2.968

010

GEOPHYSICAL SURVEYS

on the

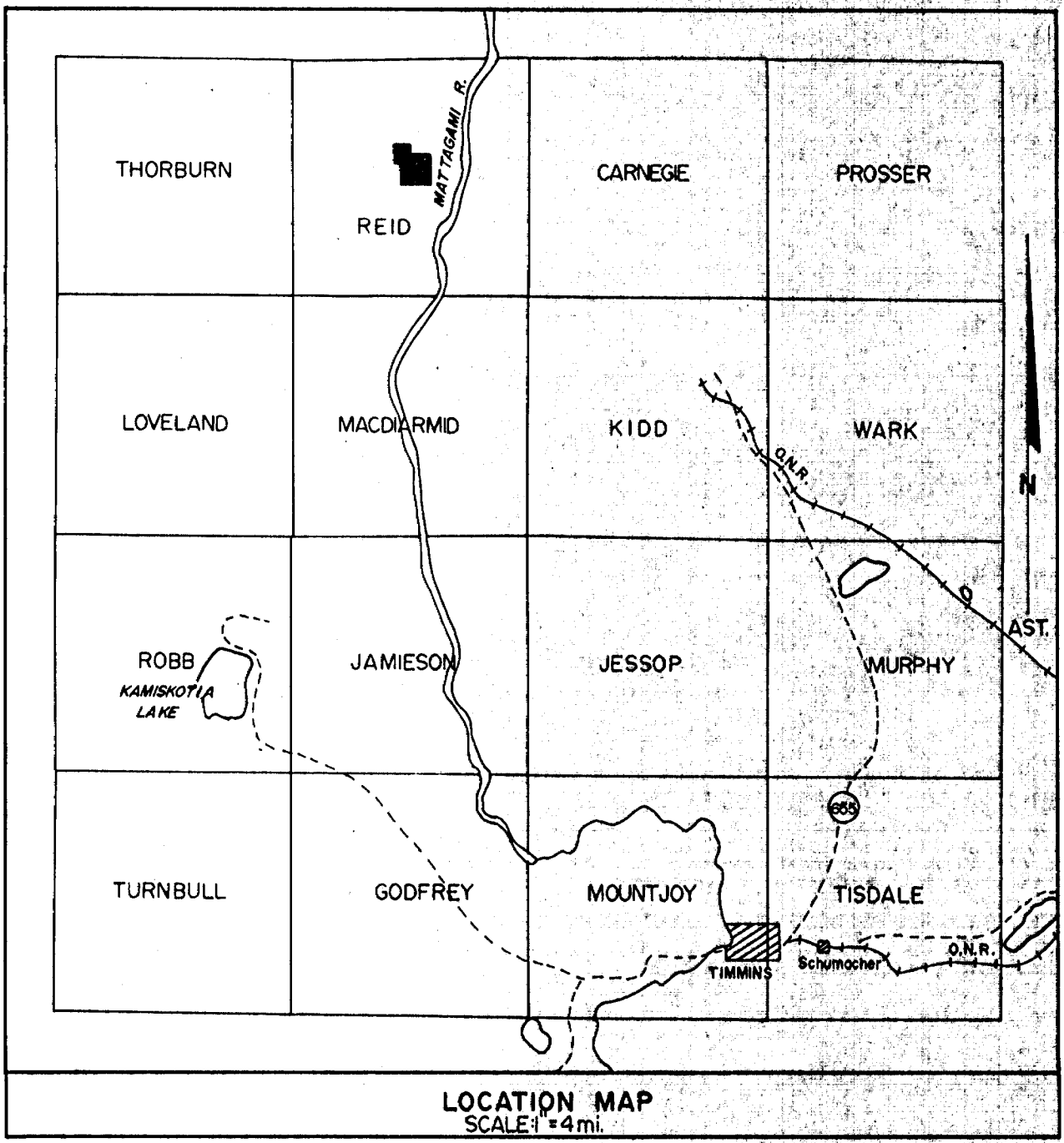
REID No. 3 GROUP

HOLLINGER MINES LIMITED

Reid Township, Ontario

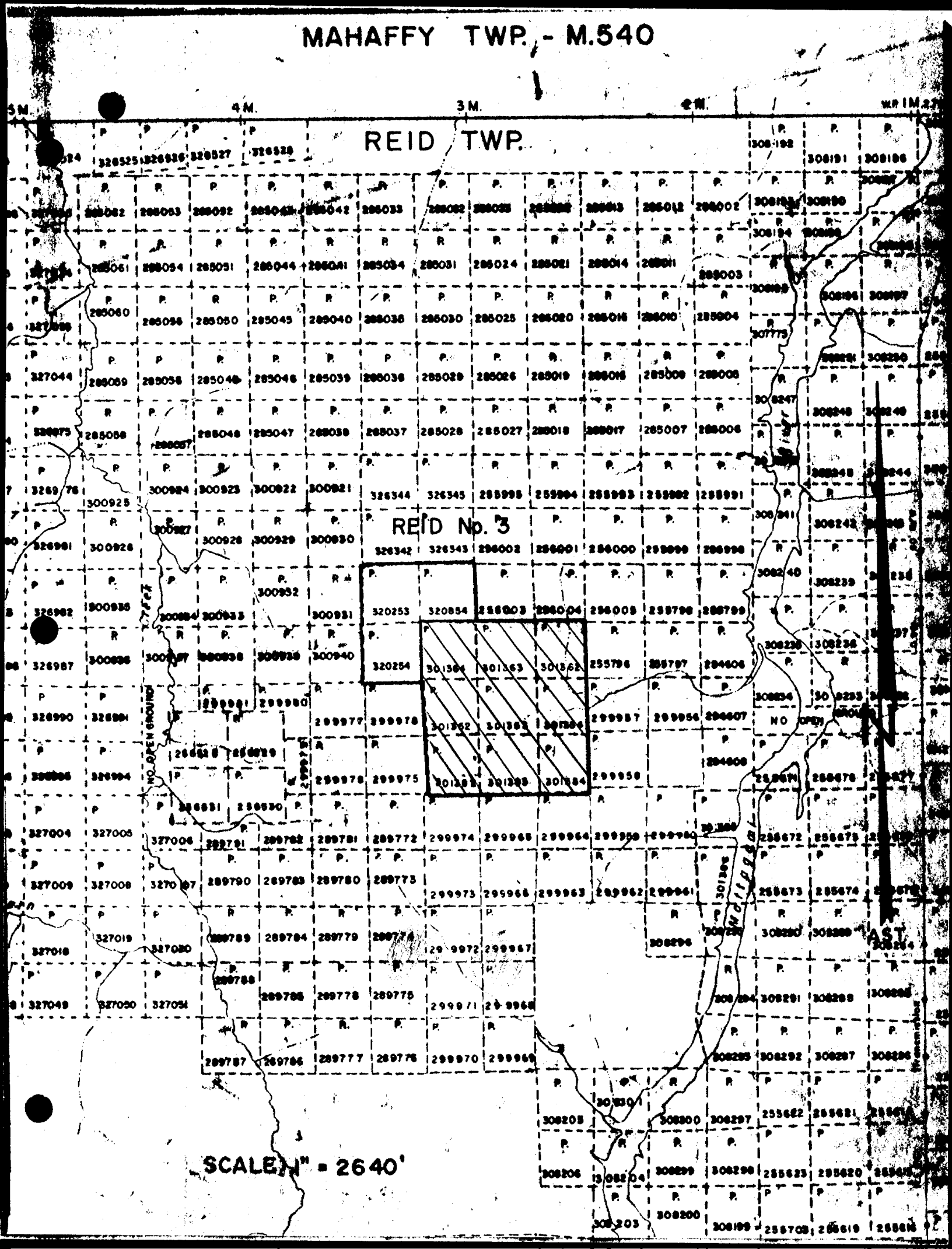
July 27, 1972

H. Z. Tittley, P.Eng.



LOCATION MAP
SCALE: 1" = 4 mi.

MAHAFFY TWP. - M.540



SUMMARY

Ground geophysical surveys have been completed on a group of nine contiguous claims situated in the central part of Reid Township, Ontario.

One weakly conductive zone outlined by the electromagnetics is associated with known sulphide mineralization and appears to be weakly magnetic.

INTRODUCTION

This report on the results of the surveys over the Reid No. 3 Group is submitted to meet the assessment requirements as set by the Ontario Ministry of Natural Resources. The author was responsible for the different phases of the examination.

During the winters of 1971 and 1972 a grid of lines was cut and surveyed using ground magnetic and horizontal-loop electromagnetic methods.

Additional information about the immediate area of the property is available from the Ontario Ministry of Natural Resources from the following documents:

1)	Assessment file	T-787	Mespi Mines Limited
2)	" "	T-1189	Mercury Chipman
3)	" "	T-1008	Duvan Copper
4)	Preliminary Map	P-700	Reid Township

PROPERTY, DESCRIPTION and LOCATION

The Hollinger Mines Limited Reid No. 3 Group was acquired by staking nine contiguous claims numbered 301352 to 301354, 301362 to 301364 and 301382 to 301384, all inclusive, during December 1970. Additional claims numbered 320253, 320254 and 320854 inclusive were added to the northwest corner of the group in 1971 and are the subject of a separate report. — 2.969

The property is situated in the center of Reid Township Porcupine Mining Division. It lies one mile west of the Mattagami River and 20 miles northwest of the Town of Timmins.

ACCESSIBILITY

The Mattagami River which flows one mile east of the group is navigable upstream to Sandy Falls in Mountjoy Township. From Sandy Falls to Timmins it is 5 miles along good rural roads. Near the extreme northwest corner of the property there is a large clearing suitable for helicopter flights.

HISTORY

A comprehensive summary of the previous work in the central part of the township is available from the above list of information.

GEOLOGY

Three outcrops occur on the group and are shown on the accompanying plans. One large outcrop, situated 1000 feet south of the base line, extends from 24W to 32W. The government preliminary map shows the rocks to be acid lavas, basic lavas and intrusions all intruded by a north trending diabase dyke. In the northwest part of the property, on the three added claims, intermediate lavas along the north side of the outcrop are in contact with acid lavas to the south. The three drill holes immediately south of the outcrop intersected acid to intermediate lavas. Elsewhere, conductive clays up to 100 feet in depth are believed to blanket the bedrock.

SURVEY METHODS

Linecutting:

The required grid of picket lines was surveyed from a base line bearing 267 degrees and originating from a point near the junction of two small creeks along the east boundary of the property. The picket lines were cut 400 feet apart, normal to the base line and and extended to cover the entire property. Stations were established at every 100 feet over a total of 9.08 miles of cut lines.

SURVEY METHODS (cont'd)

Magnetics:

All the lines were read at a station interval of 100 feet or less with a tripod-mounted torsion-wire magnetometer capable of measuring the vertical component of earth's magnetic field. Diurnal and instrument drift variations were recorded by frequently repeating previously established magnetic bases at the intersections of the base line and cross-lines. These variations were subtracted from the readings and an arbitrary value of 945 gammas for the Ogden-Bristol government base, transported to the grid, was added to complete the corrections in gammas.

Electromagnetics:

The electromagnetic survey was conducted over the same grid at a station interval of 100 feet or less with the transmitter and receiver coils 400 feet apart. The readings were recorded at the station midway between the coils.

RESULTS

Magnetics:

The results of the magnetic survey show a total relief of 2000 gammas but this is confined to the area of exposed rocks. Elsewhere, changes are not more than 500 to 700 gammas.

The strongest magnetic features are believed to be due to north trending diabase dykes except for two short east and northeast trending anomalies along the south part of line 20W that might be caused by the gabbroic material mapped in the outcrop. A magnetic trend of only 40 to 50 gammas in the center of claim 301364 is likely due to pyrrhotite mineralization because it appears to represent the continuation of the conductive zone that extends from the drilled anomaly. Extending through claims 301353 and 301384 higher than background values suggest northwest trending rock formations.

RESULTS (cont'd)

Electromagnetic:

The results of the electromagnetic survey are complicated by changes in the thickness and possibly the conductivity of the clays within the overburden. Continuous positive in-phase readings represent conductivity-size factors in the overburden whereas similar negative readings (because of instrument setting) represent the opposite effect. Only two anomalies are interpreted on the accompanying plan. The cause of the weak anomaly north of the outcrop area probably originates within the overburden. The anomaly extending across claim 301364 appears to be the eastern continuation of the anomaly associated with the pyrite, pyrrhotite and chalcopyrite mineralization intersected in previous drilling and is therefore probably due to similar material.

CONCLUSIONS and RECOMMENDATIONS

A zone containing sulphide mineralization has been extended easterly for more than one half mile by the combined results of these surveys. The possibility that the economic mineral content within this zone could increase within the new dimensions should be investigated further. A ground dual frequency vertical-loop electromagnetic unit using the fixed transmitter method could be used to confirm and outline the position and extent of the zone. Diamond drilling should follow.

HOLLINGER MINES LIMITED

H. Z. Tittley P. Eng.

H. Z. Tittley, P.Eng.

REGISTERED PROFESSIONAL ENGINEER
H. Z. TITTLEY
PROVINCE OF ONTARIO

900

AUG 2 1972

PROJECTS SECTION

GEOPHYSICAL – GEOLOGICAL TECHNICAL DATA

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: Geophysical Mag.

Township or Area: Reid #3 Group, Reid Twp., Ontario

Claim holder(s): Hollinger Mines Limited
Box 320, Timmins, Ontario

Author of Report: H. Z. Tittley

Address: c/o Hollinger Mines Limited

Covering Dates of Survey: Feb.17-28,1971 & Mar.6,10,11,1972
(linecutting to office)

Total Miles of Line cut: 9.08

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	40
--Radiometric	
--Other	
Geological	
Geochemical	

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

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

DATE: _____ SIGNATURE: _____
Author of Report or Agent

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
P	301352
	301353
	301354
	301362
	301363
	301364
	301382
	301383
	301384

If space insufficient, attach list

TOTAL CLAIMS: 9

PROJECTS SECTION

Res. Geol. _____ Qualifications 63.2513

Previous Surveys LD 2.251 (Air)

Checked by _____ date _____

GEOLOGICAL BRANCH

Approved by _____ date _____

GEOLOGICAL BRANCH

Approved by _____ date _____

OFFICE USE ONLY

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

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS

Number of Stations _____ Number of Readings _____

Station interval _____

Line spacing _____

Profile scale or Contour intervals _____

(specify for each type of survey)

MAGNETIC

Instrument ABEM - MZ-4 Serial #3599

Accuracy - Scale constant 10.1 gammas per scale division

Diurnal correction method Return loops to magnetic base lines

Base station location Bristol-Ogden Twp. O.D.M. base = 945 gammas

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 _____

File _____

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL TECHNICAL DATA STATEMENT

RECEIVED
AUG 2 1972
PROJECTS SECTION

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 Geophysical Electromagnetic

Township or Area Reid #3 Group, Reid Twp., Ontario

Claim holder(s) Hollinger Mines Limited
Box 320, Timmins, Ontario

Author of Report H. Z. Tittley

Address c/o Hollinger Mines Limited

Covering Dates of Survey Feb.17-28,1971, Mar.6-11,1971
(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 20
–Magnetometer –
–Radiometric _____
–Other _____
Geological _____
Geochemical _____

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

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

DATE: _____ SIGNATURE: _____
Author of Report or Agent

PROJECTS SECTION

Res. Geol. _____ Qualifications _____

Previous Surveys _____

Checked by _____ date _____

GEOLOGICAL BRANCH _____

Approved by _____ date _____

GEOLOGICAL BRANCH _____

Approved by _____ date _____

OFFICE USE ONLY

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
P	301352
	301353
	301354
	301362
	301363
	301364
	301382
	301383
	301384

If space insufficient, attach list

TOTAL CLAIMS 9

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

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS

Number of Stations _____ Number of Readings _____

Station interval _____

Line spacing _____

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

MAGNETIC

Instrument _____

Accuracy - Scale constant _____

Diurnal correction method _____

Base station location _____

_____

ELECTROMAGNETIC

Instrument Geonics EM-17

Coil configuration Horizontal Co-Planar

Coil separation 400 feet

Accuracy Real ± 1%, Imaginary ± 3%

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

Frequency 1600 Hertz
(specify V.L.F. station)

Parameters measured In-phase (Real) and Out-of-phase (Imaginary)

GRAVITY

Instrument _____

Scale constant _____

Corrections made _____

_____

Base station value and location _____

_____

Elevation accuracy _____

INDUCED POLARIZATION -- RESISTIVITY

Instrument _____

Time domain _____ Frequency domain _____

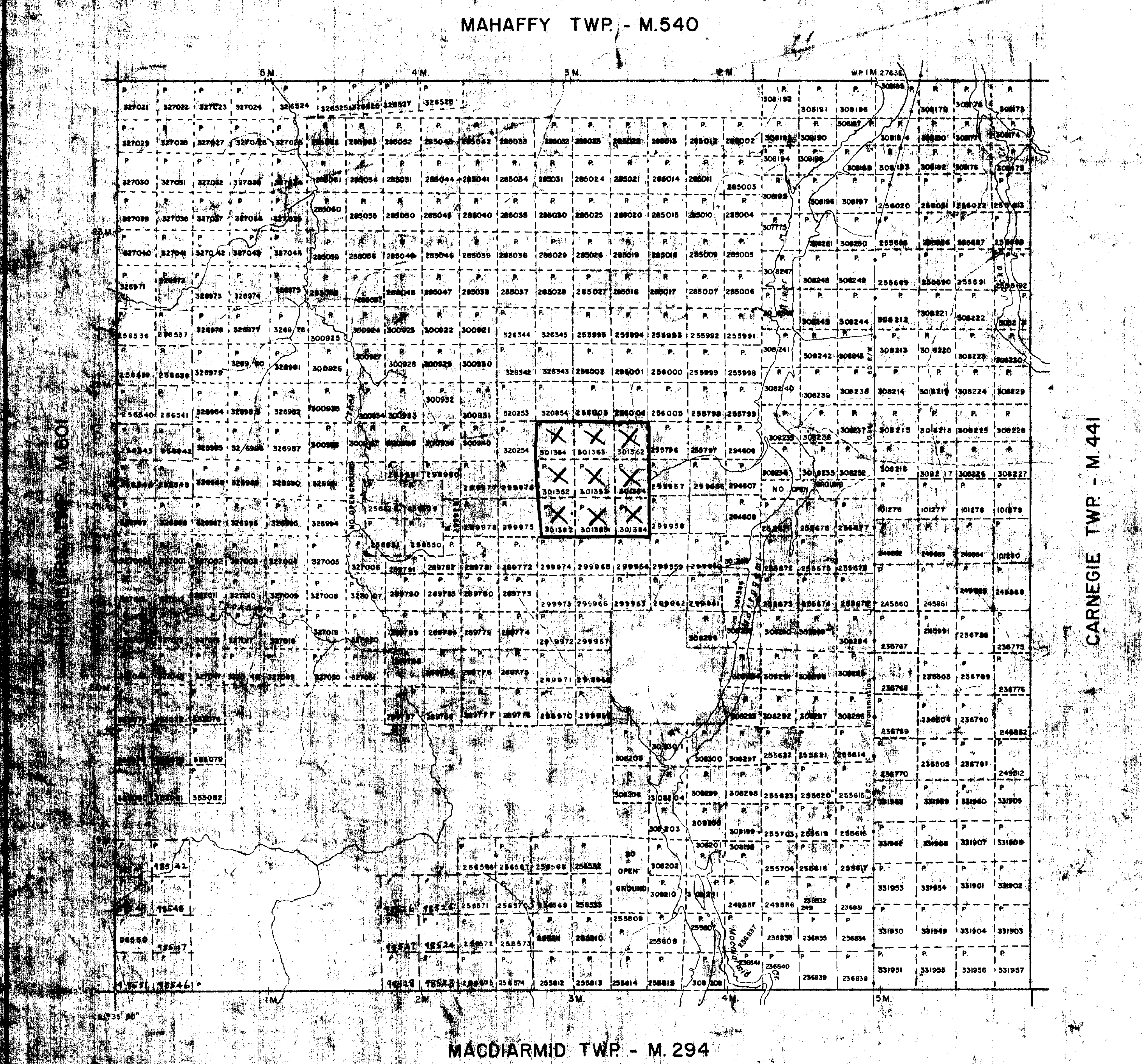
Frequency _____ Range _____

Power _____

Electrode array _____

Electrode spacing _____

Type of electrode _____



THE TOWNSHIP OF

REID

DISTRICT OF COCHRANE

PORCUPINE MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

LEGEND

PATENTED LAND	Ⓟ
CROWN LAND SALE	C.S.
LEASES	Ⓛ
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	
CANCELLED	C.

NOTES

400' surface rights reservation around all lakes and rivers.

Subdivision of this twp. into lots and concessions annulled Aug. 19, 1953.

Flooding rights ... Mattagami River reserved to H.E.P.C. L.O. 9085.

PLAN NO. M.575

ONTARIO DEPARTMENT OF MINES AND NORTHERN AFFAIRS

GEOMAGNETIC SURVEY
REID TWP.
SCALE : 1" = 400'
100 gamma contour
050 " "
CONTOUR INTERVALS
1700 gammas
1500
1300
1200
1100
1000
900
800
HOLLINGER MINES LTD
Base Station Value
Outcrop
Diabase Dyke
Grt – Graphitic Tuff
M – Gabbro
A2 – Andesite
C1 – Dacite
D1 – Rhyolite
GROUP No. 3
GROUP No. 2
ULTRABASIC
THORBURN Cr.
Diabase dike
20N B.L.
0+00 B.L.
320253
320854
320254
301364
301363
301362
301353
301354
301352
301383
301384
256528
256529
256531
256530
52 W
48 W
44 W
40 W
36 W
32 W
28 W
24 W
20 W
16 W
12 W
8 W
4 W
00
4 E
N
AST.
H. Z. TITTLEY
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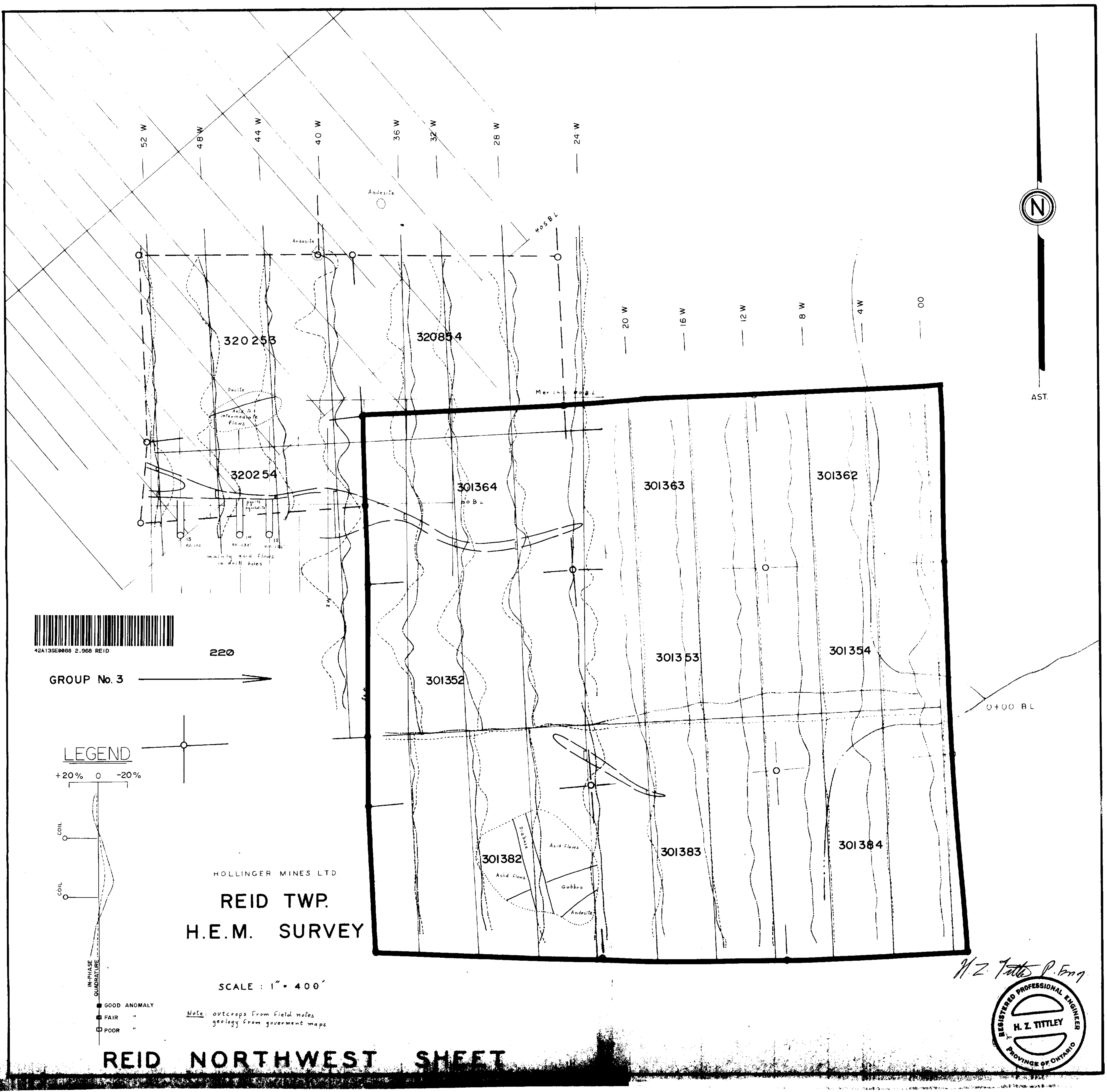
210


52 W
48 W
44 W
40 W
36 W
32 W
28 W
24 W
20 W
16 W
12 W
8 W
4 W
00
Andesite
Andesite
40 S BL
320253
320854
Dacite
Mer chip 40 B L
320254
301364
301363
301362
mainly acid flows in drill holes
42A13SE0088 2.968 REID
220
GROUP No. 3
301352
301353
301354
0+00 BL
LEGEND
+20%
0
-20%
COIL
COIL
IN-PHASE
QUADRATURE
GOOD ANOMALY
FAIR "
POOR "
301382
Diabase
Acid Flows
Acid Flows
Gabbro
Andesite
301383
301384
HOLLINGER MINES LTD
REID TWP.
H.E.M. SURVEY
SCALE : 1" = 400'
Note: outcrops from field notes
geology from government maps
REID NORTHWEST SHEET
H. Z. Tittley P.Eng
REGISTERED PROFESSIONAL ENGINEER
H. Z. TITTLEY
PROVINCE OF ONTARIO
AST.