REPORT ON
AIRBORNE MAGNETOMETER SURVEY
IN THE
STURGEON RIVER AREA, ONTARIO
FOR
MACRAE MINING CORPORATION LTD.
BY
CANADIAN AERO SERVICE LIMITED
Project No. 9578

REPORT ON

AIRBORNE MAGNETOMETER SURVEY

IN THE

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FOR

MACRAE MINING CORPORATION LTD.

BY

CANADIAN AERO SERVICE LIMITED

PROJECT NO. 9578

OTTAWA, ONTARIO,
July 9, 1969.

W. Schuur, M.Sc.,
Geophysicist.

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Accompanying this Report:-

- 2 Isomagnetic Maps at the scale of 1" = 1320'.

63.2542

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I. INTRODUCTION

On May 13 and 14, 1969, Canadian Aero Service Limited carried out an airborne magnetometer survey in the Sturgeon River area, Sudbury District, Ontario, on behalf of MacRae Mining Corporation Limited.

The survey was flown by the Canadian Aero Service Limited geophysically equipped Aero Commander aircraft, registration CF-SVG, based at Sudbury, Ontario.

Traverses were spaced at 1/12 mile intervals and flight line direction was due east. The survey was flown at two mean aircraft altitudes of respectivity 500 and 250 feet above terrain. A total of approximately 538 line miles of geophysical data was acquired.

The following Canadian Aero Service Limited personnel were associated with the project:

G. Carter	Pilot Navigator	Ottawa, Ontario
J. Neals	Electronic Operator	Ottawa, Ontario
W. Knappers	Data Chief	Ottawa, Ontario
D. Fitzsimmons	Draftsman	Ottawa, Ontario
W. Schuur	Geophysicist	Ottawa, Ontario.

The airborne magnetic data is presented on two isomagnetic contour maps at a scale of 1" = 1320'. Contour interval for both the 500' and 250' level maps is 25 gammas. Airphoto laydowns provided the base for the maps.

II. INSTRUMENTATION

The magnetometer used in this survey was the total magnetic intensity "Flux Gate" saturable core instrument developed by Gulf Research and Development Company. The sensing head is installed in the extremity of a specially constructed tailstinger attached to the aircraft.

Five sensitivity settings are available: 300, 600, 1200, 2400 and 4800 gammas for full 10 inch deflection. Corresponding step values are respectively 250, 500, 1000, 2000 and 4000 gammas. The usable short term sensitivity is approximately 1 gamma and the total dynamic ranges are 250,000 gammas for the 1200, 2400 and 4800 gammas sensitivity settings, 149,800 gammas for the 600 gammas setting and 74,900 gammas for the 300 gammas sensitivity setting. The present survey was flown using a sensitivity setting of 600 gammas.

The magnetic profile is displayed on a Gulf Research and Development rectilinear recorder with 10 inch chart width.

In addition to the above equipment, the aircraft carried the following geophysical instruments:

A Bendix DRC-12 Doppler navigation system, equipped with a CPA-24 computer, reading references were supplied by a Kearfott gyro-stabilized compass type N-1.

A Honeywell radar altimeter, to measure the terrain

clearance of the aircraft.

An Aeropath AS-5 continuous strip 35 mm. camera to record the flight path.

A Mosley 17100-B 10 inch rectilinear recorder, on which the output of the Honeywell radar altimeter is displayed at a linear scale of 1250 vertical feet per full 10 inch scale.

A Varian pumped Cesium ground storm - monitor was used to ensure no surveys would be flown during magnetic storms.

III. GEOLOGY

As a reference to the geology of the area, use was made of:

Geological Survey of Canada Map 179A, 1917.

Onaping, Sudbury and Timiskaming Districts.

scale 1" = 4 miles.

The major part of the area is underlain by clastic sediments of The Cobalt Series. Many basic and ultra basic intrusives occur throughout the survey area.

IV. DISCUSSION OF RESULTS

The picture shown by the isomagnetic maps is easily correlatable with the geology of the area. The major part of the area is underlain by a virtually nonmagnetic unit, corresponding obviously with the metasediments of the Cobalt Series. In the centre of the area and at the east and west sides of the survey block a strong magnetic unit can be recognised, clearly corresponding with the ultra basics. It is noteworthy that the isomagnetic maps indicate a continuous belt of basic to ultra basic rocks extending

from Dougherty Lake approximately in a N. 30° E. direction and then joining another belt which strikes approximately N. 45° W. This latter zone is discontinuous towards the southeast as shown on both maps by the interrupted pattern of the positive magnetic anomalies.

West of Parsons Lake, from traverse 1-7, is another positive magnetic anomaly, undoubtedly indicating a near surface gabbro occurrence which is not shown by the geological map.

The small, isolated anomaly on traverse 15, fiducial 298.5 on the 250' level map does not show up on the 500' level map. It is probably caused by a very local magnetic feature.

Respectfully submitted,

W. Schuur, M.Sc.
Geophysicist.

OTTAWA, ONTARIO,
July 9, 1969.

63.2542

PROJECTS SECTION
TEL: 416-365-6916

ONTARIO
DEPARTMENT OF MINES
Mining Lands Branch

PARLIAMENT BUILDINGS
TORONTO 2, ONTARIO

41P02SE0020 0010B12 CLARY

December 11, 1969.

900

Mr. K. Clemiss,
Acting Mining Recorder,
118 Cedar Street,
Sudbury, Ontario.

Dear Mr. Clemiss:

The geophysical (airborne magnetometer) assessment work credits as shown on the attached list have been approved as of the date above. Please inform the recorded holder and so indicate on your records.

Yours very truly,

F. W. Matthews

/lb

Fred W. Matthews,
Supervisor.

c.c. Mr. Henry Last,
c/o Niff Goodwin,
8th floor, 347 Bay Street,
Toronto, Ontario.

c.c. Resident Geologist,
Dept. of Mines,
1349 La Salle Blvd.,
Sudbury, Ontario.

THE MINING ACT

FILE: 49.2842

Assessment Work Credits

Name: MACREA MINING CORPORATION LTD.

Township or Area: TOWNSHIPS DENOMORT, CLARY, TURNER

Number of Assessment work days per claim:

Geophysical -

Magnetometer 80 days per claim (airborne)

Geological -

Geochemical -

Radiometric -

Mining Claims:

~~S.153140 -48 incl.~~
~~S.152055 -56 incl.~~
~~S.153108 -37 incl.~~
~~S.153018 -47 incl.~~
~~S.152958 -67 incl.~~
~~S.152928 -57 incl.~~
~~S.152736 -60 incl.~~
~~S.152661 -85 incl.~~
~~S.153005 -14 incl.~~
~~S.152711 -35 incl.~~
~~S.152890 -152927 incl.~~
~~S.152606 -152706 incl.~~
~~S.152707 -10 incl.~~
~~S.153078 -153107 incl.~~
~~S.153048 -153077 incl.~~

albert + heriault - Clo

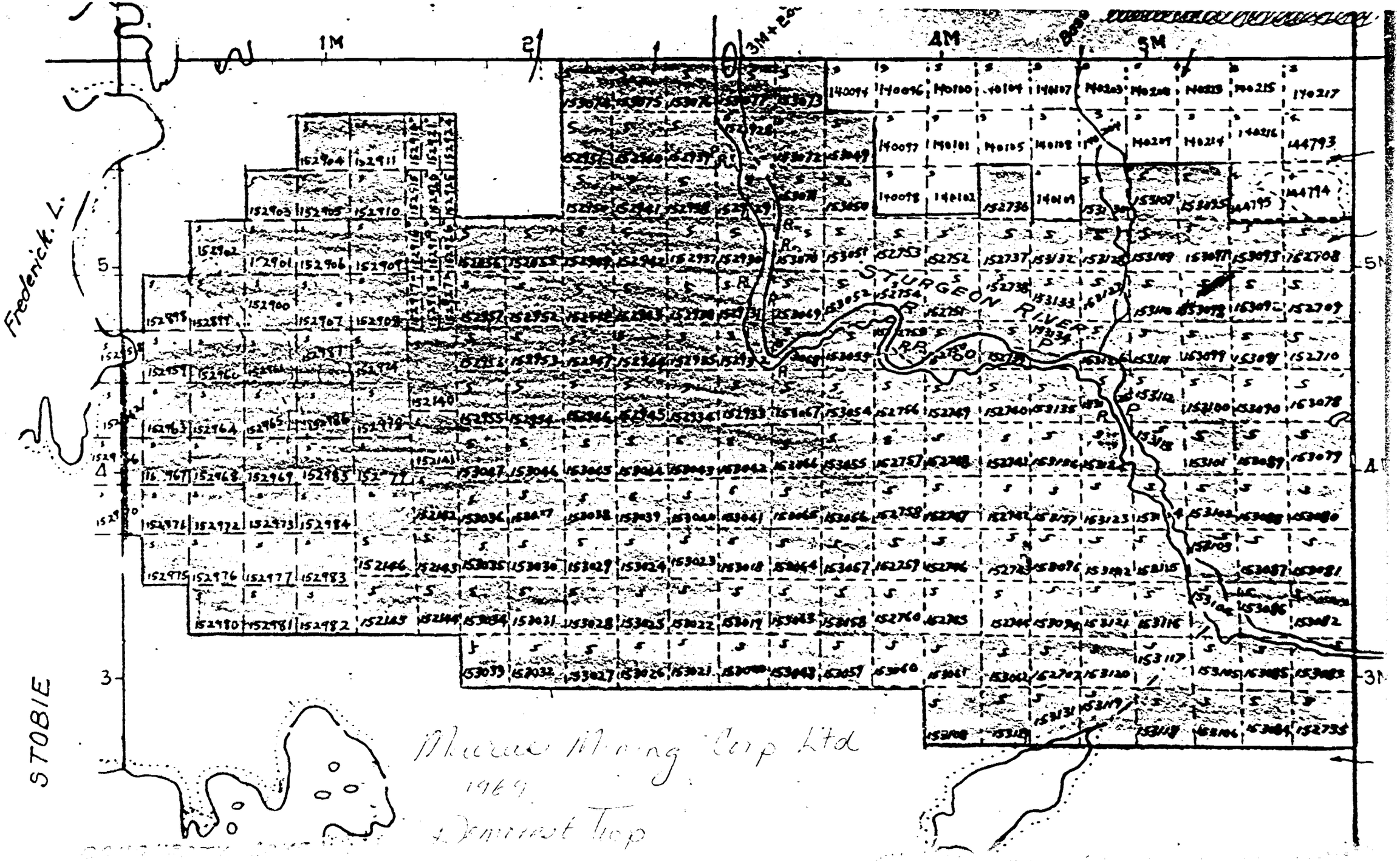
Herbert Bygold - ~~Turner~~ Clary

albert + heriault - Turner

David Hewitt - Turner

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows:

Geophysical - 80; Geological - 40; Geochemical - 40; Radiometric - 20


1M
2M
3M+20
4M
5M
Frederick L.
STOBIE
STURGEON RIVER
Murray Mining Corp Ltd
1969
Dennett Twp

TURNER TWP.

DE MOREST TWP.

STOBIE TWP.

CLARK

STURGEON RIVER

Hazel Lake

Stouffer Lake

Sturgeon

Pilgrim

NOTES

400-Surface Rights Reservation
on Lakes & Rivers

TIMAGAMI PROVINCIAL FOREST

DATE OF ISSUE
JUL 14 1969
ONTARIO DEPT. OF MINES

10 4-Sq. M

CLARY TWP.

SCALE 40 chains = 1 inch

10.4 Sq: M

10.4 Sq: M

10.1 Sq: M

10.1 Sq: M

Yorston Lake

Yorston River

Obabika River

Sturgeon River

ALMA LAKE

DEMORESTVILLE

ARMAGH

77.24

67.43

DEMOREST TWP.

SCALE
40 CHAINS = 1 inch

1M
2M
3M
4M
5M

STOBIE

CLARY

Frederick L.

STURGEON RIVER

DOUGHERTY LAKE

PARSONS LAKE

ALMA LAKE

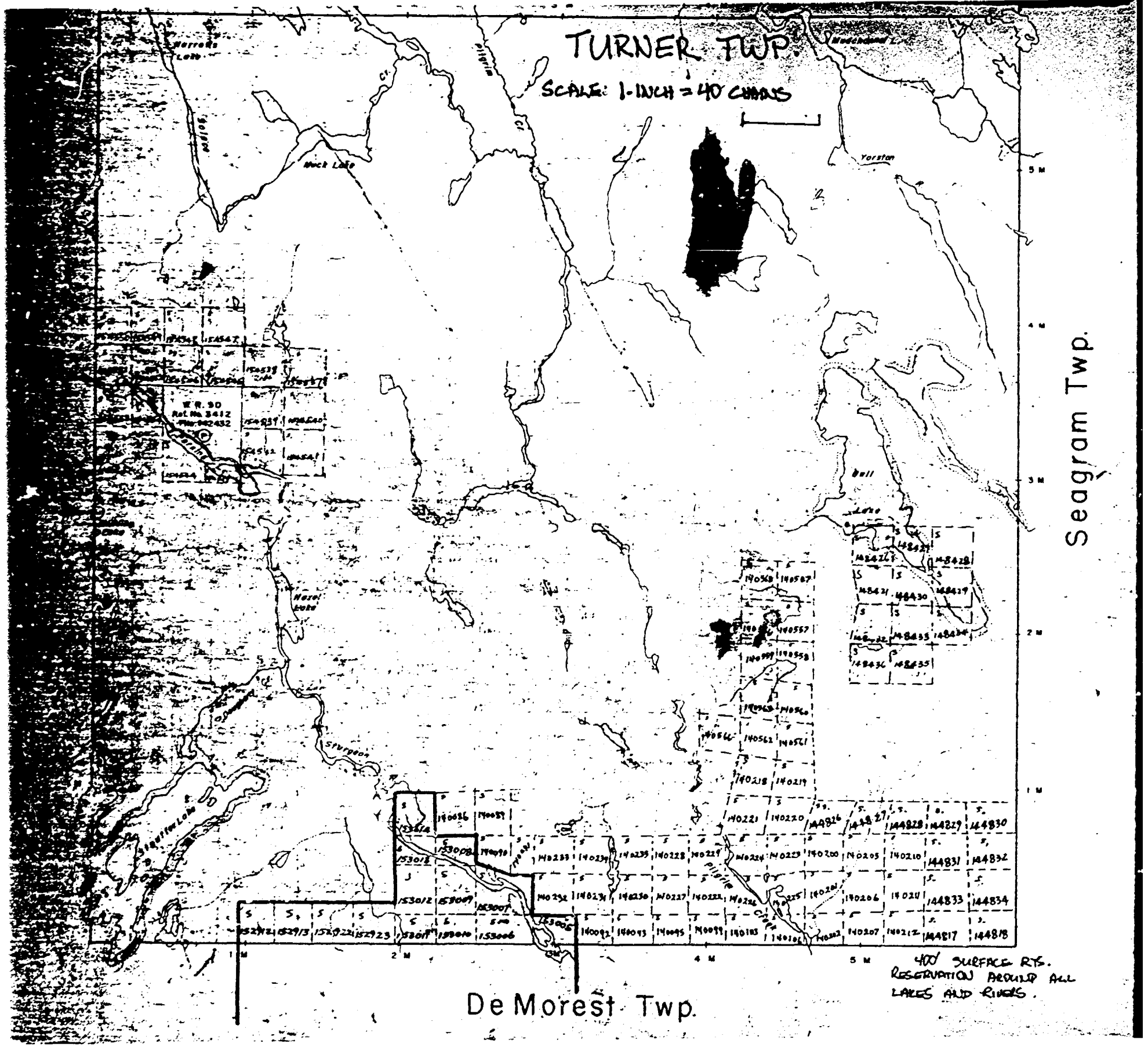
Button L.

Adelaide L.

Sawhorse L.

1M+1.16

1M+1.01


TURNER TWP.
SCALE: 1-INCH = 40 CHAINS
Warrens Lake
Mack Lake
Yorston
Hall
Horse Lake
Sturgeon
Sturgeon Lake
Pilgrim Cr.
W.R. 90
Ref. No. 3412
1 M
2 M
4 M
5 M
3 M
2 M
1 M
Seagram Twp.
De Morest Twp.
400' SURFACE RTS. RESERVATION AROUND ALL LAKES AND RIVERS.

HOWEY

MARCON

T.U

STOBIE TWP.

SCALE 40 CHAINS = 1 inch

GRIGG

Centre Lake

Frederick Lake

DEMOREST

Alphrette Lake

400' SURFACE RES. RESERVATION AROUND ALL LAKES & RIVERS

5M 4M 3M 2M 1M

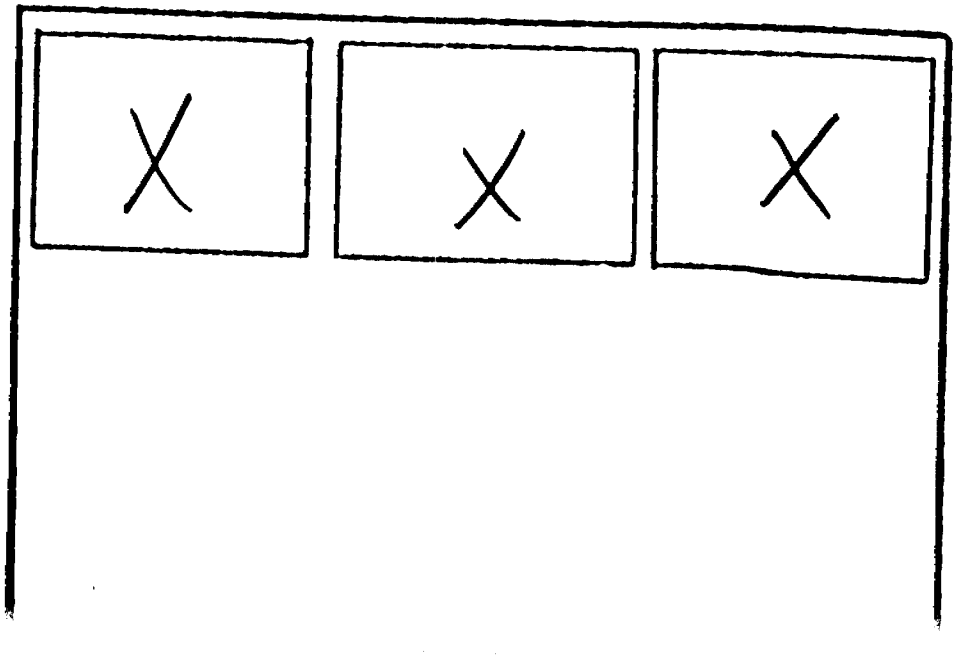
SEE ACCOMPANYING MAP(S) IDENTIFIED AS

CLARY-0010-B1 #1

#2

#3

LOCATED IN THE MAP CHANNEL IN THE FOLLOWING SEQUENCE (X)



80°30'

47°00'

STURGEON

TL-1

STOLFFER LAKE

FREDRICK LAKE

DOUGHERTY LAKE

Button Lake

Parsons Lake

PIPIGAN

YORSTON LAKE

STURGEON

MISMATCH

RIVER

T-49 T-45 T-40 T-35 T-30 T-25 T-20 T-15 T-10 T-5 T-1

152958 152970 152992 153012 153014 153038 153049 153050 153095 152661 152713 153108

CLARY-0010-B1 #1

63.2542

AIRBORNE MAGNETOMETER SURVEY

STURGEON RIVER AREA

ONTARIO

MacRAE 1968 GRUBSTAKE

SCALE 1 INCH TO 1320 FEET (APPROXIMATELY)

MEAN TERRAIN CLEARANCE . . . . . 250 FEET
TRAVERSE INTERVAL . . . . . 1/12 MILE
CONTOUR INTERVAL . . . . . 25 GAMMA
BASE INTENSITY . . . . . ARBITRARY

HORIZONTAL CONTROL . . . . . BASED ON PHOTO LAYDOWN

(APPROX)

CANADIAN AERO SERVICE LIMITED, OTTAWA, ONTARIO.

C.A.S. 9578

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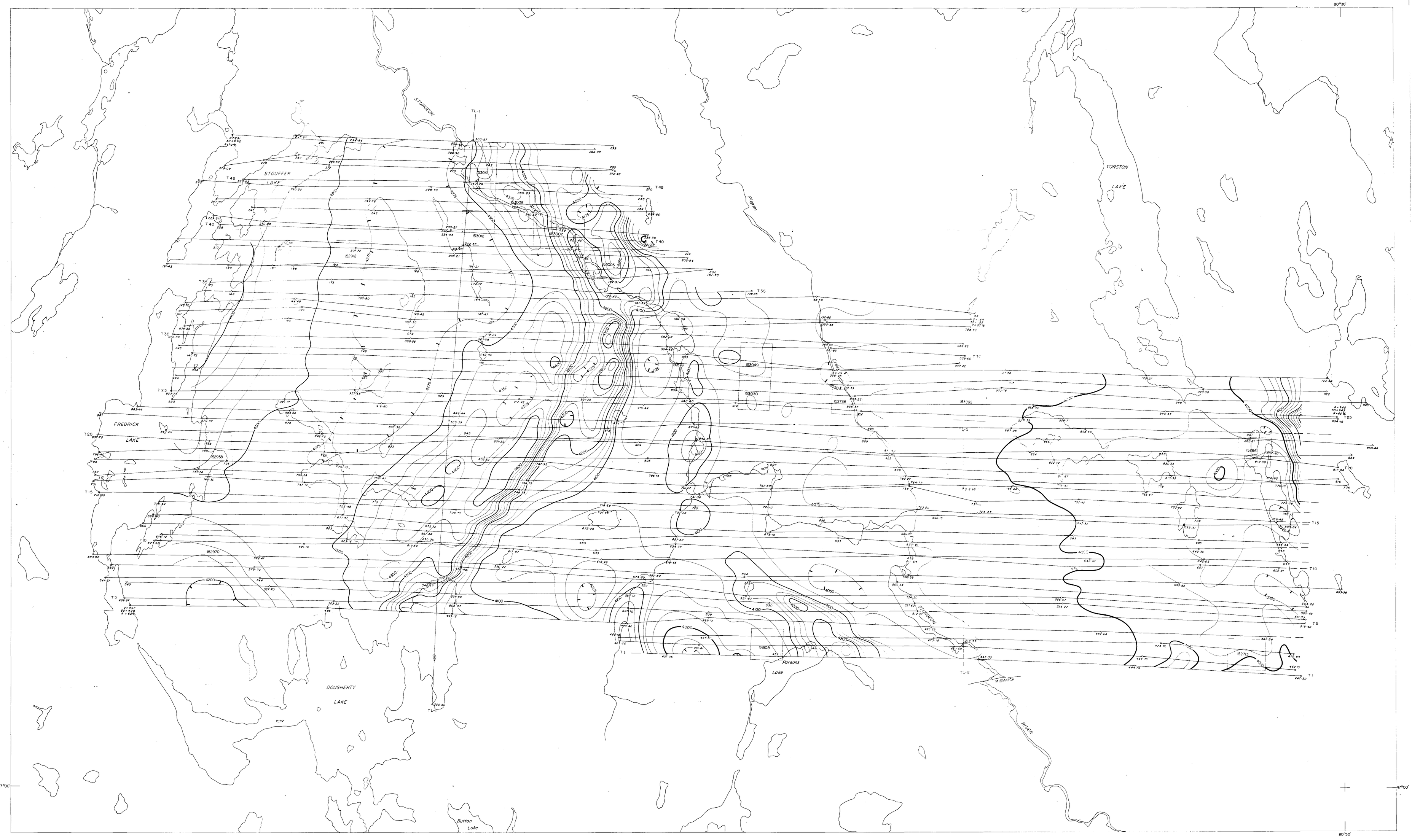
200



CLARY-0010-B1 #2.

AIRBORNE MAGNETOMETER SURVEY

STURGEON RIVER AREA

ONTARIO.

MacRAE 1968 GRUBSTAKE

SCALE 1 INCH TO 1320 FEET (APPROXIMATELY)

MEAN TERRAIN CLEARANCE..... 500 FEET
TRAVERSE INTERVAL..... 1/12 MILE
CONTOUR INTERVAL..... 25 GAMMA
BASE INTENSITY..... ARBITRARY

HORIZONTAL CONTROL..... BASED ON PHOTO LAYDOWN

(APPROX)

CANADIAN AERO SERVICE LIMITED, OTTAWA, ONTARIO.

G3.25742

C.A.S. 9578

210

For map

CLARY-0010-B1 #3

see map #2.

(Map #2 is the same as #3; however, the claim area is plotted on map #3).