

INTRODUCTION

Project Ivanhoe Groups Nos. 11 and 34 consist of twenty-nine contiguous claims - nos. S121122 to S121137 incl., S121197 to S121200 incl. and S122398 to S122406 incl. - located in the southeast part of Foleyet Township, a distance of two miles approximately southwest of Foleyet, Ontario. Group 34 - claims S121122 to S121137 incl. and S121197 to S121200 incl. - were staked in February and recorded in March 1964, Group 11 - claims S122398 to S122406 incl. - in April and May 1964, respectively.

Exploration was carried out during the period August 24, 1964 to January 30, 1965. During August and September a grid totalling 16 miles of line was cut and magnetometer, horizontal loop electromagnetic and vertical loop electromagnetic surveys were completed. Geological mapping was done in October, 1964. In December two miles of line were cut and magnetometer and vertical loop electromagnetic surveys done to cover an area inaccessible in summer due to the Ivanhoe River. During the period December 5, 1964 to January 30, 1965 six holes totalling 2,283 feet were drilled. Drilling was suspended at that time and no further work has been done.

The work was done under the direct supervision of the writer.

The work involved in the surveys has been applied to claims S121125 - 26 - 27 - 28 - 30 - 31 - 32 - 33 - 36 - 37, S122398, S122400 - 01 - 02 - 03 - 04 - 05 - 06. Small sections of the surveys were done outside the boundaries of these claims but allowance has been made for this and no assessment credits claimed for that work. Enough of the diamond drilling is being applied to bring the total assessment credits to 60 days for each claim in the group.

Access to the claims is by highway 101 which passes through the southeast part of the claims.

MAGNETOMETER SURVEY

The magnetometer survey was done with a Sharpes Fluxgate model M. F. 1 magnetometer with a scale constant of 20 gammas per scale division. Approximately 986 stations were read at 100 foot intervals along all the picket lines with fill-in readings at 50-foot intervals in areas of high magnetic attraction. Diurnal readings on permanent base stations were taken at approximately one-hour intervals.

All readings were corrected and plotted as shown on the accompanying map.

ELECTROMAGNETIC SURVEYS

Two electromagnetic surveys were done. The original eighteen miles of line were covered with a horizontal loop 300 foot cable Ronka unit, approximately 775 readings being taken at 100-foot intervals along all picket lines with fill-in readings at 50-foot intervals in areas of high conductivity.

At a later date the H. E. M. conductors were checked with a Sharpes S. E. 200 vertical loop instrument. In December the additional two miles of line cut were surveyed with the same instrument. Approximately 847 stations were read.

All results have been plotted as shown on the accompanying maps.

GEOLOGICAL MAPPING

Detailed geological mapping of the grid was completed and all outcrops, claim posts and topography accurately located with respect to the nearest picket line. The results are shown on the accompanying geological plan.

DIAMOND DRILLING

Six holes as follows were drilled:

<u>NO.</u>	<u>CO-ORDINATES</u>	<u>BEARING</u>	<u>DIP</u>	<u>CORE SIZE</u>	<u>LENGTH</u>
64-13	12 $\frac{1}{2}$ 20N - 19 $\frac{1}{2}$ 30W	S30°W	46°	"A" - 1 1/8"	451'
64-14	17 $\frac{1}{2}$ 20N - 32 $\frac{1}{2}$ 00W	S20°W	50°	"	530'
65-1	2 $\frac{1}{2}$ 50S - 2 $\frac{1}{2}$ 20W	S80°W	45°	"	456'
65-2	19 $\frac{1}{2}$ 75N - 9 $\frac{1}{2}$ 00W	S20°W	45°	"	321'
65-2A	19 $\frac{1}{2}$ 75N - 9 $\frac{1}{2}$ 00W	S20°W	45°	"	145'
65-3	15 $\frac{1}{2}$ 70N - 7 $\frac{1}{2}$ 00W	S20°W	45°	"	380'
					<u>2283'</u>

RESULTS OF SURVEYS

The magnetometer survey outlined a number of high magnetic anomalies in various sections of the property. Some of these are long formational trends, others more circular in outline and possibly caused by magnetic intrusives. The narrow folded anomaly lying partially under the Ivanhoe River is caused by pyrrhotite. The strong anomaly in the southwest part of the grid probably is caused by iron formation.

The electromagnetic surveys located a number of long and quite strong conductors. Diamond drilling proved that these are caused in part by graphitic slate beds and in part by heavy sulphide zones.

The geology of the area is not clear. Outcrops are scarce and the holes drilled are widely spaced. Quartzites outcrop in claim S122406 and a quartz conglomerate was intersected in the bottom of the drill hole 64-13. Siliceous sediments intersected in the bottom of hole 64-14 are different in character and contain slatey beds. The surveys indicate that this is probably a separate horizon from the ones described above.

Chloritic andesites were intersected in the upper parts of holes 64-13 and 64-14. Fresher more massive andesites are present in hole 65-1 and nearby outcrops. All three holes intersected narrow interflow graphitic slate beds.

Holes 65-2 and 65-3 intersected highly altered andesites and tuffs with narrow beds of graphitic slate. Considerable talc and talc-carbonate alteration is present in these holes.

Pyrite, some pyrrhotite and minor sphalerite and chalcopyrite is present in the slate beds. Wide sections of semi-massive to massive pyrite are present in the siliceous sediments in drill holes 64-14 and 64-13.

The structure of the claims area is not clear. The surveys indicate folding in the andesites along the Ivanhoe River. Elsewhere strikes appear to be regularly $N70^{\circ}W$. Dips vary from vertical to 60° to the north. The quartz conglomerate in hole 64-13 appears to dip at a different angle than the adjoining andesites, possibly indicating an unconformity or difference in age.

CONCLUSIONS & RECOMMENDATIONS

Drilling of geophysical anomalies located large and extensive zones of sulphides. Further geophysics and diamond drilling of results is recommended.

Use one type of survey only



42B01NW0022 63.1440 FOLEYET

900

Assessment Work Breakdown

- 1. Type of Survey Electromagnetic
- 2. Township or Area Foleyet Township
- 3. Mining claim numbers S121125, S121126, S121127, S121128, S121130, S121131, S121132, S121133, S121136, S121137, S122398, S122400, S122401, S122402, S122403, S122404, S122405, S122406.
- 4. Number of miles of line cut 18 miles
- * 5. Type of instrument used Ronka type 300 ft. cable horizontal E. M. unit
Sharpes S.E. 200 vertical loop E. M. unit
- * 6. Scale constant or sensitivity
- * 7. Number of stations established 1,622

8. Summary of days worked (details on reverse side)

Total technical (include consultants, draughting etc.	190	$47.5 \times 7 = 332.5$
Total line-cutting (maximum 5 man days per claim)	190	<u>47.5</u>
Total man-days (technical plus line-cutting)	380	<u>3800</u>
Assessment days credit per claim	21	

(Total man-days multiplied by assessment factor 4 divided by total number of claims traversed)

9. Dated March 3/65 Signed [Signature]

* Complete only if applicable

Complete list of names, addresses and dates on reverse side

Use for one type of survey only

Assessment Work Breakdown

1. Technical

<u>Type of Work</u>	<u>Name & Address</u>	<u>Dates Worked</u>	<u>Hours</u>	<u>Days</u>
<u>Horizontal loop B. N.</u>				
J. Farres,	S. Porcupine, Ont.	Sept. 3-13/64	80	40
G. Fournier,	S. Porcupine, Ont.	Sept. 3-13/64	80	40
<u>Vertical loop E. M.</u>				
A. McClemens	Timmins, Ont.	Sept. 29 - Oct. 4/64	60	30
R. Hopson,	Kouyn, Que.	Sept. 29 - Oct. 4/64	60	30
A. MacDonnell,	Timmins, Ont.	Dec. 6 - 7/64	24	12
O. Riddler,	Timmins, Ont.	Dec. 6 - 7/64	24	12
Totals			328	164

Consultants

<u>Name & Address</u>	<u>Dates Worked (specify in field or office)</u>	<u>Hours</u>	<u>Days</u>
H. D. McLeod,	Timmins, Ont. Office planning	Sept. 2 - 12/64	12 6
Totals			12 6

Draughtsman, Typing, others (specify)

<u>Name & Address</u>	<u>Type of Work</u>	<u>Dates Worked</u>	<u>Hours</u>	<u>Days</u>
E. W. Woolham,	Timmins, Ont. Drafting	Sept. 17, Oct. 10/64	20	10
J. E. Newman,	S. Porcupine, Ont. "	Feb. 17-18/65	12	6
H. D. McLeod,	Timmins, Ont. Report	Feb. 17/65	4	2
R. Corbiero,	Timmins, Ont. Typing	Feb. 22/65	4	2
Totals			40	20

2. Line-Cutting

<u>Name</u>	<u>Address</u>	<u>Dates Worked</u>	<u>Hours</u>	<u>Days</u>
M. Chmielowski,	Timmins, Ont.	Aug. 24 - Sept. 8/64	160	80
B. Brovard,	Timmins, Ont.	Aug. 24 - Sept. 8/64	160	80
O. LePage,	Timmins, Ont.	Aug. 24 - Aug. 29/64	60	30
Totals			380	190

Assessment Work Breakdown

- 1. Type of Survey Magnetometer
- 2. Township or Area Foleyet Township
- 3. Mining claim numbers S121125, S121126, S121127, S121128, S121130, S121131, S121132, S121133, S121136, S121137, S122398, S122400, S122401, S122402, S122403, S122404, S122405, S122406.
- 4. Number of miles of line cut 18 miles
- * 5. Type of instrument used Sharpes Fluxgate model M. F. 1 magnetometer.
- * 6. Scale constant or sensitivity 20 gammas per scale division.
- * 7. Number of stations established 986

8. Summary of days worked (details on reverse side)

Total technical (include consultants, draughting etc.)	<u>192</u>	<u>25.5 x 7 = 178.5</u>
Total line-cutting (maximum 5 man days per claim)	<u>102</u>	<u>25.5</u>
Total man-days (technical plus line-cutting)	<u>204</u>	<u>204.0</u>
Assessment days credit per claim	<u>11</u>	

~~(Total man-days multiplied by assessment factor 4 divided by total number of claims traversed)~~

9. Dated March 3/65 Signed W.D. McLeod

* Complete only if applicable

Complete list of names, addresses and dates on reverse side

Assessment Work Breakdown1. Technical

<u>Type of Work</u>	<u>Name & Address</u>	<u>Dates Worked</u>	<u>Hours</u>	<u>Days</u>
<u>Magnetometer survey</u>				
A. McClemons, Timmins, Ont.		Sept. 14 - 19/64	72	36
R. Hopson, Rouyn, P. Q.		Sept. 14 - 19/64	72	36
A. MacDonnell, Timmins, Ont.		Dec. 8/64	12	6
G. Hiddler, Timmins, Ont.		Dec. 8/64	12	6
Totals			168	84

Consultants

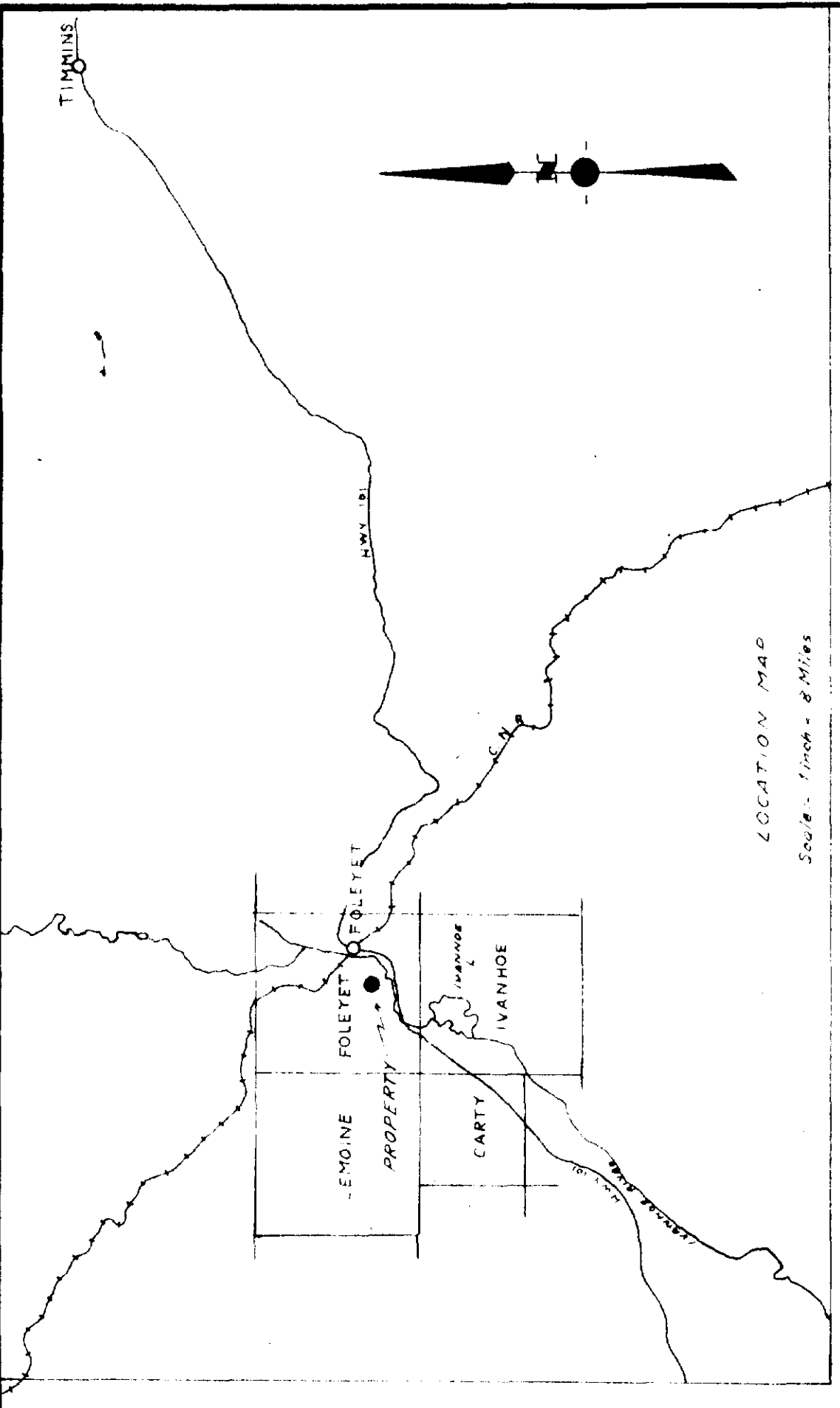
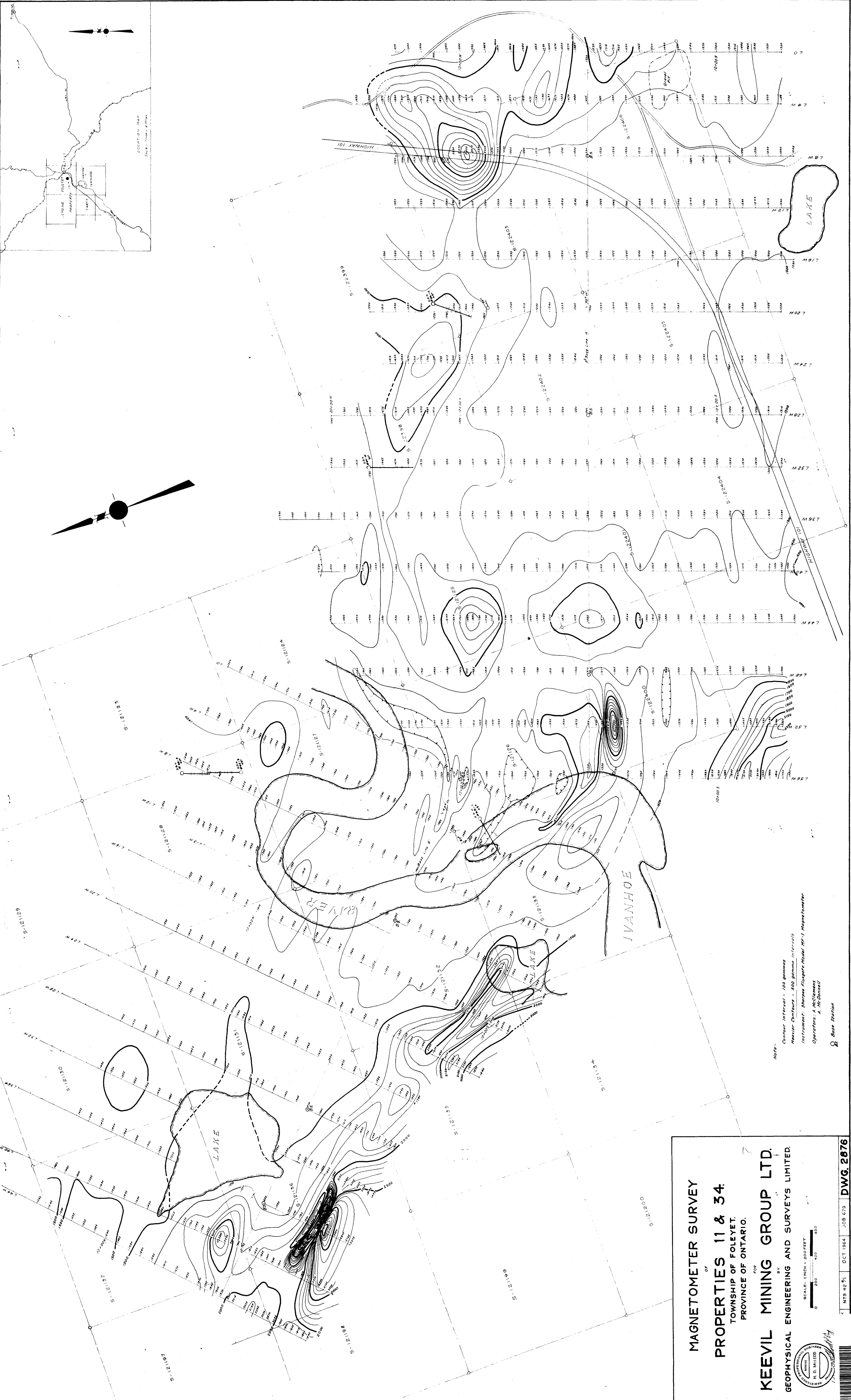
<u>Name & Address</u>	<u>Dates Worked (specify in field or office)</u>	<u>Hours</u>	<u>Days</u>
H. D. McLeod, Timmins, Ont.	Office Planning Aug. 20/64	12	6
Totals			12 6

Draughtsman, Typing, others (specify)

<u>Name & Address</u>	<u>Type of Work</u>	<u>Dates Worked</u>	<u>Hours</u>	<u>Days</u>
R. W. Woolham, Timmins, Ont.	Drafting	Sept. 16/64	12	6
J. R. Newman, S. Porcupine, Ont.	"	Feb. 15/65	12	6
Totals			24	12

2. Line-Cutting

<u>Name</u>	<u>Address</u>	<u>Dates Worked</u>	<u>Hours</u>	<u>Days</u>
A. Maskovich, Timmins, Ont.		Aug. 24 - Sept. 8/64	160	80
W. Gloster, Timmins, Ont.		Dec. 7 - 8/64	24	12
Y. Joly, Timmins, Ont.		Dec. 7 - 8/64	20	10
Totals			204	102



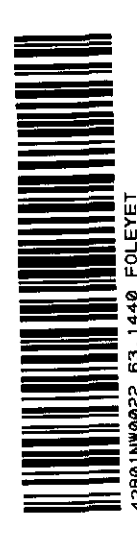
Note: Contour Interval - 100 gamma
 Major Contours - 500 gamma Intervals
 Instrument: Shorvan Fluogate Model M-1 Magnetometer
 Operators: A. McCreary
 H. McCreary
 Base Station

MAGNETOMETER SURVEY
 OF
PROPERTIES 11 & 34
 TOWNSHIP OF FOLEY,
 PROVINCE OF ONTARIO.
 FOR
KEEVIL MINING GROUP LTD.
 BY
GEOPHYSICAL ENGINEERING AND SURVEYS LIMITED.

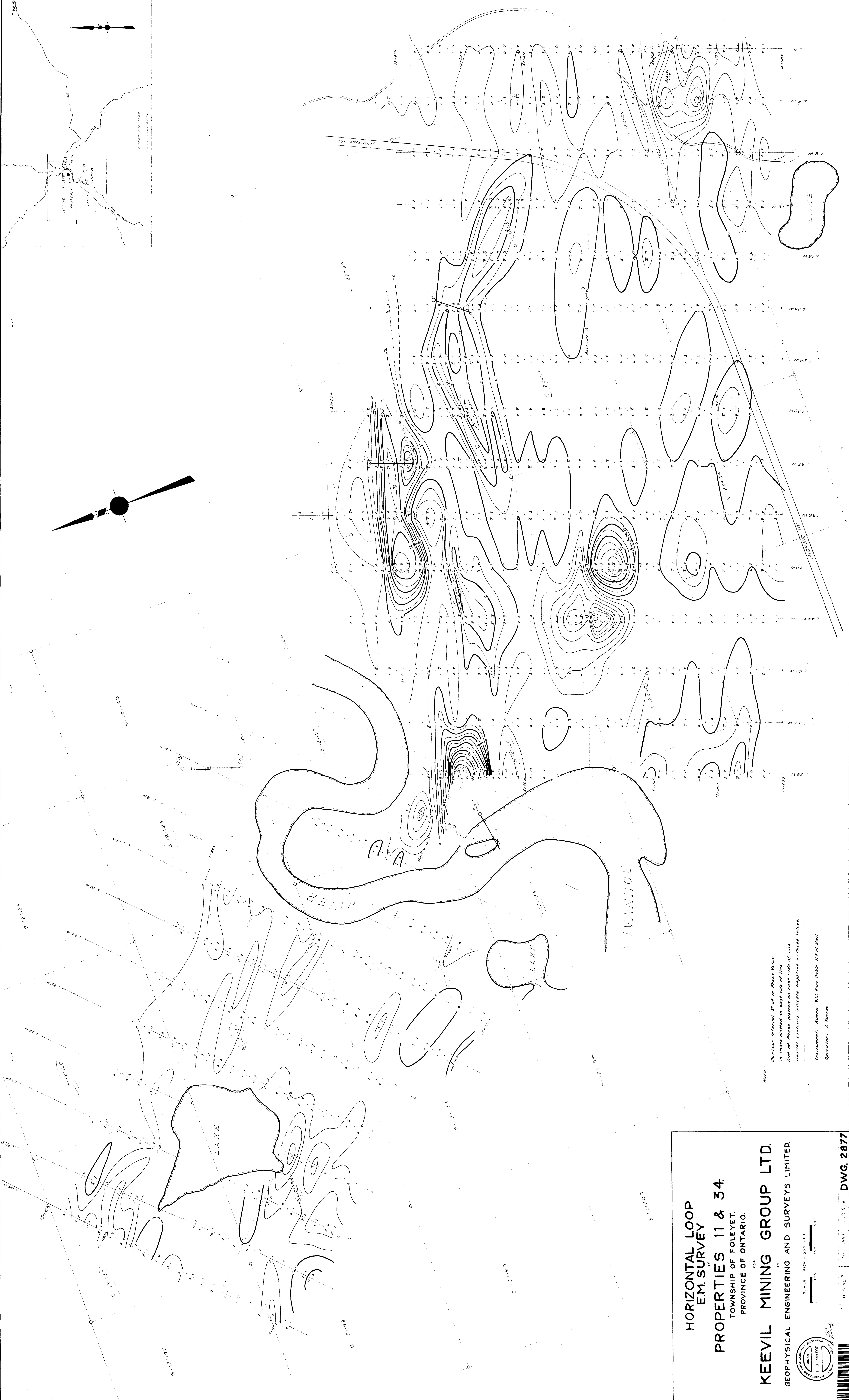
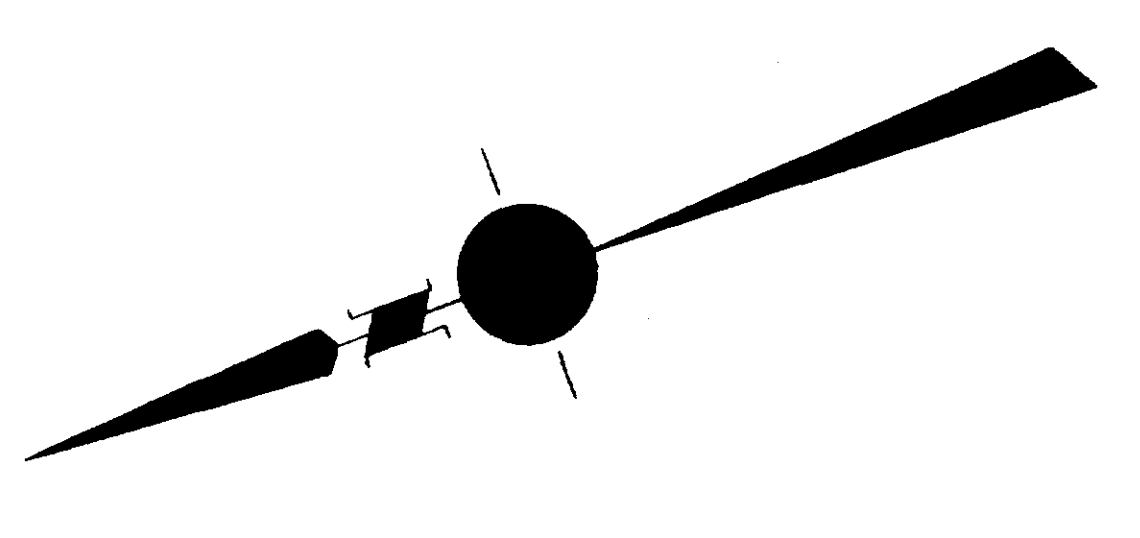
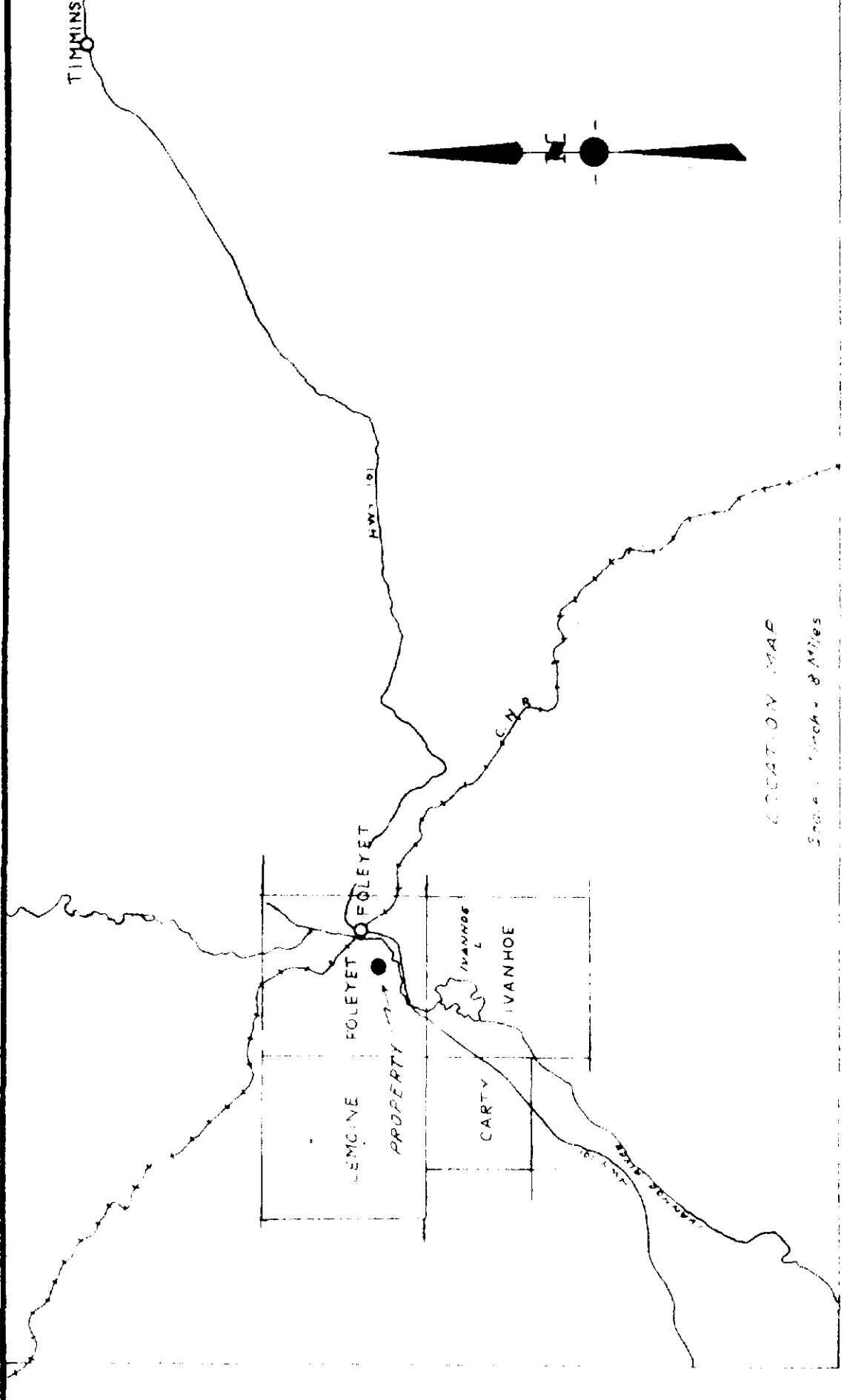
SCALE: 1 INCH = 200 FEET
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OCT 1964 JOB 679 **DWG. 2676**

H. D. MILDRED
 PROFESSIONAL ENGINEER



H. D. MILDRED
 PROFESSIONAL ENGINEER
 ONTARIO

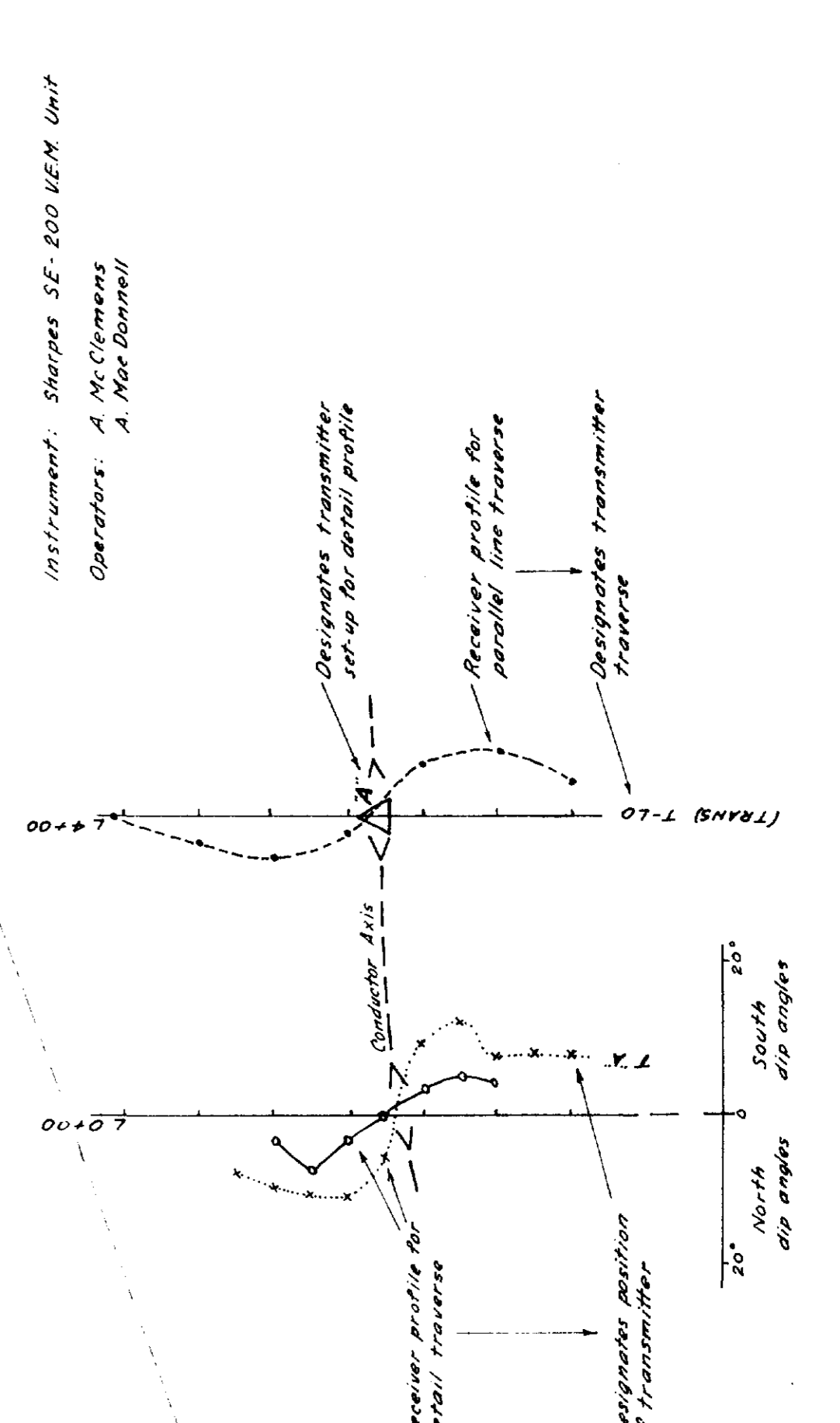
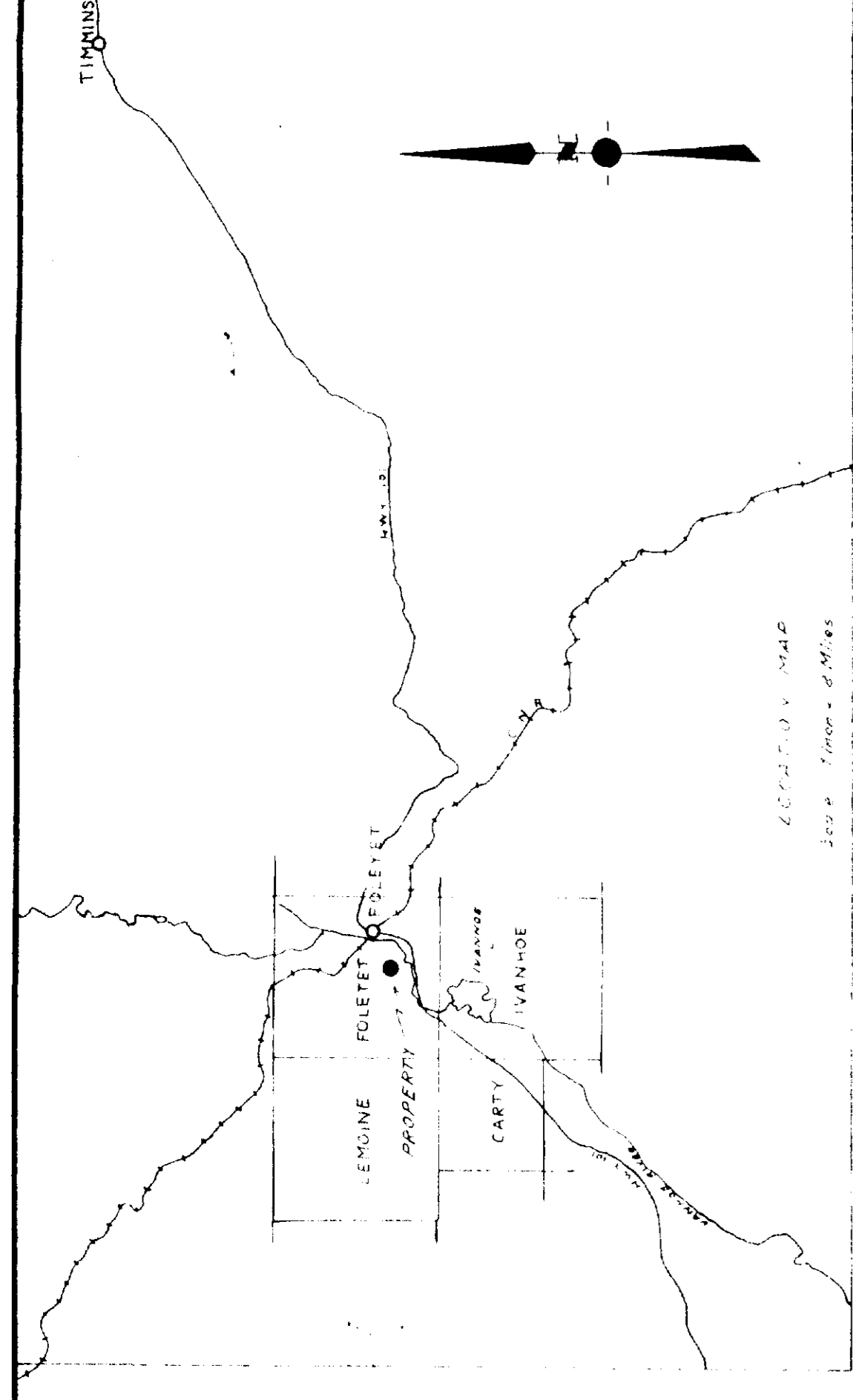
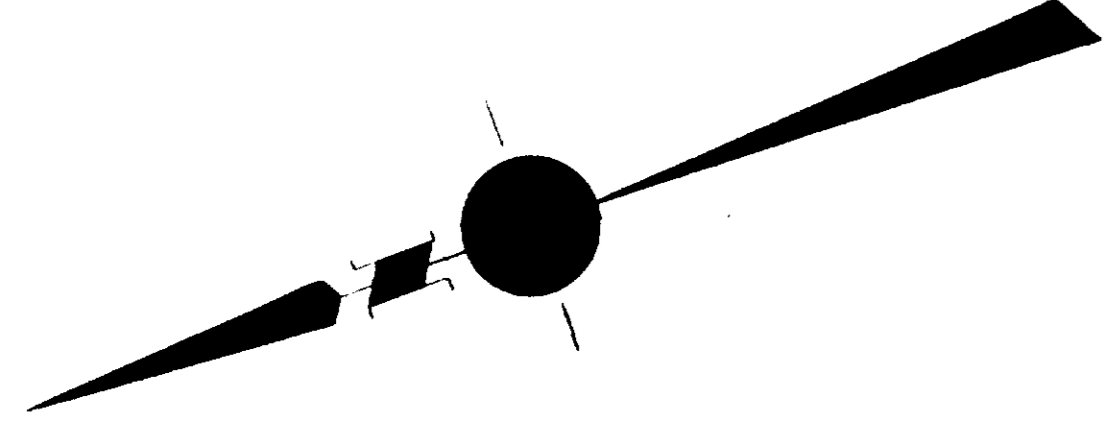
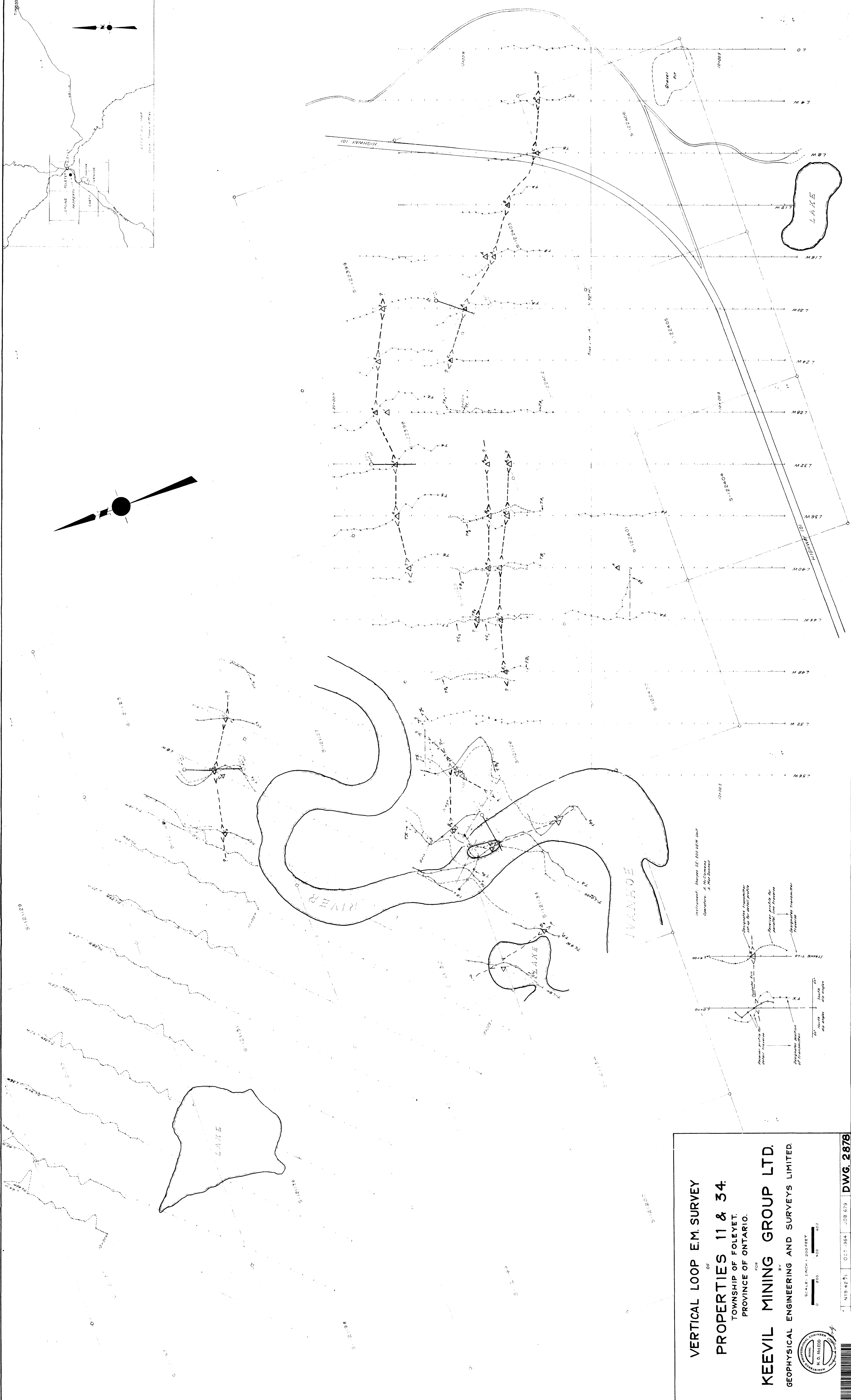


Note:
 Contour Interval 2' of In-Phase Value
 In-Phase plotted on West side of line
 Out-of-Phase plotted on East side of line
 Heavier contours indicate Negative in-Phase values
 Instrument: Rankine 300-foot Cable AEM Unit
 Operator: J. Purves

HORIZONTAL LOOP
E.M. SURVEY
PROPERTIES 11 & 34
 TOWNSHIP OF FOLEYET,
 PROVINCE OF ONTARIO.
KEEVIL MINING GROUP LTD.
 BY
GEO PHYSICAL ENGINEERING AND SURVEYS LIMITED.

SCALE: 1 INCH = 20 FEET
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 H15 47 51 07 E 95 C 25 674 **DWG. 2877**
 PREPARED BY THE PROJECT



VERTICAL LOOP E.M. SURVEY
 OF
PROPERTIES 11 & 34.
 TOWNSHIP OF FOLEY.
 PROVINCE OF ONTARIO.

FOR
KEEVIL MINING GROUP LTD.
 BY
GEOPHYSICAL ENGINEERING AND SURVEYS LIMITED

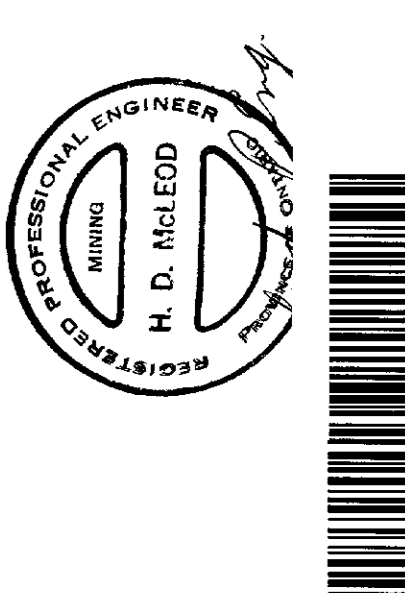
Instrument: Suddes SE-200 EDM Unit
 Observer: M. Clonney
 A. MacDonnell

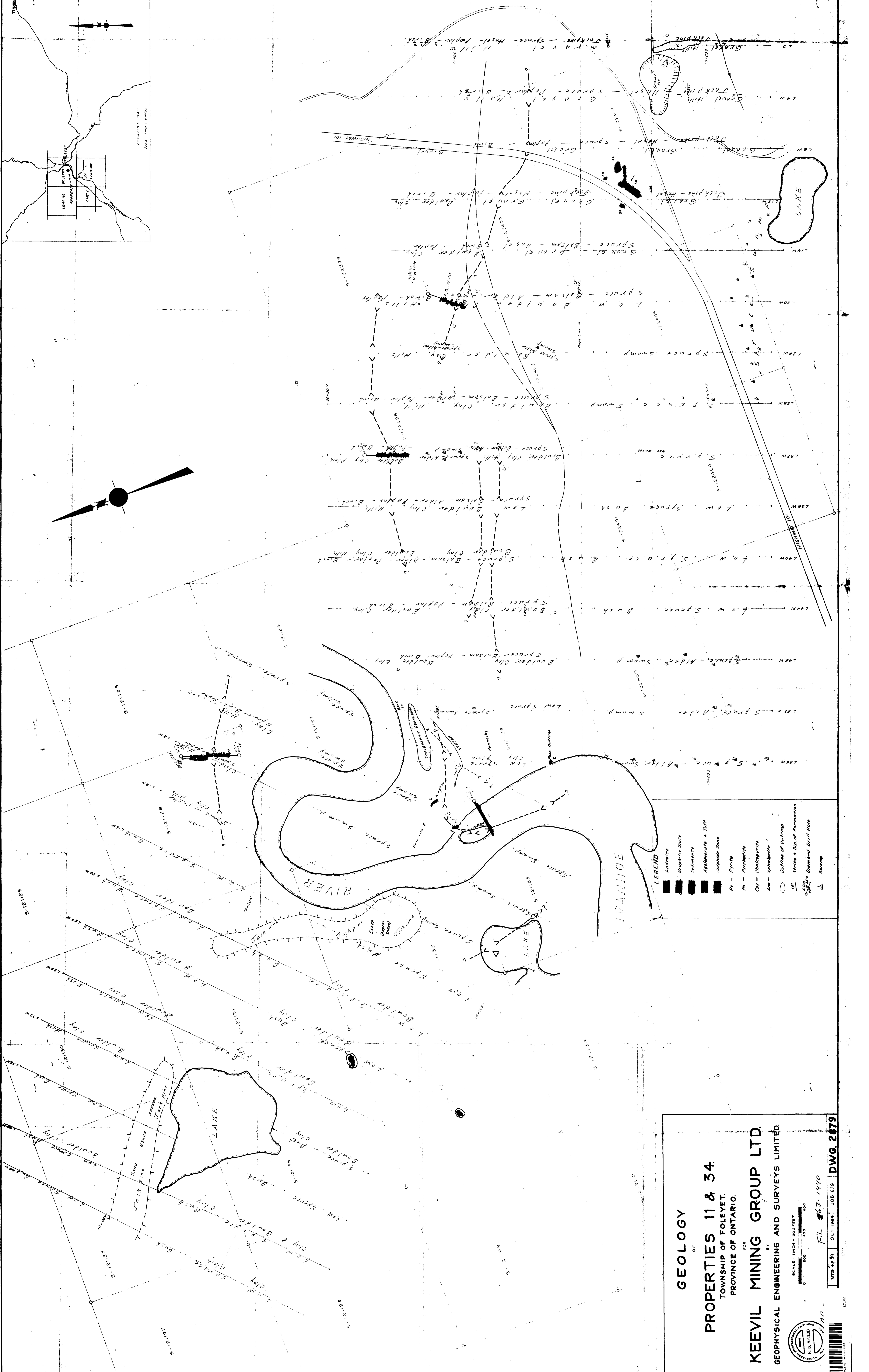
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 Originals Transmitted
 Reflector and/or
 magnetic line Transmitter
 Diagrams Transmitted
 Transmitter

Diagrams Transmitted
 Originals Transmitted
 Reflector and/or
 magnetic line Transmitter
 Diagrams Transmitted
 Transmitter

SCALE: 1 INCH = 200 FEET
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NTS 42 51 OCT 1964 JOB 679 DWG. 2878





LEGEND

- Anorthite
- Graphitic Slate
- Sediments
- Agglomerate & Turf
- Sulphide Zone
- Py - Pyrite
- Pb - Pyrochlore
- Chy - Chalcopyrite
- Zn - Sphalerite
- Outline of Outcrop
- Strike & Dip of Formation
- ◇ Open Diamond Drill Hole
- Swamp

GEOLOGY
OF
PROPERTIES 11 & 34
TOWNSHIP OF FOLEY,
PROVINCE OF ONTARIO.

FOR
KEEVIL MINING GROUP LTD.
BY
GEOPHYSICAL ENGINEERING AND SURVEYS LIMITED

SCALE: 1 INCH = 200 FEET

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File #63.1440

OCT 1984 JOB 679 DWG. 2079

H. D. McLEOD

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