



42A08NW0073 2.2144 HISLOP

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PROJECTS UNIT

GEOPHYSICAL SURVEYS

on the

HISLOP #1 GROUP

of

Hollinger Mines Limited
Hislop Township, Ontario

Timmins, Ontario
June 28, 1976

H. Z. Tittley, P.Eng.

INTRODUCTION

Two geophysical surveys employing different electromagnetic methods were conducted over a group of three mining claims owned by Hollinger Mines Limited, in Hislop Township, Ontario.

One V.L.F. (20 KHz E.M.) anomaly is associated with the south limb of a magnetic anomaly mapped by an earlier survey. The horizontal loop survey revealed a very weak coincident response on one profile.

The property and the surrounding area were intensively explored for gold over the past fifty years.

PROPERTY, LOCATION and ACCESS

Hislop #1 Group contains three contiguous mining claims numbered L-372632 to L-372634 inclusive that occupy the middle third of lot 1, concession 3, in the township of Hislop, Larder Lake Mining Division. The claims are bounded by the Ross Mine property to the south and the New Kelore ground to the north.

The east boundary of the property adjoining Guibord Township is occupied by highway 572 which provides excellent access either from the town of Holtyre 1½ miles to the south or highway 101 3½ miles to the north.

HISTORY and GEOLOGY

Summaries of the history and geology are contained in two assessment reports previously filed by Hollinger Mines with the Ministry of Natural Resources.

They are: a) GEOLOGY, HISLOP GROUP #1
P.J. Bateman, February 1975

b) GEOPHYSICAL SURVEY (MAGNETICS)
on the HISLOP #1 GROUP
H.Z. Tittley, July 1974

SURVEY METHODS

V.L.F. (20 KHz E.M.) Survey

On an existing grid of picket lines, the V.L.F. electromagnetic survey was conducted mainly along lines 400 feet apart. Readings were taken at 100 ft. intervals with an EM-16 receiver manufactured by Geonics Limited of Toronto.

A modification in the circuitry of this unit causes the out-of-phase component to have the same sign as the clinometer (calibrated in %) when traversing over a buried non-magnetic conductive source.

A total of 3.9 miles of survey was thus read.

H.E.M. Survey

As in the above survey, the H.E.M. survey was conducted along most of the same grid lines with an EM-17 unit manufactured by the same firm. Readings were taken at 100 foot intervals or less with coils 200 feet and 300 feet apart in the horizontal co-planar mode.

A total of 4.6 miles of lines was thus read.

RESULTS

V.L.F. (20 KHz E.M.) Survey

The results of the survey are plotted as profiles on the accompanying plan entitled V.L.F. (20 KHz E.M.) Survey at a scale of 200 feet to 1 inch.

Most of the interpreted conductors shown on the accompanying plan are believed due to variations in the thickness of the conductive clay overburden as evidenced by outcroppings of the bedrock in the north part of the claims and the drilling further south.

Anomaly 'A', however, displays much better characteristics, and its association with the south contact of an east-west magnetic feature suggests that it may well reflect a bedrock conductor. Also, none of the early drill holes appear to have intersected either the magnetic unit or the conductive zone.

H.E.M. Survey

These results are also plotted as profiles on a separate accompanying plan entitled 'H.E.M. Survey' at the same linear and angular scales.

No recognizable anomaly attributable to a bedrock conductor has been detected.

Anomaly 'A' is represented only by sets of positive shoulders that may be accentuated by using a greater coil separation.

Anomaly 'B' is due to a change of only 3% I-P but its coincidence with the V.L.F. anomaly along line 28W at 28+50'S makes it worthy of further consideration.

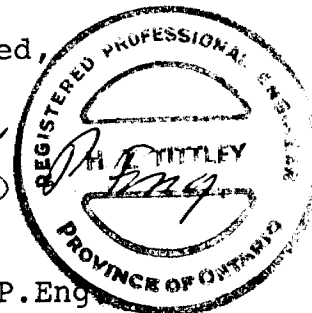
CONCLUSIONS

A weakly conductive zone, possibly due to a bedrock source, has been mapped near the south limb of a magnetic feature which eluded testing in earlier drilling.

In view of recent successes along similar stratigraphic horizons further west in Currie and Thomas Townships, it appears recommendable that a minimum of deeper penetrating electromagnetics be conducted to test the validity of the situation.

The known auriferous potential of the area should not be overlooked.

Respectfully submitted,



H. Z. Tittley, P.Eng

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS -- If more than one survey, specify data for each type of survey

Number of Stations 361 Number of Readings V.L.F. 218, H.E.M. 227
Station interval 100 Feet Line spacing 200 and 400 feet
Profile scale
Contour interval

MAGNETIC

Instrument
Accuracy - Scale constant
Diurnal correction method
Base Station check-in interval (hours)
Base Station location and value

ELECTROMAGNETIC

Instrument (V.L.F.) Geonics EM-16, (H.E.M.) Geonics EM-17
Coil configuration (V.L.F.) horizontal receiver, (H.E.M.) Horizontal co-planar
Coil separation (V.L.F.) infinity, (H.E.M.) 200' and 300'
Accuracy (V.L.F.) +/- 1% (H.E.M.) +/- 1% I-P +/- 2% 'Q'
Method: [x] Fixed transmitter [] Shoot back [x] In line [] Parallel line
Frequency (V.L.F.) 17.8 KHz Cutler Maine U.S.A. H.E.M. 1600 Hz
Parameters measured In-phase (Real) and Quadrature (Imaginary)

GRAVITY

Instrument
Scale constant
Corrections made
Base station value and location
Elevation accuracy

INDUCED POLARIZATION RESISTIVITY

Instrument
Method [] Time Domain [] Frequency Domain
Parameters - On time Frequency
- Off time Range
- Delay time
- Integration time
Power
Electrode array
Electrode spacing
Type of electrode

BEATTY TWP.

6

5

4

3

2

1

HISLOP TWP.

VI

HISLOP TWP.

GUIBORD TWP.

IV

III

II

pike

River



372634 372633 1372632

572

Scale: 1" = 40 chains

HOLTYRE



572

Beatty Twp.

Northern Ontario
Natural Gas
Pipe Line

THE TOWNSHIP
OF 2.2144

HISLOP
DISTRICT OF
COCHRANE
LARDER LAKE
MINING DIVISION

SCALE: 1-INCH= 40 CHAINS

LEGEND

- PATENTED LAND Ⓟ
- CROWN LAND SALE Ⓢ or Ⓒ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 —
- GEODECTIC STATION ⚡

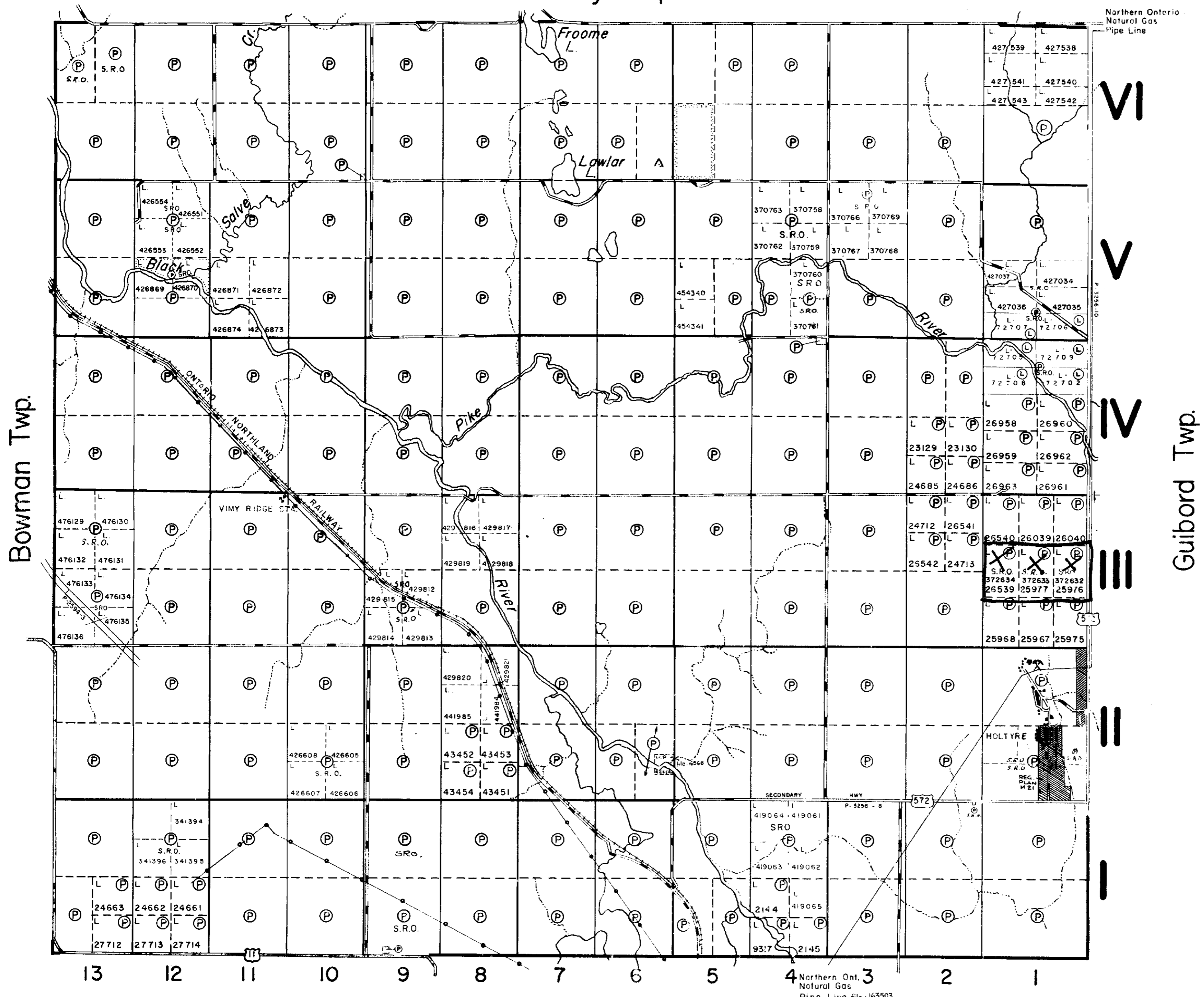
NOTES

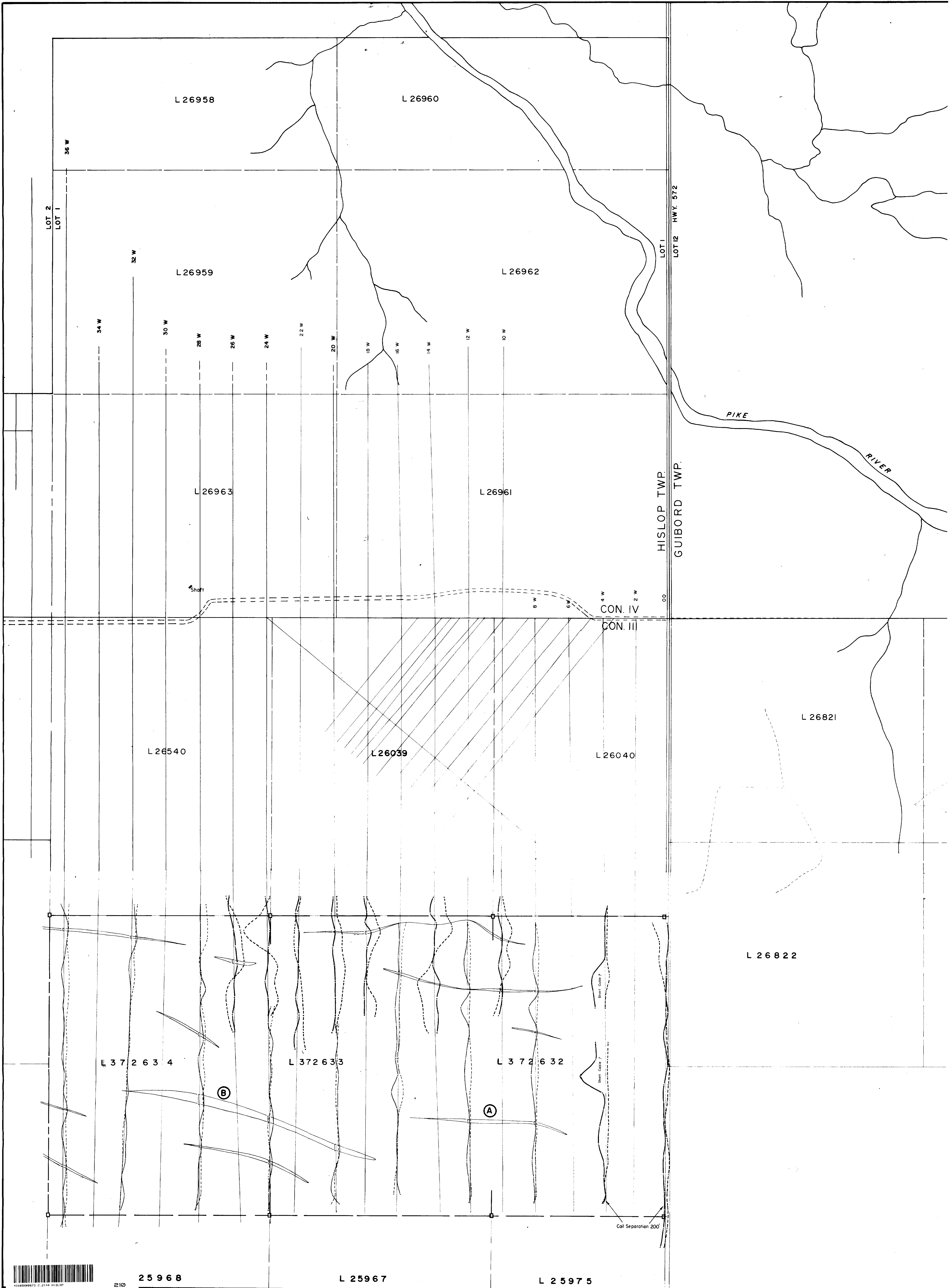
- Holtvre Townsite Shown Thus: ▨
- Gravel Reserve Shown Thus: ▨
- 400' Surface rights reservation around all lakes and rivers.

DATE OF ISSUE
JUL - 6 1976
SURVEYS AND MAPPING
BRANCH

PLAN NO.- M-355

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH





L 26958

L 26960

L 26959

L 26962

L 26963

L 26961

L 26540

L 26039

L 26040

L 26821

L 26822

L 372634

L 372633

L 372632

(B)

(A)

LOT 2
LOT 1

36 W

32 W

34 W

30 W

28 W

26 W

24 W

22 W

20 W

18 W

16 W

14 W

12 W

10 W

LOT 1
LOT 12 HWY. 572

HISLOP TWP.
GUIBORD TWP.

PIKE

RIVER

CON. IV
CON. III

short

8 W

6 W

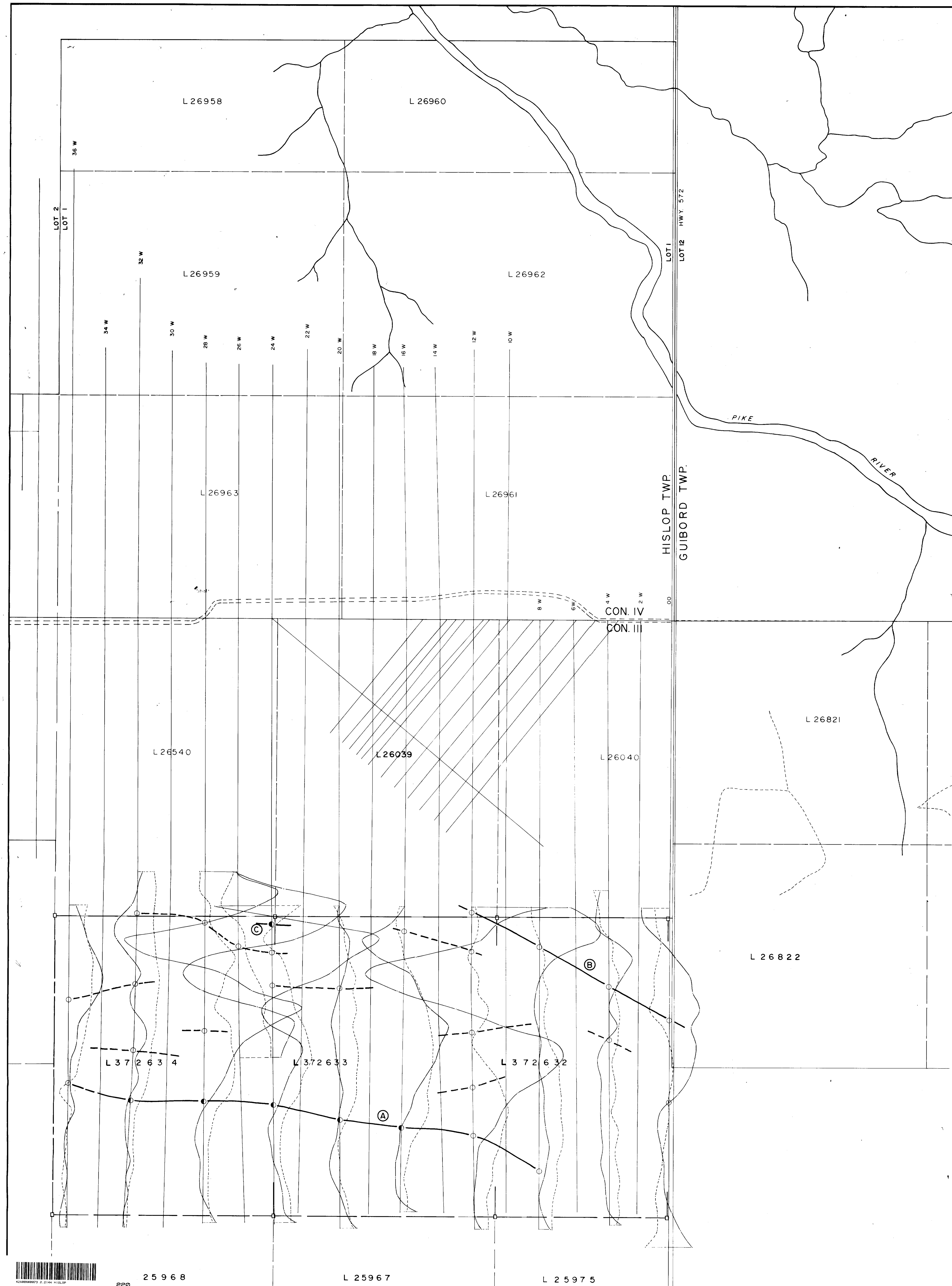
4 W

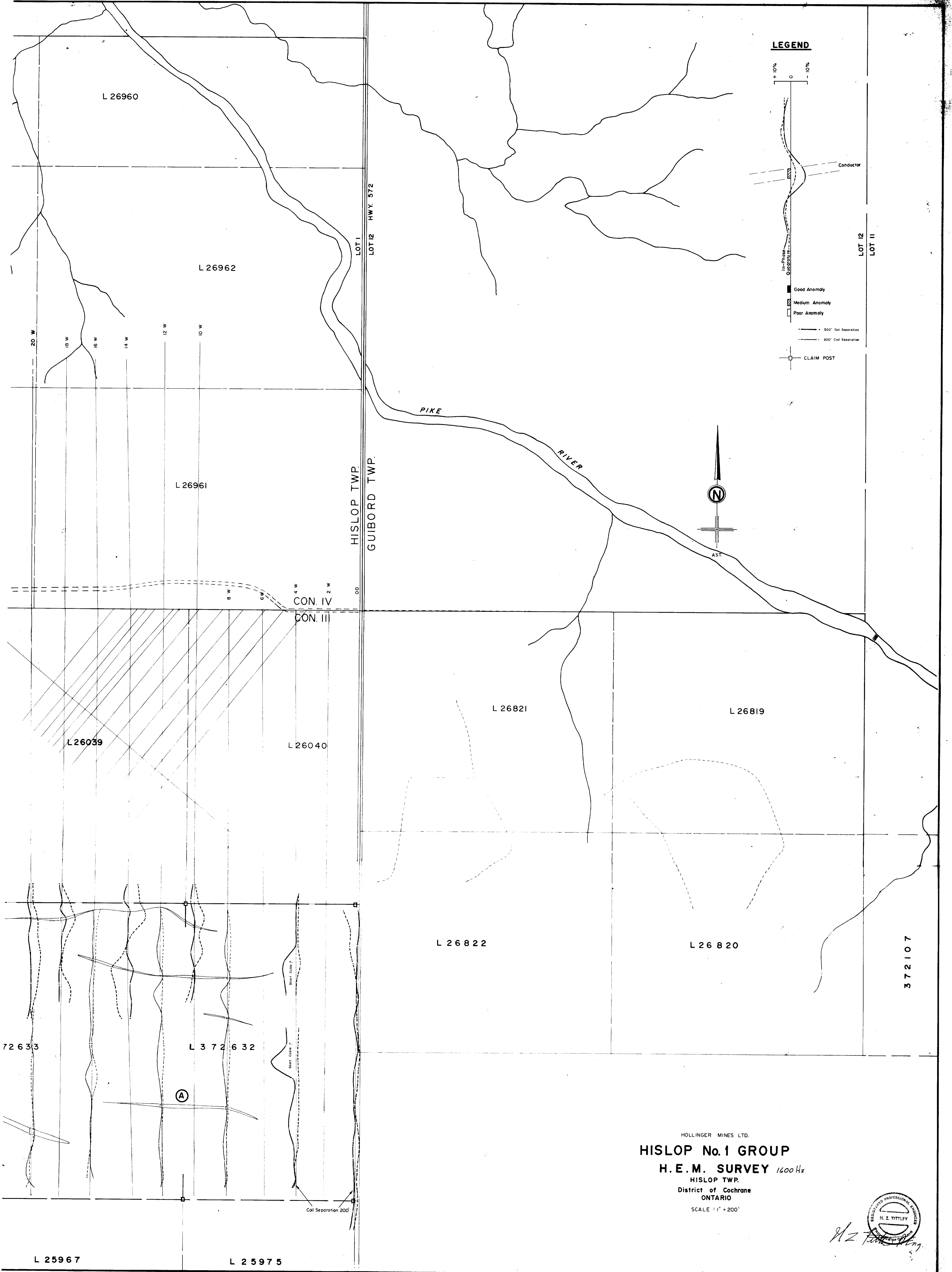
2 W

00

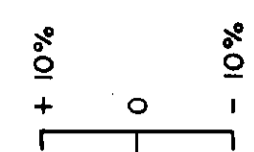
Col Separation 200'



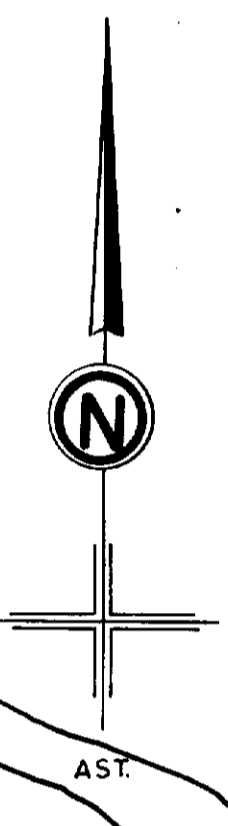




LEGEND



- Good Anomaly
- Medium Anomaly
- Poor Anomaly
- 300' Coil Separation
- 200' Coil Separation
- CLAIM POST

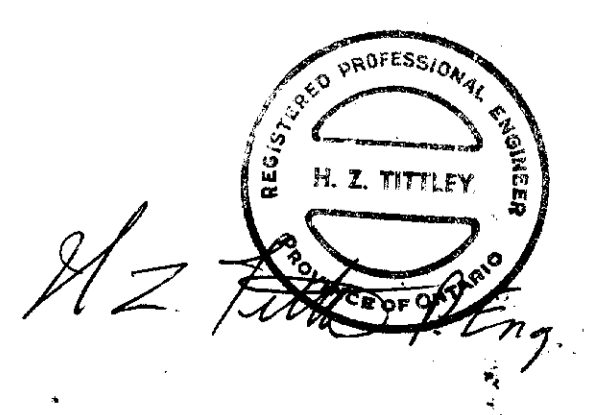


LOT 12
LOT 11

HISLOP TWP.
GUBORD TWP.

LOT 1
LOT 12 HWY. 572

HOLLINGER MINES LTD.
HISLOP No. 1 GROUP
H. E. M. SURVEY 1600 Hz
 HISLOP TWP.
 District of Cochrane
 ONTARIO
 SCALE: 1" = 200'



372107

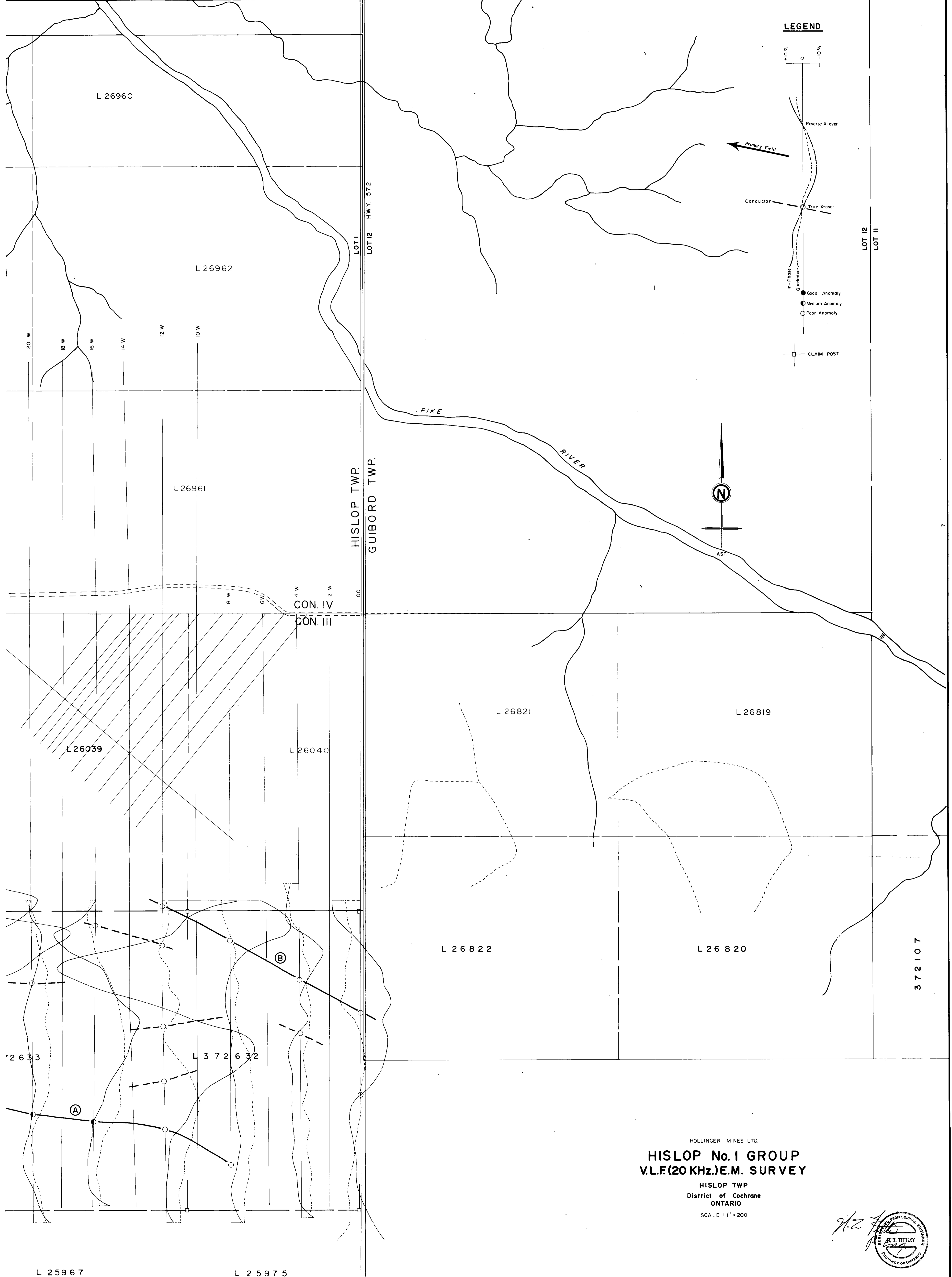
72633

(A)

Coil Separation 200'

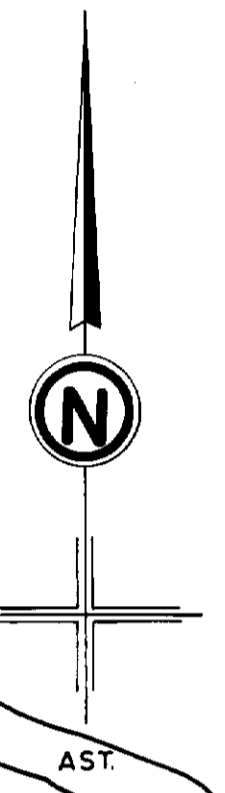
L 25967

L 25975



LEGEND

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HOLLINGER MINES LTD.
HISLOP No.1 GROUP
V.L.F.(20 KHz.)E.M. SURVEY
 HISLOP TWP
 District of Cochrane
 ONTARIO
 SCALE : 1" = 200'



372107