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REPORT TO

ACAPLOMO MINING & DEVELOPMENT CO. LTD. (N.P.L.)

ON

GEOPHYSICAL & GEOCHEMICAL SURVEYS

ON THE

MAKELSTIN CLAIM GROUP

MERRITT, B. C.

BY

SHERWIN F. KELLY

GEOPHYSICIST & GEOLOGIST

MERRITT, B. C.

DECEMBER 28, 1968.

REPORT ON MAKELSTIN CLAIMS

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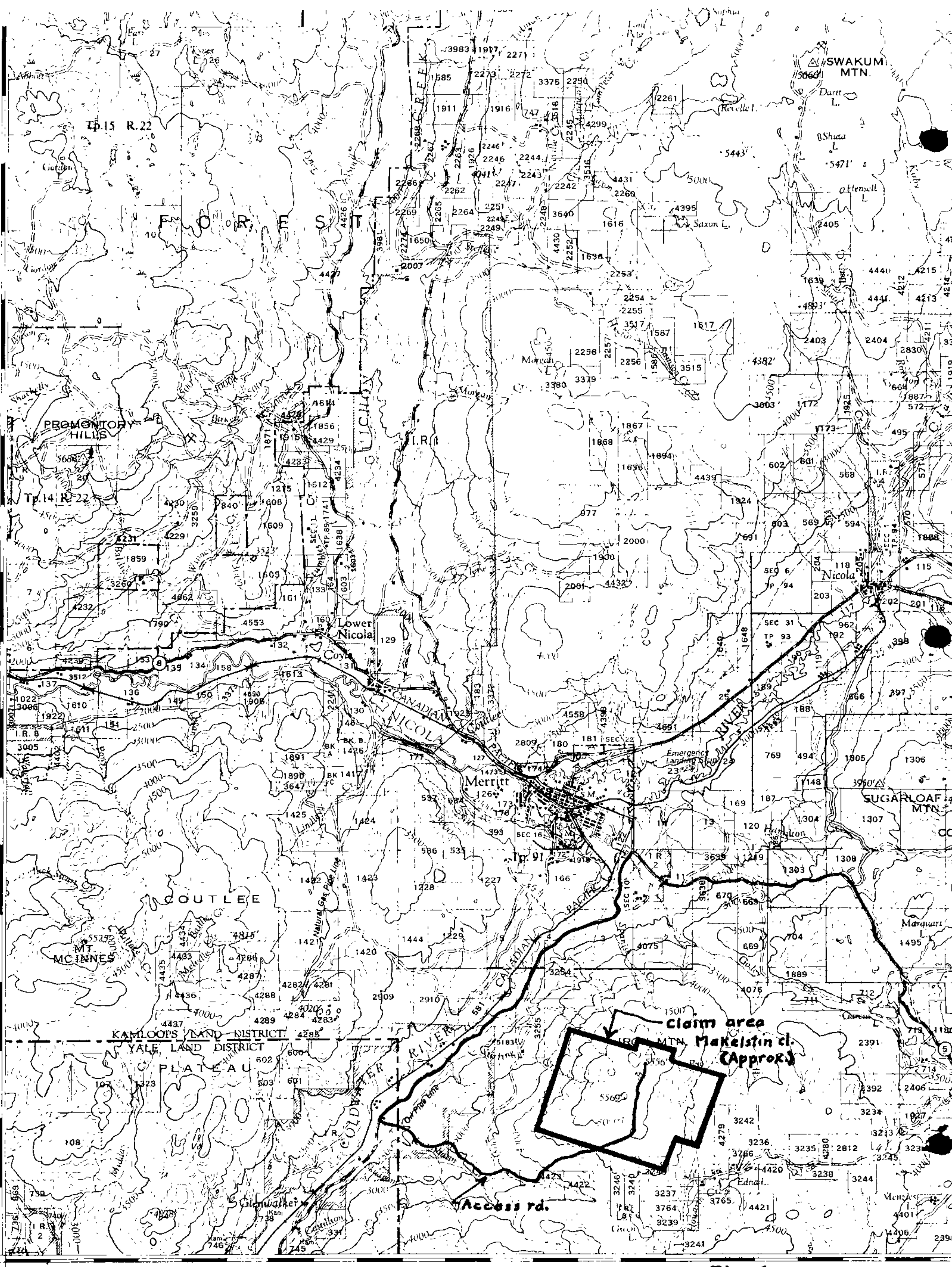

Merritt, B.C. Sheet 92 I/SE. Scale, 1 inch = 2 miles. **Fig. 1**

REPORT ON RESULTS OF

GEOPHYSICAL AND GEOCHEMICAL

SURVEYS ON THE MAKELSTIN

GROUP OF CLAIMS, NEAR MERRITT, B. C.

by

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INTRODUCTION

The geochemical and geophysical surveys described in this report, were carried out on claims located on the top of Iron Mountain, (elevation 5569 ft.) 5 miles southeast of Merritt. The property lies in the Nicola Mining Division of the southern interior of British Columbia, in the 1° quadrilateral whose southeast corner is at latitude 50° N. and longitude 120° W.; see Fig. 1.

The group, known as the Makelstin claims, is owned by Acaplomo Mining and Development Company Limited, whose Executive Office is in Merritt, British Columbia. A portion of this 60 claims group was explored by geophysical and geochemical methods at irregular intervals between November 4, 1967 and June 24, 1968.

The claim area is readily accessible by car, over good gravel roads, by a 15 mile drive out of Merritt to the top of Iron Mountain. An old ore bin and shaft are located only 300 ft. west of the gravel access road, at the summit of the mountain.

The ore bin, built of logs in 1927, is still in sound condition and contains several tons of the high grade ore mined from the shaft. The lead deposit, upon which the shaft was sunk, was discovered by "Lucky" Todd in 1927, who was murdered shortly after the discovery. The property bore his name and was operated by his associates for several years. They sank an inclined shaft to a depth of 100 ft. and mined high grade ore from that shaft and short workings to the north and south. The vein of galena and barite was pinched off by the convergence of two faults at a depth of about 100 ft. Work ceased in the early 1930's and exploration below the fault intersection was never carried out. Official records are not available concerning the ore shipments, but the material remaining in the bin has been estimated to carry about 17% lead.

Leasers operated the property briefly in 1947 and shipped 36 tons of ore to the smelter at Trail. This shipment contained 16% lead, 0.6% zinc and approximately 2 ozs. per ton in silver. A few years later, in 1951, the shaft was dewatered by the Granby Consolidated Mining, Smelting and Power Company Limited. The workings were sampled but no further work was done. Since then, the shaft has remained under water.

In the years since it was discovered, the property has been variously known as the Leadville, the Comstock of British Columbia and the Lucky Todd. Accounts of the activities on this property are found in the reports of the B.C. Minister of Mines for 1927, 1928, 1929, 1930, 1947 and 1951.

SUMMARY

Grid lines for geochemical and geophysical surveys were cut and staked to cover claims Makelstin No. 1 to No. 8, No. 11 Fraction, No. 21A, No. 22A, and No. 30. These claims, readily accessible by car, are located on the top of Iron Mountain, five miles southeast of Merritt in the Nicola Mining Division. They belong to Acaplomo Mining and Development Co. Ltd. The grid lines were run at right angles to the Base Line, which was oriented N. 17° E. and passed close to the old inclined shaft, sunk in 1927. The grid lines were spaced at 300 ft. intervals and were staked and numbered at 100 ft. intervals, east and west of the Base Line.

Soil samples were taken at 100 ft. intervals over the entire grid, except for a couple of short lines in the southeast corner. The samples were tested for copper, lead, zinc and silver.

Magnetic and electromagnetic observations were made over a portion of the grid, covering claims Makelstin No. 1, No. 2, No. 6, No. 8, No. 11 Fraction and No. 30.

The profiles of magnetic readings showed pronounced peaks and troughs whose alignments indicate a generally northeasterly strike, interrupted by mild curvatures, presumably corresponding to slight warpings of the subjacent beds of volcanics. No direct correlation was observable between the geochemical anomalies and either the magnetic highs or lows. The copper anomalies, the most numerous, nevertheless showed a distinct correspondence in their orientation and curvatures with the trends of the magnetic highs and lows.

The soil anomalies vary in size, the copper ones being the largest. Copper reactions range from 300 ft. to 2000 ft. in length, and 100 ft. to 500 ft. in width. Zinc reaction areas are smaller, usually 800 ft. to 300 ft. by 100 ft. to 500 ft., and the lead ones are about the same. Silver reactions run from 300 ft. to 1000 ft. in length and 100 ft. to 500 ft. in width.

The numerous geochemical copper anomalies occur in bands pretty well covering the area sampled. These bands are particularly prominent in the vicinity of Base Line 1, which passes close to the shaft, and at the eastern extremity of the grid lines, in the general area of 3600 E. to the ends of the lines at 4700 E. The trends of these copper anomalies, which so closely follow those of the magnetic highs and lows, imply a bedding control of the mineral deposition, especially of the copper minerals.

The zinc anomalies are second in abundance to those of copper, and generally show the same distribution and trends. In general, zinc anomalies correspond with copper indications, although there are a few which are not associated with copper reactions. There are many copper anomalies, however, without associated ones of zinc.

Lead anomalies are not as abundant as those of zinc. The most prominent ones are also, like those of zinc, in the vicinity of Base Line 1. Nearly all of the lead anomalies correspond closely with copper indications. Since they are not as numerous as those of copper, it is evident that many copper anomalies have no associated lead reactions. The general trend of the lead anomalies is the same as outlined for copper and zinc, but is less clearly marked because there are not as many anomalies of this metal.

The least numerous anomalies are those of silver, most of which are also weak. They show a striking correspondence with some of the copper reactions, usually but not always, where those reactions are also associated with lead and zinc anomalies. The evidence, therefore, points to the probability that the silver is carried with copper in some of the deposits, especially in the area of Base Line 1, and at the eastern extremity of the survey area.

In view of the fact that the lead and silver ions are considerably less mobile than those of copper and zinc, the relative abundance of the lead and silver soil anomalies does not necessarily reflect the relative abundance and distribution of the parent, bedrock mineralization. Nevertheless, it seems reasonable to conclude that the copper deposits are more numerous and more wide spread than those of the other three metals. There seems to be only a little diminution in the abundance or strength of the copper anomalies distant from Base Line 1. The stronger lead and silver reactions, on the other hand, are found mostly in the area of Base Line 1, in the general vicinity of the shaft. The zinc reactions fall in an intermediate category between these two extremes.

From evidence available, it is clear that the lead vein on which the shaft was sunk is controlled by a fracture zone closely approximating the strike of the volcanic beds. The lead anomalies are not sufficiently numerous, however, to clarify the extent of this formation or its contrast with the apparent bedding control of the copper anomalies.

Electromagnetic observations utilizing VLF equipment, indicated a number of conductors corresponding to soil anomalies. These provide good confirmation for the validity of those soil anomalies and for their probable correspondence with underlying sulphide minerals.

The area thus far investigated by these geophysical and geochemical techniques is evidently a well-mineralized one and abundant targets have been provided for further investigation. All the geophysical and geochemical indications point to the probable continuance of this mineralization beyond the boundaries of the survey area, on all four sides.

CLAIMS

The claim group held by Acaplomo Mining and Development Co. Ltd. consists of mineral claims Makelstin No. 1 to No. 60, arranged in a roughly rectangular block measuring 10 claims east and west and 4 to 7 claims north and south. The shaft is in the northern portion of the block, about mid-way between the east and west borders, on claim Makelstin No. 1; see Fig. 2. The claim group covers the top of Iron Mountain, with its north border close to the microwave tower. From that point, the claims extend southward along the peak and down the south slope of Iron Mountain for a distance of about 2 miles. To the east and west, they extend down the slopes of the mountain for a distance of a mile and a half in each direction. The group was acquired by Acaplomo partly by purchase and partly by staking on behalf of the company.

LOCATION AND ACCESS - See Fig. 1.

The Makelstin group of mineral claims on top of Iron Mountain, 5 miles southeast of Merritt, is in the Nicola Mining Division of the southern interior of British Columbia. It is located in the southwest quadrant of the 1° quadrilateral whose southeast corner is at latitude 50° N. and longitude 120° W. The claims are only 3 miles north of the south boundary of the quadrant, at longitude 120° 45' W.

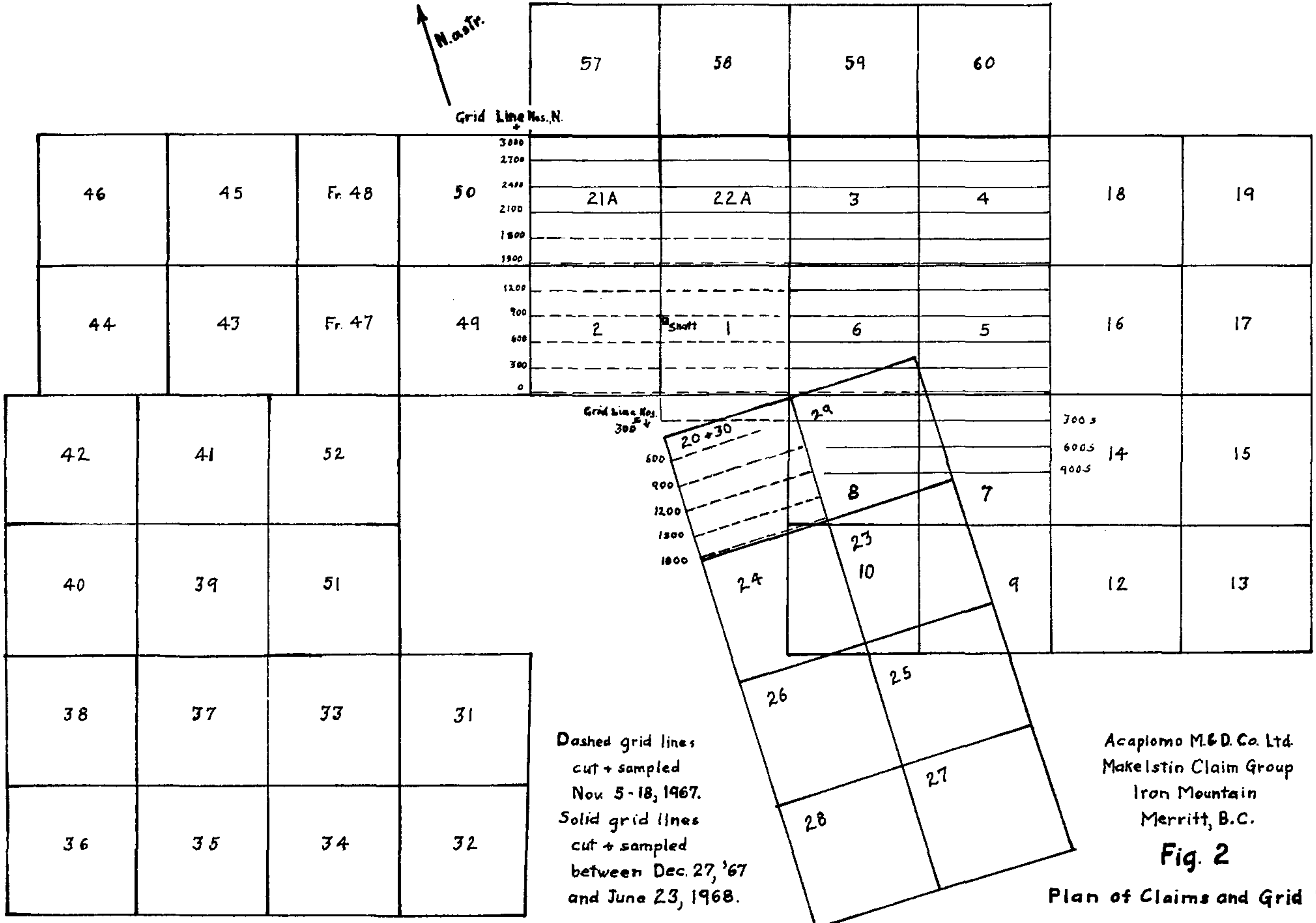
Access to the claim group is via the Coldwater Road, a gravel highway which runs south from the easterly outskirts of Merritt. This road follows the Coldwater River Valley to Brookmere. About 8 miles from Merritt, a gravel bush road turns off to the east, leading to the microwave tower and other antenna installations on the top of Iron Mountain. It is a graded road, maintained by the Department of Highways and is suitable for passenger car transit. The shaft on the Makelstin property is reached by a 6½ mile drive up this road from the turn-off on the Coldwater Road.

GEOLOGY

Iron Mountain is underlain by rocks of the Nicola formation of Triassic age. This formation consists largely of volcanic flows, agglomerates, tuffs and occasionally bedded sedimentaries, such as conglomerates, argillites and limestone. The volcanic flows are largely andesites and basalts and the tuffs are usually andesitic. These formations carry copper minerals in many places over their long exposures stretching from the United States border north to Kamloops. Such deposits, from the evidence now available, are associated particularly with the tuffs, andesites and basalts. A geological study has not yet been made of the Acaplomo holdings, but thus far tuffs, andesites and rhyolites have been identified at places on these claims.

In his report "Geology and Mineral Deposits of Nicola Map Area, British Columbia" (Memoir 249 of the Geological Survey of Canada, Ottawa, 1948) W. E. Cockfield comments that only minor amounts of sedimentary rocks are found in the Nicola formations within the map area of that report. Argillites are rare, he states, but limestones are prominent in the hills south of Iron Mountain. Considerable portions of the Nicola group are massive volcanics in which individual flows are difficult to distinguish. This inhibits the gaining of much structural information.

The stringer of high grade galena at the top of Iron Mountain, which was mined by Lucky Todd's associates, occurs in a strong, shear zone striking about north 25° east and dipping about 80° to the west. This shear zone, up to ten feet or more in width, is marked by strong bleaching and limonite staining. The fault breccia has been recemented with silica, calcite and barite. In places, the silica carries pyrite. The lens of galena is characterized by barite gangue and the combination of galena and barite makes the ore unusually heavy. Some calcite is associated with the galena and barite, but barite remains the principal gangue. No visible sphalerite has been spotted on samples from the ore



Dashed grid lines cut + sampled Nov. 5 - 18, 1967.
Solid grid lines cut + sampled between Dec. 27, '67 and June 23, 1968.

Acaplomo 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, Dec. 28, 1968

remaining in the bin, nor have any identifiable copper minerals been observed. The zinc content of the ore shipped in 1947, it should be noted, was only 0.6%, and no assays were made for copper.

There are other, old workings at several locations around the top of the mountain, revealing copper mineralization, usually chalcopyrite and pyrite with specular hematite and some malachite, azurite and chrysocolla. The tenor was far too low to be of interest to miners at that time, who had to rely on direct shipping ore. Some of those exposures may be more interesting to-day.

Detailed geological studies have not been made, so data are not available on strikes and dips of the formations. The aerial photographs, however, show a distinct "grain" indicative of a strike somewhat east of north. Where visible on the north slope of Iron Mountain, this "grain" swings easterly. If these indications have been truly influenced by the bedding in the volcanic flows and tuffs, the implication is that the formations dip to the east. In the vicinity of the shaft there are indications of some gentle flexures in the "grain", implying slight warpings of the volcanic beds in that area.

GRID LAY-OUT - (see Fig. 2)

A Base Line was run N. 17° E. close to the shaft and extending 1200 ft. south of it and 2100 ft. to the north. Grid lines were turned off at right angles to the B.L., extending 1500 ft. west of it and 4700 ft. to the east. These lines were at 300 ft. intervals, and numbered from south to north, from 0 to 3000 N. The shaft is at line 900 N.

This Base Line #1 extends 300 ft. south of Line 0, and Line 300 S. was run east (but not west) from that end of the B.L. The Base Line then is displaced 200 ft. to the east along Line 300 S. At that point it extends 100 ft. S. 17° W., from where it continues due south for 1400 ft. Lines were turned off to the east at 300 ft. intervals, to include Lines 600 S. to 1800 S. They are all 1500 ft. long except line 600 S., which is only 700 ft. in length, to avoid crossing Line 300 S. This southern segment of the Base Line, which is oriented due south, follows the west boundary of claim Makelstin No. 30. The grid lines were cut to cover that claim. An auxiliary Base Line, No. 3, parallel to the first, was cut to connect the east ends of the long grid lines, at 4700 E.

Two short grid lines were run immediately south of the east central portion of the grid, just east of claim Makelstin No. 30. They are 600 S. and 900 S. and extend from 1900 E. to 3000 E.

Grid lines were staked at 100 ft. intervals, and numbered in hundreds of feet east and west from B.L. #1. The two lines, 600 S. and 900 S. run from 1900 E. to 3000 E., were numbered to correspond with the parallel lines to the north, numbered easterly from B.L. #1. The lines which were run easterly from the southerly extension of B.L. #1, were numbered east from that extension.

The lines laid out, staked and numbered as described above, covered claims Makelstin No. 1, No. 2, No. 21A, No. 22A, No. 3, No. 4, No. 5, No. 6, No. 7, No. 8, No. 30 and Makelstin No. 11 Fraction; see Fig. 14. Geochemical soil samples were taken over the entire grid, except for the lines 600 S. and 900 S., from 1900 E. to 3000 E. Magnetic and electromagnetic observations were conducted along grid lines covering claims Makelstin No. 1, No. 2, No. 6, No. 8, No. 11 Fraction and No. 30.

INSTRUMENTS AND PROCEDURES

SOIL SAMPLING

Soil samples and readings by both magnetic and electromagnetic techniques were taken at 100 ft. stations along grid lines and along Base Lines 1 and 3. The coverage by soil sampling was more extensive than by the two geophysical techniques.

Soil sampling was conducted over the entire lengths of Lines 0 to 3000 N., 300 S., and those Lines run due east from the southern segment of Base Line 3, on claim Makelstin No. 30. These were Lines 600 S. to 1800 S. Sampling was at 100 ft. intervals along the lines. The samples were taken by digging through the layer of humus until brown dirt was encountered, i.e. the B layer. This usually required digging to a depth of 12 inches or 18 inches. On rocky outcroppings, available dirt was taken. In swampy areas where it was not practicable to dig through to the underlying dirt, the material available at about a depth of 1 ft. was utilized.

The samples were packaged in kraft envelopes provided by the analytical firm, Bondar Clegg and Co. Ltd. of North Vancouver, B. C. The samples were sent to that firm to be analysed for copper, lead, zinc and silver. The hot acid method of extraction was used and the analyses were performed by the atomic absorption method. Drying and sieving were carried out at the Bondar Clegg laboratory.

The results of the analyses were reported in parts per million (ppm), on tabulations furnished to Acaplomo Mining and Development Co. Ltd. These results have been entered on the appropriate maps, two for each metal. The values reported by Bondar Clegg for each metal, are entered along the appropriate grid lines and joined, to provide profiles of the readings along each line. See Figs. 10A and 10B to 13A and 13B.

MAGNETIC OBSERVATIONS

Magnetic observations were conducted on grid lines 0 to 1800 N., extending from 1500 W. to 3100 E.; on Line 2100 N. they extended from 1600 E. to 3100 E.; on Line 300 S. they extended from 0 to 3100 E. On Line 600 S. claim No. 30, the readings extended from 0 to 700 E. For the remaining lines on claim No. 30, Lines 900 S. to 1800 S., observations were taken from 0 to 1500 E. For the short segments of Lines 600 S. and 900 S. to the east, which are parallel to the main body of grid lines, the readings extended from 1900 E. to 3000 E.

The instrument used for these magnetic observations was a fluxgate vertical component magnetometer, manufactured by Sharpe Instruments of Canada Ltd., of Downsview, Ontario. It was a model MF-1, Serial No. 705286. This instrument has a maximum sensitivity of 20 gammas per scale division, with a readability of 5 gammas.

A convenient station was arbitrarily chosen for a Base, on the access road at 300 E. on Line 300 N. The instrument was set to 0 on this arbitrarily chosen location, and periodic checks were made for the purpose of measuring diurnal variation and instrument drift. The diurnal variation was minor. The results were then plotted and a mapping 0 was picked, by inspection of the profiles, in a range which showed segments with minimum variations at about the same magnetic level, and also which would minimize the negative readings.

The readings recorded and thus adjusted are shown on Fig. 9. The values are entered along the appropriate grid lines and are connected by lines to provide profiles of the readings.

ELECTROMAGNETIC OBSERVATIONS

Electromagnetic observations were made by the relatively new technique known variously as VLF or Radem. Readings were taken over the same grid as was utilized for the magnetic work. That is, observations were conducted on Lines 0 to 1800 N., from 1500 W. to 3100 E.; on Line 2100 N. they extended from 1600 E. to 3100 E.; on Line 300 S. they were taken from 0 to 3100 E. On Line 600 S., claim No. 30, readings extended from 0 to 700 E. For the remaining lines on Claim No. 30, 900 S. to 1800 S. observations were taken from 0 to 1500 E. For the short segments of Lines 600 S. to 900 S. to the east, which are parallel to the main body of grid lines, the reading extended from 1900 E. to 3000 E.

The instrument used for this work was model EM 16, Serial No. 62, manufactured by Geonics Limited, of Toronto.

These instruments utilize the relatively low radio frequencies emitted by stations recently established to communicate with ships, especially submarines. For the work on the Makelstin claims, the instrument was tuned to station NPG, Seattle, Washington, with a frequency of 18.6 kHz.

These VLF transmitting stations utilize vertical antennae which induce concentric horizontal magnetic fields. When such magnetic fields encounter conductive bodies in the ground, secondary fields are set up which radiate from such conductors. This equipment measures the vertical components of the secondary fields, both in-phase and quadrature. The instrument is simply a sensitive receiver which covers a frequency band of the selected station.

For work on Iron Mountain, the Seattle station is ideally located, as the direction to it (west of south) is roughly parallel to the strike of the vein-bearing formations of the Makelstin group. For effective work with the VLF method, it is advisable to choose an emitting station which lies roughly on the prolongation of the strike of the conductive veins. The instrument is oriented in the direction of the station and then tilted to produce a minimum dial signal, or minimum sound in the receivers. The tilt angle of the instrument is recorded, either in degrees or in percentage slope. Both the inphase and the quadrature components are recorded. When passing over a conductive body there is a sharp decrease and then increase in the recorded tilt angle, or even a reversal of tilt.

The recorded tilt angles are plotted for both components along the appropriate grid lines. The plotted points are joined by lines to form profiles of the readings. It is from these profiles that the interpretations are drawn. See Fig. 8.

DISCUSSION OF RESULTS

MAGNETIC

The map of the magnetic readings, shown on Fig. 3, is characterized by narrow, elongated contours with sharp variations from high to low values. In general, the peak contours are in the range of 500 to 1000 gammas. There are a few, but not many, locations at which the gamma values fall below the selected 0, by as much as several hundred gammas.

There is no evident correlation between the soil sampling anomalies and either high or low magnetic values. 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. This is to be expected, as the sulphides which are of interest here, are non-magnetic. The usefulness of a magnetic survey, under these circumstances, is as an aid to deciphering the bedrock structure.

The most distinctive feature of the magnetic contours is their trend. Towards the southern part of the map area the trend is northeasterly with a tendency to swing more northerly on the grid lines north of the shaft. Towards the southeast corner of the survey area, there is a marked low with an almost easterly trend. On its southeast side the contours of the magnetic peaks swing sharply northeast. This could be due to a fault with a northeast strike passing through that area and having effected a bending and dislocation in the bedrock formations. This cannot be considered a firm conclusion, because further work in the area, especially to the east, will be needed to gather additional data.

The strong magnetic reactions and the elongated contours are typical of those found in areas of upended volcanic rocks. This is particularly true in the case of flows in which magnetite is an important constituent. Consequently the trend of the magnetic contours will outline the trend of the bedrock formations. The shape of the contours therefore suggests that the underlying volcanic flows, presumably dipping fairly steeply, have undergone gentle warping which interrupts their predominantly northeasterly strike. Additional magnetic work would be advisable, expanding materially the area covered, in order to obtain a clearer picture of the overall trends of the beds and their minor changes in strike direction. The tendency of the soil anomaly contours to follow the same trends as the magnetic ones, implies that the mineral deposition has been largely controlled by the bedding of the underlying rocks. Hence, structural data which can be obtained from an expanded magnetic survey will assist in the interpretation of the soil anomaly results.

COPPER ANOMALIES (see Fig. 4)

The copper anomalies developed by the programme of geochemical soil analysis, are the most impressive of the four metals tested, copper, zinc, lead and silver. The copper reactions are the strongest, the largest and most numerous. There are over 50 such anomalies in the present survey area, which covers roughly 11 claims. They vary in strength from 30 ppm to 2760 ppm (i.e., double the background to over 180 times background) and in size from small contours maybe 100 ft. in diameter to elongated ones measuring as much as 2000 ft. in length and up to 500 ft. wide.

The background for copper in this area is 15 ppm. On the contour map, Fig. 4, the first contour is double background, or 30 ppm. Subsequent contours are at intervals of 10 ppm. On the profile maps, however, Fig. 10A and 10B, the numbered lines indicating values, are in multiples of the background, i.e., at intervals of 15 ppm.

The most striking contours lie within 1500 ft. each side of the Base Line No. 1. There are others, almost as impressive, however, towards the eastern edge of the map area. The anomalies generally show peak values in the range of 50 ppm to 100 ppm, i.e., three to seven times background, and lengths of 500 to 1000 ft.

An anomaly 2000 ft. long, extends from Line 0 at 400 W., through the shaft area to 300 E. on Line 1800 N. High values (circa 100 ppm) close to the shaft doubtless are influenced by the material in the shaft dump, which adjoins the shaft on the east. Contaminated drainage from the dump, which flows north, could account for peak values nearby on Line 1200 N. But north of that line, the slope is towards the south with consequent drainage towards the shaft. Therefore, anomalous readings from Line 1200 N. to Line 1800 N. are not due to contamination from the dump. That portion of this anomaly on Lines 0, 300 N. and 600 N., west of the Base Line, is probably not due to contamination, either, since drainage is not in that direction. The contours in this whole zone, actually extending to the north limit of the map, imply a mineral-bearing structure, stretching from 400 W. on Line 0 to 200 E. on Line 3000 N. and open at both ends. It is essentially a copper anomaly, but in places (at the shaft and further south) it shows lead reactions, and in the north it is accompanied by silver indications.

The implicatior of the above phenomena is that the structure (fault zone) carrying the lens of lead mined from the shaft, may include important deposits of copper and silver at other locations along its strike. It is also possible that there are two different metal-bearing formations, close together or in contact, with somewhat different mineral content. The lead vein is known to be in a shear zone, whereas the evidence from the copper anomalies points to bedding control of copper mineralization, as follows.

The shaft anomaly, under discussion, starts with a northeasterly strike at the south map boundary. In the vicinity of Line 1200 N. its direction swings more northerly, converging slightly towards the Base Line. These orientations are repeated, more or less clearly, in nearly all the alignments of most of the other copper anomalies. These same trends are clearly evident in the magnetic contours, especially west of Base Line 1, previously discussed and shown on Fig. 3. The magnetic survey, however, does not yet cover a sufficiently large area to permit firm correlations. Nevertheless, the magnetic lows and highs may be expected to correspond to distinctive beds in the underlying rocks whose trends will be reflected in the magnetic contours. The copper anomalies, following these same trends, are then to be ascribed to bedrock mineralization whose emplacement has been largely controlled by the bedding of the host strata, either volcanic or sedimentary.

Many, but by no means all of the copper anomalies, have corresponding ones of zinc, lead or silver and sometimes of all three. There are very few of the reactions of these last three metals that do not coincide with those of copper. These phenomena will be further detailed in the following discussions of the zinc, lead and silver anomalies.

ZINC ANOMALIES (see Fig. 5)

The more striking zinc anomalies occur in a band about 1500 ft. wide, extending northeasterly from the west side of the Base Line in the area of Line 600 N. to the east side of the B.L. in the vicinity of Line 2700 N.

The background value for zinc in this area, is 50 ppm. Most of the stronger anomalies have peak values of 700 to 1000 ppm., i.e. 14 to 20 times background. One peak, on Line 2700 N., goes to 1380 ppm. Moderate anomalies are those with their highest value contours in the range of 300 to 400 ppm., or 6 to 8 times background. Weak anomalies are outlined by 100 and 200 ppm. contours, 2 to 4 times the background value.

Most, but not all of the strong zinc anomalies are associated with strong to moderate copper values. Notable examples are the zinc anomalies at 1100 W. on Line 900 N., (where there are also strong lead and weak silver anomalies); at 1600 E. on Line 1300 N. and again at 700 E. on Line 2700 N., where strong lead and silver anomalies are also found. These zinc reactions are in the range of 400 ft. to 500 ft. long by 200 ft. to 300 ft. wide. Moderate to weak zinc reactions are associated with strong to moderate copper ones as follows:- at 900 W. on Line 2400 N., (800 ft. by 200 ft.) which is accompanied by strong silver and weak lead reactions; an anomaly 700 ft. by 200 ft. at 3700 E. on Line 600 N., which has a near-by strong and weak lead reaction and a weak silver one; and just south of Line 0 on, and near the Base Line where weak lead and silver reactions are also found. Notable examples of strong zinc reactions without accompanying copper ones, are found close to the Base Line at Line 300 N., which measures 800 ft. by 400 ft.; at 1200 E. on Line 2400 N., (700 ft. by 500 ft.) where a strong lead reaction and a weak silver one also occur; and at 500 W. on Line 1200 N. which measures 400 ft. by 100 ft. and where there is also a weak silver reaction.

What appears to be the edge of another reaction zone is found at the eastern extremities of Lines 1500 N. to 3000 N., where similar copper indications also are prominent.

There are moderate zinc reactions in the vicinity of the shaft, but they are not as strong as the copper, lead and silver reactions. The contours extending north from the shaft area immediately east of the B.L., probably outline a zone contaminated by the mine dump which extends eastwards from the shaft, as the drainage from the shaft is in a northerly direction. This could be true as far north as Line 1200 N., but from that point northerly for some distance, the drainage is southerly, towards the shaft. Anomalies north of Line 1200 N. are therefore not influenced by contaminated drainage from the dump.

The relatively weak zinc reaction on the dump, reflects the fact that zinc is not a major constituent of the high-grade lead ore which was mined there in earlier days.

The zinc anomalies, as outlined by the 200 ppm contours, are clear-cut and definite. They are contained, however, within somewhat meandering and diffuse, widely spread contours of 100 ppm. These diffuse halos around the anomaly cores, reflect the relatively great mobility of the zinc ions, in the acid conditions obtaining in the environment of oxidizing sulphides. Their mobility follows after that of copper.

Although there are numerous zinc reactions which correspond with copper anomalies, there are a few which occur independently of any copper indications. There are, furthermore, many copper anomalies with no accompanying zinc ones. The evidence points to widespread copper mineralization essentially free of zinc, and to a much lesser extent, some zinc mineralization generally free of copper. At most localities, however, the two do occur together, either because of joint precipitation in the same host formation, or because independent copper and zinc veins intersect, or closely approach each other.

LEAD ANOMALIES (see Fig. 6)

The lead anomalies are not as numerous as copper or zinc reactions. They are most prominent in a band about 1000 ft. wide, stretching northeast from the west side of the Base Line at Line 0, to the east side of it on Lines 2400 to 3000 N. The anomalies generally lie in the range of 300 ft. to 800 ft. long and 100 ft. to 400 ft. wide.

The background value for lead is 10 ppm in the area north of Line 300 S., but south of that line it is clearly 5 ppm. The reason for this variance is not yet apparent. It could indicate that the deposition of lead took place principally in structures, or formations lying north of Line 300 S. The higher background in that area might also indicate that lead minerals are weakly but more widely disseminated in those bedrocks. The low mobility of the lead ion re-inforces this tentative hypothesis, as widespread lead content in the soil is unlikely to have moved in from far away. More extensive testing, especially to the south is needed, however, to verify and outline the areas of differing backgrounds. Only then can explanations be formulated to account for the phenomenon, if it is found to be a valid one.

The strong lead anomalies show peak values of 100 ppm or more, equal to ten or more times the background value of 10 ppm. Those of moderate strength are outlined by contours of 50 ppm to 90 ppm, or 5 to 9 times background. Those outlined by contours of 40 ppm or less, are considered weak.

A particularly strong reaction of 750 ppm at 700 E. on Line 2700 N., measuring 700 ft. by 300 ft., coincides with equally impressive copper and zinc anomalies and a good silver indication. Good examples of correspondence between the indications of these three, copper, lead and zinc are found at 1100 W. on Line 900 N. and between 3600 E. and 4000 E. on Line 600 N.

Strong lead anomalies occur at 400 W. on Line 0 and at 1000 E. to 1400 E. on Line 2400 N. The former corresponds with a strong copper indication without zinc, and the latter to a strong zinc one without copper. In this last case, however, strong copper anomalies are close by, to the northeast, the southeast and the west and southwest, and so are weak to strong silver reactions.

At 900 W. on Line 2400 N., a weak lead anomaly corresponds with a weak one of zinc, but with strong copper and silver indications. A similar situation occurs in the area of the Base Line at 300 S. except that the silver anomaly is weak. At 200 E. to 400 E. on Line 2100 N., a weak lead showing corresponds to a strong copper one, without zinc or silver.

Particularly noticeable are the high values (up to 1638 ppm) in the anomaly surrounding the shaft at Line 900 N. and the Base Line. This is evidently due to mineralization in the dump, which extends about 200 ft. east from the shaft. Contamination from lead minerals in this dump could extend northwards, in the direction of the local drainage, as far as Line 1200 N. Beyond that line, the slope of the ground is southerly, towards the shaft, and therefore outside the zone influenceable by contamination from the dump.

Nearly all of the lead anomalies correspond closely with copper indications. They are not, however, nearly as numerous as those of copper, so there are many copper anomalies unaccompanied by any indications of lead. In the few cases where no copper is found with a lead indication, zinc does occur.

The lead anomalies are abrupt, not as large as those of copper and are more tightly outlined. While the principal ones occur in a northeasterly striking band, there are, in general, no diffusely outlined, anomalous areas connecting and enfolding the groups of anomalies. One exception is the weak anomaly zone connecting the shaft area anomaly to the reactive zone just west of the Base Line on Line 0.

The generally disconnected and tight appearance of the lead anomalies is a natural corollary of the fact that the lead ion is the least mobile of the three, copper, zinc and lead. It is probably less mobile than silver, except where the latter is trapped by chlorides or carbonates. Hence, lead in the soil is apt to be confined to the immediate vicinity of the parent mineralization in the bedrock.

<u>SILVER ANOMALIES</u> (see Fig. 7)

The silver anomalies in this area are not as numerous nor in general, as strong as the reactions of copper and zinc, but are more numerous than those of lead. This may reflect a low silver content accompanying the other metals, as in the case of the ore from the shaft, which runs about two ounces to the ton, with occasional higher values. Furthermore, in the presence of carbonates, the mobility of the silver ion is very low, and calcite occurs as a gangue mineral in the vein on which the shaft was sunk. The scarcity of silver anomalies could result, at least in part, from entrapment of silver ions by calcite vein material or limey tuffs and flows.

The background value for silver is 0.5 ppm. If a moderate reaction be considered one of four times background, there are only a few of that strength, mostly at the northern edge of the survey area. Otherwise, most of the silver anomalies must be considered weak, lying in the range of 1.0 to 1.5 ppm. They are generally about 300 ft. to 500 ft. in length, with an occasional one running to 1000 ft.; in width, they vary from 100 ft. to 500 ft.

A moderately strong anomaly, 2 ppm, occurs on the shaft dump, and is confined closely thereto. This indicates that the silver has been entrapped by the calcite of the gangue, and has not migrated far, except in the direct lines of contaminated drainage, extending north to Line 1200 N.

Almost all the major silver anomaly contours coincide with copper anomalies with or without lead and zinc. This is noticeably the case at the west end of Line 0; on Line 300 S. near the Base Line; from Line 0 nearly to Line 900 N. at 1200 E. to 1600 E.; on Line 900 N. at 1100 W.; on the Base Line between Lines 1200 N. and 1500 N.

On Line 0, just west of the Base Line, is one of the few silver contours which does not correspond to an anomaly of copper. The same thing occurs on the south extension of the Base Line, between 600 S. and 900 S., and on the northern end of the Base Line between Lines 1500 N. and 2100 N. These contours are, however, weak and scattered, so that it nevertheless seems a safe generalization to say that the silver tends to go with the copper, but that the copper does not always carry silver.

There are several lines at the north and east ends of the survey area on which the silver values seem discrepant with the figures recorded over the rest of the area. The suspect values lie generally in the range of 4 ppm to 13 ppm. Since these questionable figures generally fall along a considerable length of any one line, random contamination appears unlikely. The evidence points to errors either in the determinations, or in the recording of the results. The latter is the most likely hypothesis, as a shift of the decimal point one numeral to the left, brings the outsize values down to the range of either the background or the anomalies.

On the maps of recorded values, shown as profiles, (Figs. 13A and 13B) the out-of-line values have been entered as numerals, without drawing the profile lines, to save confusing overlaps. On the contour map, however, the contours have been drawn for those lines on the assumption that the decimal point should be moved, as noted above, to decrease the values to a tenth of those reported. This is done for those values of 3.0 ppm. or over, except at 900 W. on Line 2400 N., where the evidence from nearby figures indicates

3.9 ppm is more nearly in line than 0.39 would be, and at 200 E. on Line 2700 N., for the same reason. The readings over the rest of the survey area indicate that values as low as 0.2 ppm. or even 0.3 ppm. are very rarely, if ever recorded. Hence, readings less than 3.0 ppm. have been allowed to stand as reported. The contours drawn on the basis described above are shown in dotted lines.

Proceeding in the manner outlined, produced the most interesting silver anomalies so far recorded. There is admittedly some doubt as to the validity of the assumptions on which the delineating of these anomalies was based. On the other hand, the anomalies in question turn out to be coincident with strong copper reactions. The strong anomalies in the cluster measuring 600 ft. by 1000 ft. on Lines 2100 N. and 2400 N. between 800 W. and 1200 W., coincide with a strong copper reaction and moderate lead and zinc indications. An impressive silver anomaly at 700 E. on Line 2700 N., measuring 500 ft. by 150 ft. is coincident with very strong copper, zinc and lead anomalies.

Just west of this latter reaction, at 200 E. on Line 2700 N., is another strong silver anomaly, 600 ft. by 500 ft. which corresponds with a strong copper indication but none of lead or zinc. At 1400 E. on the same line, there is again an impressive silver anomaly, 1000 ft. by 300 ft., coinciding with a strong one of copper. There are, close by but not coincident, reaction areas of lead and zinc.

The small, moderate silver anomaly at 1600 E. on Line 1800 N., corresponds to strong copper and zinc reactions, but none of lead.

At the east end of the grid area, in the vicinity of Lines 1800 N. to 3000 N., there are weak indications of silver which are incomplete. They correspond roughly with some partially outlined copper and zinc anomalies.

The anomalies described above imply a strengthening mineralization in copper, zinc and silver towards the northern limits of the survey area. They also indicate a tendency for the zinc and silver anomalies to correspond with copper reactions, leading to the hypothesis that the parent, bedrock mineralization is, in part, typical of the copper-zinc-silver sequence.

ELECTROMAGNETIC

The VLF equipment is a comparatively recent innovation and so there is still a good deal to be learned about its operation and especially concerning the interpretation. Its simplicity is a strong recommendation for a thoroughgoing investigation of its applicability in a given area. The results on Iron Mountain, in the small areas surveyed, still leave a good many questions to be answered but nevertheless convey some indications of interesting targets.

The VLF readings exhibit generally gently rolling profiles, a characteristic typical of readings in mountainous terrain. This statement refers to the inphase components; the quadrature is generally flat, varying from slightly positive to slightly negative. Where negative values obtain, they may be due to conductive overburden. The phenomenon indicative of conductive material in the ground is known as "cross-over". This is where the inphase component changes from positive to negative tilt and back again. The VLF instrument employed in this survey has a handle projecting downward from the body of the instrument, which carries a reference coil. The instrument is constructed so that the handle points towards the conductor, and a positive tilt angle is recorded when approaching a conductive body. The tilt angle becomes negative when passing to the other side of the conductor.

There are a number of geochemical anomalies which are not accompanied by any cross-overs of the type described. Conversely, there are a few cross-overs not associated with anomalies. Making due allowance for the current limited knowledge on which to base an interpretation, tentative explanations can be offered for these situations. Cross-overs can be caused by a conductive shear zone, which may be conductive due to contained water and without the presence of sulphides. Pyrite veins and pyritic formations may constitute bodies which are quite conductive by reason of the contained pyrite. Such formations would give cross-overs but no geochemical anomalies. On the other hand, it is always possible that some of the soil anomalies might be due to mineralized boulders in the overburden. Such a situation would not yield a cross-over with the VLF equipment. There is also a possibility that sulphides might be so thinly disseminated in a vein or host rock as not to affect its conductivity very strongly. Such a formation lying between wall rocks which are relatively good conductors (not due to the presence of any sulphides) would thus present little conductivity contrast and might not induce a cross-over reading. Conductive overburden also tends to blank out the reactions of underlying conductors.

There are some cross-overs, however, that look interesting because of their close association with geochemical anomalies. Prominent ones occur on Lines 2100 N. and 1800 N., at 2500 E. and 2600 E. They are coincident with a strong and a weak copper anomaly. To the south there are close approaches to cross-overs on Lines 1500 N., 1200 N. and 900 N. These close approaches are more or less on strike with the above-mentioned anomalies and may indicate a continuation of the same formation.

On Line 600 N. at 1400 E., there is a close approach to a cross-over which coincides with a strong copper anomaly and the situation is repeated on strike of the anomaly at 1300 E. on Line 300 N., and at 1100 E., on Line 300 S. There is no cross-over directly coincident with the high point in the anomaly at 1200 E. on Line 0, but just to the west, at 1000 E. between that anomaly and a small one at 900 E., a cross-over does occur. Continuing further south on the strike of the strong anomaly, there is another close approach on Line 900 S. at 600 E.

In this same area, on claim No. 30, where the grid lines run at an angle to the main body of the grid, there is another strong copper anomaly on Line 900 S. at 900 E. There is a cross-over right beside it at 800 E. and on the continuation of this geochemical anomaly to the south, there is a coincident cross-over at Line 1200 S. at 600 E. Again, on the prolongation of the strike of this anomaly there are cross-overs on Lines 1500 S. and 1800 S., but covering such a wide area as to be of questionable significance. They actually extend for 400 ft. to 600 ft. along the line.

There are no evident cross-overs associated with the known mineralization in the shaft area, which is somewhat puzzling. South of the shaft, however, at 200 E. on Line 600 N., there is a cross-over with no associated copper anomaly. There is, however, an anomaly of zinc in this area, particularly noticeable on Line 300 N. at 100 E. There is also the possibility that a pyritic formation could be the cause of this particular cross-over, especially as zinc alone (a non-conductor) would presumably not exert the influence required to cause such a phenomenon.

West of the Base Line there are a number of very pronounced perturbations in the profiles, especially where the lines of observations cross under the suspended power line which services some of the radio and T.V. antennae in that area. The strongest disturbances were not mapped, in fact, because when the instrument was directly under the power-line, the handle pointed practically straight up. It remains questionable as to how far each side of the power line this disrupting effect extends. Certainly within a couple of hundred feet, the disturbing influence is sufficiently strong to nullify the values of any reading. The profiles do seem to flatten out some 400 to 600 ft. west of the power line. Whether or not they have returned to normal remains questionable.

In the southwest corner of the area, well beyond and west of the end of the power line, there are some cross-overs on Lines 0 and 300 N., which cover a rather suspiciously wide area. This is nevertheless, just where there are several copper anomalies close together, which are particularly strong and wide, at the west end of Line 0.

There is hardly enough information yet on the performance of the VLF instrument to warrant utilizing the results as the sole criterion for spotting drill holes. A clear cross-over, however, when coincident with a geochemical anomaly, provides a very good confirmation of the soil anomaly and renders it a particularly good target for further investigation. Such would be the case for the anomalies discussed above.

INTERPRETATIONS

The contours which outline the shapes and trends of the magnetic reactions and of the geochemical soil anomalies, imply a bedrock which is stratified and probably consists of beds of volcanic flows and tuffs. The indicated strike is generally northeasterly, but the shapes and trends both of the magnetic reactions and of many of the soil anomalies, lead to the conclusion that this strike is modified in places by a gentle warping of the beds. The aerial photographs of the area exhibit a "grain" with a northeasterly trend and with some warping in the vicinity of the shaft area. From the photographs, it seems likely that the dip of the beds is easterly.

The geochemical anomalies which are the most numerous and most informative, are those of copper. In general, the zinc and silver anomalies are associated with indications of copper. There are many copper anomalies which have no associated zinc or silver ones, nor of lead. The lead anomalies are not numerous, but most of them are also associated with copper indications.

The appearance of the geochemical anomalies and their close concordance with the structural implications of the magnetic reactions, leads to the supposition that the parent, bedrock mineralization is largely bedding-controlled. On the other hand, the vein of lead which was mined in the early days, lies in a strong shear zone. This zone has a strike very nearly concordant with the presumed strike of the flow bedding. Under such circumstances, there can be some difficulty in differentiating the patterns indicative of bedding control and of fault control. The fault control is less likely to produce curved alignments, however, such as characterize the numerous copper anomalies.

These considerations lead to the thought that there may be two types of control which have influenced the mineral deposition in this area. The known lead deposit was evidently fault-controlled, but the numerous indications of copper, along with zinc and silver, appear to have been controlled by the bedding. This introduces the possibility that there are at least two and possibly three sequences of mineralization in this area. One would be straight copper deposition, without any accompanying zinc, silver or lead. The second would be the probably non-carbonate sequence, copper-zinc-silver. The third would be the calcite-barite-lead series evident in the shaft and whose geochemical indications are fairly well confined to that portion of the survey area. The copper anomalies indicative of straight copper deposition are the most widespread. The copper-zinc-silver indications are not as numerous, but are fairly well distributed over the entire survey area.

The electromagnetic technique employed on a small portion of this area, utilizing the VLF method, has resulted in showing a few moderately good indications of underlying conductive material. Interpretations can hardly be firm at the present time, as the method has not yet been applied widely enough to establish a sound basis for making evaluations of the results. The fact that there are good indications in coincidence with strong geochemical anomalies, nevertheless serves to reinforce the opinion that those situations would make good target areas for further exploration. In this connection, it is interesting to observe that the known mineralization at the shaft, which was fault-controlled in its emplacement, yielded no indications, whereas the best reactions were obtained in the neighbourhood of geochemical anomalies which give every indication of corresponding with bedding-controlled mineralization. This raises the question "is the bedding-controlled mineralization the stronger?"

In any event, the combined geophysical and geochemical surveys of this area have indicated what appears to be a well mineralized zone and one which is still open on all four sides.

RECOMMENDATIONS

The geophysical and geochemical surveys covered in this report, extend over only a small portion of the Acaplomo claim holdings. The data thus far gathered, clearly indicate that it would be highly desirable to extend the surveys to cover the balance of the property. For one thing, the available data imply the possibility of there having been three sequences of mineral deposition in this area:- copper, copper-zinc-silver and lead. The work does not yet cover a large enough area to permit drawing any conclusions as to the spatial relationships of these sequences, nor of their areal distribution. Expanding the coverage to cover a wider area may help clarify these questions and assist in formulating ideas as to the origin and distribution of the mineral deposits.

The magnetic work should be looked upon as a means of gathering useful structural information, while the geochemical surveys yield indications of mineralization which then can be correlated with the structural data. Geophysical surveys by electrical methods will be useful to determine at what localities the sulphide mineralization is likely to be strongest. When such indications are correlated with the geochemical ones, the two can provide the most useful means of evaluating the survey's indications. Consideration should be given to utilizing the VLF method, to determine its applicability in the area and it might be well to supplement it with other electrical techniques, for purposes of confirmation and better correlation.

The work to-date has yielded numerous geochemical and electromagnetic indications which deserve further exploration. The stronger soil anomalies should be uncovered by stripping to evaluate their possible significance.

The most attractive targets for an immediate drill campaign are those strong copper anomalies with which VLF cross-overs are associated. Especially to be noted in this connection are:- the anomalies and cross-overs on Lines 2100 N. and 1800 N. in the vicinity of 2500 E. and 2600 E.; on Line 600 N. at 1400 E.; on Line 900 S. in the vicinity of 800 E. and 900 E.; on Line 600 N. at 200 E., where there is a cross-over associated with a zinc anomaly; and on Line 0 at its west end. The continuing programme should be planned in the light of evaluation of the results obtained in the early drill holes.

The strong lead anomaly on Line 900 N. at 1100 W. is an interesting occurrence in the light of an early report on the discovery of lead mineralization in that area. A short seam of heavy lead mineralization in an east-west fracture was reported to have been found about 1000 ft. west of the shaft, as stated in the "Report of the Minister of Mines, 1927". There is no record of any further investigation of that showing.

Some stripping was done this past autumn on Line 27 around and south of station 900 E. It was conducted because of the discovery of an old pit in that vicinity, showing stains of copper. The bulldozer work uncovered an extensive showing of copper stain, mostly in the form of chrysocolla with chalcocite, in rhyolite.. This is beside a strong copper anomaly only 100 ft. away to the west and on the prolongation of the strike of another anomaly immediately south of it. This area therefore deserves further opening up.

Respectfully submitted,

Sherwin F. Kelly.

Merritt, B. C.
December 28, 1968.

CERTIFICATE OF QUALIFICATIONS

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

I graduated from the University of Kansas in 1917, receiving the degree of B. Sc. in Mining Engineering.

I followed post-graduate work in geology and mineralogy at the Sorbonne, the Ecole des Mines and the Museum d'Histoire Naturelle in Paris, and at the University of Kansas and the University of Toronto. I also taught those subjects at the University of Kansas and at the University of Toronto.

While studying in Paris I became associated with the electrical prospecting firm organized by Professor Conrad Schlumberger of the Ecole des Mines. In his organization and from him, I learned the fundamentals of electrical prospecting and other geophysical methods before any courses were available in the universities of North America. I returned to North America in 1921 and introduced his methods of electrical prospecting into the United States and Canada. This constituted the first commercial application of this type of exploration work in North America. Since then, I have practised as a geophysicist and a geologist, mostly in consulting and contract practice, in Canada, United States, Central America, South America and the Caribbean.

I am the owner of 257,500 escrowed and free shares of Acaplomo Mining and Development Company Limited, a private company.

Respectfully submitted,

Sherwin F. Kelly.

Merritt, B. C.
December 23, 1968.

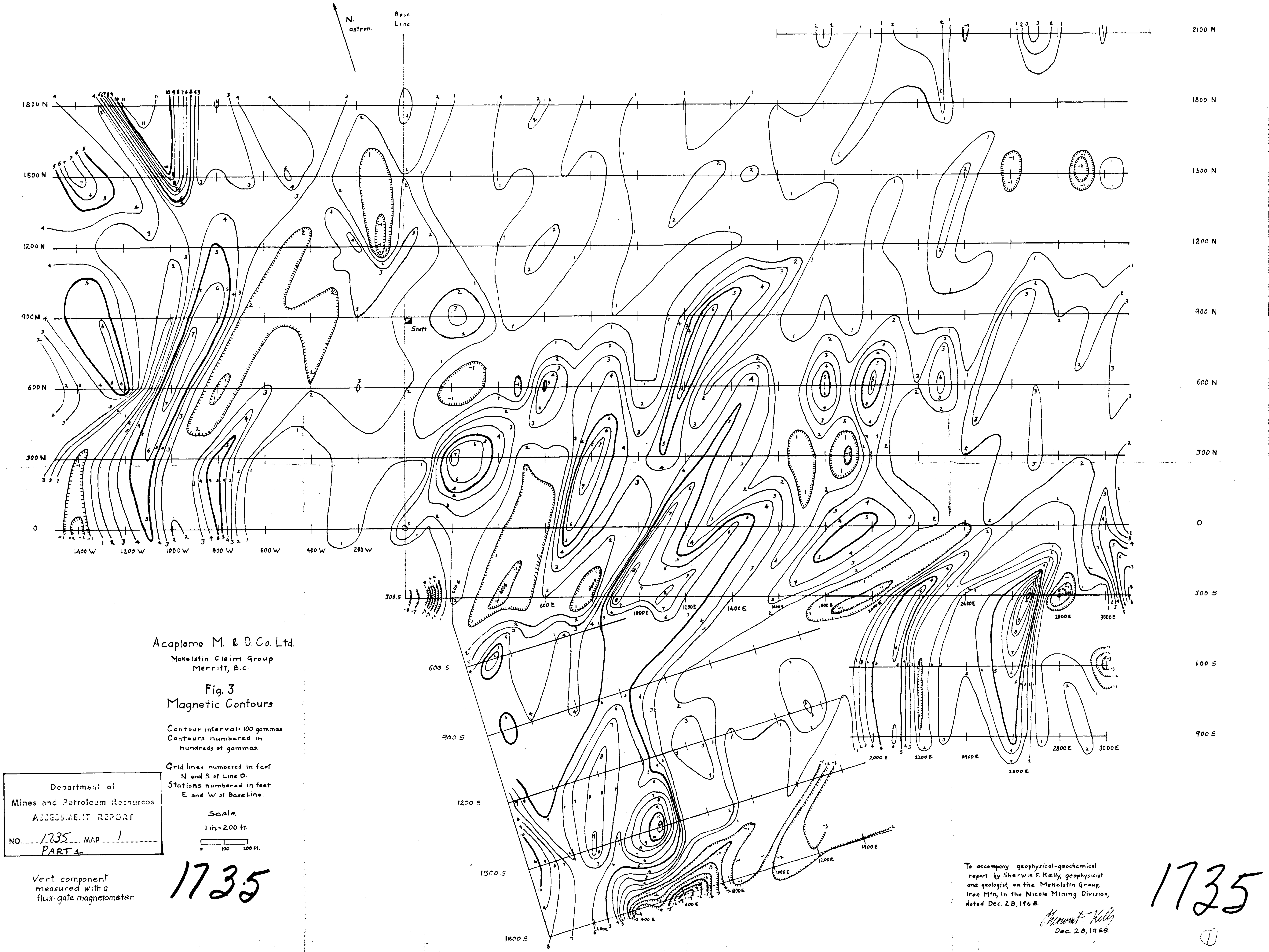
Affidavit of Expenses
Incurred for Geochemical
and Geophysical Surveys,
on the Makelstin Claim Group
on Iron Mountain, near Merritt, B. C.

Paid to George Cressy, Jr., Contractor,
P. O. Box 406, Merritt, B. C.

Line cutting, @ $100. per mile		
Dec. 27 - 30, 1967 & Jan. 2, 1968 ... 3.409 mi. =	$340.00	
June 16-24, 1968 .... 8.2 mi. =	820.00	
		$ 1,160.00
Soil sampling, @ $20. per mile		
Jan. 3 - 5, 1968 .... 1.534 mi. =	30.68	
June 20 - 23, 1968 .... 9.2 mi. =	184.00	
		214.68
Magnetic surveying, @ $35. per mile		
Jan. 8 - 17, 1968 ....10. mi. =		350.00
VLF - EM Surveying, @ $35. per mile		
Jan. 15 - 24, 1968 ....10. mi. =		350.00
For plotting readings and mapping results		259.50
		$ 2,334.18
Rental of Skidoo ....$	325.00	
Rental of Magnetometer	150.00	
Rental of VLF Instrument	40.00	
		515.00
Laboratory analyses of soil samples made by Bondar-Clegg Co. of North Vancouver		1,693.23
Contract for supervision, interpretation and finalizing the report - paid to Sherwin F. Kelly		500.00
		$ 5,042.41

I hereby certify that the above expenditures were properly incurred for the geophysical and geochemical surveys of a portion of the Makelstin claim group.

Magnetics



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

Fig. 3
Magnetic Contours

Contour interval: 100 gammas
Contours numbered in hundreds of gammas.

Grid lines numbered in feet N and S of Line O.
Stations numbered in feet E and W of Base Line.

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

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 1735 MAP 1
PART 1

Vert. component measured with a flux-gate magnetometer.

1735

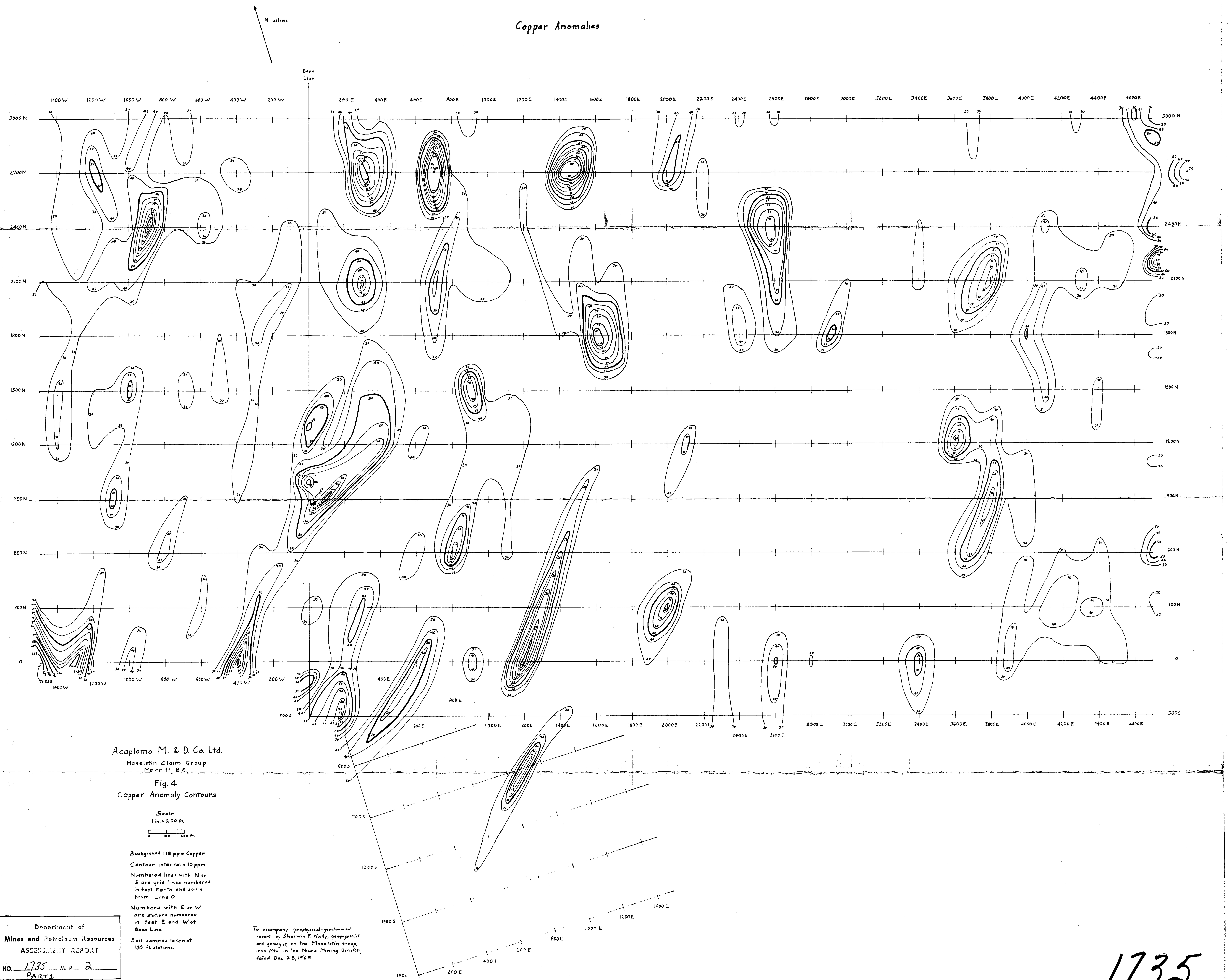
To accompany geophysical-geochemical report by Sherwin F. Kelly, geophysicist and geologist, on the Makelstin Group, Iron Mtn, in the Nicola Mining Division, dated Dec. 28, 1968.

Sherwin F. Kelly
Dec. 28, 1968.

1735

(1)

Copper Anomalies



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Merritt, B.C.

Fig. 4
Copper Anomaly Contours

Scale
1 in. = 200 ft.

0 100 200 ft.

Background = 15 ppm. Copper

Contour Interval = 10 ppm.

Numbered lines with N or S are grid lines numbered in feet north and south from Line 0

Numbers with E or W are stations numbered in feet E and W of Base Line.

Soil samples taken at 100 ft. stations.

To accompany geophysical-geochemical report by Sherwin F. Kelly, geophysicist and geologist, on the Makelstin Group, Iron Mtn. in the Nicola Mining Division, dated Dec 28, 1968

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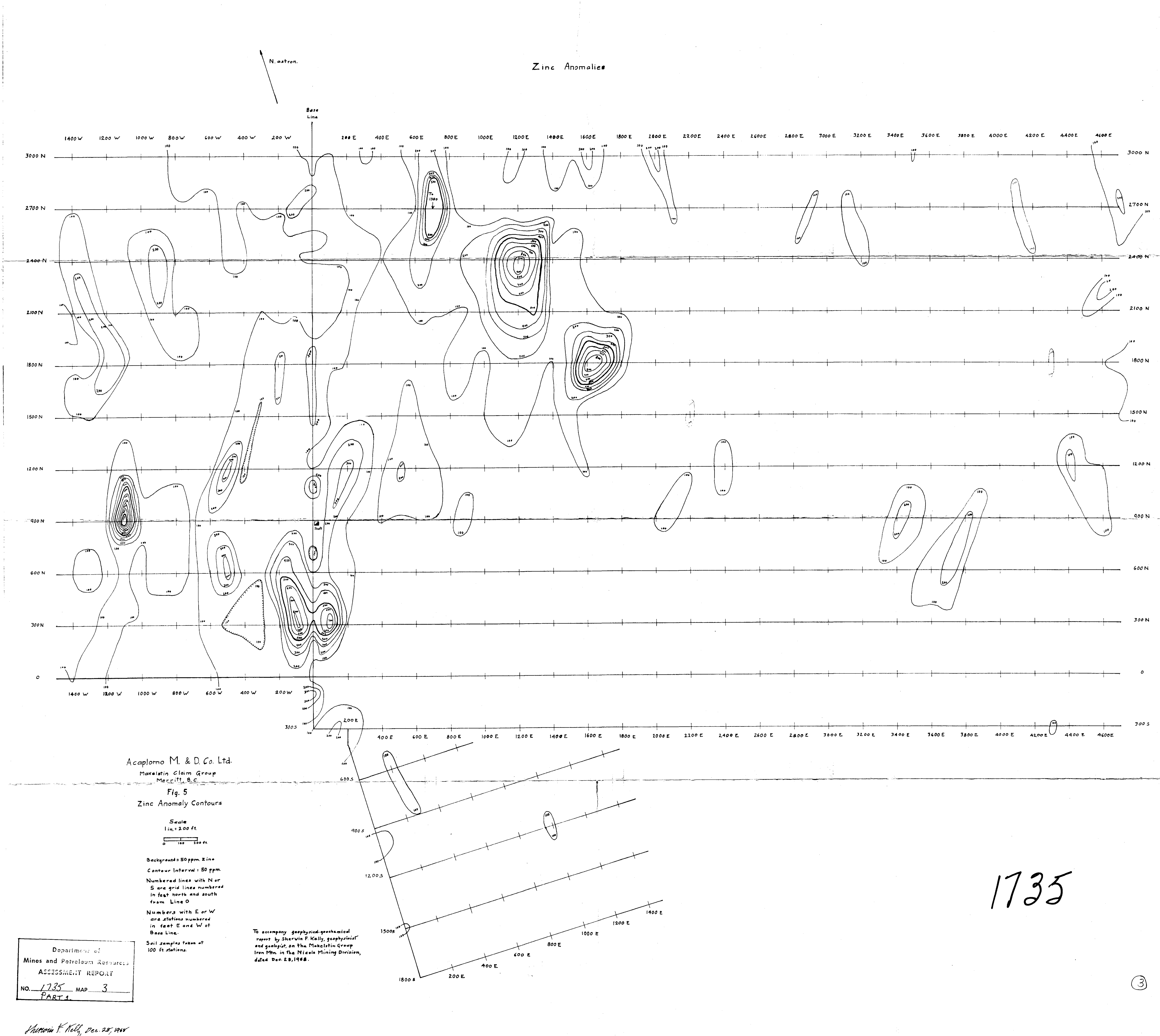
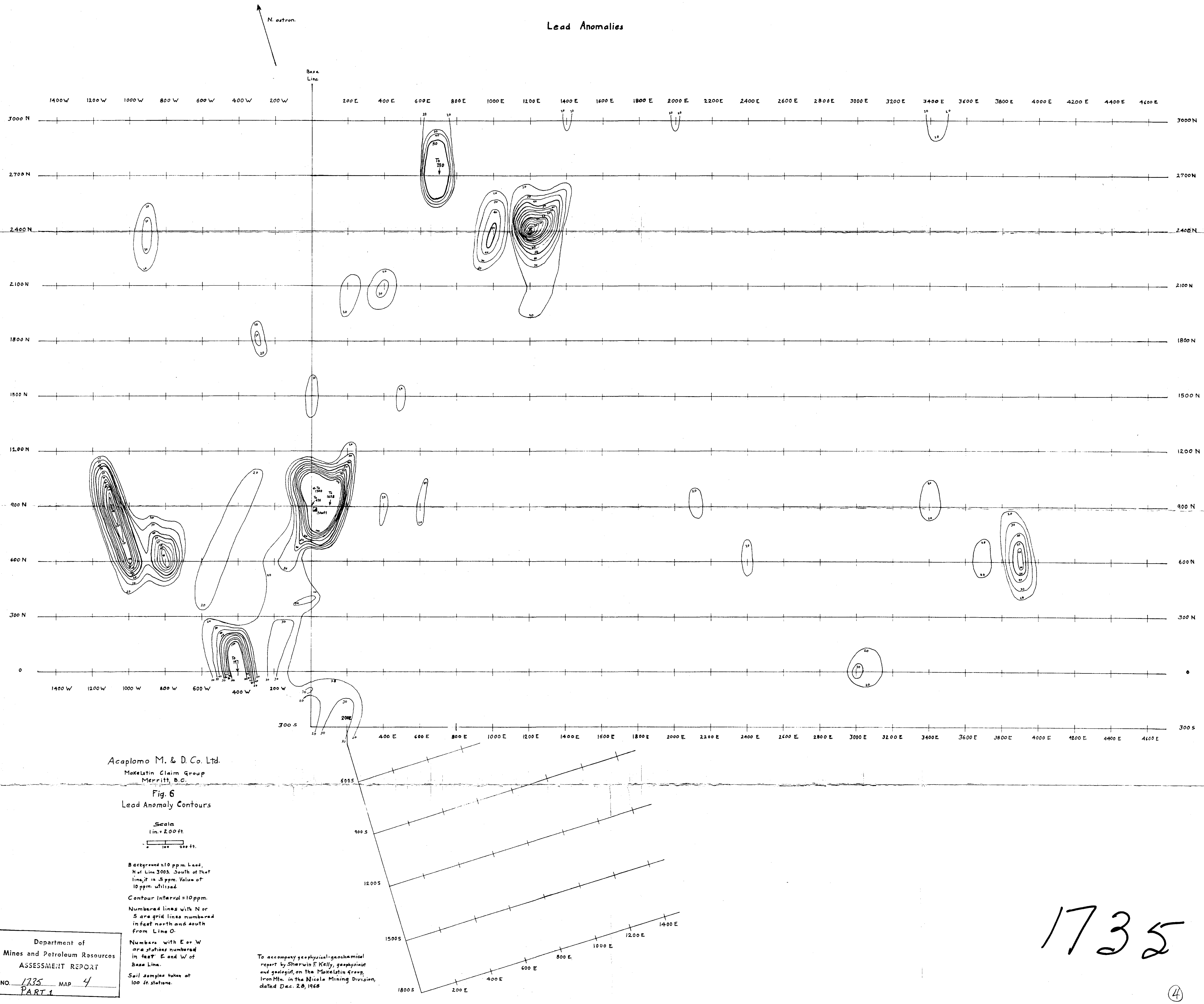
Sherwin F. Kelly Dec. 28, 1968


Zinc Anomalies
N. astron.
Base Line
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
3200 E
3400 E
3600 E
3800 E
4000 E
4200 E
4400 E
4600 E
3000 N
2700 N
2400 N
2100 N
1800 N
1500 N
1200 N
900 N
600 N
300 N
0
300 S
600 S
900 S
1200 S
1500 S
1800 S
To 1380
Shaft
Acaplomo M. & D. Co. Ltd.
Makelstin Claim Group
Merritt, B.C.
Fig. 5
Zinc Anomaly Contours
Scale
1 in. = 200 ft.
0 100 200 ft.
Background = 50 ppm. Zinc
Contour Interval : 50 ppm.
Numbered lines with N or S are grid lines numbered in feet north and south from Line 0
Numbers with E or W are stations numbered in feet E and W of Base Line.
Soil samples taken at 100 ft. stations.
To accompany geophysical-geochemical report by Sherwin F. Kelly, geophysicist and geologist, on the Makelstin Group Iron Mtn. in the Nicola Mining Division, dated Dec. 28, 1968.
Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 1735 MAP 3
PART 1.
1735
3
Sherwin F. Kelly, Dec. 28, 1968

Lead Anomalies



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Makelstin Claim Group
Merritt, B.C.

Fig. 6
Lead Anomaly Contours

Scale
1 in. = 200 ft.

0 100 200 ft.

Background = 10 ppm. Lead, N of Line 300S. South of that line, it is 5 ppm. Value of 10 ppm. utilised.

Contour Interval = 10 ppm.

Numbered lines with N or S are grid lines numbered in feet north and south from Line 0.

Numbers with E or W are stations numbered in feet E and W of Base Line.

Soil samples taken at 100 ft. stations.

To accompany geophysical-geochemical report by Sherwin F. Kelly, geophysicist and geologist, on the Makelstin Group, Iron Mtn. in the Nicola Mining Division, dated Dec. 28, 1968

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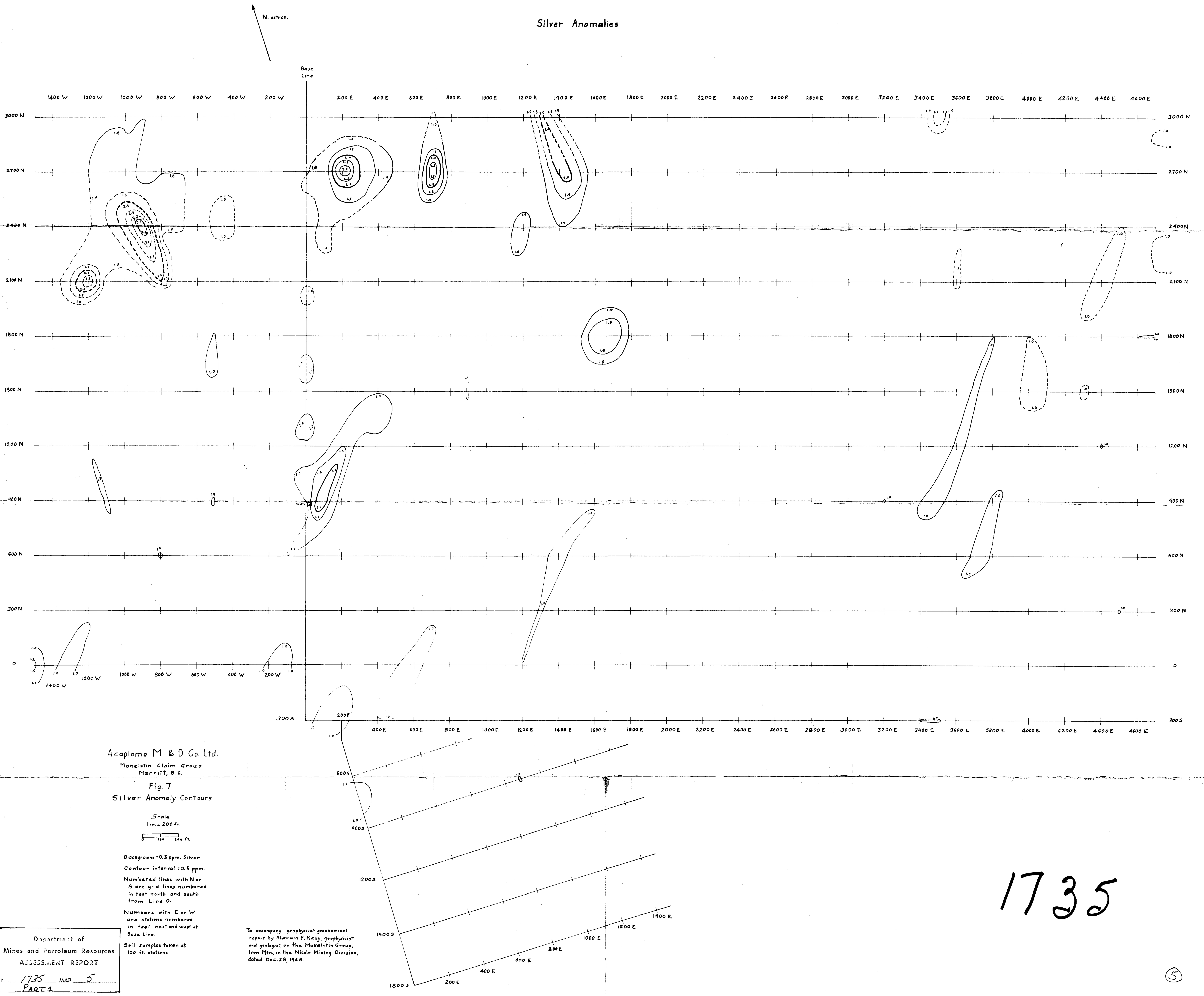
(4)

Sherwin F. Kelly, Dec. 28, 1968



Acaplomo M & D. Co. Ltd.

Makelstin Claim Group
Merritt, B.C.

Fig. 7
Silver Anomaly Contours

Scale
1 in. = 200 ft.

0 100 200 ft.

Background = 0.5 ppm. Silver

Contour interval = 0.5 ppm.

Numbered lines with N or S are grid lines numbered in feet north and south from Line 0.

Numbers with E or W are stations numbered in feet east and west of Base Line.

Soil samples taken at 100 ft. stations.

To accompany geophysical-geochemical report by Sherwin F. Kelly, geophysicist and geologist, on the Makelstin Group, Iron Mtn., in the Nicola Mining Division, dated Dec. 28, 1968.

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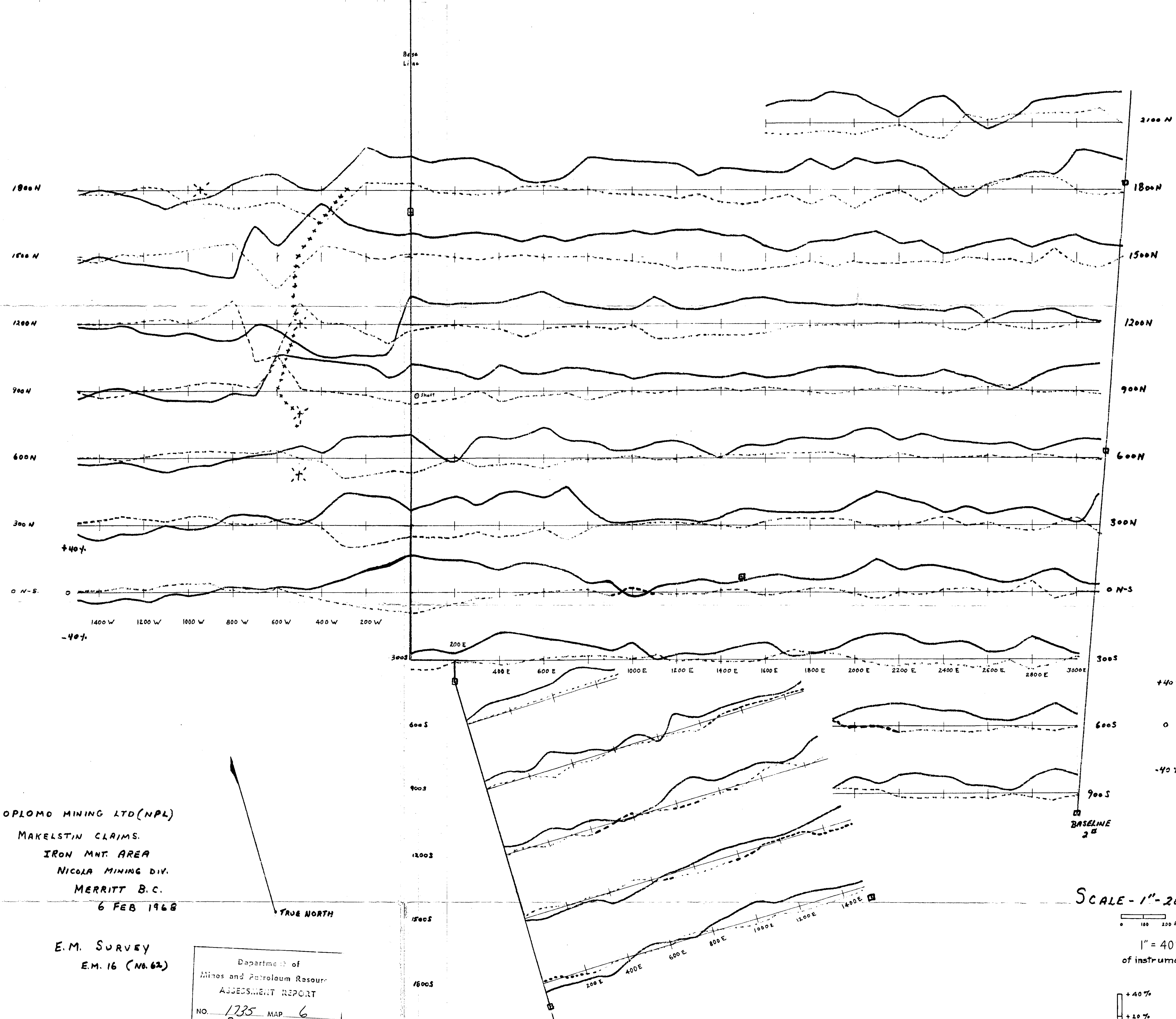
ASSESSMENT REPORT
No. 1735 MAP 5
PART 1

Sherwin F. Kelly
Dec. 28, 1968

5



ACOPLOMO MINING LTD (NPL)

MAKELSTIN CLAIMS.

IRON MNT. AREA

NICOLA MINING DIV.

MERRITT B.C.

6 FEB 1968

E.M. SURVEY

E.M. 16 (No. 62)

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 1735 MAP 6
PART 1

Fig. 8
Electromagnetic Readings
in phase and quadrature
with VLF instrument tuned to
Seattle station NPG, 18.6 kHz.

LEGEND

- —— - IN-PHASE
- ----- - QUAD.
- | - BASELINE
- ⊡ - I.P. OR F.P. (Claim posts)
- ⊙ - SHAFT
- ⁑ - ANTENNA.
- ++++ - POWER LINE

Drawn by G. Cressy Jr.
Checked by S.F. Kelly

To accompany geophysical-geochemical report by Sherwin F. Kelly, geophysicist and geologist, on the Makelstin group, Iron Mtn., in the Nicola Mining Division, dated Dec. 28, 1968.

SCALE - 1" - 200'

0 100 200 ft.

1" = 40% slope angle of instrument tilt.

+40%
+20%
0
-20%
-40%

1735

6

Sherwin F. Kelly
Dec. 28, 1968