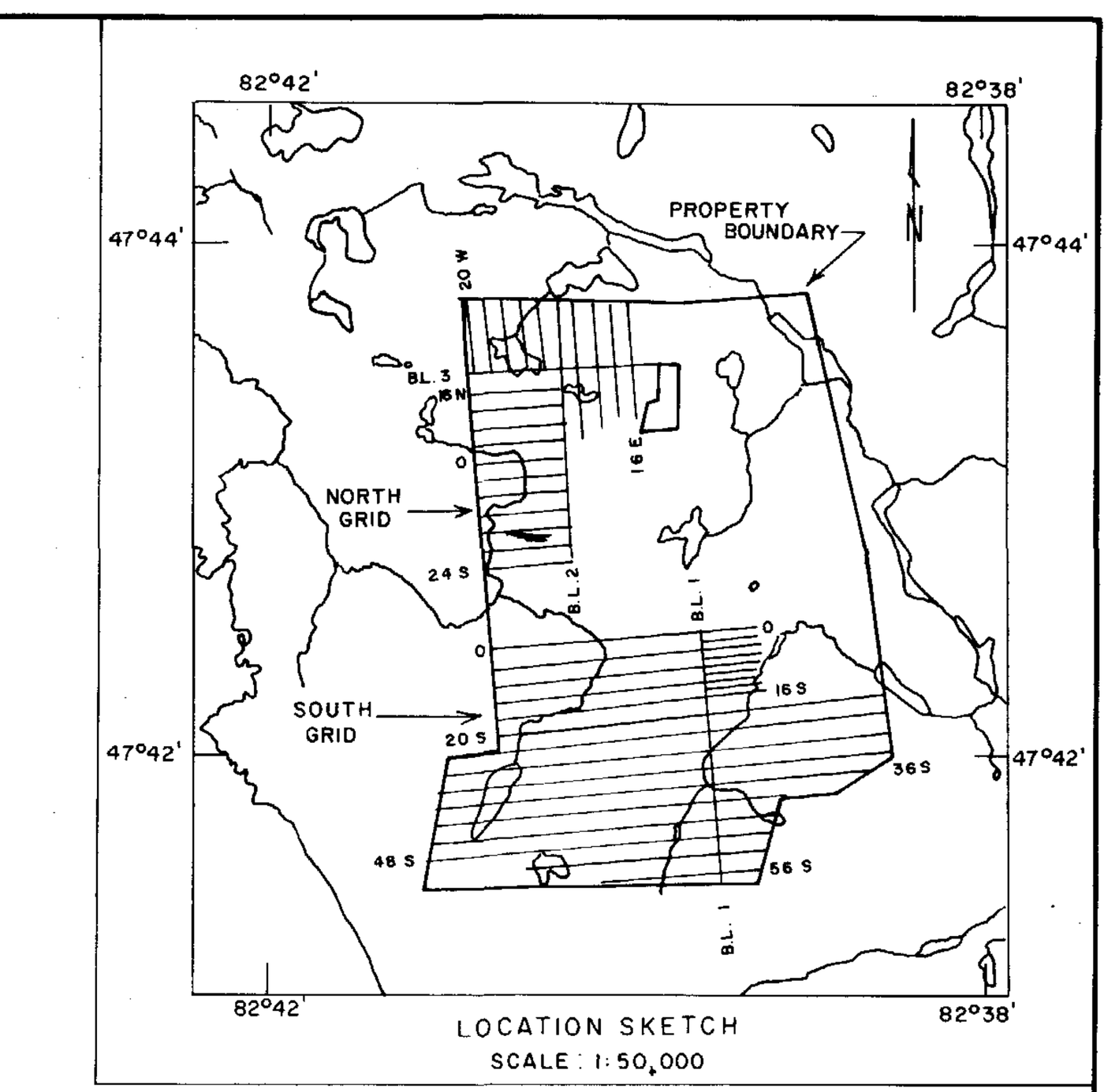
NOTE: Contoured filtered readings are shown on Dwg. No. 170 – 14

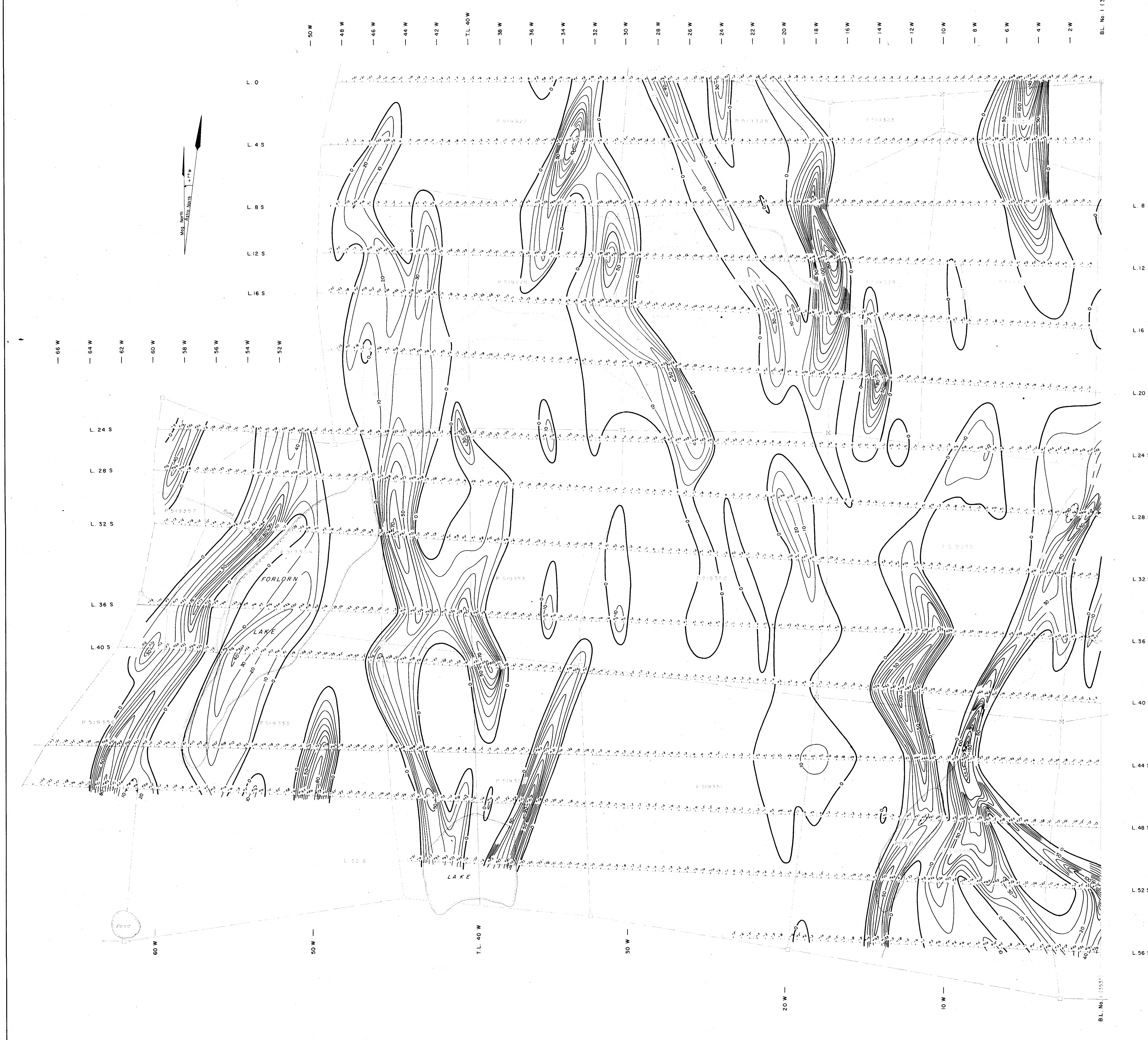
2.3452

NORTH GRID (Baselines 2&3)

DRAWN J. G. W.	SCALE 1"=200'	PLACER DEVELOPMENT LIMITED	GROUND ELECTROMAGNETIC SURVEY
TRACED	DATE June 1980	M. W. OPTION	EM-16 ORIGINAL READINGS
APPROVED	Peter Kowalczyk	Cunningham Twp., Ontario	FILE No. NTS 41-0-10 V 170 Dwg. No. 170-14A

41010NE9101 2.3452 CUNNINGHAM





LEGEND

——— □, ⊠	Claim line & claim post – observed, inferred (claim line – picket line intersections plotted as observed)
x¹⁴ ,5	Filtered in-phase reading

In-phase readings filtered as follows :–

Add consecutive pairs of readings
Take the difference between alternate pairs (W – E)
Plot difference & contour positive values

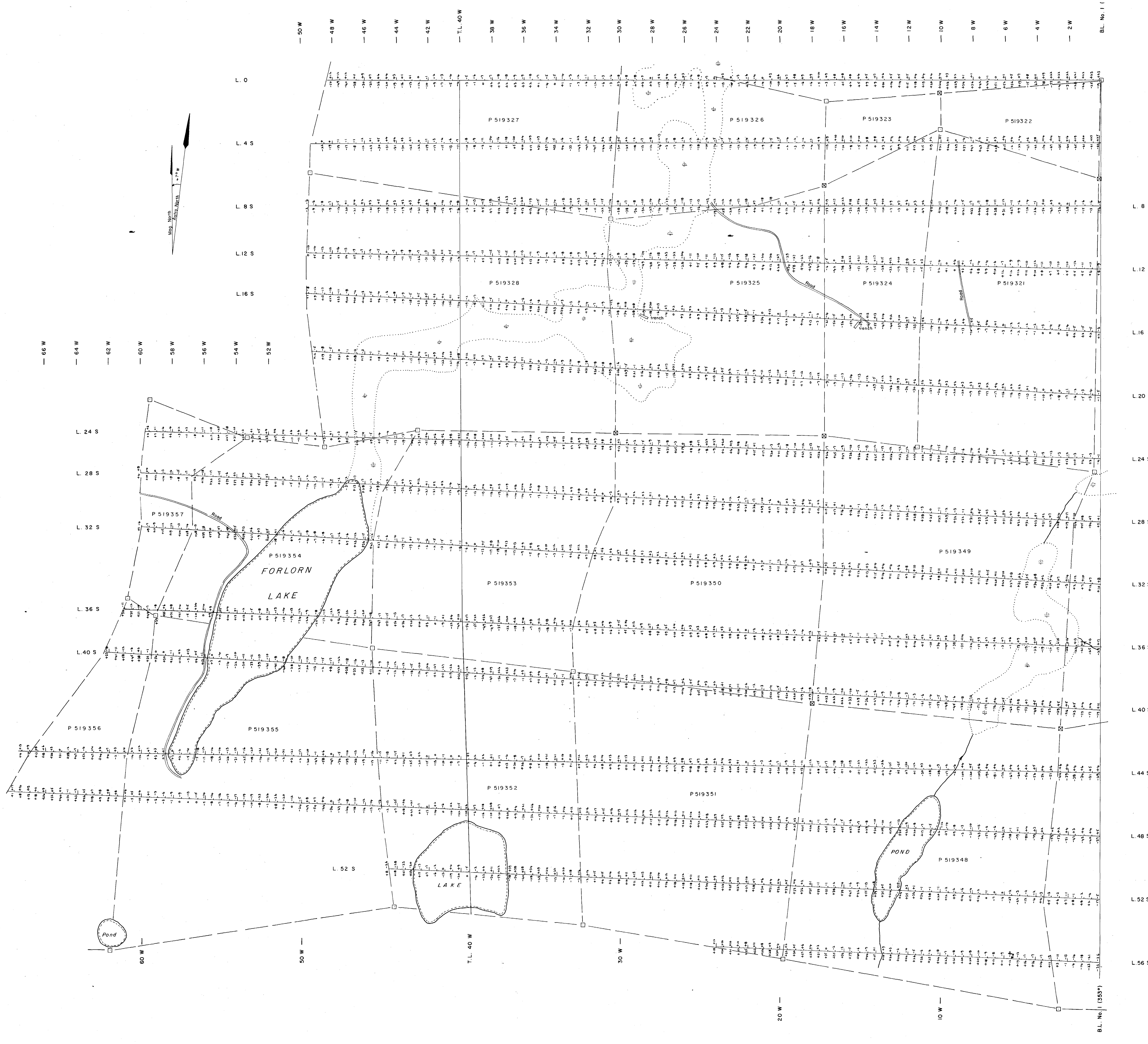
Contour Interval : 10

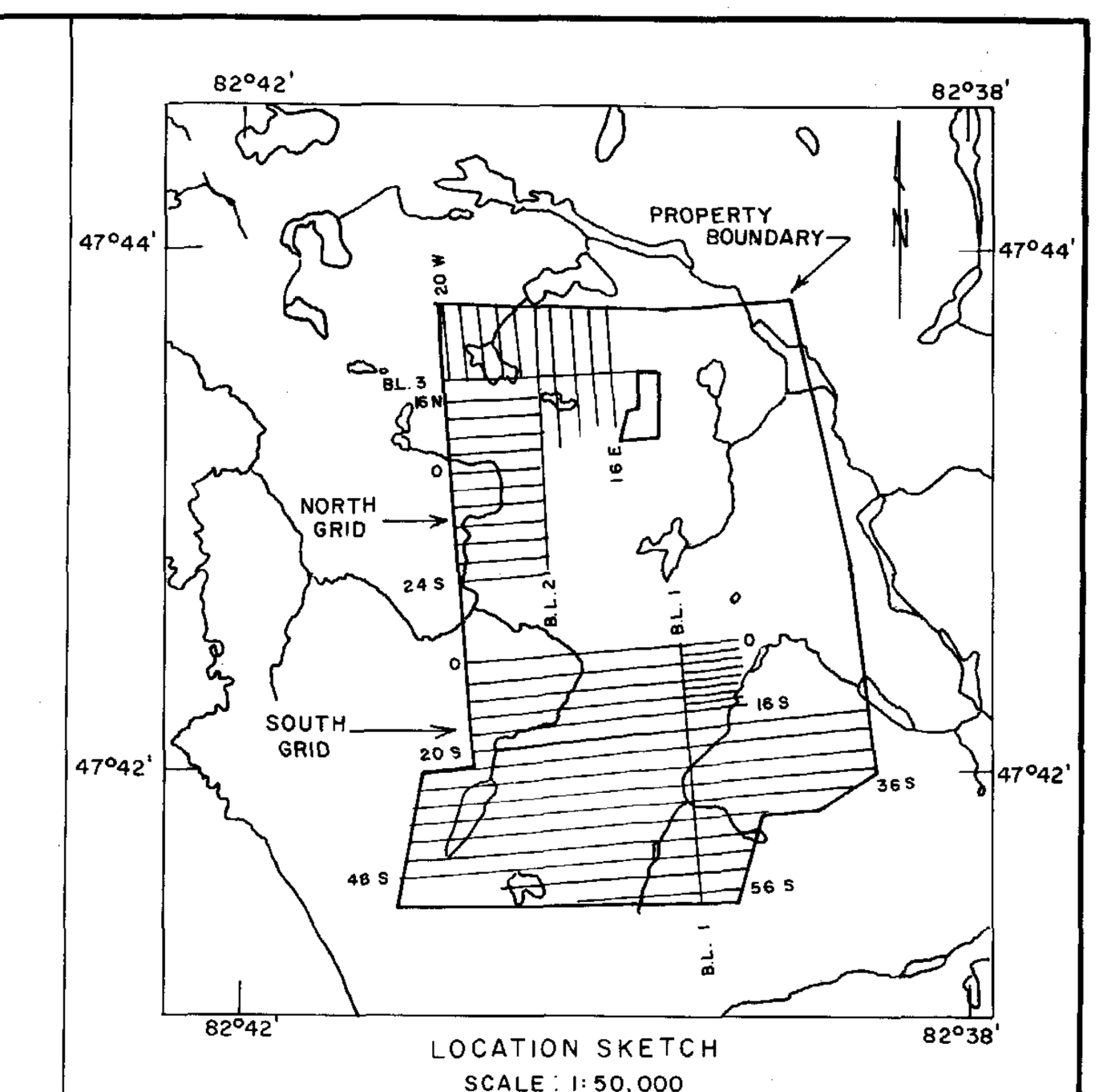
Instrument used : EM-16
Transmitter : NSS, Maryland
Direction : looking grid east
Date of survey : March–April, 1980

NOTE: Original readings are shown on Dwg. No. 170–15A

SOUTH GRID (West of B.L. 1)

DRAWN J.G.W.	SCALE 1"=200'	PLACER DEVELOPMENT LIMITED	GROUND ELECTROMAGNETIC SURVEY
TRACED	DATE June 1980	M.W. OPTION	EM-16 RESULTS – FRASER'S FILTER





LOCATION SKETCH
SCALE: 1:50,000

LEGEND

Claim line & claim post - observed, inferred (claim line - picket line intersections plotted as observed)

Quadrature (%)
In-phase (%)

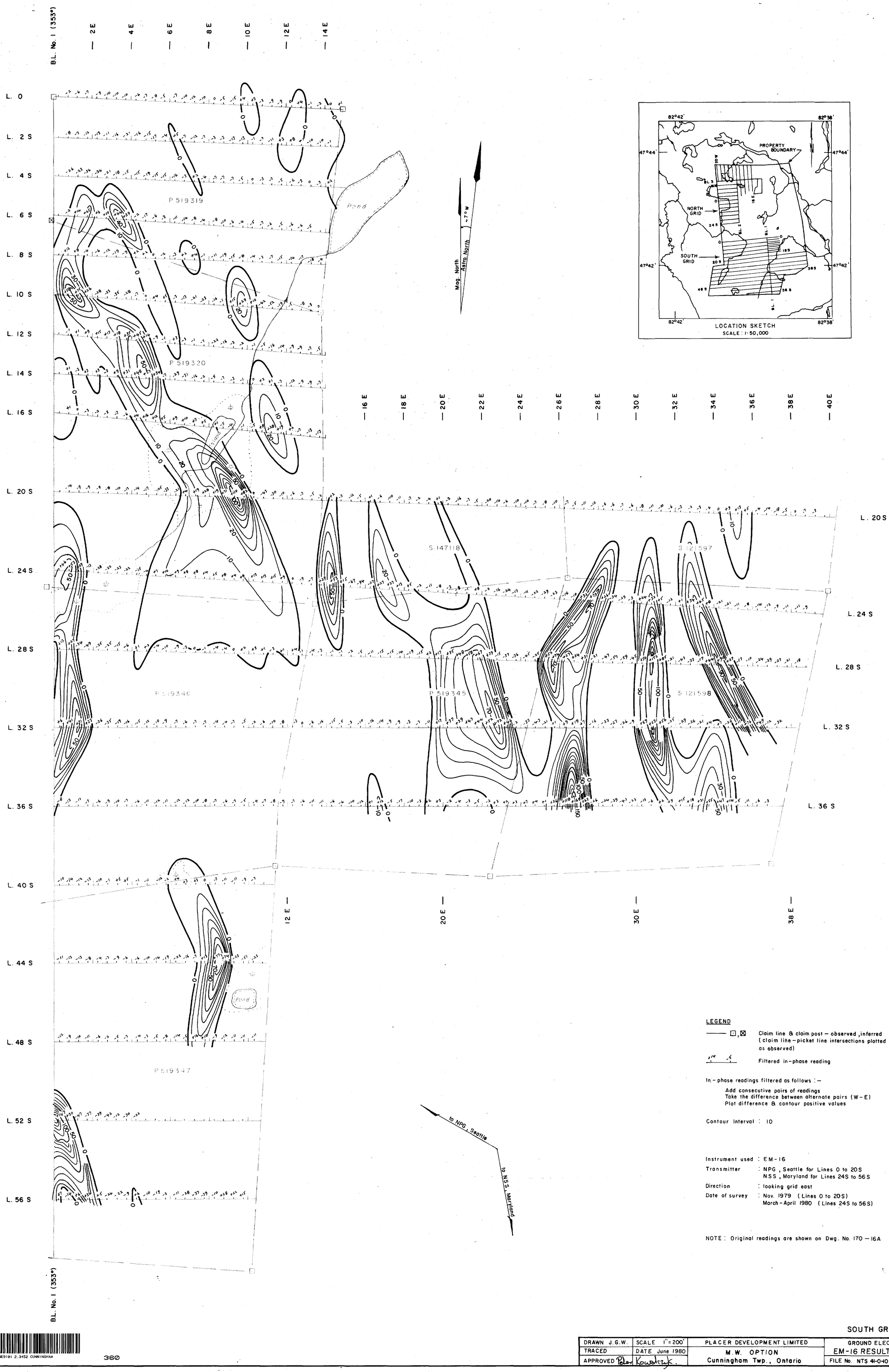
Instrument used : EM-16
Transmitter : NSS, Maryland
Direction : looking grid east
Date of survey : March-April, 1980

NOTE: Contoured filtered readings are shown on Dwg. No. 170-15

SOUTH GRID (West of BL.1)

DRAWN J.G.W.	SCALE 1"=200'	PLACER DEVELOPMENT LIMITED	GROUND ELECTROMAGNETIC SURVEY
TRACED	DATE June 1980	M.W. OPTION	EM-16 ORIGINAL READINGS
APPROVED		Cunningham Twp., Ontario	FILE No. NTS 41O-10 V 170 Dwg. No. 170-15A

350



LEGEND

Claim line & claim post — observed, inferred (claim line – picket line intersections plotted as observed)

Filtered in-phase reading

In-phase readings filtered as follows :–

Add consecutive pairs of readings
Take the difference between alternate pairs (W – E)
Plot difference & contour positive values

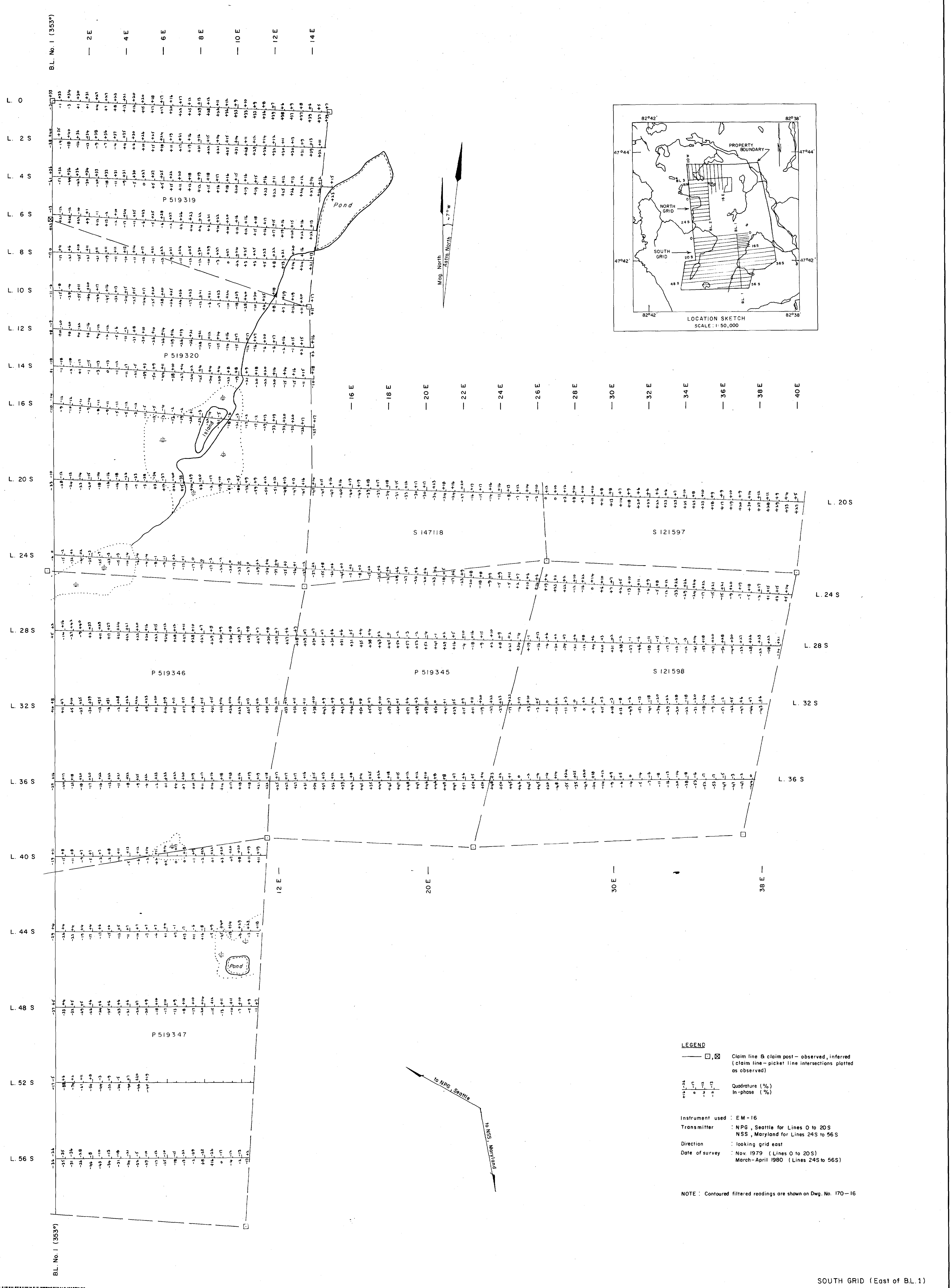
Contour Interval : 10

Instrument used : EM-16
Transmitter : NPG, Seattle for Lines 0 to 20S
NSS, Maryland for Lines 24S to 56S
Direction : looking grid east
Date of survey : Nov. 1979 (Lines 0 to 20S)
March-April 1980 (Lines 24S to 56S)

NOTE : Original readings are shown on Dwg. No. 170 – 16A

SOUTH GRID (East of B.L. 1)

DRAWN J.G.W.	SCALE 1" = 200'	PLACER DEVELOPMENT LIMITED	GROUND ELECTROMAGNETIC SURVEY
TRACED	DATE June 1980	M.W. OPTION	EM-16 RESULTS – FRASER'S FILTER
APPROVED Peter Kowalczyk.		Cunningham Twp., Ontario	FILE No. NTS 41-0-10 V 170 Dwg. No. 170-16



SOUTH GRID (East of B.L. 1)

DRAWN J.G.W.	SCALE 1" = 200'	PLACER DEVELOPMENT LIMITED	GROUND ELECTROMAGNETIC SURVEY
TRACED	DATE June 1980	M.W. OPTION	EM-16 ORIGINAL READINGS
APPROVED	Peter Kowalczyk	Cunningham Twp., Ontario	FILE No. NTS 41-O-10 V 170 Dwg. No. 170-16A

370

Springer Lake

Tower Lake

Conchita Lake

Edwards Lake

Hiram Lake

Fire Tower

Core

BASELINE

FORLORN LAKE

after "Cons. Shunsby Mines Tower (North) Group" Aug. 1970

after "Geological Plan, Shunsby Mines Ltd."

Astro. North

to ~2000' west of boundary

to ~1000' west of boundary

NOTE: Geology in this section after W.W. Moorehouse (American Metals)

This outer claim block boundary, taken from the Shunsby maps, encloses the approximate area of the M.W. Resources / Placer Option, 1980

LEGEND (after "Geological Plan, Shunsby Mines Ltd.")

- 1 Quartz diorite, quartz diabase
- 2 Lamprophyre
- 4 Quartz feldspar porphyry
- 5 Diorite
- 7 Peridotite
- 8 Granodiorite
- 14 Iron formation
- 15 Chert
- 16 Andesite a) variolitic ; b) greenstone ; c) porphyritic
- 18 Rhyolite

Road
Swamp
Fault
Assumed geological contact
Diamond drill hole
Trench

2.3452

DRAWN	SCALE 1"=400'	PLACER DEVELOPMENT LIMITED	SUMMARIZED GEOLOGY after Geology by Shunsby Mines Ltd. (see report)
TRACED J.G.W.	DATE July 1980	M.W. OPTION Cunningham Twp., Ontario	FILE No. NTS 41-O-10 V 170 Dwg. No. 170-17
APPROVED			

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