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Report to

Acaplomo Mining & Development Co. Ltd. (N.P.L.)

on a

Geophysical Survey

of the

Nakelstin Claim Group

Merritt, B. C.

by

Sherwin F. Kelly, P. Eng.,

Geophysicist and Geologist

December 4, 1970

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Acaplomo Mining & Development Co. Ltd. (N.P.L.)
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of its Makelstin Claims

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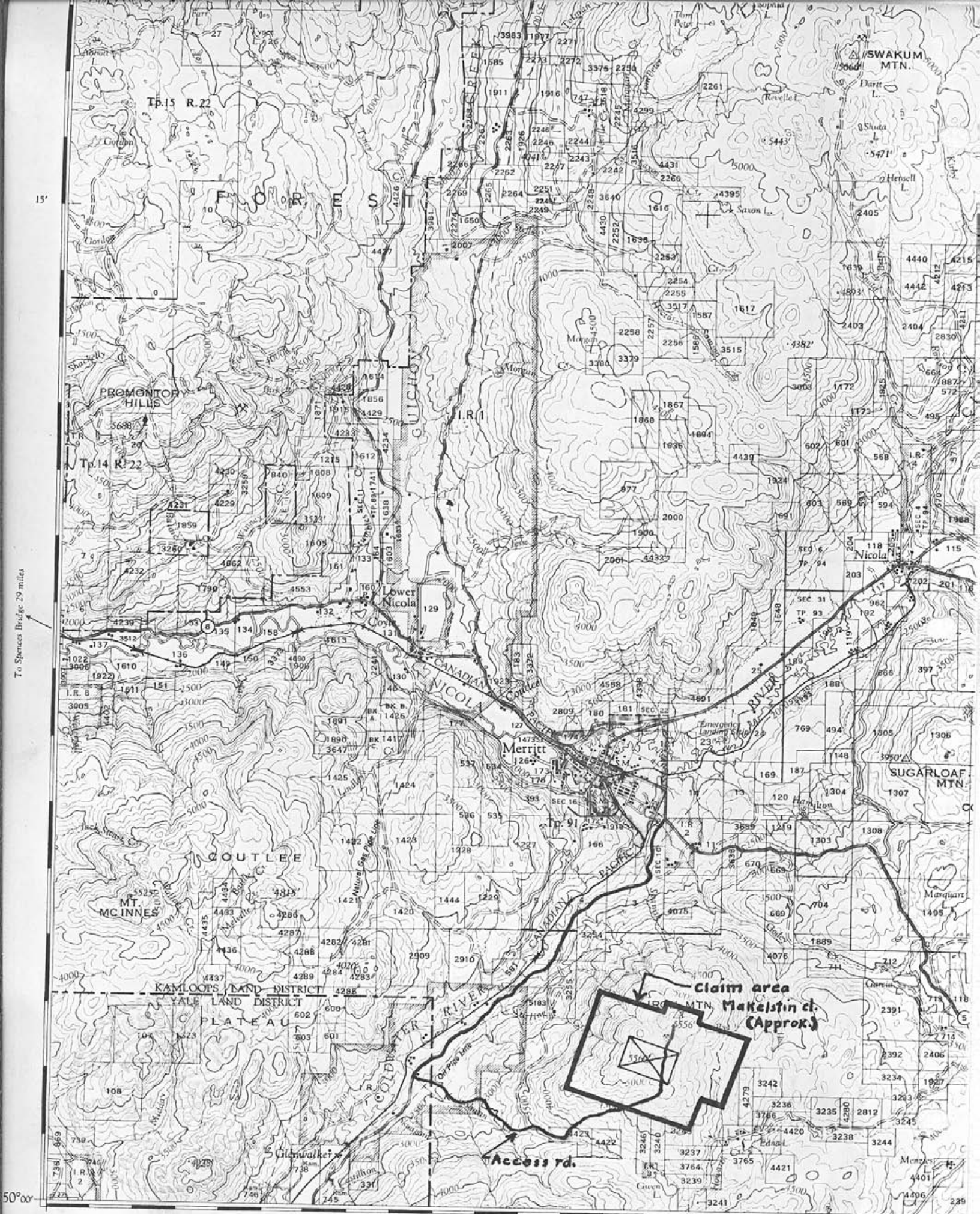
ILLUSTRATIONS

IN ENVELOPE IN BACK OF REPORT



Merritt, B.C. Sheet 92 I/SE. 2E/2W Scale, 1 inch = 2 miles.

Fig. 1

Report to
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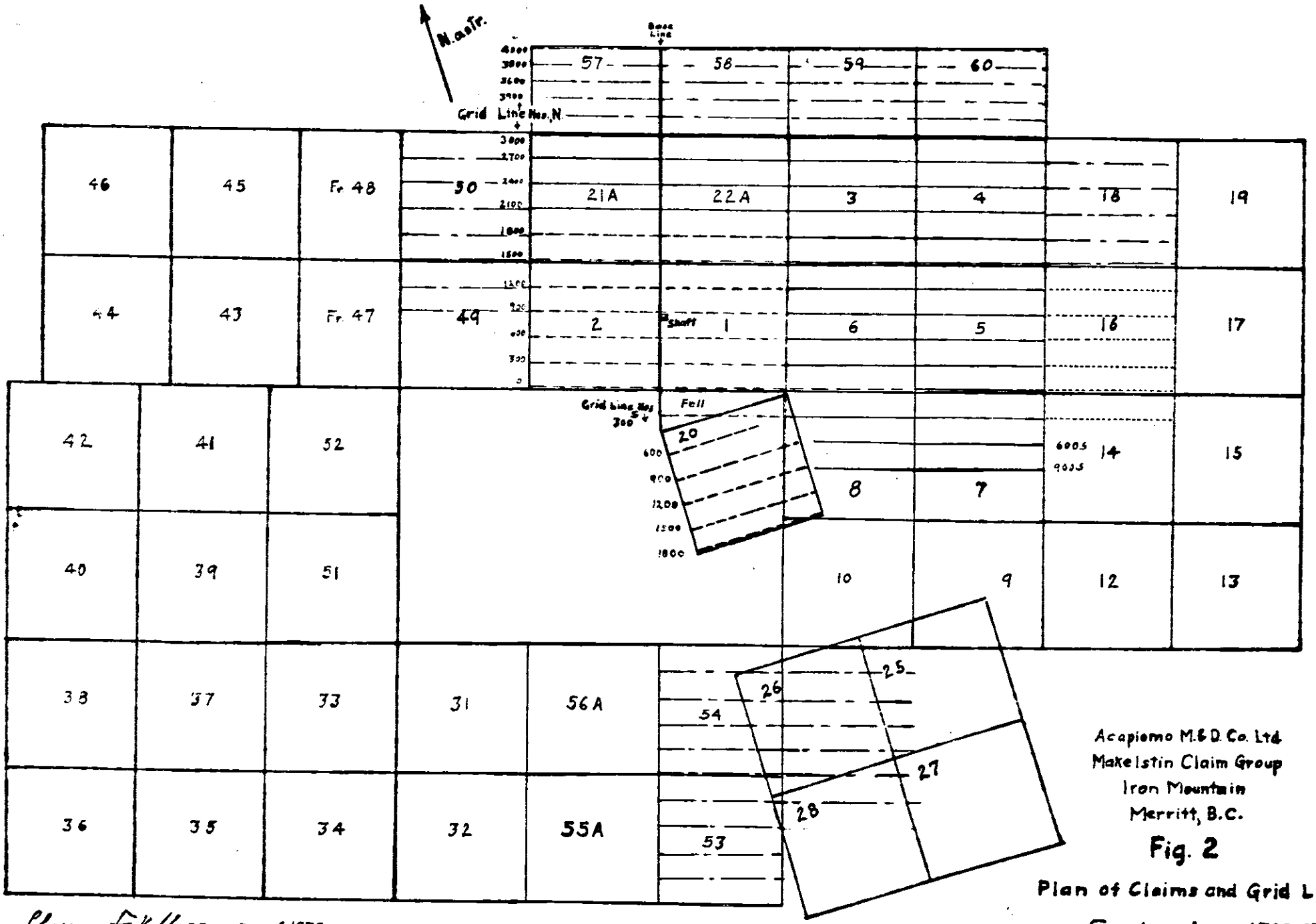
INTRODUCTION

A magnetic survey was conducted in October and November, 1970, on four claims in the group of Makelstin mineral claims, held by Acaplomo Mining & Development Co. Ltd. (N.P.L.). This group is located on the top of Iron Mountain, about five miles southeast of Merritt. The longitude is 120° 45' west and latitude is 50° 2' north. Fig. 1 shows the approximate outline and location of these claims on the Merritt topographic sheet, 92 I/SE.

Access to the claims is via the Coldwater road, which is followed south from Merritt for six miles. At that point a gravel road turns off to the east and then swings north, to go to the top of the mountain. Microwave towers are located at the summit, eight miles along this road from the turn-off. The road passes through the middle of the Acaplomo holdings.

The magnetic survey was for the purpose of extending magnetic observations further north from the area covered in a previous survey, described in my report dated December 28, 1968. The claims covered at that time consisted of Makelstin #1, #2, #6, #8, #30, and the southern portions of #3, #21A and #22A. The present survey completed the coverage of #3, #21A and #22A to their north boundaries, and extended west over the northern portion of Makelstin #50, which lies immediately west of #21A. Fig. 2 shows the claim group and the entire system of grid lines cut to date. Grid lines covered in the present survey, included 1800 N west of the base line, and 2100 N, 2400 N, 2700 N, and 3000 N, both east and west of the base line.



Acapiemo M.& D. Co. Ltd.
Makelstin Claim Group
Iron Mountain
Merritt, B.C.

Fig. 2

Plan of Claims and Grid Lines

Scale 1 in. = 1500 ft.

Sherwin F. Kelly, P.Eng. Dec. 4, 1970

MAGNETIC SURVEY

Instrument

The instrument used in this survey was a Scintrex MF-1 Fluxgate Magnetometer, serial no. 811377, manufactured by Scintrex Ltd. of Concord, Ontario. It measures the vertical component of the earth's magnetic field. The sensitivity chosen was the 10K scale constant, which gives a range of 10,000 gammas for full scale deflection. The sensitivity is then 200 gammas per scale division. Readings were taken to the nearest 1/4 scale division, i.e. the nearest 50 gammas.

Procedure

The grid lines prepared for geophysical and geochemical surveys on these claims, were run approximately magnetic east and west, turned off at 300 foot intervals from a base line running about magnetic north, through the old shaft on Bakelstin #1. Observations were taken at 100 foot intervals along the grid lines. Check readings were taken on a base station at the beginning of work, in mid-morning, and at the end in mid-afternoon. The appropriate diurnal correction was then applied to the individual readings. The period was one of only minor magnetic variations. The base station is located on the west edge of the road, where it crosses line N 3000 E, close to station 400 E. This latter station is on the east edge of the road.

In order to tie this survey properly to the prior work immediately to the south, check readings were taken along line N 1800 W, extending west from the base line to station 1500 W. In essence, the new readings checked satisfactorily with the old ones; there were minor discrepancies in detail, but when plotted as profiles, the shapes of the two curves matched well, as did the contours plotted later on the plan map.

Having established the satisfactory correlation, in shape, of the plotted profiles in the overlap of the two surveys, it became necessary to choose a datum value for the present survey, that would permit it to be tied in quantitatively as well as qualitatively, with the prior results. Inspection of the profile curves indicated that a quite satisfactory correspondence ensued, from assuming that the instrument reading of 720 corresponded with the arbitrary datum, or "zero" value chosen for the first survey. At a scale constant of 10K, this reading corresponded to 7,200 gammas. All readings were then plotted in gamma values, above and below this figure as datum, or zero. See Fig. 3.

Profiles

The profiles shown on Fig. 3 record the variations in magnetic intensity, above and below the arbitrarily assigned datum. They range from 300 gammas below datum to 1300 gammas above it, for a total spread of 1600 gammas. The gamma value at each and every station occupied in this survey, may be read off these profiles. The actual reading of the instrument in each case, can be obtained by adding 7,200 gammas (the datum value) to the value shown on the profile and dividing by 10 (the scale constant of the instrument). Thus, at station 4E on line 3000 N, the profile value is 400 gammas. Adding 7,200 gammas gives 7,600 gammas and dividing by the scale constant, 10, shows that the instrument reading, corrected for diurnal variation, was 760 at that point.

Contour Map

The plotted magnetic profiles provided the basis for contouring the magnetic values on a plan map, Fig. 4. This map depicts the grid lines utilized in the present survey and the claim numbers and boundaries. Grid lines are shown to the

north, which carry no contours. This is because the survey is being continued in that direction and will be covered in a subsequent report, in connection with other assessment requirements. Provision is made, therefore, that the results of the two surveys will finally be shown as a unit.

East of the base line, at the south side of the grid, two grid lines are shown by dashed symbols; they are line 1800 N extending 3000 feet east of the base line, and line 2100 N extending east from 1550 E to 3000 E. These are repeated from Fig. 3 of my report of December 28, 1968. This is to provide a tie-in and overlap with the contoured values on that map, since the area of the current survey adjoins the area of that prior one.

Interpretation

A striking feature of the contours shown on Fig. 4 is the contrast between the area west of the base line and the one east of it. West of the base line, or more accurately, west of a line paralleling the base line and 600 feet west of it, the contours indicate strong magnetic reactions in closely spaced zones trending north-south. East of that line, however, the magnetic contours indicate much lower magnetic relief of no particular pattern or trend. This latter magnetic pattern of low relief, is the same as the one in the northeastern part of the adjoining, older survey immediately to the south (Fig. 3 of my report of December 28, 1968). It extends south about to line 900 N. South of that line (which runs through the old shaft), high magnetic relief in zones trending northeasterly, in the area east of the base line, contrasts strikingly with the low relief characteristic of the area east of the base line but north of line 900 N. South of the shaft, the two zones of high magnetic relief are separated by one of low relief about 600 feet wide. It appears to have a north-easterly trend.

The two, contrasting types of magnetic relief may be ascribed to differing types of bedrock. Where the relief is high, with pronounced variations, the strong magnetic reactions are probably due to rocks of a basic character. The elongated zones of high magnetic intensity may be expected to reflect the trends of underlying, up-tilted basaltic or basic andesitic flows. Where the magnetic relief is low and somewhat formless, the bedrock may be assumed to be volcanic flows, acidic in nature, or beds of sediments. Thus, in the survey area now being reported on, the bedrock in the western portion probably consists of basaltic and andesitic flows. These are succeeded to the east by flows probably acidic in nature, such as rhyolite, and possibly also some beds of sediments. For example, stripping was done on copper showings approximately 1000 feet east of the base line, south of line 2700 N, which revealed copper mineralisation in a rhyolitic agglomerate.

There is also evidence for the existence of an intrusive, dioritic in character, in the vicinity of stations 2800 E to 2600 E, at least on lines 3000 N, 3200 N, and 3400 N. Neither the extent nor the boundaries of this body have been determined, but an intrusive of this nature could give rise to the irregular magnetic reactions of moderate intensity, similar to those which characterise the eastern portion of this survey area.

The sinuous trend of the strong magnetic zones west of the base line, indicates that the formations have been subjected to some bending. If this distortion took place prior to mineral deposition, then the zones of major flexures would be favorable to mineral deposition, as they would have been subjected to the most fracturing.

Mention has been made of the abrupt transition from low magnetic relief on the north, to high magnetic relief on the south, which takes place in the neighborhood of

grid line 900 N, in the area east of the base line. This is in the southern portion of the old survey area, immediately south of the one with which this report is concerned. That abrupt transition is hardly to be explained as a sudden change, at the same point along strike, in the petrographic nature of the various underlying flows. The change is more likely to be the result of major faulting, which has shifted the magnetic formations in the south wall, a considerable but as yet undeterminable distance to the northeast. The zone of low relief at the south end of the base line which separates the two zones of high relief, as previously described, might mark the trace of such a fault structure. If that is the case, the extension of the fault would probably cross the area now being reported on, near the eastern ends of grid lines 1800 N to 2700 N. Some of the contours in that area show a northeasterly trend. This must be considered a purely tentative hypothesis; as the magnetic survey is extended, the pattern will become clearer and probably produce more evidence, either to support or refute this tentative concept.

The present survey supports the conclusion concerning relationships between soil anomalies and magnetic values, set forth on page 12 of my report of December 28, 1968, that "The soil anomalies occur in some cases with high values, in some cases with low values, but more frequently on the flanks of the magnetic peaks and valleys." In addition, a further relationship of potential importance is beginning to be apparent. The silver, zinc and lead anomalies tend to be more abundant in the general area of low magnetic relief, than in the regions of highly contrasting magnetic readings. This implies that a generally more favorable host rock underlies, and is the cause of, the weaker magnetic contrasts.

The copper anomalies, which are by far the most abundant, are found on the other hand, as frequently in the areas of strong magnetic relief as in that of weak

relief. This could be due to a less selective reaction to the petrographic character of the host rock, or to a control of a more structural nature. From these results, then, it appears that copper mineralization is likely to be less selective of host rocks and to be more widespread in its occurrence, than the lead, zinc, or silver.

The distribution of soil anomalies in this area is shown on maps and profiles included in the 1968 report previously referred to. These are the contour maps, Figs. 4-7; but for silver results, reference should also be made to the profiles, Figs. 13A and 13B. Some very high values shown on the profiles were questioned and not entered on the contour plan. Subsequent checking, however, proved the high readings to be valid.

CONCLUSIONS

A magnetic survey in this area is not expected to give indications of the presence of sulphide mineralization, as the sulphides occurring here are of non-magnetic character, at least as far as is presently known. What a magnetic survey can accomplish, is to render assistance in determining the nature of bedrock formations and their structural relationship. This is an objective gradually being realized as the area magnetically surveyed continues to expand.

To date, a contrast is indicated between the western and eastern portions of the survey area, north of line 900 N. Bands of northerly trending, basic rocks, gently bent into open, sinuous folds, are presumably responsible for the zones of high magnetic relief west of the base line. At, and east of the base line, low magnetic relief predominates, and the bedrock is presumed to be flows of more acidic character, possibly with interbedded sediments. South of line 900 N, however, high magnetic relief characterizes the areas both east and west of the base line. A

fault contact is postulated, to explain this abrupt change in magnetic character, the fault possibly trending northeasterly through a narrow corridor of low magnetic relief. This corridor angles across the south end of the base line, between the two areas of high magnetic relief.

The soil anomalies in copper, silver, zinc and lead, show no preferred association with either magnetic highs or lows. In fact, they generally tend to occur on the flanks of magnetic peaks or valleys. They also are found abundantly in the area of formless, low magnetic relief. The trends and alignments of the soil anomalies do tend to parallel the trends of the bands of high magnetic relief, pointing to a formational, or bedding control of mineral deposition.

As the coverage by magnetic observations continues to expand, more evidence will become available on the role of magnetically indicated formations and structures, in the control of mineral emplacement.

Respectfully submitted,

Sherwin F. Kelly, P. Eng.,
Geologist and Geophysicist

Box 277
Merritt, B. C.
December 4, 1970

DECLARATION OF EXPENDITURES

I hereby declare that the following expenditures were properly incurred, for the work claimed in satisfaction of assessment requirements on Makelstin Mineral Claims #1 and #2. The amount of $400 was claimed for 2 years' work to be applied to each of those two mineral claims, in the Affidavit, Form B, dated November 5, 1970 and submitted by me on that date, in the office of the Mining Recorder for the Nicola Mining Division, in Merritt, B. C.

The claims on which the work was performed, and the claims to which it is to be applied, are all in the Group Aca #1.

Four miles of magnetometer readings at 100 foot intervals, conducted on Makelstin Mineral Claims nos. 21A, 22A, 3 and 50. A fee of $50 per mile was paid to W. A. McClelland, contractor, whose crew conducted the work on October 30 and November 1, 1970. Four miles @ $50/mile.....	$ 200.00
Rental of magnetometer, two days @ $10/day (omitted in affidavit).....	$ 20.00
Professional fee to Sherwin F. Kelly, P. Eng., for compiling and drafting and interpreting the results, and preparing this report.....	$ 200.00
	$ 420.00

Sherwin F. Kelly

Sherwin F. Kelly, P. Eng.,
Geophysicist and Geologist

CERTIFICATE OF QUALIFICATIONS

I, Sherwin F. Kelly, P. Eng., residing at the Adelphi Hotel in Merritt, B. C., certify that:-

(1) I am a registered Professional Engineer in the Province of British Columbia.

(2) I received the degree of B. Sc. in Mining Engineering from the University of Kansas in 1917.

(3) I pursued graduate work in geology and mineralogy at the Sorbonne, Ecole des Mines and Museum d'Histoire Naturelle in Paris and at the University of Kansas and the University of Toronto. I also taught those two subjects at the two latter universities. I received my training in geophysics from Prof. Conrad Schlumberger of the Ecole des Mines, in Paris.

(4) I have practised as a geologist and geophysicist in Europe, North Africa, United States, Canada, Mexico, Central America, South America and the Caribbean, since 1920. Since 1936, my work has been principally as a consultant.

(5) This report of a geophysical survey conducted on a portion of the Makelstin group of mineral claims, held by Acaplomo Mining & Development Co. Ltd. (N.P.L.), is based on field work carried out under my direction.

Respectfully submitted,

Sherwin F. Kelly, P. Eng.,
Geophysicist and Geologist

Adelphi Hotel
Merritt, B. C.
December 4, 1970

Trim lines

Trim lines

Base Line

Line 3000 N

Line 2700 N

Line 2400 N

Line 2100 N

Line 1800 N

Base Line

3000 W 2800 W 2600 W 2400 W 2200 W 2000 W 1800 W 1600 W 1400 W 1200 W 1000 W 800 W 600 W 400 W 200 W 0 200 E 400 E 600 E 800 E 1000 E 1200 E 1400 E 1600 E 1800 E 2000 E 2200 E 2400 E 2600 E 2800 E 3000 E

Vertical component measured with a Scintrex MF1 Flux-gate Magnetometer.

Acaplomo M. & D. Co. Ltd.
Makelstin Claim Group
Merritt, B.C.

Fig. 3
Magnetic Profiles

Grid lines numbered in feet
N of Line 0
Stations numbered in feet
E and W of Base Line

2757

Scale
1 in. = 200 ft.
0 100 200 ft.

1 in. = 200 gammas (γ)

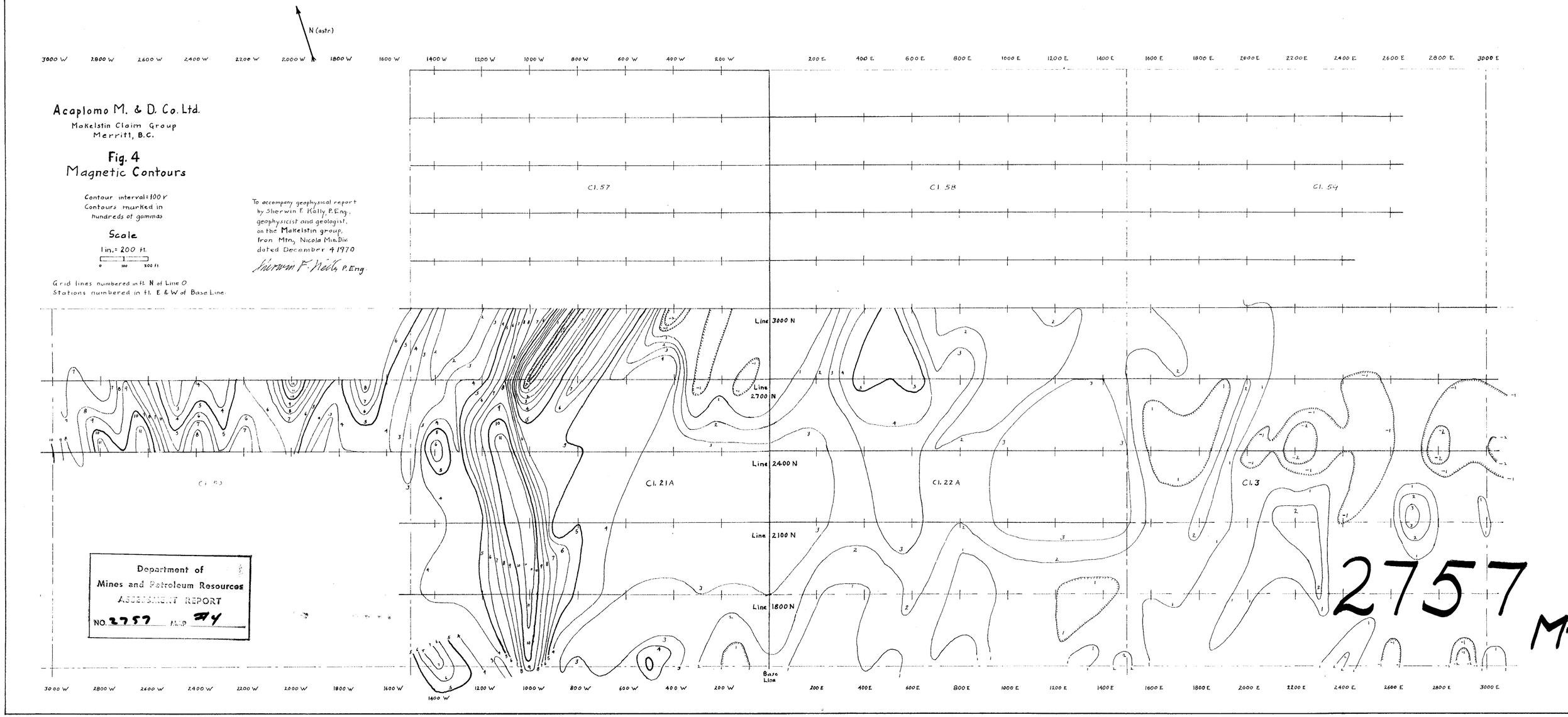
To accompany geophysical report by Sherwin F. Kelly, P.Eng., geophysicist and geologist, on the Makelstin group, Iron Mtn., Nicola Mining Div., dated December 4, 1970

Sherwin F. Kelly, P.Eng.

M-3

Trim lines

Trim lines


N (astr)
3000 W
2800 W
2600 W
2400 W
2200 W
2000 W
1800 W
1600 W
1400 W
1200 W
1000 W
800 W
600 W
400 W
200 W
200 E.
400 E.
600 E.
800 E.
1000 E.
1200 E.
1400 E.
1600 E.
1800 E.
2000 E.
2200 E.
2400 E.
2600 E.
2800 E.
3000 E
Acaplomo M. & D. Co. Ltd.
Makelstin Claim Group
Merritt, B.C.
Fig. 4
Magnetic Contours
Contour interval: 100 γ
Contours marked in hundreds of gammas
Scale
1 in. = 200 ft.
0
100
200 ft.
Grid lines numbered in ft. N of Line O
Stations numbered in ft. E & W of Base Line
To accompany geophysical report by Sherwin F. Kelly, P.Eng., geophysicist and geologist, on the Makelstin group, Iron Mtn., Nicola Min. Div. dated December 4 1970
Sherwin F. Kelly, P.Eng
Cl. 57
Cl. 58
Cl. 54
Cl. 53
Cl. 21A
Cl. 22 A
Cl. 3
Line 3000 N
Line 2700 N
Line 2400 N
Line 2100 N
Line 1800 N
Base Line
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2757 MAP #4
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M.4