



32D12SW0115 63.72 HARKER

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September 3rd., 1946.

D.S. Hamilton, Esq.,
Secretary-Treasurer,
American Yellowknife Gold Mines Ltd.,
Suite 32 - 171 Yonge Street,
Toronto, Ontario.

Dear Sir:- REPORT ON GEO-MAGNETIC SURVEY ON HARKER TOWNSHIP
PROPERTY OF AMERICAN YELLOWKNIFE GOLD MINES
LIMITED

The work covered in this report, was conducted during the months of July and August of the current year. Line-cutting was carried out in late July, following which, the magnetic survey was run early in August.

SUMMARY

The results of this survey have shown your group to be underlain by intermediate volcanic type rocks which have been intruded in a direction transverse to their strike by the "Dale Intrusive" which consists of granite with perhaps associated syenitic phases.

If it is desired to test this property by drilling, two cross-sections are indicated on Plan No. 1, as being preferable. Since the intrusive trend is normal to that of the flows, openings may occur therein in which veins and small dykes may occur, the delineation of which, is beyond the scope of the scale of the present survey.

PROPERTY

Your property described herein, lies in the Township of Harker,

District of Cochrane, in the Province of Ontario, and consists of three claims comprising approximately 183.3 acres. The claims are numbered as follows:

L-44787-88 and 89.

This group is situated in Harker Township, some 40 miles east of the town of Matheson on the Ontario Northland Railway. Transportation over a poor bush road is available for a distance of 30 miles to the camp of Consolidated Mining & Smelting Company Limited, beyond which it is necessary to use a tractor, or lacking this, ordinary packing methods for transport of supplies and equipment.

The claims are bordered on the north by the property of Dale Gold Mines Limited, while on the east and south respectively, they are contiguous to those groups held by St. Anthony Mines Limited, Greenlee Mines Limited, and Carmac Mines Limited.

GEOLOGY AND INTERPRETATIONS

Only one outcrop occurs on your property and this limited geological information in conjunction with the small acreage held by your Company in this area, would render difficult any interpretation of the magnetic results, were it not for the data already derived from surveys of adjacent groups.

The one rock exposure occurs on line 6+00 on your northern boundary, and consists of a medium-grained hornblende granite. This outcrop was originally located during the Dale survey when a small granite boss was found to occur as a consequence of the survey. This intrusive, possibly a half-mile in diameter, extends northward to the contact between

the sediments and the volcanics and it can be seen from the accompanying plan, to assume a south-easterly strike across the center of your claims. This trend continues across the Greenlee property where it appears to be associated with syenites which may be differential phases of the intrusive. While the contacts are in general quite sharp, there is evidence to suggest that numerous other small related intrusives occur throughout the volcanics and perhaps some assimilation.

The strike of the flows is usually east-west, but it may be seen from the contours on Plan No. 1, that these trends have been materially influenced by the intrusive. Until further information is available, exploration should be confined to these areas shown as volcanics, although the intrusive in itself cannot be eliminated as a possible ore structure and the contacts should be tested with one or two drill-holes. The actual location of such holes does not appear important at this time since on so small a group, any located position would offer equal possibilities. Two suggested areas for cross-sectional drilling are shown on the Plan.

MAGNETIC SURVEY DATA

The survey was conducted with a Wolfson vertical type variometer set at a sensitivity of 27.1 gamma per scale division and having a temperature coefficient of 6.0 gamma per degree Centigrade. All field stations were corrected for temperature to the nearest one degree Centigrade following which, a maximum closure of 19 gamma, attributable to diurnal variations, was obtained. The accuracy of this survey will therefore approximate ± 10 gamma per station.

The survey was tied into the Regional Control Station at 0+00 on

the Dale Base line which is assumed to have a value of 2922 gamma and to an additional regional control at the 4 mile post on the Harker-Garrison Township line established as 612 gamma.

Lines were out by this Company and the total man-day distribution relating to the survey is as shown below:

<u>OPERATION</u>	<u>MAN-DAYS</u>
Line-cutting - 4.9 miles	14
Magnetic survey	7
Travelling & packing	12
Office and drafting	10
Supervision	4
Geology	<u>1</u>
TOTAL -	<u>48</u>

The control station used throughout the survey, is shown on Plan No. 1, and the Base Control point is located at the Carmac camp site. A total of 238 observations were taken on your property, made up as follows:

Field observations	219
Base observations	<u>19</u>
TOTAL -	<u>238</u>

Yours very truly,

GEO-TECHNICAL DEVELOPMENT COMPANY LIMITED.

J. T. Randell

J.T. RANDELL - President.

REPORT INDEX

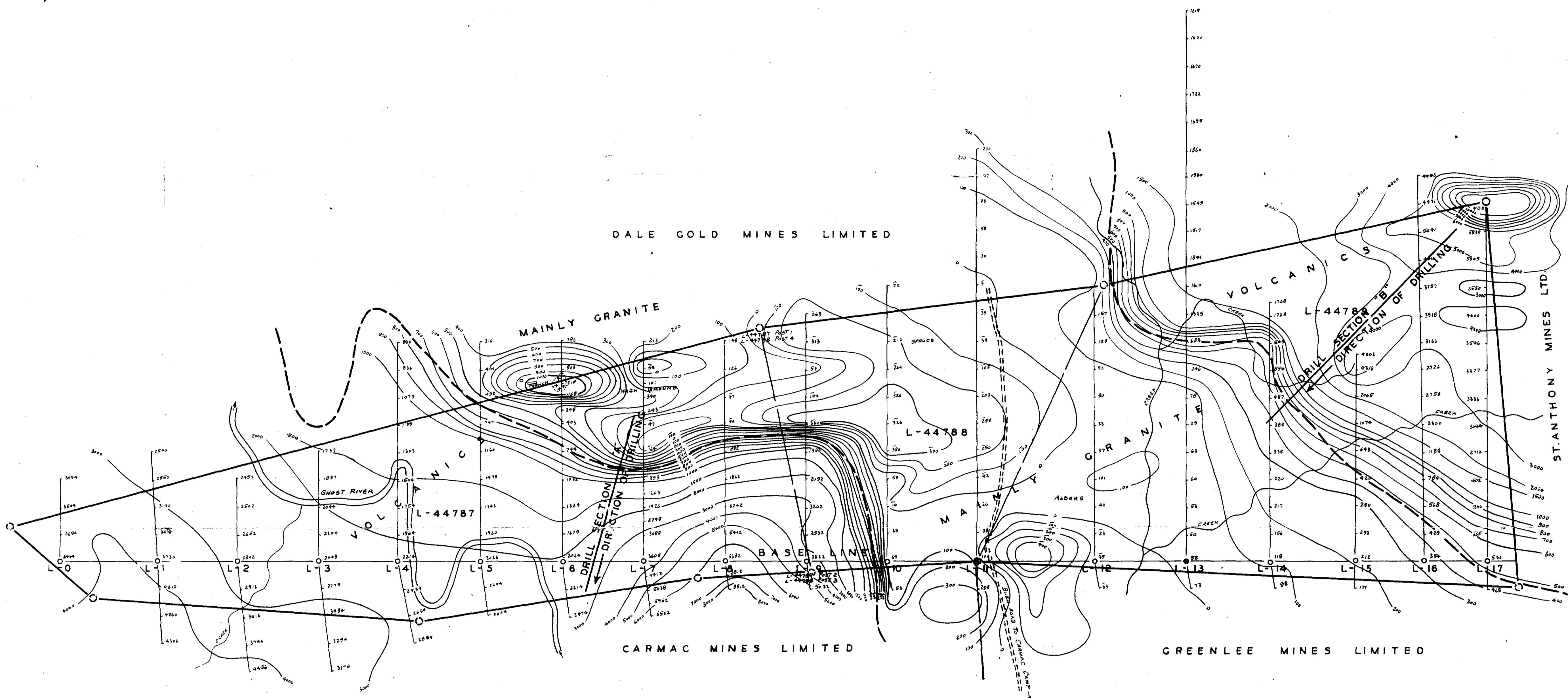
INTRODUCTION	Page 1.
SUMMARY	Page 1.
PROPERTY	Page 1, 2.
GEOLOGY AND INTERPRETATIONS	Page 2, 3.
MAGNETIC SURVEY DATA	Page 3, 4.

MAP INDEX

PLAN NO. 1.

Iso-Dynamic Contours of
Vertical Intensities and
Geological Interpretation.

39+00



LEGEND

- 0 - -500 GAMMA
- 0 - 500
- 500 - 1000
- 1000 - 1500
- 1500 - 2000
- 2000 - UP

ALL MAGNETIC READINGS TIED IN TO BASE CONTROL STATION WITH VALUE OF 2922 GAMMA AT 0+00 STATION ON THE BASE LINE OF DALE GOLD MINES LTD.

SCALE: 1 IN. = 200 FT.

AMERICAN YELLOWKNIFE GOLD MINES LIMITED

AUGUST 1946

DRAWN BY: A.G.S.

J. T. Rendell

ISO-DYNAMIC CONTOURS
OF
VERTICAL INTENSITIES
AND
GEOLOGICAL INTERPRETATION
HARKER TOWNSHIP
DISTRICT OF COCHRANE
ONTARIO

PLAN NO. 1

LEGEND

- LINES SURVEYED, MAGNETIC INTENSITIES OBSERVED
- MAGNETIC CONTOURS
- CONTROL STATION
- PROBABLE GEOLOGICAL BOUNDARIES INFERRED FROM MAGNETIC CONTOURS
- OUTCROP
- CLAIM BOUNDARY
- BUSH ROAD

GEOPHYSICAL SURVEY BY:
GEO-TECHNICAL DEVELOPMENT COMPANY LTD.

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Nov 9 1946

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