

GEOPHYSICAL REPORT ON THE

GEROW CREEK PROPERTY

Decker Lakes Mines Limited (N.P.L.)

Atled Exploration Management Ltd.

3065

GEOPHYSICAL REPORT
GEROW CREEK PROPERTY
OMINECA MINING DIVISION

by

P.P. Nielsen, B.Sc.
Geophysicist

and

G.C. Gutrath, B.Sc., P.Eng.
Geologist

May 20, 1971

Claims: MO # 1-10 incl.	Record # 72642-72651 incl.
HRS # 19-22 incl.	Record # 72733-72736 incl.
GRE # 43 and 44	Record # 59539 and 59540
DE # 3-22 incl.	Record # 72696-72718 incl.
LARK # 7 and 9	Record # 87736 and 87738

Location: six miles N.W. of Burns Lake, B.C.
Lat. $54^{\circ}16'N$ - Long. $125^{\circ}55'W$

93 K / 5W

Claims Owned by: Decker Lake Mines Ltd.
Work Done by: J.R. Woodcock Consultants Ltd.
Work Done Between: April 30, 1971 and May 10, 1971

3065

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3065 MAP

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GEOPHYSICAL REPORT ON THE GEROW CREEK PROPERTY

DECKER LAKE MINES LTD. (N.P.L.)

Introduction:

On May 5, 1971 Atled Exploration Management Ltd. was commissioned by J.R. Woodcock Consultants Ltd. to conduct a ground electromagnetic reconnaissance survey over Gerow Creek Property, owned by Decker Lake Mines Ltd. situated in the Omenica Mining Division, six miles northwest of Burns Lake.

An E.M. Survey was chosen because of the known zones of massive sulphides on the property and, hence the probability of extensions and new zones, the ground conditions and monies available at the time did not allow for a larger, more costly, exploration program, and because it was thought that it might assist in explaining some of the geophysical results found in the past. In retrospect, the J.E.M. also provided information regarding the depth of overburden which should be useful in the planning of further exploration work on the property. A lack of time prevented the complete delineation of all anomalous areas, but the survey was considered a success with the results indicating that further investigation is warranted.

Location and Access:

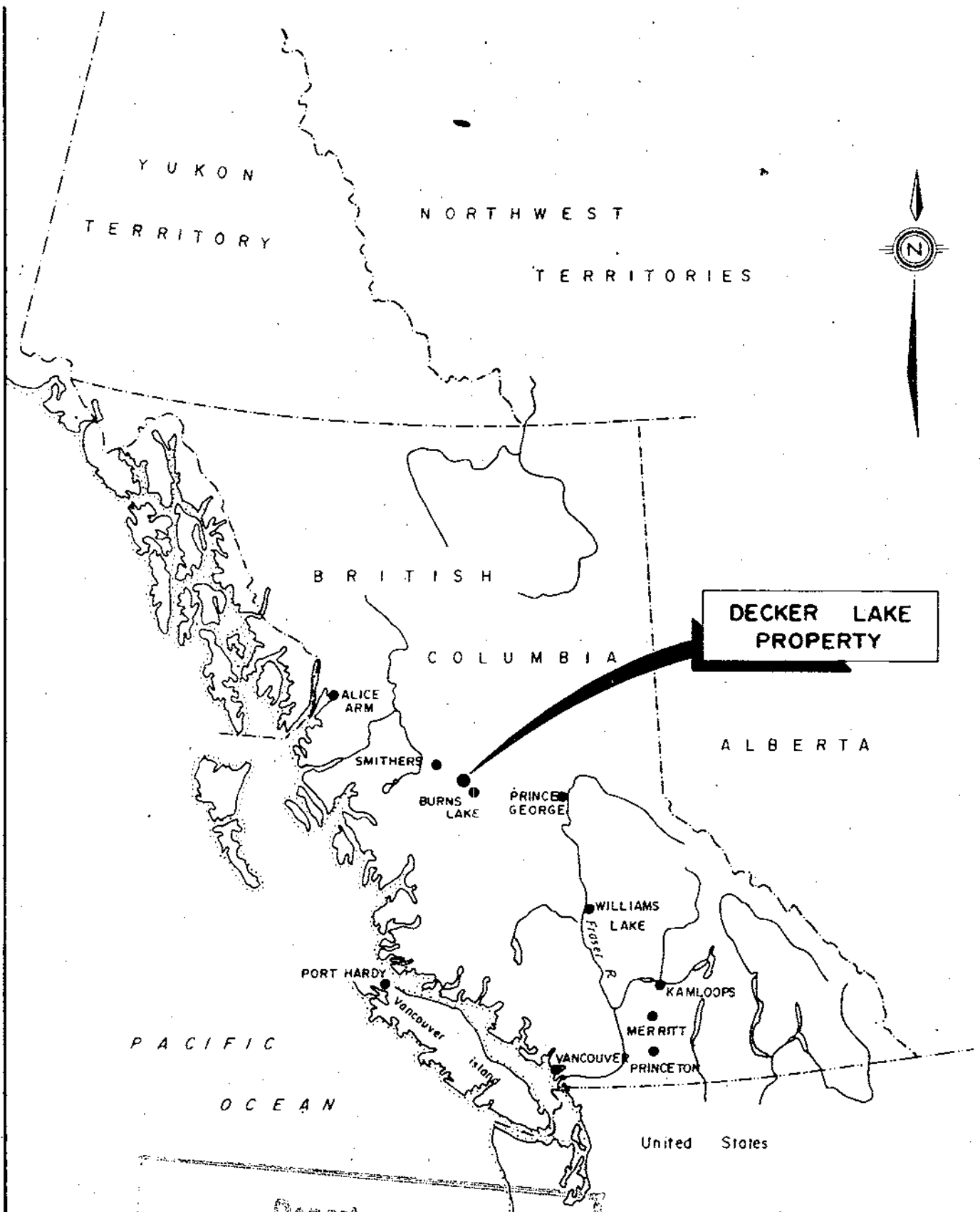
The property is located on the southwest side of Decker Lake approximately six miles to the northwest of the town of Burns Lake, B.C. The main showings and workings are situated about one-and-a-half miles up and on Gerow Creek which drains northeasterly into Decker Lake.

Access to the showing is by four-wheel drive road in summer or by helicopter or snowmobile when weather conditions make the road impassable by truck.

For the execution of the work covered in this report, Alpine Helicopters Ltd. was employed to mobilize and demobilize the survey personnel as the road could not be used at this time of year.

continued:

*J = Golden Glory
Silver Glance
also known
locality
G.S.C. Map
252, P. 17, 18*



Department of
 Mines and Petroleum Resources
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 3065 AND #4

DECKER LAKE MINES LTD. (N.P.L.)
 LOCATION MAP
 OMINECA M.O., B.C.
 SCALE 1" = 100 MILES

The Property:

Most of the area covered by this survey has been staked off and one since the early 1900's as a result of mineable copper, silver, lead and zinc occurrences along the banks of Gerow Creek. A number of adits were driven in from the creek, cat trenching and drilling in the immediate showing area was executed and a magnetometer survey over this same immediate area was carried out. A few reconnaissance E.M. 16 traverses were run to test for continuity and/or disseminations of ore-grade sulphides. Extreme topographic relief along the creek bank could have obscured these results.

Linecutting:

A grid, consisting of 12 lines, spaced 400 feet apart was cut and picketed at 200-foot station intervals from station 20+00 north to station 20+00 south. Alternate lines were extended to station 60+00 south. A baseline, 4400 feet long, was also cut, chained and picketed.

Instrumentation:

A Crone J.E.M. Dual Frequency (480 and 1800 Hertz) Unit, incorporating the "shootback" technique, was used. The two frequencies were chosen to distinguish between possible massive and disseminated-type mineralization. The "shootback" method was preferred to other electromagnetic types as the known mineralized zones occur in a steep creek canyon, where topographic effects might otherwise obscure legitimate electromagnetic responses. Coverage with this instrument is fast, anomalies can be detailed immediately and changes in coil separation can be made readily.

The Survey Method:

Cut lines were traversed by two operators using the "in-line" method, taking tilt-angle readings at 200-foot station intervals along the survey lines. At the discretion of the geophysicist, (chief operator) segments of lines thought to be anomalous were re-surveyed using 300-foot coil separation in order to further delineate and identify the conductor(s). Anomalous areas were determined by considering the relative amplitudes of the low and high frequency resultant dip-angles

continued:

Geophysical Report on the Gerow Creek Property
Decker Lake Mines Ltd. (N.P.L.)

.... 3

The Survey Method: (cont'd)

the widths of the "nulls" encountered and the ease of readability.

Although overburden thicknesses were probably in excess of 100 feet over most of the survey area, the 200-foot coil separation was deemed optimum for maximum survey coverage when all factors were weighed.

Presentation of the Data:

The J.E.M. results are plotted and profiled in Fig. 1 and 2 and an interpretation with the claim boundaries are given in Fig. 3.

The resultant dip-angle readings were taken midway between the two J.E.M. coils. The High Frequency (1800 Hertz) values are plotted to the left of the traverse line and low frequency (480 Hertz) values to the right. The positive dip angles are profiled to the left (west) and the negative dip angles to the right (east) of the survey line.

The interpretation map illustrates possible high angle conductors with interpolated line-to-line correlation and outlines areas of possible disseminated sulphide mineralization in priority order of interest or importance. Outstanding magnetic features are also shown which were transferred from a map of scale 1" = 100 feet. The position of these contours are approximate but assist in the interpretation of the electromagnetic results and give a strong indication of displacement due to faulting and shearing.

Discussion of Results:

In the main trench area, close spaced drilling has delineated a shear zone with a maximum strike length of 120 feet. Grades of greater than 3% copper, over a width of 11.5 feet, are reported. (A.E. Allen - June 1970). This drilling area centered at Line O, Stn. 0+50N, yielded a sub-anomalous electromagnetic response. However, the low/high frequency ratio did approach unity suggesting a good conductor. Limited strike length, poor continuity and very narrow veins and shoots are likely the cause of this low amplitude response.

continued:

Geophysical Report on the Gerow Creek Property
Decker Lake Mines Ltd. (N.P.L.)

Discussion of Results (cont'd)

Anomaly #2 :

North of and sub-parallel to the main showing, a number of "noisy" low amplitude readings, exhibiting readability difficulties were observed on the 200-foot stations. These readings occurred on Lines 4E, O, & 4W and were checked later using a 300-foot coil separation. The cause is interpreted as being a vertical conductor 75 to 100 feet wide, whose upper surface is approximately 75 feet deep. It strikes E.23°S over a length of about 1500 feet. This conductor could be due to massive interconnected sulphides flanked by disseminated-type mineralization. This feature could be related to Anomaly #4 at depth and is cut off by Gerow Creek to the south-east.

Correlation of the J.E.M. results with a ground magnetometer survey executed by Mr. Carl Stephenson in August 1965 shows that a N-S structure or contact along the present Line O could mean that the present grid lines, in this immediate area, were too close to being parallel to this feature, resulting in poor coupling and ambiguous responses. Had time allowed, a traverse along a line joining co-ordinates 16+00W; 20+00N and 16+00E; 4+00S would have been most informative and should be done when convenient.

Anomaly #4 :

Line O, Stn. 17N illustrates a narrow positive resultant dip angle on high frequency only. This feature can be correlated with the similarly positive readings on Line 4E, Stn. 20N, and could represent a narrow, vertical, near surface conductor trending N.E. off the survey grid area. This feature is of low priority, but further investigation is still warranted.

Anomaly #3 :

Line O, Stn. 15S to Stn. 27S indicated an anomalous condition using 200-foot coil separation primarily as a result of extremely noisy readings and broad nulls. The amplitudes were rather low and it was felt that the cause of this wide response was due to a large horizontal component at a depth of greater than 100 feet. The area was delineated further using 300-foot coil spacing and by running an east-west traverse called Line 22S, from line 8W to 6E. A lens or spherical-type body of disseminated metallicly conducting particules, possibly sulphides in the order of 2% by volume, is suggested as the cause of this E.M. anomaly. Maximum lateral dimensions are 1600

continued:

Geophysical Report on the Gerow Creek Property
Decker Lake Mines Ltd. (N. P. L.)

Discussion of Results (cont'd)

Anomaly #3: (cont'd)

feet by 1000 feet as is illustrated in Fig. #3.

Anomaly #1:

The best E.M. response was observed centered at Stn. 5 South on Line 16E, where a high frequency resultant dip angle of 20° and a low/high ratio of .25 was recorded using a coil spacing of 300 feet. This feature was detected late in the survey and further delineation was not possible. Because of this fact and due to the thickness of cover (est. 100 feet), there is some question as to the cause of the anomaly. Two likely causes are, therefore, suggested:-

(1) it is the southeasterly extension of anomaly #2, although it is due to a dike-like body of moderate conductivity 200 feet in true width dipping 30° - 40° to the S.S.W. The center of the top of the conductor is at Stn. 25 on Line 16E, and

(2) it represents the western limit of a disseminated-type mineralized body of possible economic significance whose dimensions are unknown but whose strike length could be in excess of 1200 feet. More massive material could exist within this body.

The remainder of the survey area yielded uninteresting results due to three main causes:-

- (1) overburden thicknesses were too great,
- (2) areas traversed were non-conductive at the frequencies, coil spacing and power used, and
- (3) conductors were too narrow and/or deep for detection under these survey specifications.

Conclusions and Recommendations

Generally, the electromagnetic results were most encouraging and it would appear that an area bounded by Line 12W, and Line 16E, between Stns. 12N and 25S is of possible economic importance and should be further investigated.

continued:

Conclusions and Recommendations: (cont'd)

Specifically, the J.E.M. survey has indicated four anomalous zones within this grid which could contain significant quantities of massive and/or disseminated sulphide mineralization.

The fact that the main showings, with high-grade copper in a shear zone gave a poor electromagnetic response, is encouraging. This indicates that the mineralization in this area, although high-grade, may be poorly interconnected, stringered and faulted thus having insufficient conductor strike length to give a good electromagnetic response.

Anomaly #1 is not enclosed to the east but has the greatest potential for a deposit of disseminated sulphides. Anomaly #3 is similar, but is likely caused by a more disseminated material. It could be an off-faulted portion of Anomaly #1.

Anomaly #2 is dike-like in nature, is sub-parallel and to the north of the known mineralized area and could represent a medium tonnage, high-percentage sulphide deposit.

It is recommended that further geophysical investigations be carried out over the northeastern quarter of the grid with extensions to the north and east using high-powered, deep penetration, induced polarization equipment. A magnetometer survey, using 400-foot spaced lines and a 100-foot station interval should be executed over the entire grid and to the east of the 1965 survey with intermediate lines of 200-foot separation and station intervals of 50 feet being surveyed over selected areas of interest.

The E.M. Anomalies should be investigated in the order shown on the interpretation map, (i.e., Anomaly #1 first, etc.). The geophysics should be correlated with a photo-geological study and geochemical surveys should be considered where overburden and tertiary volcanic cover is not considered too excessive.

Respectfully submitted,

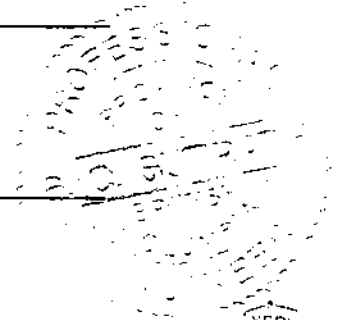


P.P. Nielsen, B.Sc.,
Geophysicist.



G.C. Gutrath, B.Sc., P.Eng.
Geologist

May 20, 1971
Vancouver, B.C.



APPENDIX NUMBER ONE

Statement of Qualifications:

I, Philip P. Nielsen, do hereby certify that I graduated with a Bachelor of Science degree in Geophysics from the University of British Columbia in May 1969.

I have been actively and responsibly involved in mineral exploration throughout Western Canada and Alaska for the past six years. Prior to this period, I was an electronics technician in the R.C.A.F., where I worked on anti-submarine oriented geophysical equipment for five years.

I am presently a member of the C.I.M., S.E.G. and B.C. Mining Geophysicist Society.


Philip P. Nielsen, B.Sc.


May 20, 1971
Vancouver, British Columbia

APPENDIX NUMBER TWO

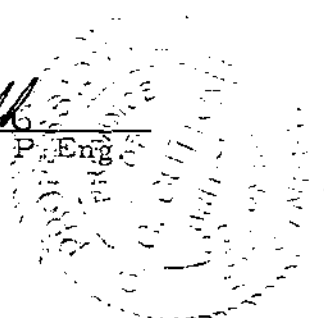
Engineer's Certificate:

I, Gordon C. Gutrath, of 5550 Rugby Street in the Municipality of Burnaby, in the Province of British Columbia, do hereby certify:

1. that I am a consulting geologist with a business address of 508 - 850 West Hastings Street, Vancouver 1, B.C.,
2. that I am a graduate of the University of British Columbia where I obtained by B.Sc. in geological science in 1960,
3. that I am a Registered Professional Engineer in the Geological Section of the Association of Professional Engineers of the Province of British Columbia,
4. that I have practised my profession as a Geologist for the past ten years, and
5. I have no interest, direct or indirect, in the property with which this report is concerned, nor do I expect to receive any such interest; and I have no direct or indirect interest in the securities of Decker Lake Mines Ltd. (N. P. L.).



Gordon C. Gutrath, B.Sc., P. Eng.



May 20, 1971
Vancouver, British Columbia

APPENDIX NUMBER FIVE

Personnel:

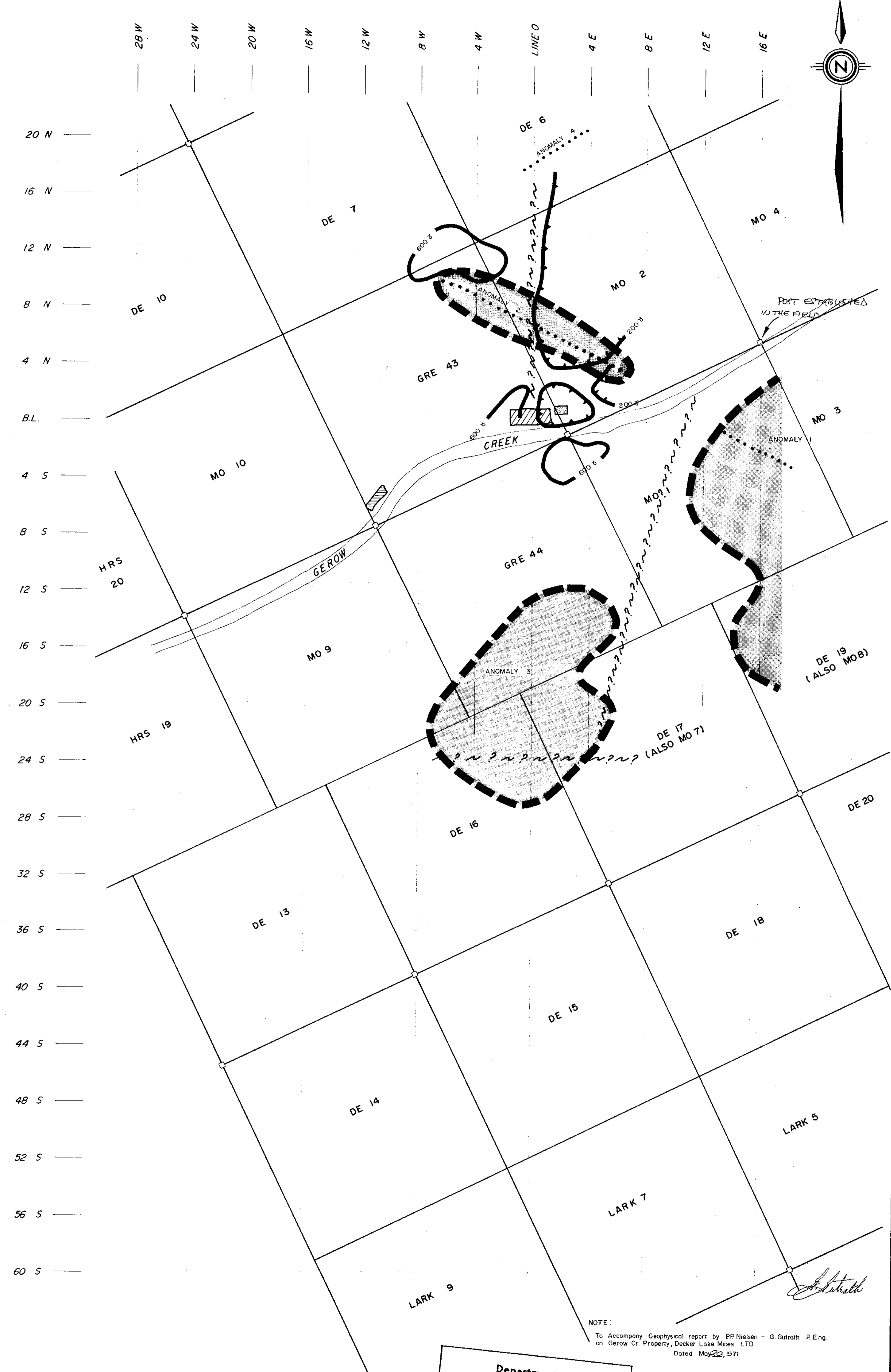
(a) Linecutters:

four men under the supervision of Tom Wilkinson,
employed by J.R. Woodcock Consultants Ltd.

(b) E.M. Survey:

operator - P.P. Nielsen, Atled Exploration
Management Ltd.

assistant - Nick Wychopen, J.R. Woodcock
Consultants Ltd.



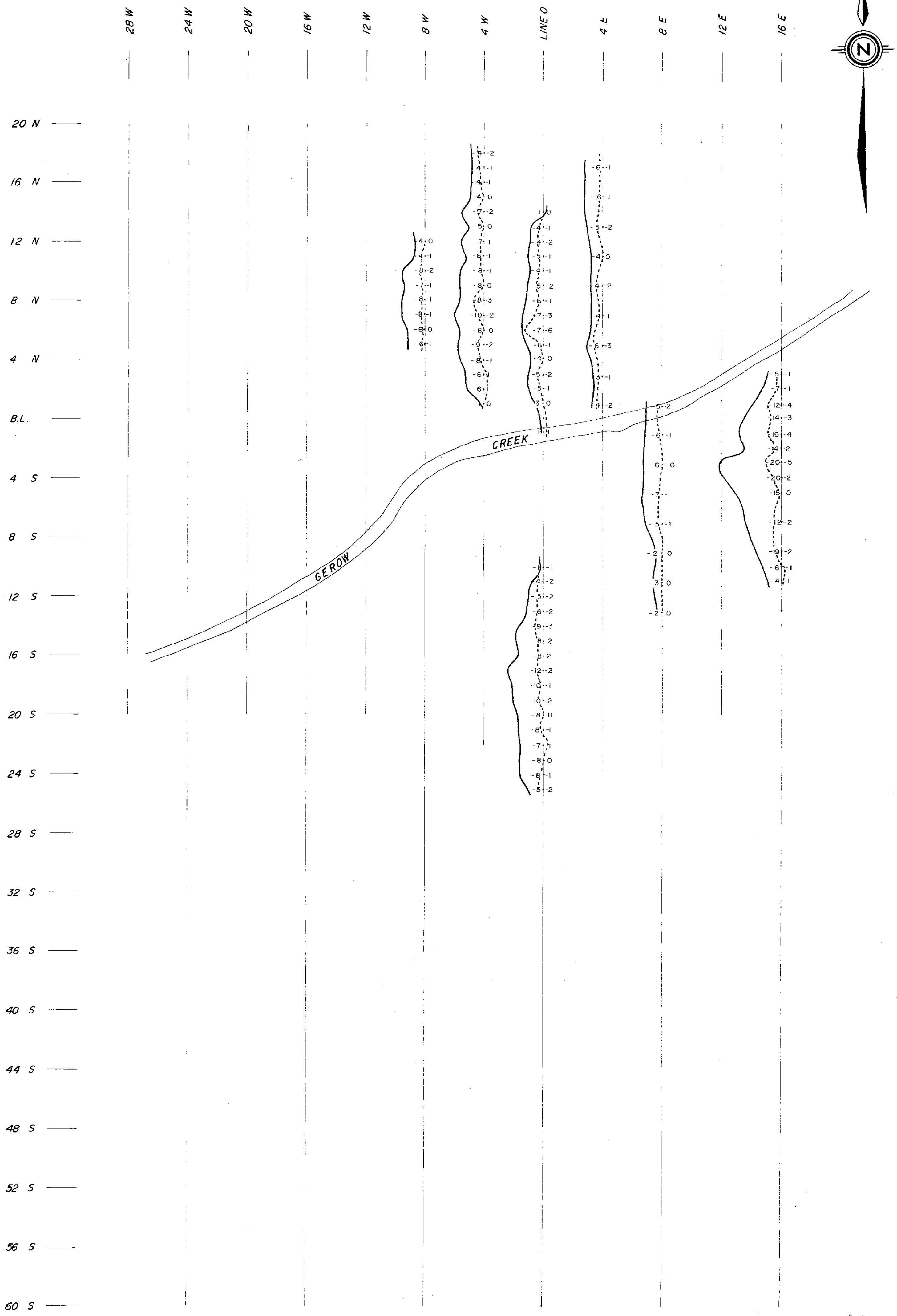
- LEGEND**
- E.M. ANOMALOUS AREA SHOWING CONDUCTOR AXIS
 - GROUND MAGNETIC CONTOUR IN GAMMAS (G)
 - POSSIBLE FAULT OR SHEAR ZONE
 - TRENCH
 - CORE SHACK
 - CLAIM POST

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NOTE:
To Accompany Geophysical report by P.P. Nielsen - G. Guttrath P.Eng.
on Gerow Cr. Property, Decker Lake Mines LTD.
Dated: May 22, 1971

FIG. 3
DECKER LAKE MINES LTD. (N.P.L.)
GEROW CREEK PROPERTY
DECKER LAKE AREA B.C.
CRONE J.E.M. ELECTROMAGNETIC SURVEY
INTERPRETATION & CLAIMS LOCATION MAP
SCALE
FT 400 0 400 800 FT
ATLIED EXPLORATION MANAGEMENT LTD.
SUBMITTED BY: P. NIELSEN
ALTAIR - MAY 1971

3065 M-3



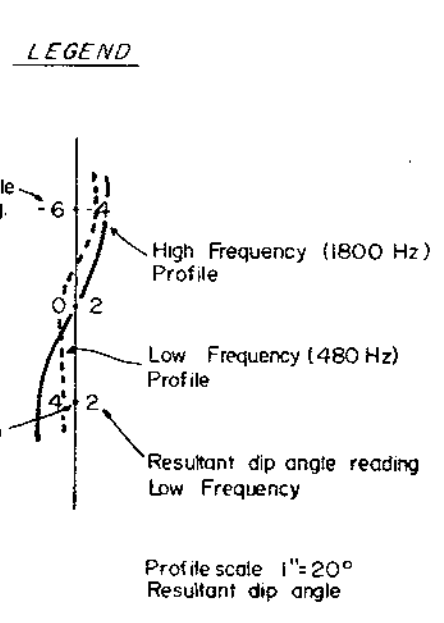
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NOTE:
To Accompany Geophysical report by P.P. Nielsen - G. Gutroth P.Eng.
on Gerow Cr. Property, Decker Lake Mines LTD.
Dated: May 22, 1971

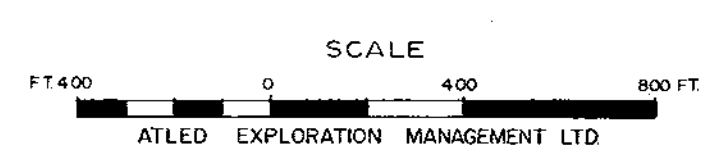
Department of
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FIG. 2

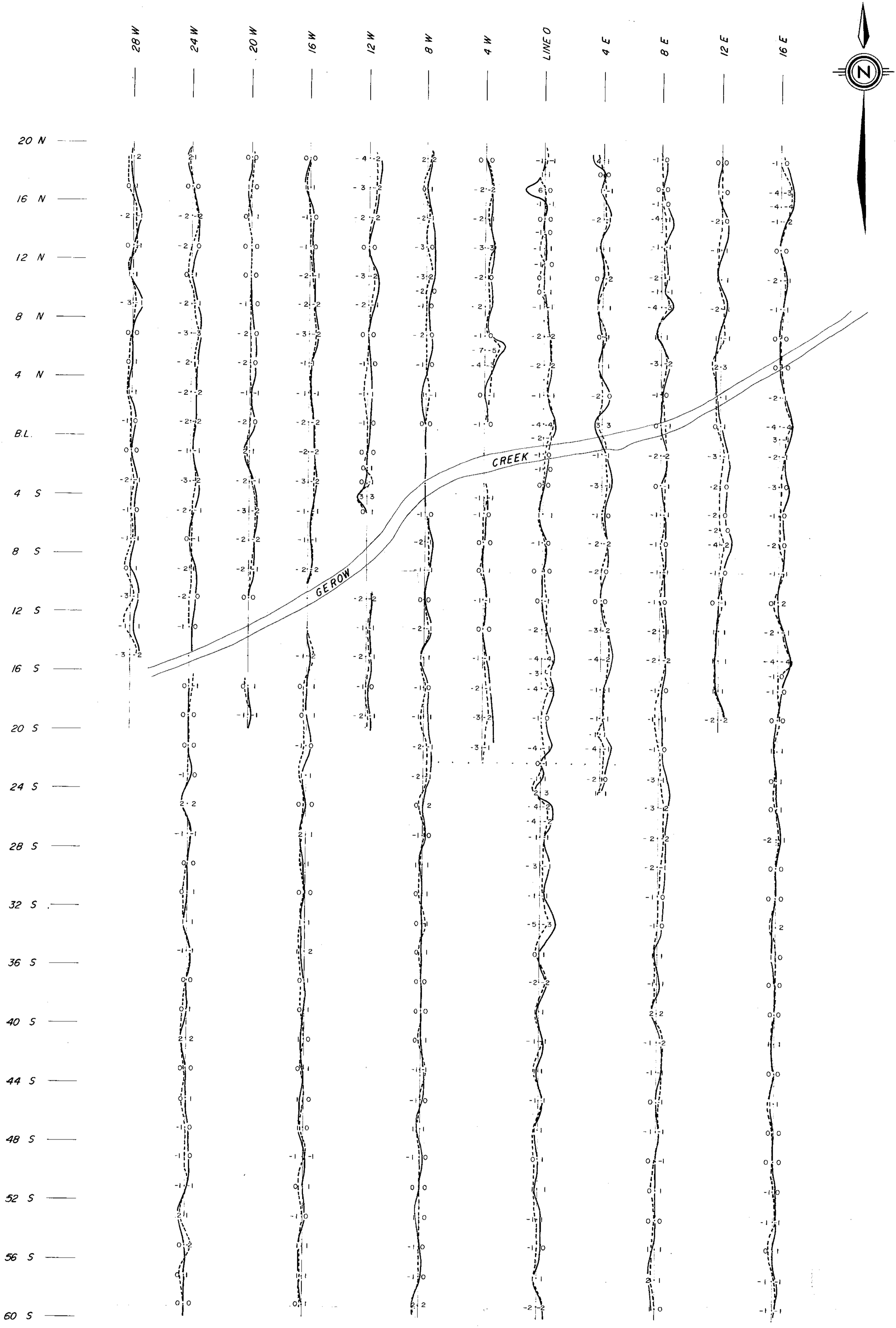
DECKER LAKE MINES LTD. (N.P.L.)
GEROW CREEK PROPERTY
DECKER LAKE AREA B.C.
CRONE J.E.M. ELECTROMAGNETIC
SURVEY
VALUES AND PROFILES
DETAIL



3065 M-2



Coil separation = 300 FT.



Handwritten signature

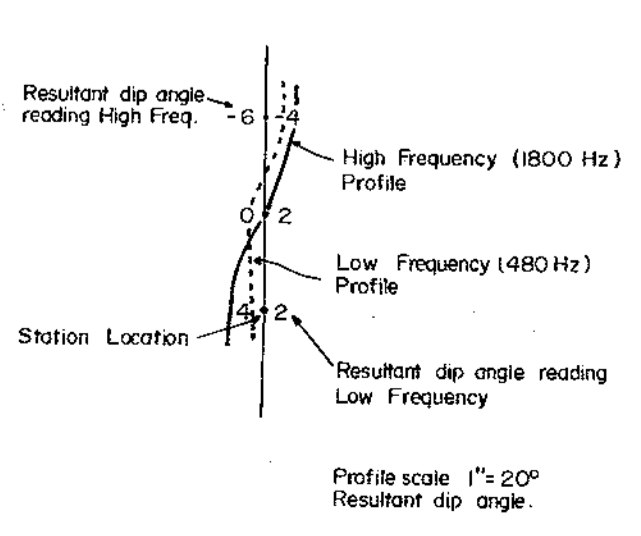
NOTE:
 To Accompany Geophysical report by P.P. Nielsen - G. Guttrath P. Eng.
 on Gerow Cr. Property, Decker Lake Mines LTD.
 Dated: May 22, 1971

Department of
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M-1

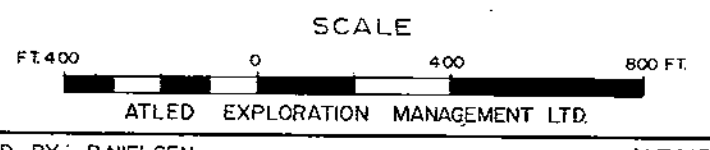
FIG. 1

LEGEND



3065

DECKER LAKE MINES LTD. (N.P.L.)
 GEROW CREEK PROPERTY
 DECKER LAKE AREA B.C.
 CRONE J.E.M. ELECTROMAGNETIC
 SURVEY
 VALUES AND PROFILES



Coil separation = 200 FT.