OFFICE: EM. 3-3933
RES.: HU. 1-1265

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J. P. Sheridan, P. ENG.
MINING GEOPHYSICIST

December 6th 1960

President and Directors,
Chipman Lake Mines Ltd.
25 King Street West,
Toronto.

REPORT ON GEOPHYSICAL SURVEY AND SHALLOW DIAMOND DRILLING PROGRAMME TURNBULL TOWNSHIP PROPERTY

Dear Sirs,

During the months of September, October, and November 1960, an Electro-Magnetic Survey was carried out on approximately 40 line miles covering a major portion of the 30 claim property comprising the Turnbull Township Property of Chipman Lake Mines Limited.

The programme was instigated in an effort to trace any possible extension to the known small high-grade copper showing located on claim P.47294 of your property, and to detect any similar larger zones which might occur in the vicinity.

In addition to the survey, two short diamond drill holes were drilled with a Packsack drill in the vicinity of the known showing to test the downward continuation of the showing and to attempt to locate a parallel zone.

RESULTS OF THE SURVEY

No major conductive zones were located by the Electro-Magnetic Survey. Several small conductive trends, however, were located and an indication

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of a major conductor located beyond the boundary of your claims was detected in the vicinity of claim P.48072.

Two of the small conductive trends, labelled Conductors A and B may be associated with known surface mineralization. Conductor A could possibly represent the extension of the high grade copper showing drilled by drill holes 1 and 2. Conductor B appears to be associated with a newly discovered showing on line 14 West. This showing is described as a weak shear zone in rhyolite containing minor sulphide mineralization and showing weak silicification and serpentization. Samples from the showing assayed nil in gold, and minor traces of copper. It is, however, possible that Conductor B represents a larger zone associated with this outcrop.

In addition to the geophysical indications a quartz vein was sampled on the south west portion of your property which assayed $6.00 in gold across 7 ft.

RESULTS OF SHALLOW DRILLING

Much difficulty was experienced in drilling the known high grade copper showing because of the extreme hardness of the host rock. Two drill holes, however, were completed to a depth of 47½' and 46'.

(1) Hole No. 1 - drill under the showing intersected 2' - estimated to contain 5% copper

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(2) Hole No. 2 - drilled to the south east of the showing to test for parallel zones gave no indication of copper mineralization.

Logs of holes are contained as an appendix to this report.

RECOMMENDATIONS

In view of the extremely favourable location of your property and the type of mineralization known to occur in the area and to a lesser extent on your property, it is recommended that a programme of intensive prospecting in the areas showing the presence of minor conductors be carried out.

Specifically it is recommended that:

(a) Intensive prospecting including geological reconnaissance, trenching, and sampling with a Packsack drill be carried out in the vicinity of the known Conductors A and B with the area of the gold showing being the prime targets.

(b) Reconnaissance prospecting be carried out on the ground adjoining your claims. This prospecting should include both geological and geophysical reconnaissance lines and particular attention should be given to the area south west of your claim P. 48072.

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TERMS OF REFERENCE

Under letter of Agreement dated 24th August 1960 a dual-frequency horizontal-coil electro-magnetic Survey was carried out on a major portion of your 30 claim group, recorded as claim Nos. P.47294 and P.48068 to P.49096 inclusive, and located in Turnbull and Godfrey' Townships in the Godfrey Lake area of the Porcupine Mining Camp. The survey was carried out in accordance with recommendations submitted by Mr. C.A. Burns, Consulting Geologist.

Line cutting was carried out under sub-contract by Messrs. Larche and Rousseau, Timmins, Ontario, and constituted in all approximately 41½ line miles. The survey was carried out by Mr.Max Juby B.Sc. under the direct field supervision of J.P. Sheridan, P.Eng.

The shallow diamond drilling was carried out by Mr. Henry Philipon of Noranda, Quebec, and Mr. N. Firth, P.Eng. logged the drill core.

INSTRUMENTS USED - TYPE OF SURVEY

The Sheridan-Kelk Dual-Frequency Magni-phase was used in a horizontal coil configuration with a transmitter-receiver separation of 200 ft. being maintained throughout the survey.

Readings of amplitude and phase were taken on the high frequency (2400 c.p.s.) for all stations and low frequency (800 c.p.s.) readings were also taken in anomalous areas. The readings were taken at a maximum station separation of

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100 ft. with 50 ft. reading taken in anomalous areas. The lines were spaced 200 ft. apart and were cut in a North 65° East direction. Six base lines were used for proper line control.

PRESENTATION OF RESULTS

The results of the survey are shown on the accompanying map. The profiles as shown represent the variation in the high frequency phase (2400 c.p.s.) Although the high frequency amplitude was recorded at all stations, it is not presented on the accompanying map. The small 'r' located in the vicinity of the conductive trends represents the ratio of the low frequency phase response to the high frequency phase response.

INTERPRETATION OF RESULTS

From this survey it may be seen that no major conductors exist in the near surface regions of this property. The anomalous results obtained on the south-west portion of claim P.48072 may indicate the presence of a major conductor located south and west of the claim boundary.

Numerous small poorly conducting zones have been located on the accompanying map, the poor ratio, generally less than 0.5, indicates that these anomalies represent zones of poor conductivity. These anomalies could possibly arise from conductive structural conditions such as shears and fault zones and do not necessarily represent sulphide mineralization. Two of these conductors, however, namely Conductor A and Conductor B appear to be of interest because of their association with known surface showings.

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Conductor A could possibly represent the extension of the zone containing the original high grade copper showing. It, therefore, is considered a worthy target for further investigation.

Conductor B is known to be associated with a sheared silicified rhyolite containing minor sulphide mineralization. The extent of the sulphide mineralization and shear observed in the vicinity of Conductor B on line 14 West is not sufficient to have caused the anomaly representing Conductor B. It may, therefore, be reasoned that more and perhaps better mineralization, of a similar type will occur in the immediate area and therefore it is reasoned that Conductor B also represents a target worthy of further investigation.

The remaining conductive trends should be thoroughly prospected by surface method to determine, if possible, their cause and to determine if they are associated with commercial type mineralization.

CONCLUSIONS

From the results of the programme to date it may be concluded that no major sulphide zone worthy of an immediate drilling programme exists on your property. The geophysical indications obtained to date should, however, be investigated by the extensive prospecting programme outlined in our recommendations.

ALL OF WHICH IS RESPECTFULLY SUBMITTED

J. P. SHERIDAN, P.Eng.

63.1089

GODFREY TWP.
TURNBULL TWP.

BASE LINE "E" 31+00 E.

36 N.
30 N.
24 N.
20 N.
16 N.
8 N.
4 N.
0
4 S.
8 S.
12 S.
16 S.
20 S.
24 S.
32 W.
30 W.
28 W.
26 W.
24 W.
22 W.
20 W.
18 W.
16 W.
14 W.
12 W.
10 W.
8 W.
6 W.
4 W.
2 W.
2 E.
4 E.
6 E.
36 W.
40 W.
38 S.
42 S.
44 W.
48 W.
50 S.
54 S.
58 S.
60 S.

BASE LINE "A"
BASE LINE "B" 62+00 S.W.
BASE LINE "C" 46+00 S.W.
BASE LINE "D" 18+00 N.E.
BASE LINE "F"

Godfrey Creek
Old Cabin

B.L. "B" 31+00 N.E.
P. 48094
B.L. "A" 0+00
P. 48069
P. 4807
B.L. "F" 20+00 S.W.
46+00 S.W. B.L. "C"
P. 48087
P. 48086
B.L. "B" 62+00 S.W.

0 800 1600 2400
SCALE - FEET

LEGEND

Phase Profile - 2400 cps.

Conductor $\frac{P}{P} = 0.8$

+40 UNITS — Phase (2400 cps.) — -40 UNITS

$\frac{P}{P}$ Ratio $\frac{\text{Phase (800 cps.)}}{\text{Phase (2400 cps.)}}$

Diamond Drill Hole

——— Claim Line

Scale 1" = 200'-0"
1" = 40 units = 8°
No of stations - 1700

MAGNE
TURN
CHIPMAN

Conductor A 0.35
Conductor "A"
Conductor "B"
Pit
D.D.H. #1
D.D.H. #2
Trenches

P 48 088
P 48 070
P 48 092

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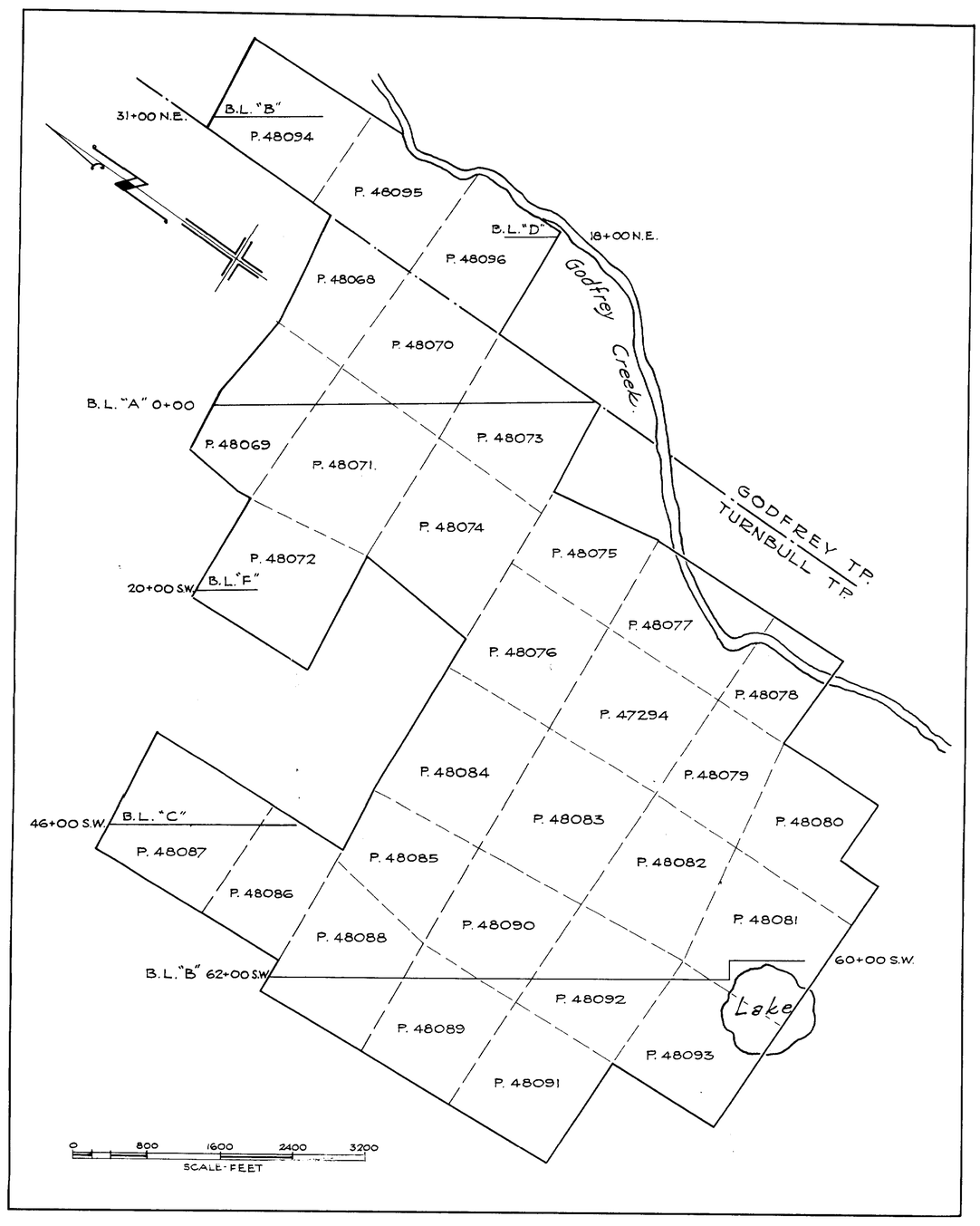

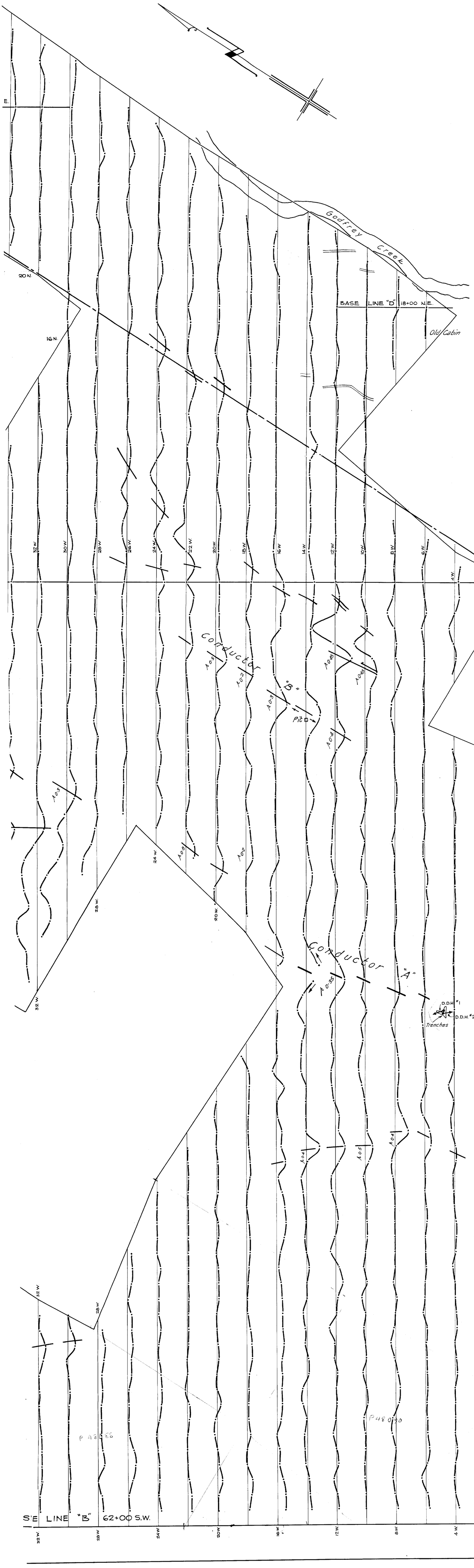

MAGNIPHASE E. M. SURVEY

TURNBULL TWP. PROPERTY

CHIPMAN LAKE MINES LIMITED

by

J. P. SHERIDAN P. ENG.

SEPT. - OCT. 1960