

LUNDBERG EXPLORATIONS LIMITED
VICTORY BLDG.
80 RICHMOND ST. WEST
TORONTO 1, ONT.



31D15NW0004 63.556 LUTTERWORTH

010

63.556

♂

REPORT ON THE RADIATION SURVEY
OF THE NORLAND AREA, ONTARIO
FOR HANS LUNDBERG

INTRODUCTION

During March 1954 an airborne radiation survey was carried out over an area in the vicinity of Norland, Ontario. A total of six hundred and twenty miles of profile was flown and recorded over an area of one hundred and thirty square miles.

The following claims within this area are held by Hans Lundberg.

Lutterworth Township (106 claims)

EO 9457 - 9462 inclusive
EO 9657 - 9701 "
EO 10394 - 10399 "
EO 11026 - 11030 "
EO 11073 - 11077 "
EO 11112 - 11143 "
EO 11662 - 11668 "

Somerville Township (13 claims)

EO 9450 - 9456 inclusive
EO 10018 - 10023 "

The above listed claims have an area of approximately eight square miles. In addition to these, twelve parcels

of land have been optioned from owners holding the mineral rights on the land.

Location and Access

The area surveyed is located in both Victoria and Haliburton Counties, southern Ontario and is readily accessible by both rail and road from Toronto. It is approximately eighty miles by road from Toronto in a north-northeasterly direction. A good paved road traverses the entire length of the area on the west side and secondary roads provide access to the eastern portion of the properties.

Topography

The area is fairly rugged with numerous ridges and valleys, some of the valleys being occupied by lakes and ponds. Two large lakes, namely Moore and Gull Lakes, lie in the northwest section of the surveyed area, and Mud Turtle Lake is located in the southern section. In the larger valleys,

some under cultivation, the outcrops are relatively few in number although the overburden may not be very deep. The ridges in the area are commonly formed by rock outcrop.

Geology

A detailed study of the geology of the surveyed area has not been made. Government maps, however, show the area is underlain by rocks typical of the Grenville series which are intruded by granite and granite gneiss. One traverse made across the area just north of Beaver Lake indicates that the sequence of formations from east to west is crystalline limestone, granite gneiss and basic paragneiss. Some observations suggest a second crystalline limestone horizon in the area of Mud Turtle, Moore and Gull Lakes. To the west of these lakes granite and granite gneiss were observed which appear to strike north-south and in places have fairly flat dips to the east.

To the south of the road from Norland to

Dongola, there are a number of outcrops of crystalline limestone and some granite gneiss. In some places these older formations are overlain by flat-lying limestones of Ordovician age.

It is reported that a sample from the old molybdenite pit near Moore Lake ran 0.15% U_3O_8 ; a sample from near the east end of Beaver Lake ran 1.0% U_3O_8 ; a sample from the west side of Beaver Lake ran 0.05% columbium and a sample from the limestone south of Norland -Dongola road ran 0.24% U_3O_8 .

THE RADIATION SURVEY

The Method

The airborne scintillometer used for this survey was manufactured by Nuclear Enterprises Ltd. of Winnipeg, Manitoba. This instrument consists of an appropriate scintillating phosphor, photo-multiplier tube, amplifier and recorder.

The aircraft carrying this instrument was

flown along predetermined flight lines and variations in the intensity of the gamma ray radiation from the ground was recorded. Flight lines were flown in east-west and north-west directions so that a complete grid over the interesting areas was made. The records were rectified to a suitable scale and profiles plotted on a base map. These maps were used to make a contour map showing the distribution of gamma radiation,

THE RESULTS OF THE SURVEY

Maps Nos. 22-363-3; -5; -6

Three maps drawn to scale two inches equal one mile accompany the report.

Map No. 22-363-3 shows the location of the claims and a number of outcrops observed during a brief examination of the area.

Map No. 22-363-5 shows the location of the profile lines along which recordings were made.

Map No. 22-363-6 shows the radiation pattern by means of contour lines. Areas coloured red indicate high radiation, with deeper colouring showing greater intensity.

Discussion of the Results

In order to properly interpret an airborne radiation map it is necessary to take several factors into consideration, and these are as follows:

- (a) The shielding effects of water and heavy overburden,
- (b) The great efficiency of airborne scintillation counters,
- (c) The occurrence of radium salts in the soils overlying a pitchblende or uranium orebody.

When these factors are taken into consideration, it is obvious that radiation lows will be recorded over lakes and rivers, even though uranium orebodies are present below these bodies of water. By studying the radiation profile and intensity pattern, however, it is often possible to find such orebodies even if they are covered by water.

Since our airborne scintillometers are very efficient and continuous recording of the gamma radiation is made, it is possible to detect minor amounts of radioactive salts. These salts may be present in the soil above a uranium orebody or they may occur in minor amounts in the host rock of an orebody. The location of these traces of radioactive elements is importance since their presence may be indicative of commercial occurrences of uranium, even if covered by soil or a capping of non-commercial rock.

Having considered all these possibilities, we believe that the areas mentioned below should be examined in greater detail.

The first area, and probably the most important, is located along the Norland-Dongola road where three peaks were located. The most westerly of these is over the crystalline limestone outcrop from which a sample assaying 0.24% U_3O_8 was taken. No outcrops were observed in the vicinity of the other peaks but it is believed that the overburden is very thin in this area.

The second area of interest is in the vicinity of Beaver Lake where a good indication was obtained north of the west end of the lake. In this general area the outcrops consist of paragneiss. One sample reported to have been taken from this general area assayed 0.05% columbium, but no U_3O_8 was reported. We believe, however, that more detailed prospecting would locate the occurrence responsible for the increased radioactivity indicated by the survey.

Along the east shore and to a lesser degree along the west shore of Mud Turtle Lake, the rocks appear to be more radioactive than normal. One interpretation is that the major source of the radiation is under the lake. We believe the lake to be underlain by crystalline limestone, and suggest that mineralization similar to that occurring to the west of Dongola may be the source of the radiation in this area.

Although three areas mentioned above are considered to be the most favourable, some attention should be

should be given to the area north of the northeast bay of Moore Lake, the water claims south of Sugar Island and the water claims along the east side of Gull Lake in Concession IX. The radiation anomalies over these areas are weak but may indicate the presence of uranium bodies below the lakes.

SUMMARY

The radiation survey in the Norland area outlines one uranium occurrence near Dongola, one area in the vicinity of Beaver Lake (which should be carefully prospected on the ground), and suggests the possible occurrence of uranium below the south end of Mud Turtle Lake. Should the development of these areas be successful, examinations should be made of the northeast bay of Moore Lake, the area between Sugar Island and the mainland and the east shore of Gull Lake, Concession IX.

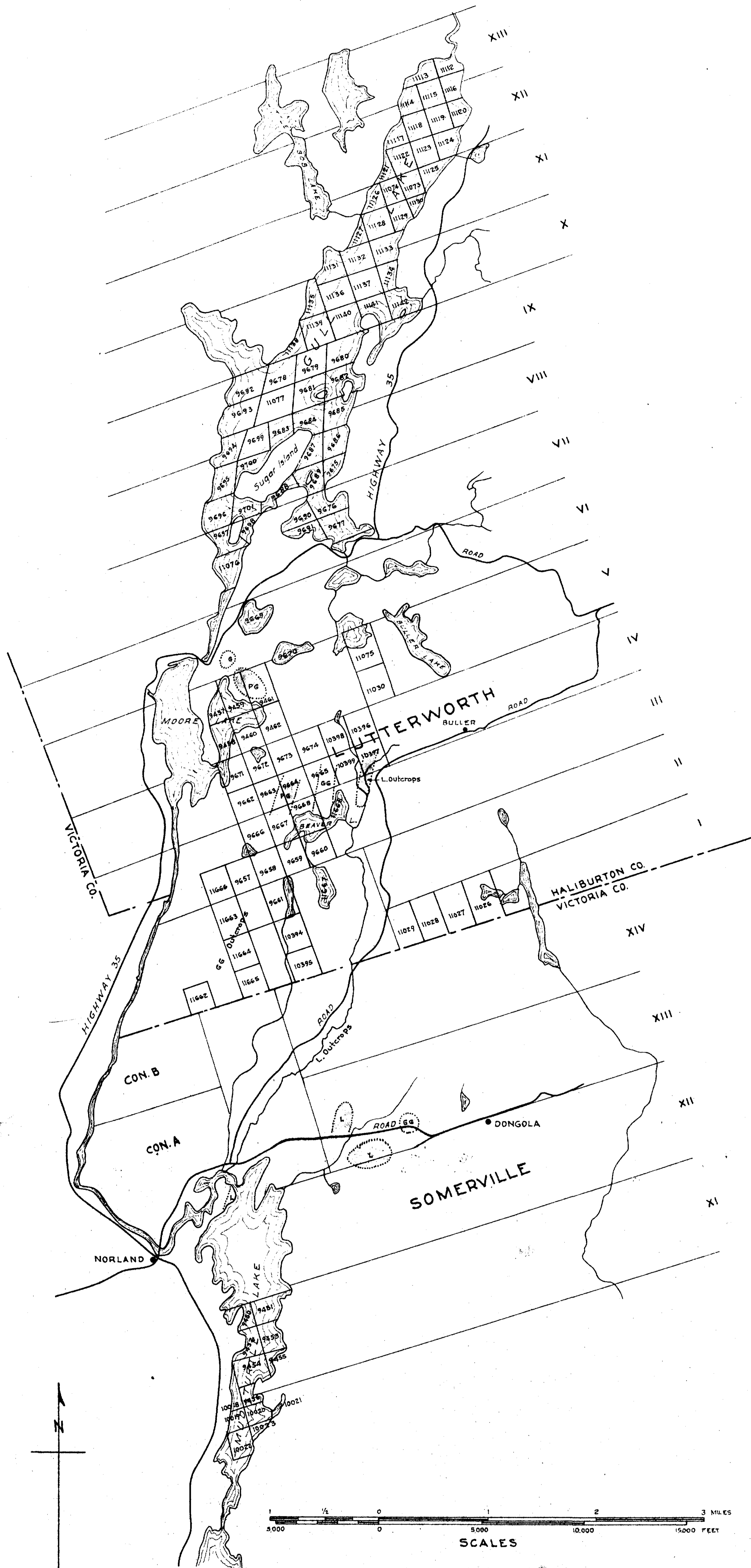
Respectfully submitted,

LUNDBERG EXPLORATIONS LIMITED,

Basil T. Wilson

Basil T. Wilson,
Chief Geologist

Toronto, Ontario,
February 17th,
1955



- LEGEND**
- G GRANITE
 - GG GRANITE GNEISS
 - PG PARAGNEISS
 - CL CRYSTALLINE LIMESTONE

MAP SHOWING
GEOLOGY, AND CLAIMS SURVEYED
 IN THE
NORLAND AREA, ONTARIO

SCALE 2 INCHES = 1 MILE

TO ACCOMPANY REPORT BY
 LUNDBERG EXPLORATIONS LIMITED
 TORONTO, JAN. 1955

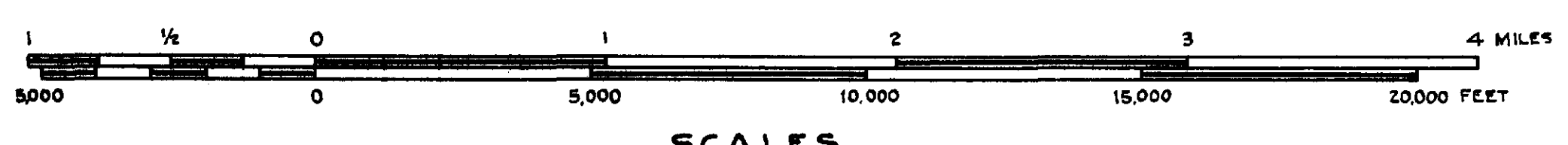
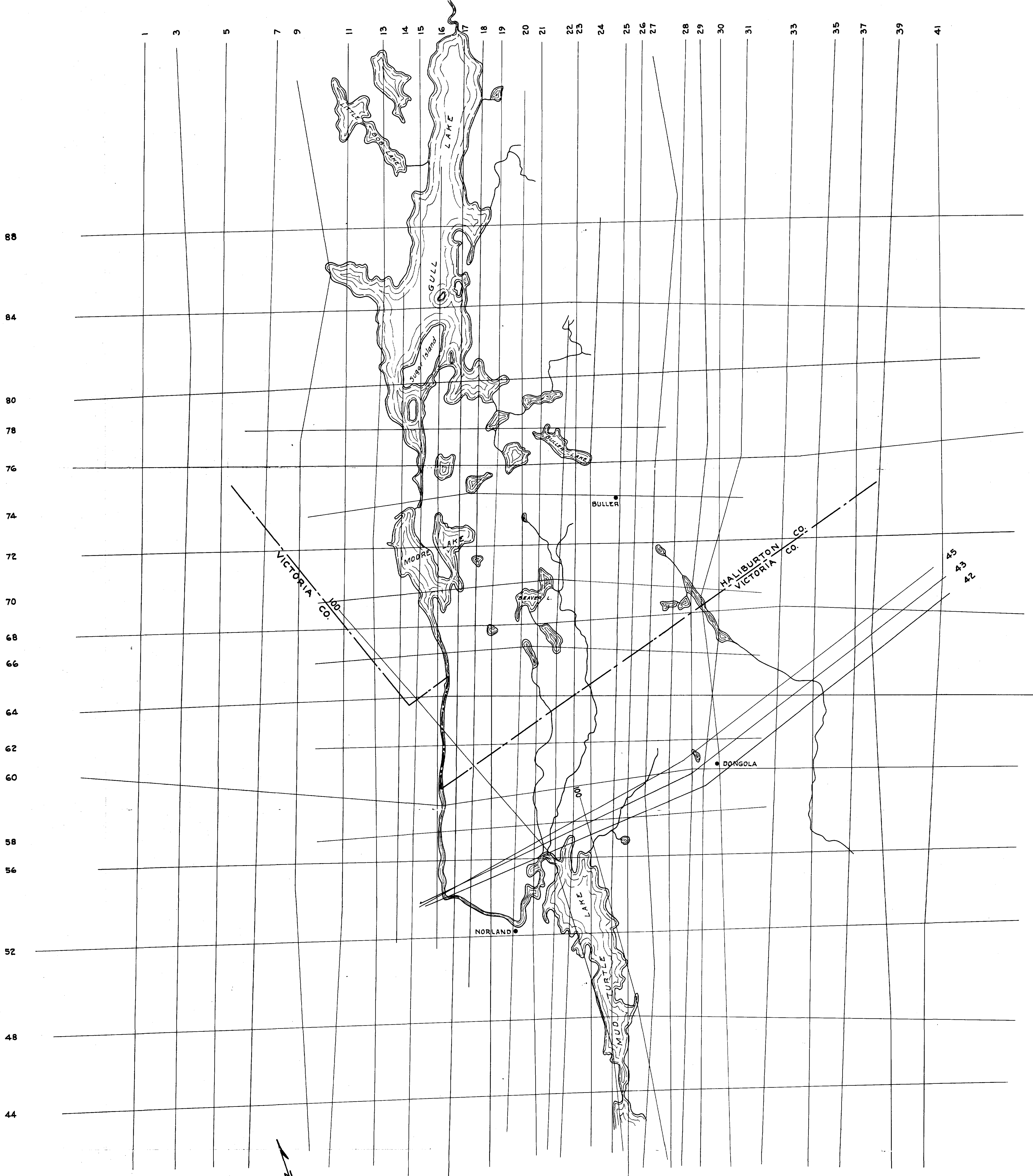
Hans Lundberg

22-363-6



63-556

63556



SCALES

MAP SHOWING
FLIGHT LINES
 OF THE
AIRBORNE RADIATION SURVEY
 IN THE
NORLAND AREA, ONTARIO

SCALE 2 INCHES = 1 MILE

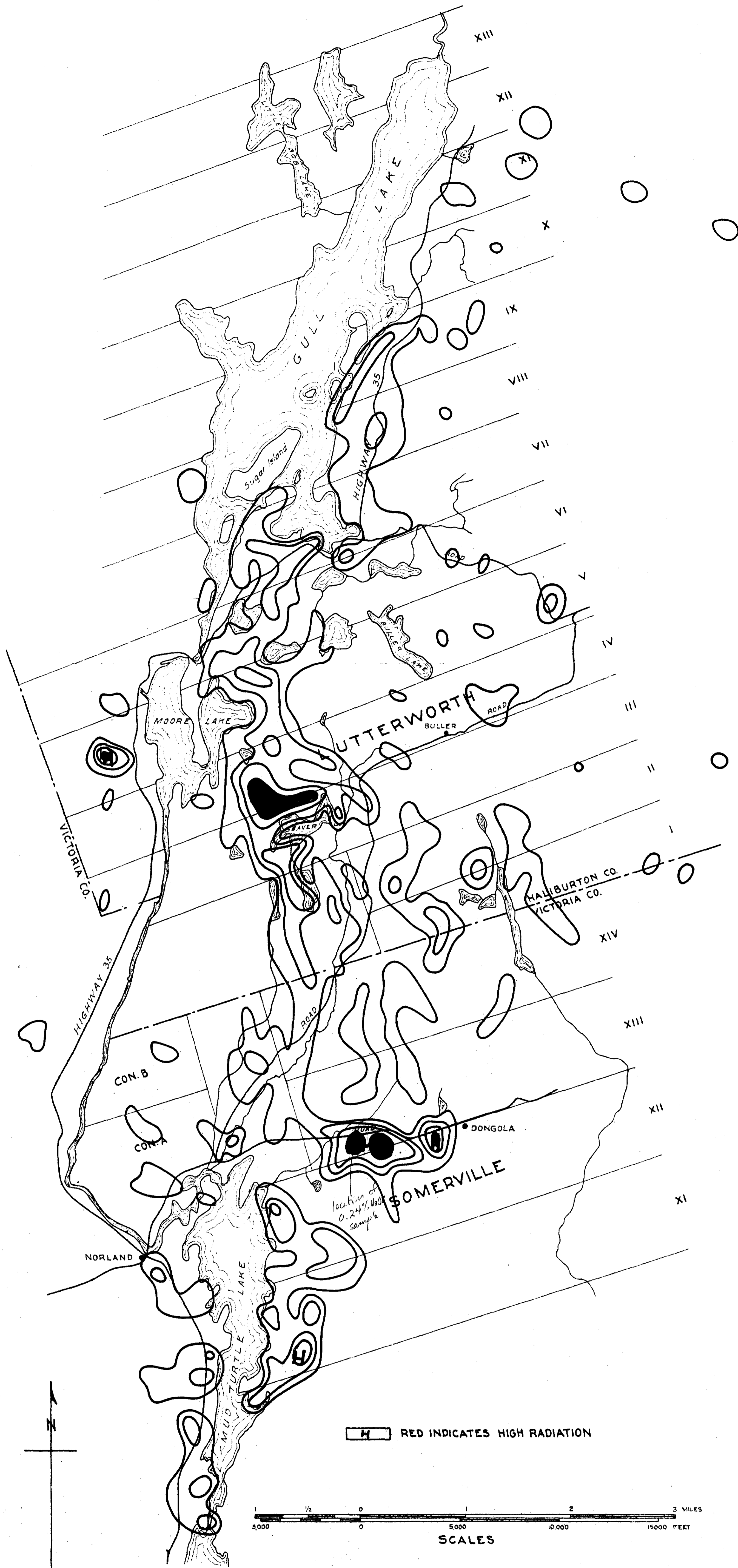
TO ACCOMPANY REPORT BY
 LUNDBERG EXPLORATIONS LIMITED
 TORONTO, JAN. 1955

63556

Hans Lundberg

22-363-5





22-556

MAP SHOWING
AN INTERPRETATION
 OF THE
RESULTS OF THE AIRBORNE RADIATION SURVEY
 IN THE
NORLAND AREA, ONTARIO

SCALE 2 INCHES = 1 MILE

TO ACCOMPANY REPORT BY
 LUNDBERG EXPLORATIONS LIMITED
 TORONTO, JAN. 1955

63556

Hans Lundberg

22-363-3

