

J. B. BONIWELL
EXPLORATION GEOPHYSICAL CONSULTANT



41P14NW8612 2.546 SEMPLE

010

1522 CLEARWATER DRIVE
PORT CREDIT
ONTARIO, CANADA
278-1545

REPORT OF GRAVITY SURVEY

SIROLA OPTION (16 Claim Group), SEMPLE TWP., ONTARIO

FOR

CANEX AERIAL EXPLORATION LIMITED

BY

J. B. Boniwell
EXPLORATION GEOPHYSICAL CONSULTANT

- July 29, 1971 -

INTRODUCTION

An ultramafic intrusion in the south centre of Semple Twp. has been the object of several past investigations including a variety of geophysical coverages and follow-up drilling. While clearly falling short of meeting ore-making specifications, a certain amount of asbestos fibre had been encountered from place to place in this work. Its occurrence nonetheless raised the possibility that mineralization in ore-grade amounts could exist within the intrusive body in any section or sections remaining essentially untested, particularly by drilling; yet still be big enough to contain a body of economic dimensions.

Such a section was deemed to exist near the centre of the body as defined by geology and magnetics. Here a widespread cover prevailed including a small lake, and no drilling had been undertaken within it. Drawing upon the experience in Sothman Twp., a limited gravity survey was applied to this locality to identify, if possible, the zones of maximum serpentization that might exist in the underlying peridotite, and by so doing hopefully indicate the probabilities in asbestos mineralization. The results of this coverage are discussed herein.

DESCRIPTION OF CLAIMS GROUP

The property to which this exploration was directed is composed of the following 16 claims, viz. L 265599 - L 265614 inclusive all nominally of 40 acres each and forming a contiguous block in Semple Twp., Larder Lake Mining Division, District of Sudbury, Ontario.

However the traverse lines of the present coverage are only pertinent to the 4 claims:

L 265604

L 265605

L 265607

L 265608

The property is held by right of option by Canex Aerial Exploration Limited, 2600 401 Bay Street, Toronto 1, Ontario, and is identified as the 16 Claim Group, Sirola Option.

WORK UNDERTAKEN

The gravity surveying was effected at 100' station intervals on three lines 300' apart, employing a Scintrex gravimeter, model CG2, with a scale constant sensitivity of (approximately) 0.10 mgals per division. Each station occupied was levelled by elevation survey to an accuracy of 0.1 of a vertical foot. These observed data together were reduced to the Bouguer gravity value on the assumption of a near-surface density of 2.65 gms./cc.; however the resulting profiles showed a topographic dependence that required a revision of the near-surface density to a more appropriate 1.90 gms./cc.

Actual field work was carried out in the period 31st January - February 8th 1971.

DISCUSSION OF RESULTS

The most notable outcome of the gravity traversing is that it clearly has resolved a Bouguer low feature, a broad depression central to the lines and strengthening to the south-east. Since in many ways, it is this type of gravity relief that is being sought, its appearance in the plotted data immediately suggests that the underlying mass deficiency is due to an increased serpentine alteration in the ultrabasic host as hoped. However, it is expected that in any such circumstances overburden will play a contributory role, adding to the mass contrast in effect by reason of the likely differential glacial erosion of the bedrock surface. Thus it would be no surprise if the present case proved no exception, but what is surprising is that so much overburden appears to exist, that is, more than usual for the simple erosional condition.

On closer inspection it is seen that the Bouguer profiles, calculated on the basis of 2.65 gms./cc. for the near-surface country rocks, show a marked inverse dependence on local topographic change across the region of gravity low. This implies a prevailing density over the affected portions of the traverses significantly lower than that selected; in turn this implies a considerably thickened overburden.

The topographic relief itself, sharply changing over 40' vertically in places, attests to a pile-up of morianal material, or to a series of eskers, adding to the "normal" overburden thickness.

To correct for this condition, the Bouguer gravity values have been re-calculated using 1.90 gms./cc. for the near-surface density, a figure that is realistically compatible with the probable composition of glacial deposits and bedrock in, say, the first 200' from surface. As can be seen, this reduction smooths out all but the most extreme of the topographically induced variations, and in some of these places terrain corrections would also be applicable.

The final Bouguer profiles yield a gravity low that by line 3N has reached an amplitude in "depth" of 1.0 mgal. and is approximately 1500' wide. A regional gradient increasing to the (grid) east at the rate of 0.25 mgal./1000' and to the (grid) north at approximately 0.60 mgal. /1000' is considered to apply to the grid area. The bottom of the depression shows a perceptible tendency to swing to the NE (grid co-ordinates), and in so doing it conforms to the main trend of the ultrabasic as presented by magnetics. In consequence it can be reasonable concluded that part of the negative gravity is diagnostic to the intrusive, and hence to serpentinization. That a considerable part of the observed gravity effects remains tied to an over-riding overburden is again inferred by the splitting of the gravity low into two on line 9N, one half following the ultrabasic as already noted, but the other half sticking with the marked topographic relief representing the thickest glacial material.

CONCLUSIONS AND RECOMMENDATIONS

It is concluded that the gravity surveying here has indicated the probability that the underlying ultramafic intrusive is serpentinized in an identifiable zone that could be up to 1500' wide. A heavy cover up to 200' thick is predicted over it.

Since the proferred dimensions allowed the possiblity of a mineralized body of economic size, a DDH was put down to test the potentialities. Collared at 10+00E/4+50N and drilled to the SW (S30° W true) at -55° for 481', it intersected a continuous section of serpentinized peridotite for the 372' core length it was in bedrock. Overburden proved to be 93' thick vertically, at the collar. Surprisingly the peridotite proved to be quite hard and no asbestos fibre was encountered. This result virtually removes any chance of accommodating an ore-body in the remaining area even in the now unlikely event that ore-grade mineralization exists.

No recommendations for further work are made.



JBB:sm

July 29, 1971

J. B. Boniwell

Exploration Geophysical Consultant

APPENDIX

PERSONNEL & DATES WORKED:

F.H. Faulkner, 8 Rollins Place, Islington, Ont.

Linecutting - January 31, 1971

Gravity Survey - February 1-5, 8, 1971

P. Makinen, 101 Crawford Street, South Porcupine, Ont.

Linecutting - January 31, February 1, 1971

Gravity Survey - February 5, 1971

W.R. Taylor, R.R. #2, Red Bank, New Brunswick

Gravity Survey - February 3, 4, 1971

H. McLenaghan, Timmins, Ontario

Linecutting - January 31, February 1, 1971

Bradley Bros. Limited, Timmins, Ontario

Diamond Drilling - April 1-3, 1971

ASSESSMENT CREDITS:

Linecutting - 5 man days

5 days

Geophysics - 9 man days = 9 x 7 =

63 days

68 days

4 = 17 days per ct.

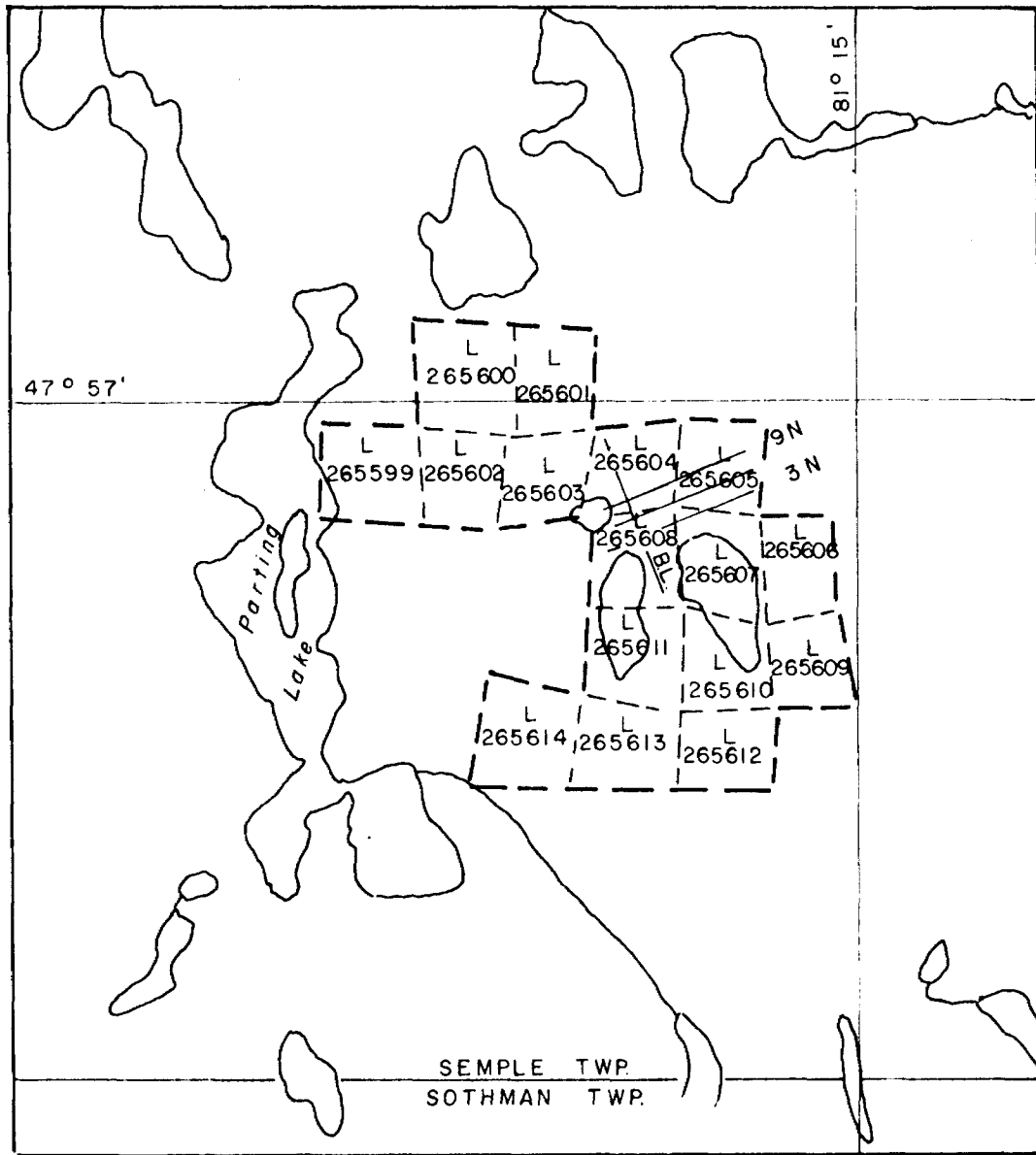
Diamond Drilling DDH #119-5, 481' =
(Core Size AQ 1-1/16")

481 days

2w

Total Assessment Credits

549 days



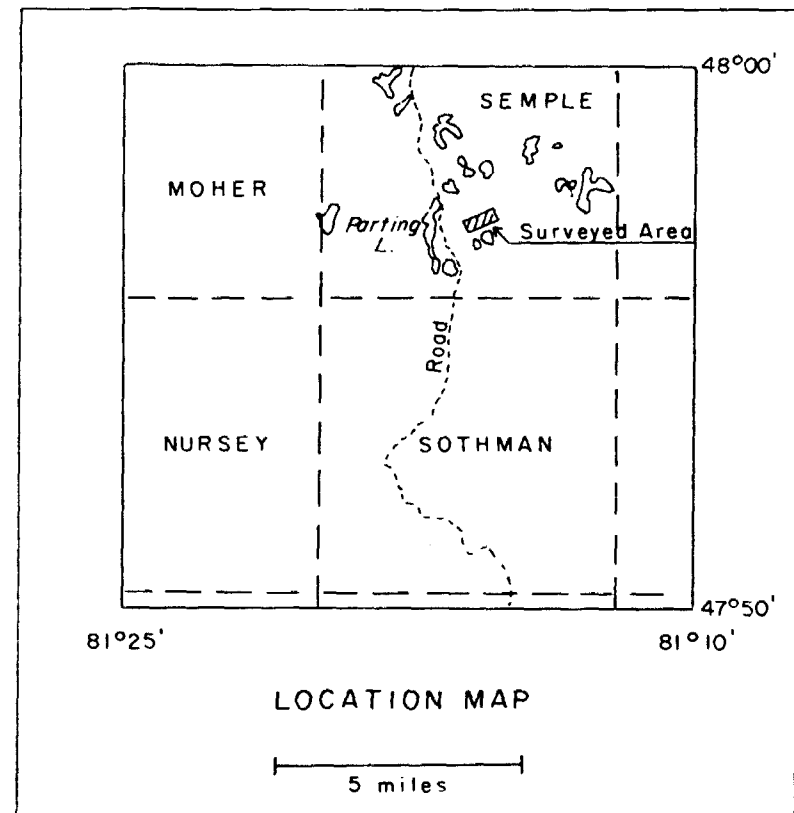
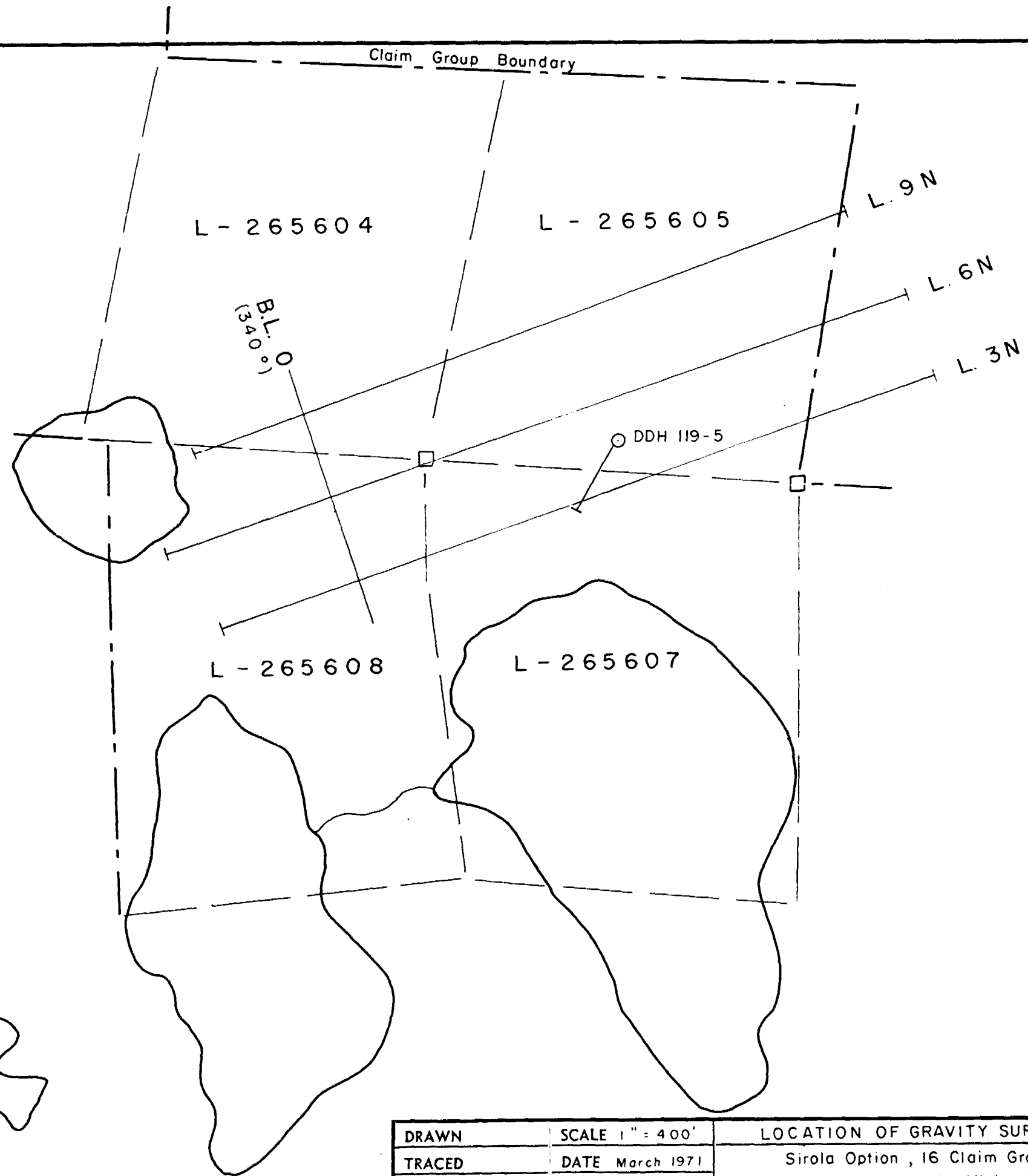
CANEX AERIAL EXPLORATION LTD.
 LOCATION OF 16 CLAIM GROUP
 Semple Twp., Larder Lake Mining Div., Ont.

Scale : 1" = 2640'

N.T.S. 41-P-14

V-119

Dwg. No. 1



*J.H. Joubert for
J. Boninwell*

DRAWN	SCALE 1" = 400'	LOCATION OF GRAVITY SURVEY	CANEX AERIAL EXPLORATION LTD.
TRACED	DATE March 1971	Sirola Option, 16 Claim Group	
APPROVED		Semple Twp., Larder Lake Mining Div., Ont.	
			FILE No. N.T.S. 41-P-14 v119 Dwg. No. 2

0011-M

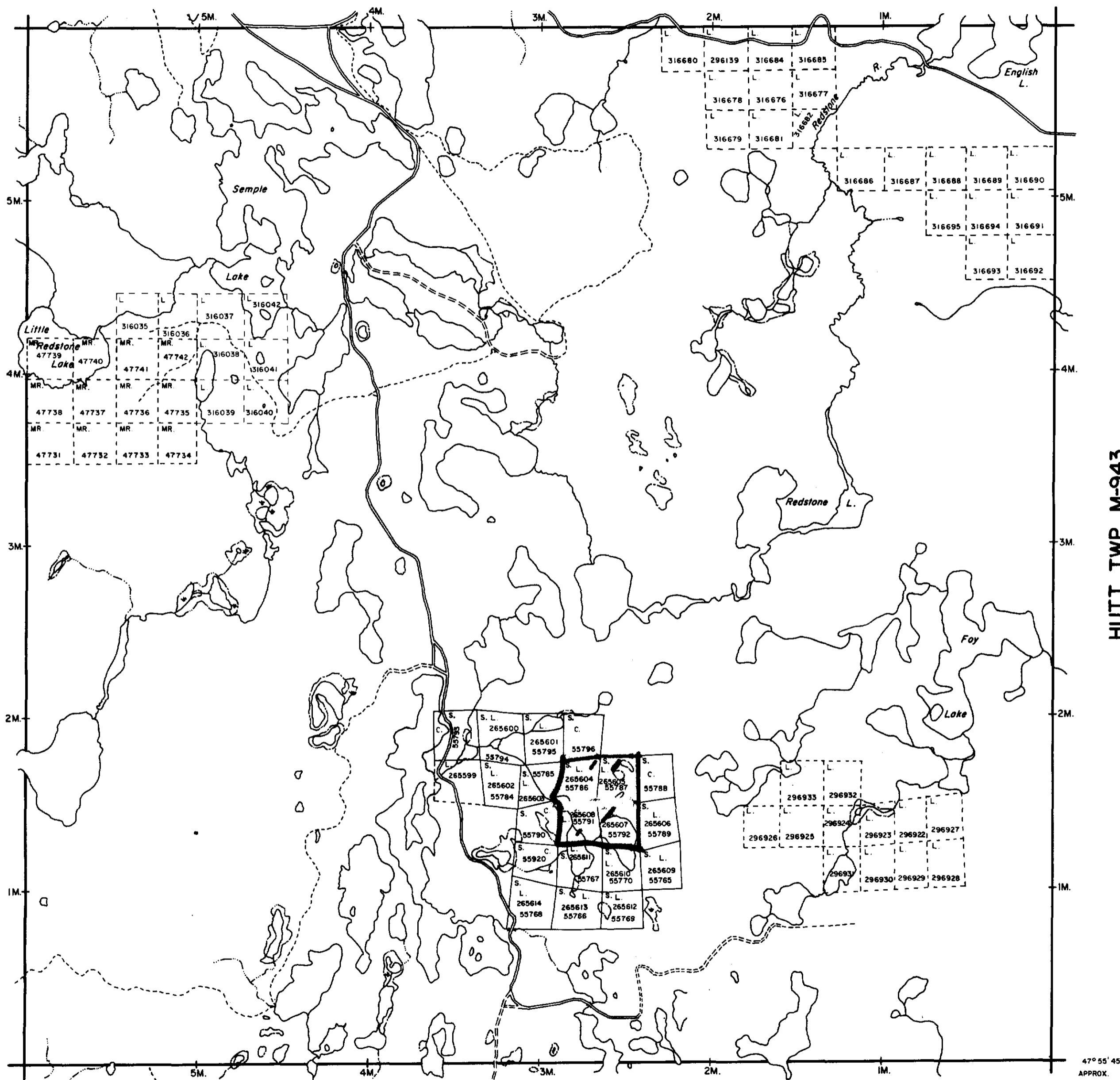
SEMPL E TWP

M-1100

ENGLISH TWP. M-787

MOHER TWP. M-868

HUTT TWP. M-943



SOTHMAN TWP. M-121

NOTES

400' surface rights reservation along the shores of all lakes and rivers.

DATE OF ISSUE
 AUG - 6 1971
 C.L. BENTON & SONS
 222 BATHURST ST. TORONTO

LEGEND

- PATENTED LAND
 - PATENTED FOR SURFACE RIGHTS ONLY
 - LEASE
 - LICENSE OF OCCUPATION
 - CROWN LAND SALES
 - LOCATED LAND
 - CANCELLED
 - MINING RIGHTS ONLY
 - SURFACE RIGHTS ONLY
 - HIGHWAY & ROUTE NO.
 - ROADS
 - TRAILS
 - RAILWAYS
 - POWER LINES
 - MARSH OR MUSKEG
 - MINES
- *used only with summer resort locations or when space is limited

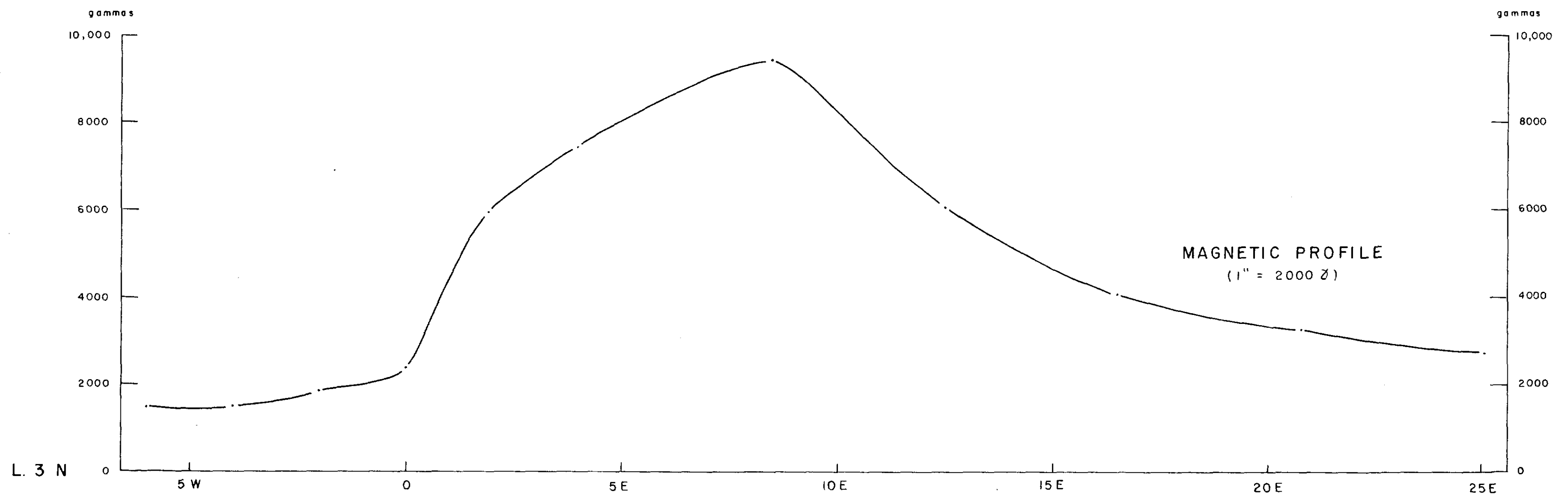
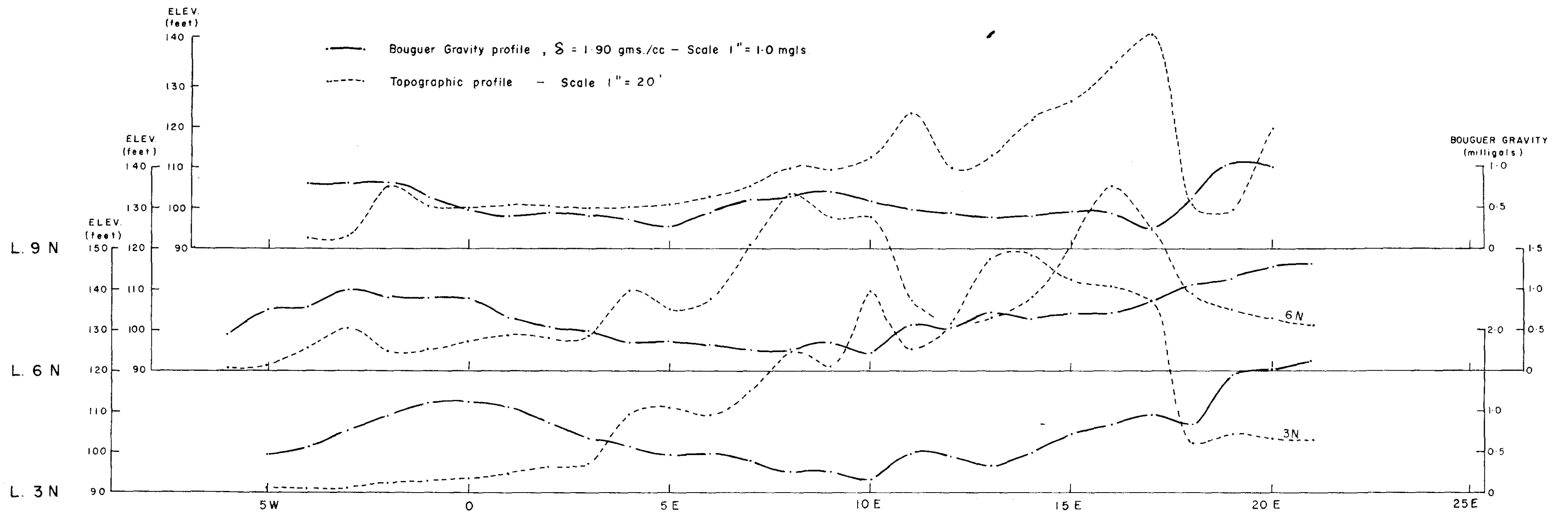
TOWNSHIP OF *Map*
SEMPL E
 DISTRICT OF SUDBURY
 2.546
 LARDER LAKE
 MINING DIVISION
 SCALE : 1 INCH = 40 CHAINS (1/2 MILE)

DR. R.W. NOBLE
 DATE APR. 22, 71
 PLAN NO. **M-1100**

ONTARIO
 DEPARTMENT OF MINES
 AND NORTHERN AFFAIRS



41P14NW8612 2.546 SEMPLE

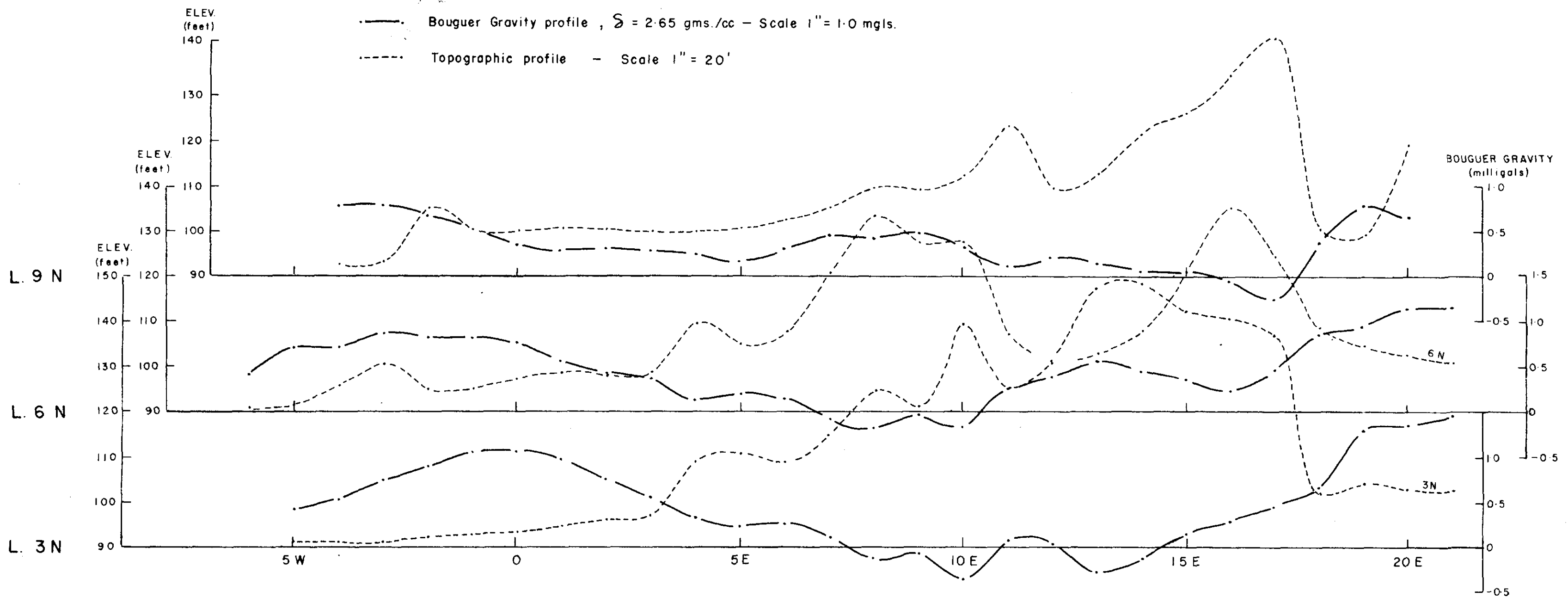


41P14W8612 2.546 6EMPLE

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*J. H. Coulter for
J. Bonniwell*

DRAWN	SCALE 1" = 200'	GRAVITY SURVEY	CANEX AERIAL EXPLORATION LTD.
TRACED	DATE March 1971	Sirota Option, 16 Claim Group	
APPROVED		Semple Twp., Larder Lake Mining Div., Ont.	FILE No. N.T.S. 41-P-14 V 119 Dwg. No. 4



*J. H. Faulkner for
J. Bonniwell*



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DRAWN	SCALE 1" = 200'	GRAVITY SURVEY	CANEX AERIAL EXPLORATION LTD.
TRACED	DATE March 1971	Sirolo Option, 16 Claim Group	
APPROVED		Sample Twp., Larder Lake Mining Div., Ont.	
			FILE No. N.T.S. 41-P-14 V 119 Dwg. No. 3