



42B09SW0026 63.1419 NOVA

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INTRODUCTION

Project Ivanhoe Group #29 consists of 140 contiguous claims - Numbers S120777 to S120794 incl. S120813 to S120884 incl., S120939 to S120956 incl., and S120993 to S121024 incl. - located in the northeast corner of Nova Township, fifty miles approximately west of Timmins, Ontario. The claims were staked in February, 1964 and recorded in March, 1964.

Exploration was carried out during the period February 20 to August 15, 1964. During February and March a grid totaling 24.8 miles of line was cut and magnetometer and horizontal loop electromagnetic surveys were completed. After plotting and studying these results it was decided that further work was necessary in order to clarify the picture. Additional magnetometer survey work in May revealed that the grid was oriented wrong so an additional 14.3 miles of line were cut. Magnetometer and horizontal loop electromagnetic surveys were completed over this new grid. Geological mapping was completed over the central portion of the picket line system. A diamond drill was moved in on June 20 and by August 25 had completed six holes totalling 2,036 feet. Drilling was suspended at that time and no further work has been done.

The work in February and March was done under the direction of W. Boyko, the remainder under the direct supervision of the writer.

The work has been applied to the following 32 claims: S120831, to S120837 incl., S120839 to S120844 incl., S120873 to S120876 incl., S120878 to S120884 incl., S120950-51, S120954-55, S121001-02 and S121007-8. Small portions of the picket line system and surveys fall outside the boundaries of the above claims

but allowance has been made for this and no assessment credits claimed for that work.

Access to the claims is by float aircraft to Bravo Lake, located in the east part of the group.

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 1,944 stations were read at 100 foot intervals along all picket lines. Fill-in readings at 50-foot intervals were taken in areas of strong magnetic attraction. Diurnal readings on permanent base stations were taken at approximately one hour ^{intervals,} readings.

All readings were corrected and plotted as shown on the accompanying map. Many lines were surveyed twice and, in these cases, an average of the two readings is shown.

ELECTROMAGNETIC SURVEY

The electromagnetic survey was done with a Ronka 200-foot cable horizontal loop instrument. Readings were taken at 100-foot intervals along most of the picket lines. Approximately 1,411 stations being read. The results are shown on the accompanying map, the in-phase being contoured.

GEOLOGICAL MAPPING

Detailed geological mapping of the central portion of the grid was completed and all outcrops accurately located with respect to the nearest picket line. The results are shown on the accompanying geological map.

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>
1.	32/50N, 23/60E	S45°E	45°	"A" -- 1 1/8"	217.0'
2.	36/60N, 35/00E	S30°W	44°	"	295.0
3.	25/50N, 20/50E	S15°E	45°	"	316.0
4.	18/00N, 8/00E	South	45°	"	314.0
5.	28/75N, 19/50E	S15°E	60°	"	622.0
6.	32/00S, 3/00W	S45°E	48°	"	272.0
					<u>2,036.0</u>

RESULTS OF SURVEYS

The magnetometer survey has outlined a number of lensy highs and lows forming irregular trends. Values range from a maximum of 7000 gammas above background to 2500 gammas below background.

The horizontal loop electromagnetic survey outlined five strong but relatively short conductors and a number of short lensy conductors. The stronger conductors lie mainly in one trend indicating folding of the conductive horizon.

The geological mapping located four widely scattered areas of outcrop which, along with the results of the drilling, give some idea of the rock types and structure.

The area is mainly underlain by quartzites and biotite-hornblende-quartz gneisses. Interbedded with these are horizons of hornblende gneiss and magnetite-amphibolite-quartz gneiss. Many of the horizons contain abundant red garnets. Granite dikes were intersected in one or two drill holes. One wide diabase dike outcrops in claims S120881, S120882, and S120836. This was intersected in drill hole 1 also. The apparent strike is slightly west of north. This dike appears to be magnetic in part and to be the cause of some of

the magnetic anomalies.

The strong magnetic anomaly and coinciding conductor on claims S120833 and S120882 is caused by a zone of heavily disseminated magnetite.

The diamond drilling indicates that the main high anomaly trend and apparently many of the smaller conductors are caused by wide zones of pyrite and pyrrhotite in massive veins, stringers, lenses and patches as well as disseminated grains.

The structure of the survey area appears to be that of an overturned fold, the axis striking approximately east-west. The formations on the north limb dip 20° to 45° to the northwest and strike approximately east-west. Those on the south limb strike $S45^{\circ}W$ and dip 45° to 50° to the northwest. The nose of the fold lies near the west shore of Bravo Lake.

CONCLUSIONS & RECOMMENDATIONS

The conductors are caused by large zones of massive to semi-massive pyrite and pyrrhotite with some magnetite. Since values were low to non-existent no further work is recommended.

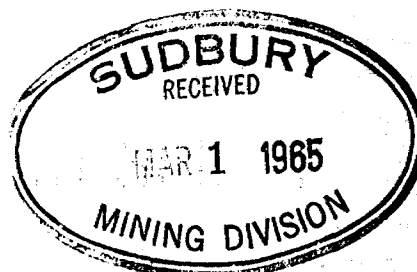
CERTIFICATE

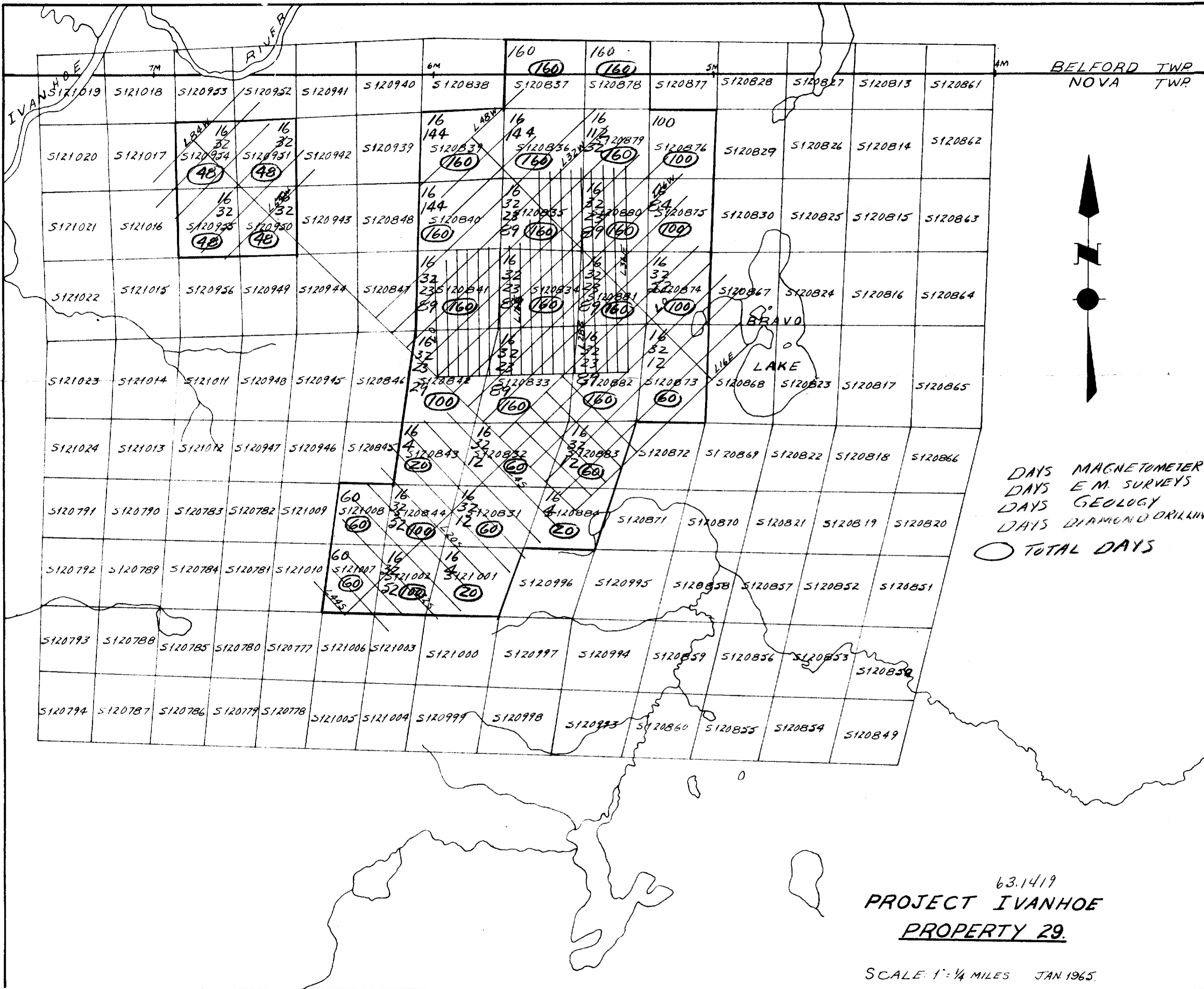
I, H. Douglas McLeod, of the town of Timmins,
Province of Ontario do hereby certify:

- (1.) That I am a geologist and reside at 324 Cedar St. N.,
Timmins, Ontario.
- (2.) That I graduated from Queen's University in 1942 with
the degree of Bachelor of Applied Science.
- (3.) That I am a member of the Association of Professional
Engineers of the Province of Ontario. (Mining Branch)
- (4.) That I have been practicing my profession for a period
of more than 19 years.
- (5.) That I am employed by Geophysical Engineering & Surveys
Ltd. as Resident Engineer for Northern Ontario.
- (6.) That I have personal knowledge of or directed the work
submitted for assessment credits in the enclosed reports.

February 25, 1965

H. D. McLeod P. Eng.
H. D. McLeod, B. A. Sc., P. Eng.

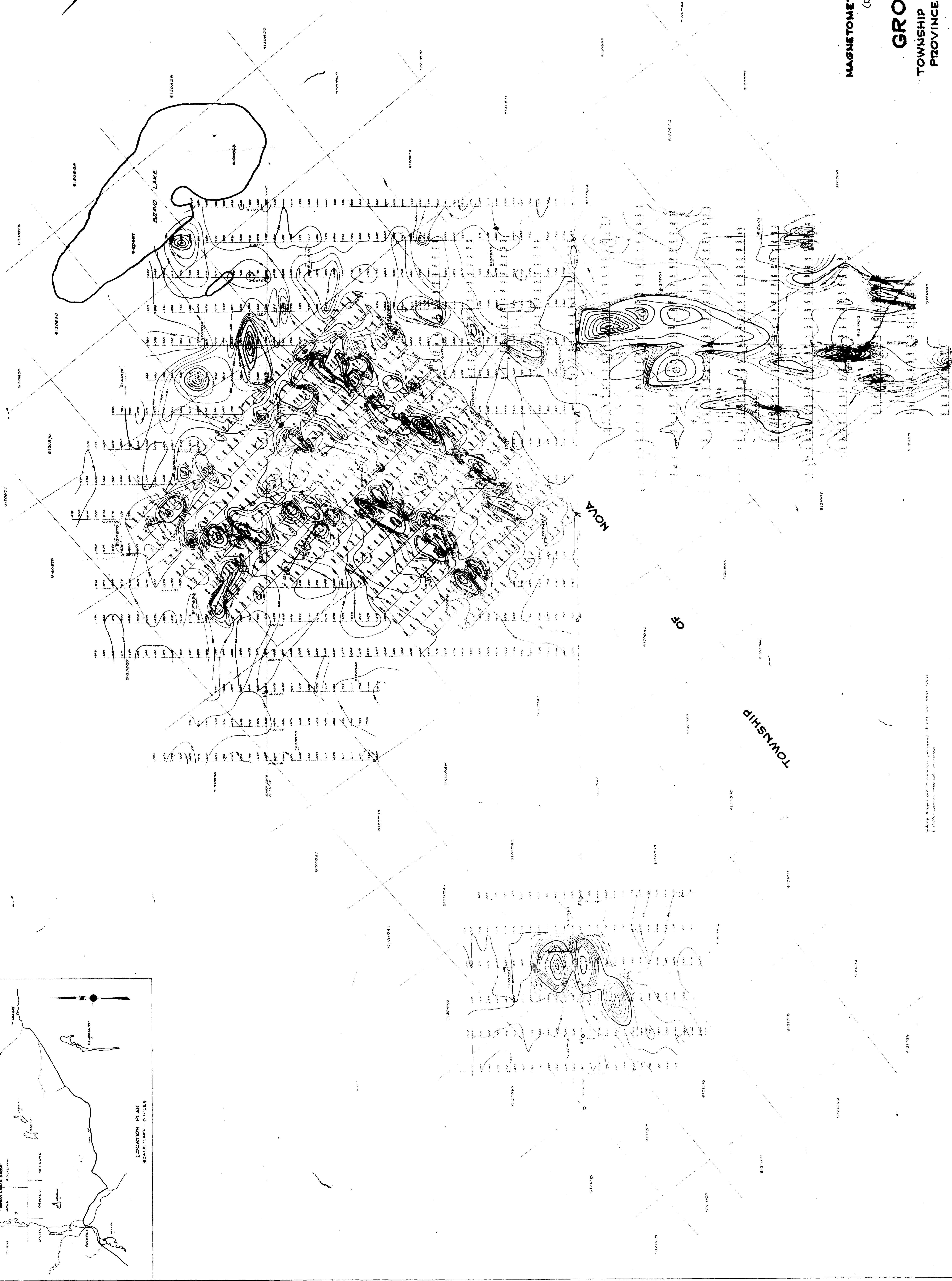
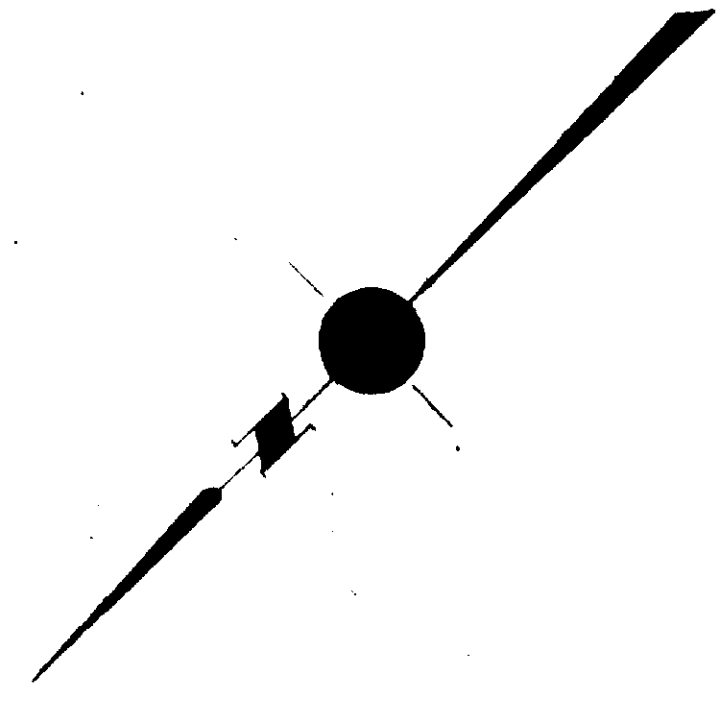
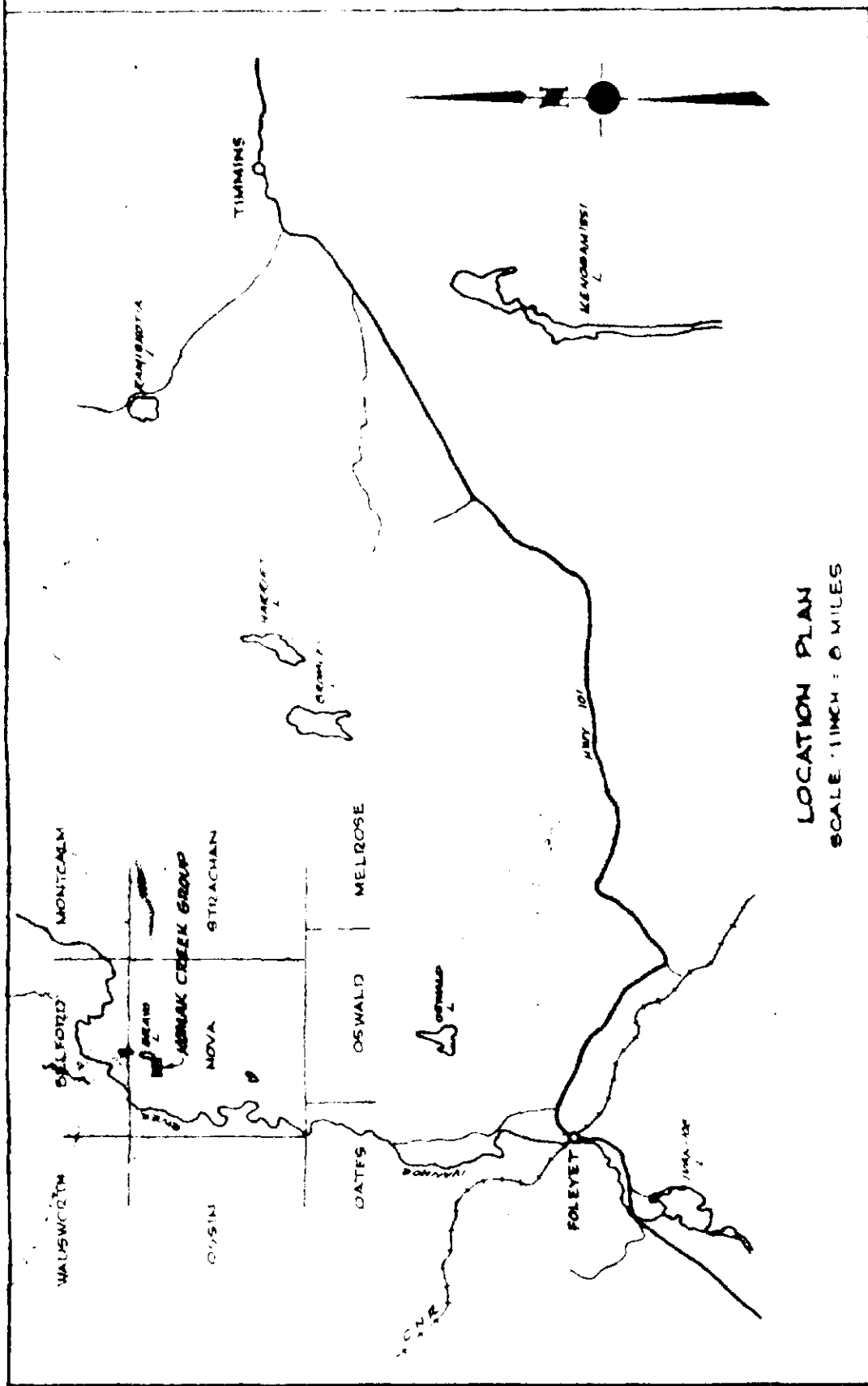




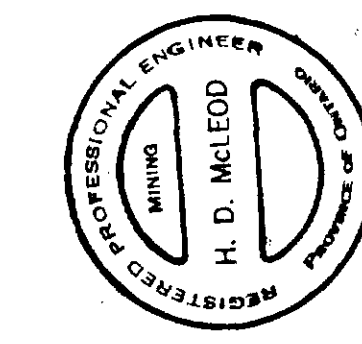
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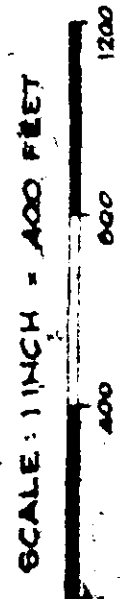
MAGNETOMETER SURVEY
(DETAILED)



GROUP 29
OF
TOWNSHIP OF NOVA
PROVINCE OF ONTARIO

FOR
IVANHOE SYNDICATE
BY
GEOPHYSICAL ENGINEERING AND SURVEYS LIMITED

SCALE 1 INCH = 400 FEET

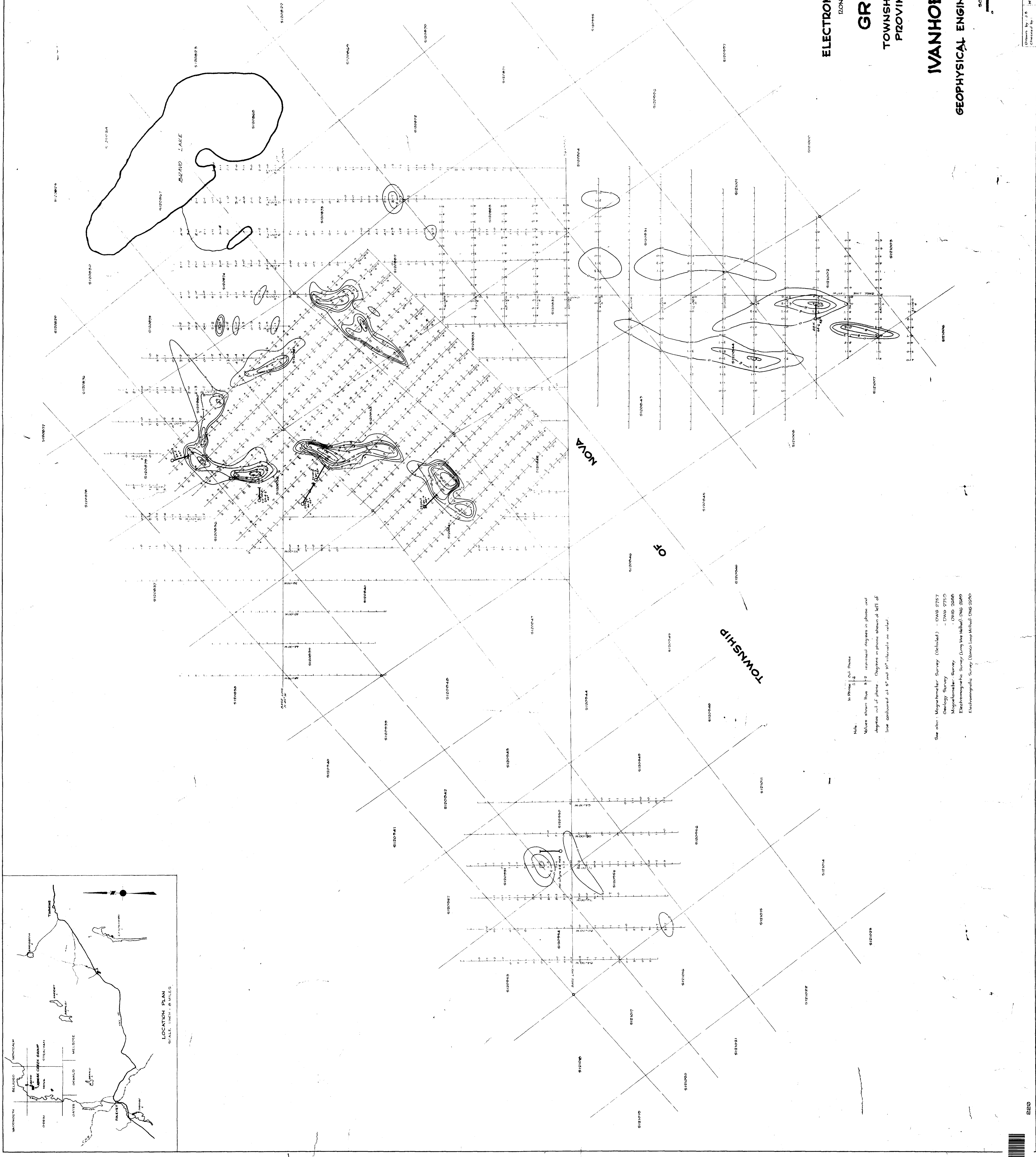
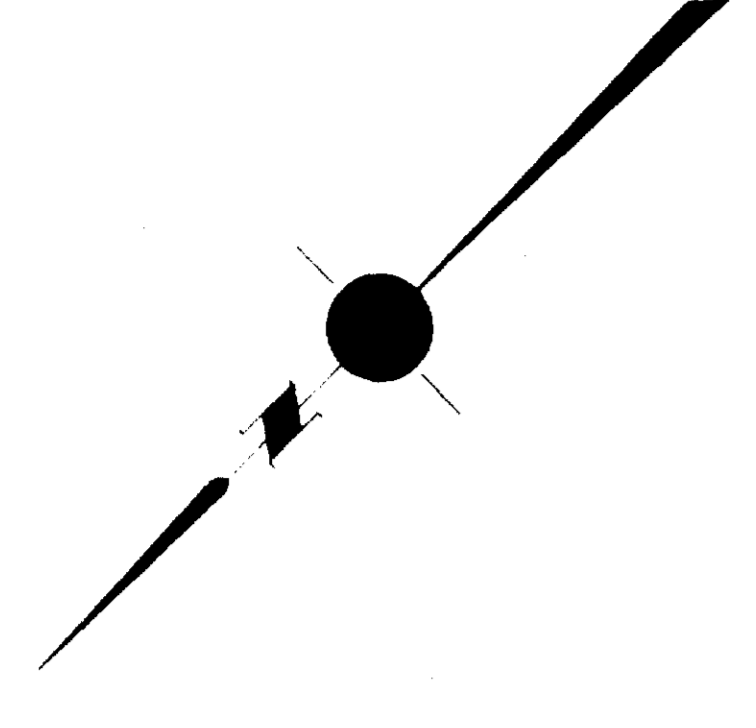
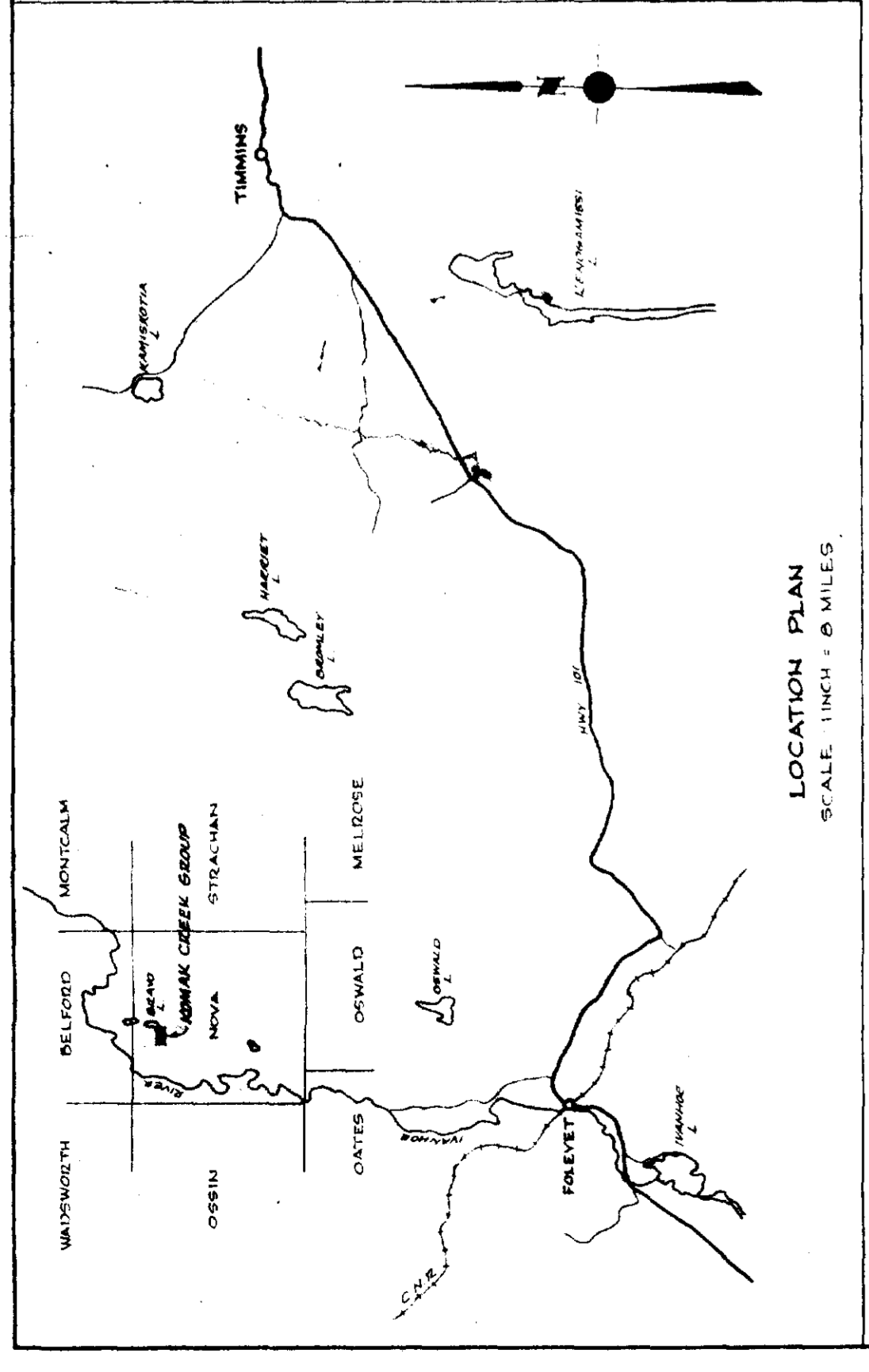


Values shown are in magnetic declination at 1960 and 1965
1:1000 magnetic declination in effect

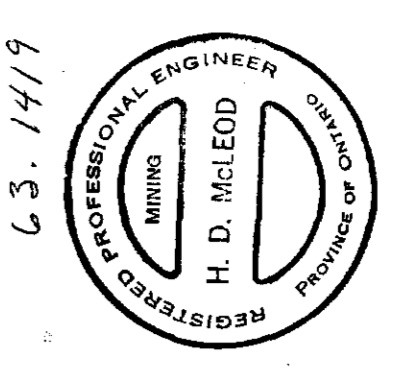
See also: Electromagnetic Survey (Dipole Loop Method) - 1960, 1965
Geology Survey - 1965, 1966
Magnetometer Survey (Loop) - 1965, 1966
Electromagnetic Survey (Dipole Loop Method) - 1965, 1966



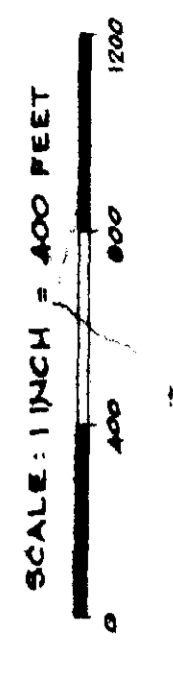
DATE: 1967
JOB NO. 579
D.S. 1757



ELECTROMAGNETIC SURVEY
 RONKA LOOP METHOD
 OF
GROUP 29
 TOWNSHIP OF NOVA
 PROVINCE OF ONTARIO



IVANHOE SYNDICATE
 GEOPHYSICAL ENGINEERING AND SURVEYS LIMITED



Note:
 In Shaded Area
 Values shown have 1/2 interval steps in phase and
 degrees out of phase. Degrees in phase shown at left of
 line combined at 5' and 10' intervals as noted.

See also: Magnetometer Survey (Included) - DWG 2797
 Geology Survey - DWG 2795
 Magnetometer Survey - DWG 2046
 Electromagnetic Survey (Long Wire Method) DWG 2049
 Electromagnetic Survey (Ronka Loop Method) DWG 2050

