GEOCHEMICAL REPORT COVERING
THE BLUEY GROUP OF CLAIMS
ASPEN GROVE AREA
NICOLA MINING DIVISION
BRITISH COLUMBIA

Number of Units - 7

Located - 5 miles (8.05 km) North of Aspen Grove

N.T.S. - 92H/15E Lat. 49°53' Long. 120°35'

Work Performed - June 1, 1979 to June 14, 1979

- Prepared for Owner -

MR. FRED GINGELL

325 - 6400 Roberts Street

BURNABY, B. C.

- Prepared By -

ROBERT W. YORKE-HARDY, M.T., C.E.T.

116 Bernard Nelson Crescent

REVELSTOKE, B. C.

MINERAL RESOURCES BRANCH

ASSESSMENT REPORT

7679

NO.

- Date -

July 27, 1979

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INTRODUCTION:

In order to gain greater control on the location of previously encountered copper and silver soil geochemical anomalies, a more detailed soil sampling program was undertaken during the first part of June 1979. In this survey the samples were collected at 50 foot (15.5 meter) intervals between previously sampled locations along the lines previously established at 400 foot (120 meter) intervals.

The claims are located in the Aspen Grove area of British Columbia and are owned by Mr. Fred Gingell, 325 - 6400 Roberts Street, Burnaby, B.C. This program was undertaken at the request of the owner and was based on the recommendations of Mr. David G. Mark, Geophysicist, Geotronics Surveys Ltd., 420 - 890 West Pender Street, Vancouver, B.C. The program was performed under the immediate supervision of the writer, Robert W. Yorke-Hardy, 116 Bernard Nelson Crescent, Revelstoke, B. C.

Maps and illustrations showing the property location, claims and results of the program are included in the report.

This work was performed to satisfy the assessment requirements on the Bluey Group of mineral claims and this report has been compiled to support the submission of the soil geochemical survey for assessment purposes. The report discusses the survey procedure, compilation of data and the interpretation of the results.

PROPERTY AND OWNERSHIP:

The Bluey Group consists of two (2) mineral claims located south-east of Aspen Grove in the Nicola Mining Division of British Columbia, as follows:

Claim Name	Record No.	Tag No.	No. of Units	Date Recorded
Bluey	17	02060	6	June 16, 1975
Balsam Fraction	16	02061	1	June 16, 1975

The property is owned by Mr. Fred Gingell of Burnaby, B.C.

LOCATION AND ACCESS:

The legal corner post of the Bluey claim is located approximately 1.6 km due west of the northern end of Bluey Lake and about 8.0 km S 20 E of Aspen Grove, B.C. The geographical coordinates are 49°53'N latitude and 120°35'W longitude and can be found on NTS 92H/15E.

The claims can be reached by travelling along Highway #5 for 30 kms south of Merritt, B.C. (approximately 5 kms south of Aspen Grove) and then turning east on Bates road towards Kentucky Lake. Approximately 1.6 kms east on this gravel road a turn is made to the south, onto a dirt road which leads to the Bluey Group of claims. The claims are located approximately 3 kms from this second turn.

PHYSIOGRAPHY:

The Bluey Claim Group lies in the southern part of the

PHYSIOGRAPHY (continued)

physiographic division known as the Thompson Plateau which is in turn part of the Interior Plateau System. The terrain varies from flat to rolling hills over most of the property, to a steep slope on the eastern margin. Elevations vary from 1100 meters a.s.l. in the southeastern corner of the claim to 1300 meters a.s.l. in the northwestern corner.

A large swampy lake on the northwest corner of the Bluey Claim is the only main water source within the claim boundaries. Bluey Lake is located approximately 1000 meters east of the southeastern corner of the claim.

The general trend of the topography is north-south along an indicated fault which extends south towards Missezula Lake and north to Alleyne Lake. An off-shooting north-west trending fault cuts diagonally across the Bluey mineral claim. Vegetation on the property is a moderately dense forest cover of Interior Douglas Fir, Lodgepole Pine and Engleman Spruce.

HISTORY OF PREVIOUS WORK:

There is considerable evidence of physical work having been done on the property. Indications are that prospect pits and short adits predate 1940 and that bulldozer trenches and diamond drill holes date from the 1960's. Recent work includes geochemical and VLF-EM surveys completed in 1976 by the writer and Geotronics Surveys Ltd.

GEOLOGY: (as per Kerr-Dawson & Associates Ltd. and Geotronics Surveys Ltd.)

The Aspen Grove area is within a terrain commonly referred to as the Nicola Belt of Upper Triassic to Lower Jurassic Age. Massive andesitic flows and coarse pyroclastic rocks predominate in the central part of the region and a sequence of layered and massive volcanogenic rocks occur along the eastern margin. The southwestern section of the region is underlain by intercalated volcaniclastic rocks, flows and calcareous sedimentary rocks that are partly covered by coarse volcanic breccia. A sequence of massive red to purple and green augite porphyry flows, coarse volcanic breccia and dioritized volcanics is present in the central part of the region. This sequence may indicate the existence of a central zone of partly subaerial volcanic centres. Intrusive rocks in the region are mainly dioritic and appear to be in part comagmatic with the Nicola volcanic rocks. Several small areas of monzonite and/or syenite are found within the belt.

The Bluey property is underlain by red and green intermediate to basic flows, volcanic fragmentals with varying amounts of intercalated clastic sediments and calcarious rocks. This sequence is intruded by a body of "diorite" which occupies the northeast of a diagonally transecting northwesterly oriented fault. Portions of this "diorite" may in fact be altered and dioritized flows.

The main geological structure on the property, as per

GEOLOGY (continued)

Preto, et al, is the above mentioned fault which strikes from the southeast to the northwest corner of the Bluey claim (N25° W direction). In addition, two faults striking N20°E and N60° W occur on the Balsam Fraction.

MINERALIZATION: (as per Kerr-Dawson & Associates Ltd. and Geotronics Surveys Ltd.)

Copper mineralization is widespread in the Aspen Grove area. Various copper sulphides, oxides and carbonates along with pyrite, hematite and magnetite are usually present in the various showings.

According to Christopher (1973) four main types of copper occurrences are found:

1. Chalcopyrite, bornite and native copper and chalcopyrite and pyrite mineralization in fine grained and brecciated zones along the western margins of the diorite bodies.
2. Chalcopyrite, bornite, pyrite and magnetite in breccia zones in andesite, dioritized volcanics and diorite.
3. Chalcocite, native copper and hematite in fracture zones in the massive volcanic sequence and in breccia sequences.
4. Chalcocite, bornite, chalcopyrite, malachite, and pyrite in limestone and argillite.

MINERALIZATION (continued)

On the Bluey Claim Group mineralization occurs mainly in four locations as noted on Figure 5, (K-D 1 to 4).

Area No. 1 consists of about 6 bulldozer trenches in an area where several much older prospect pits were sunk on an outcropping copper mineralization. The area is underlain by a sequence of northwesterly - striking volcanic flows, coarse fragmentals, calcarious conglomerates, graywackes and limestone, intruded by one or more dykes or small intrusions of monzonite. Mineralization consists of fracture coatings of chalcopyrite and malachite; streaks and segregations of chalcopyrite and malachite in calcarious material in the interstices of coarse conglomerates and as stringers and clots in small skarn-like areas in some tuffs and fragmentals. This mineralization does not seem confined to any one zone but occurs in several trenches over an area roughly 200 feet square. Poor exposures in the immediate area preclude tracing the mineralization further.

Area No. 2 consists of 3 old prospect pits and one, more recent bulldozer trench in an area of massive fine grained diorite or dioritized volcanics. These rocks are brecciated or fragmental in a few places and the interstices between fragments are filled with massive to semi-massive blebs and stringers of bornite, chalcocite and magnetite. The zone seems to trend northwesterly and has been tested by one -45°

MINERALIZATION (continued)

drill hole transverse to its strike. The ultimate width of this zone or zones is unknown due to overburden cover; similarly very little can be said about extensions along strike.

Area No. 3 consists of 4 prospect pits in an outcrop area of diorite flows. Mineralization consists of scattered coatings of malachite and chalcocite along fractures in several narrow shear zones. A drill hole inclined at -45^{o} in a northeasterly direction was drilled under one of the prospect pits.

Area No. 4 consists of 3 very old prospect pits in an outcrop of diorite or dioritized greenstone which lies just east of the prominent fault which cuts through the entire claim block. Mineralization consists of scattered malachite and chalcocite on fractures which are oriented in a northeasterly direction.

SOIL GEOCHEMISTRY SURVEY:

Sampling Procedure -

During the period from June 1st to June 14th, 1979, a geochemical survey was conducted on the Bluey Claim. A total of 293 soil samples were taken during this period. The samples were taken at 50 foot (15.5 meter) intervals over the northern three quarters of the property. The samples were taken along the lines located during the 1976 soil survey

SOIL GEOCHEMISTRY SURVEY (continued)

with tie-ins at old sample locations. All lines required reflagging and restaking. Old sample stakes were remarked with reference to the new grid.

An 'army-type' shovel was used to reach the soil horizon to be sampled. The samples were then collected with a plastic trowel. The samples were taken from a depth of 8 - 12 inches. The 'B' horizon was sampled except where it could not be obtained, and then the 'C' horizon was sampled. The samples were placed in duly identified kraft (wet-strength) paper sample bags.

Testing Procedure

The samples were analyzed by the Kamloops Research and Assay Laboratory Ltd., Trans-Canada Highway West, Kamloops, B.C., as were the soil samples from the 1976 survey. The samples were dried and screened to minus 80 mesh; then a measured amount of the screened material was digested in hot aqua regia. Elements to be tested, copper and silver, were quantitatively determined by atomic absorption. The results were reported in parts per million (ppm). The values reported were entered on plans of the property and the values were then contoured (Sheets 3 and 4).

TREATMENT OF DATA:

The reported copper and silver values in ppm were grouped into logarithmic intervals of 0.10 along with the data

TREATMENT OF DATA (continued)

obtained during the 1976 soil sampling program. The cumulative frequency for each interval of each element was then calculated and plotted against the correlating interval to obtain the logarithmic cumulative frequency graph as shown (Sheet 6).

The coefficient of deviation for silver was calculated to be .20, a somewhat low figure. The coefficient of deviation is indicative of the range or spread of values which, in this case is rather narrow. This statistical parameter is an indication of how well the element has been mechanically or chemically dispersed. Considering the lower than average value obtained in this case, which is in turn still lower than the value obtained in the 1976 survey; one could say that the dispersion rate for silver is low.

The coefficient of deviation for copper was calculated to be .34 which is a moderate figure and is in this case slightly higher than the figure obtained in the 1976 survey. This value indicates a moderate rate of dispersion for copper.

The graphs show positive breaks in slope at the 1% and 5% levels and the 3% and 13% levels respectively which indicates that there are excesses of high silver and copper values on the Bluey Claim. This is usually the case where sulphide mineralization occurs and could indicate the presence of silver, copper and/or copper-silver sulphides on the Bluey Claim.

The negative changes in slope at the 0.15% level for silver and the 1% level for copper suggests the existence of two

TREATMENT OF DATA (continued)

distinct populations in the data considered. This most frequently suggests a main 'background' population mixed with a smaller one of higher than average value.

Considering this, it is possible that each set of data should have been split into two elementary populations at the 2 ppm silver and 190 ppm copper levels. This would have resulted in lower mean background and sub-anomalous values for both silver and copper, possibly more like those considered by the writer to be regional values.

The graph for copper shows the mean background level to be about 25 ppm taken at the 50% level. The sub-anomalous value (a term used by David Mark to denote the minimum value that is not considered anomalous but is still important as an indicator of mineralization) is taken at the 16% level, a point which is one standard deviation from the mean background value. In this case that value is 55 ppm copper. The anomalous value is taken at the 2½% level, a point which is two standard deviations from the mean background value. In this case that value is 115 ppm copper.

The copper values were plotted on Sheet 3 and were contoured at intervals of one standard deviation. The first contour, a dashed line, is at the 40 ppm level which is the sub-anomalous value obtained by David Mark in his soil geochemical surveys on the AR and AM mineral claims immediately north of the Blue claim. The writer has considered this to be the regional sub-anomalous

TREATMENT OF DATA (continued)

value. The second contour, an intermittent dashed and solid line, is at the 55 ppm level which is the sub-anomalous value obtained on the Bluey Claim survey.

The anomalous values of 114, 250, 555, 1225 and 2695 were drawn in solid.

The statistical parameters for Silver were:

Mean background level	0.40 ppm
Sub-anomalous threshold value	0.64 ppm
Anomalous threshold value	1.03 ppm

The contour parameters for Silver were:

Contour interval	1 standard deviation
Sub-anomalous contour	0.60 ppm
Anomalous contours	1.0, 1.6, 2.6, 4.2, 6.8, 10.8 ppm

The silver values were plotted on Sheet 4 and contoured. The first contour, a dashed line, is at the 0.40 ppm level which is the anomalous threshold value obtained by David Mark on the AR and AM mineral claims. The writer has considered this to be the regi nal sub-anomalous value. The second contour, an intermittent dashed and solid line, is at the 0.60 ppm level which is the sub-anomalous value obtained on the Bluey Claim survey. The anomalous values of 1.0, 1.6, 2.6, 4.2, 6.8 and 10.8 ppm were drawn in solid.

DISCUSSION OF ANOMALOUS VALUES ENCOUNTERED:

The VLF-EM results as discussed by David Mark in his 1976 report suggests major structural trends in a northwest direction. This trend agrees with the geological map produced by Preto, et al. It is this trend which appears to control the geochemical anomalies. There is a secondary north trend indicated by the VLF-EM and again in the geochemical anomalies.

In order to more readily correlate the new data with the 1976 work, a similar system of labelling the anomalies was used. The anomalies have been labelled using capital letters according to their correlation with the VLF-EM anomalies. Some minor adjustment has been made to the VLF-EM contouring which has resulted in some changes in the labelling of anomalies by David Mark. However, in general, the VLF-EM data and interpretations made by David Mark in his 1976 report have been used herein and no attempt was made to re-interpret this data.

VLF-EM Anomalies -

Anomalies A to D inclusive and C', as shown on Sheet 5, show continuity throughout the entire survey area and are open at both ends. The dominant strike is northwest with variations to north. The dominant strike is northwest with variations to north. The overall length of these anomalies is 3000 ft. (~915 meters). Anomaly D striking northwest is found on the western boundary of the Bluey Claim and extends into the Balsam Fracti n as does Anomaly C. The strike length is 2000 ft. (~610 meters) and the anomaly

DISCUSSION OF ANOMALOUS VALUES ENCOUNTERED (continued)

VLF-EM Anomalies

is open at both ends.

Anomaly A correlates directly with mineralized K-D3. If this anomaly continues it would also correlate with mineralized zone K-D4.

Anomaly B is on the east flank of mineralized zone K-D2 and trends towards the trench located at L4+00S 1250'E.

Anomaly C is on the east flank of mineralized zone K-D1 and correlates directly with the old trench at L20+00S, 600'E. This anomaly also runs just east of a trench located between L12+00S and L16+00S near the main road (location not shown on maps).

Anomaly D correlates directly with the south end of the long trench forming part of mineralized zone K-D1.

The VLF-EM survey therefore shows a good correlation with the known mineralized zones on the Bluey Claim. However, the major interest of these anomalies is their correlation with the soil geochemistry anomalies as mentioned by David Mark and as discussed below.

Copper and Silver Anomalous Areas

The copper and silver anomalies have been labelled with capital letters according to their correlation with the VLF-EM anomalies.

DISCUSSION OF ANOMALOUS VALUES ENCOUNTERED (continued)

Copper: There are four main copper anomalies as shown on Sheet 3. These anomalies are labelled A to C inclusive, A', B', B" and C'. Additional parallel sub anomalous zones are indicated.

Anomaly A trends northwest and appears to split into two parts from L20+00S and L28+00S. This anomaly correlates well with VLF-EM anomaly A on both the north and south ends. The area of low geochem response between L20+00S and L28+00S may be due to heavier overburden in the drainage area indicated on Sheet 5. It is also noted that the two limbs of this split portion of Anomaly A correlate with the east and west flanks of VLF-EM Anomaly A. This anomaly is in excess of 3400 ft. (~1035 meters) in length suggesting a continuation of VLF-EM Anomaly A to the north. Mineralized zones K-D3 and K-D4 fall within this anomaly. The anomaly labelled A' parallels anomaly A and is located between anomaly A and B. There is no correlation between this anomaly and the VLF-EM anomalies but it is instead flanked by VLF-EM anomalies A and B. This anomaly coincides with mineralized zone K-D2 and may actually interconnect with anomaly A at L32+00S, 2200'E.

Anomaly B also trends northwest and coincides with VLF-EM Anomaly B. This anomaly is in excess of 2400 feet (~730 meters) long and appears to extend VLF-EM anomaly B to the north. This anomaly correlates with the trench located at

DISCUSSION OF ANOMALOUS VALUES ENCOUNTERED (continued)

Copper:

L4+00S, 1250'E and supports the suggestion that VLF-EM anomaly may extend to this zone as well.

The anomalies labelled B' and B" are parallel to anomaly B in a similar relationship as shown between anomalies A and A'. Anomalies B' and B" may relate to the eastern flank of VLF-EM anomaly B or to the split leg of that anomaly indicated at L12+00S, 2100'E.

Anomaly C is also northwest trending and is located between VLF-EM anomalies C and D. This geochem anomaly correlates directly with mineralized zone K-D1 and is 2200 ft. (~670 meters).

Anomaly C' correlates with the east flank of VLF-EM anomaly C' and is 1200 ft. (~365 meters) long striking northwest. The north end of this anomaly splays into two zones, the most easterly of which appears to interconnect with the south end of Anomaly A.

Numerous sub-anomalous zones occur in direct correlation with, or in close proximity to, the other geochemical and VLF-EM anomalies as can be noted in particular when the maps are overlain.

It appears possible that Copper geochemical anomalies A, A' and B all become part of one large sub-anomalous zone on L4+00S. Anomalies B' and B" may also converge into this area. It is noted that this is the general vicinity of what

DISCUSSION OF ANOMALOUS VALUES ENCOUNTERED (continued)

Copper:

is referred to as the 'South Zone' in the geological report on the AR claim, by L. Sookochoff.

Silver - There are five main Silver anomalies as shown on Sheet 4. These anomalies are labelled A to D inclusive A' and C'. If regional anomalous values are considered, numerous additional Silver anomalies can be noted. As with the Copper anomalies, all the Silver anomalies trend northwesterly.

Anomaly A is in excess of 2000 ft. (~610 meters) long and correlates well with Copper anomaly A. This anomaly appears to extend beyond the south end of Copper anomaly A and possibly extends beyond the southern boundary of the Bluey claim. This Silver anomaly appears to stop at L20+00S. The highest value (16.3 ppm) obtained on this anomaly lies to the west and up slope from the drainage mentioned by David Mark in his 1976 report and therefore should be seriously considered. This high value located adjacent to the west limb but within the low formed where Copper anomaly A splits between L20+00S and L28+00S; and coincides perfectly with the south end of the high portion of VLF-EM anomaly A. The anomaly labelled A' correlates directly with Copper anomaly A' on L24+00S and has a maximum length of 650 feet (~200 meters).

Anomaly B correlates quite well with Copper anomaly B. The highest value (3.2 ppm) is located 100 feet (~30 meters)

DISCUSSION OF ANOMALOUS VALUES ENCOUNTERED (continued)

Silver:

west of the peak of the Copper anomaly and coincides well with the western edge of the high portion of VLF-EM anomaly B. There are only sub-anomalous values for Silver in the vicinity of Copper anomalies B' and B".

Anomaly C correlates exactly with Copper anomaly C on L36+00S and trends along the west flank of this anomaly through to L28+00S. This Silver anomaly is located somewhat closer to the edge of VLF-EM anomaly C on L32+00S. The length of this anomaly is 1200 feet (~365 meters).

Anomaly C' correlates exactly with Copper anomaly C' on L24+00S and appears to be displaced about 150 feet (~45 meters) east and up slope on L20+00S. This Silver high correlates well with the eastern flank of the high portion of VLF-EM anomaly C' on L20+00S. This Silver anomaly, like the Copper, splays into two zones, the most easterly of which again appears to interconnect with Anomaly A.

Anomaly D is a single line anomaly on L36+00S which correlates well with the eastern flank of the high portion of VLF-EM anomaly D on that same line and appears to follow this east flank to the north at least to L32+00S.

Both anomaly A and C' appear to have an extension to the northwest located on and possibly west of the Bluey claims western boundary near L0+00S and L8+00S respectively.

It appears that the Silver, like the Copper anomalies A

DISCUSSION OF ANOMALOUS VALUES ENCOUNTERED (continued)

Silver:

and B may become one larger sub-anomalous zone at the north end.

In general, the Silver anomalies appear to be up-slope from the Copper anomalies where the two are separated. This is most logically explained by the fact that the coefficient of deviation or dispersion of the Silver mineralization is lower than that of the Copper. Neither the Copper or Silver anomolies follow continuously or precisely along the main drainage features, shown on Sheet 5, with the exception of Anomalies A on L32+00S and L36+00S.

David Mark suggested in his 1976 report that the causitive source of both the soil and VLF-EM anomalies may be the same. Or, the VLF-EM anomalies may be caused by a structure such as a fault and the soil anomalies are caused by mineralization related to said fault. It appears to the writer that the latter of these is the case, considering the down hill displacement of the Copper anomalies and that the Silver anomalies are more closely fixed to the VLF-EM.

This would suggest that the soil geochem anomalies are in general caused by relatively narrow zones. However, in the case of Copper soil anomaly C there is another very possible interpretation. It is possible that VLF-EM anomaly D forms the western edge of a broad conductor and that VLF-EM anomaly C forms the eastern edge of that conductor. It is then possible

DISCUSSION OF ANOMALOUS VALUES ENCOUNTERED (continued)

to suggest that Silver geochem anomaly D and portions of Silver geochem anomaly C may relate to a halo. This interpretation fits with Jim Dawson's description of mineralized zone K-D1.

SUMMARY

During the period from June 1 to June 14, 1979, a soil geochemical survey was conducted in a systematic manner over the north and central portions of the Bluey Claim. This survey was conducted on a closer spacing to detail anomalous areas detected by the 1976 soil geochemical survey. A total of 293 soil samples were collected and the resulting data was combined with the data from the 1976 survey to give a larger population (530 samples) from which to statistically determine the anomalous levels of Copper and Silver in the soils found on the Bluey Claim. The results were plotted and contoured. The resulting anomalous zones of Copper and Silver were compared to the VLF-EM data reported in the 1976 report 'GEOPHYSICAL-GEOCHEMICAL REPORT ON VLF-EM AND SOIL SAMPLE SURVEYS, BLUEY CLAIM GROUP, BLUEY LAKE, NICOLA M.D., B.C.' prepared by David G. Mark, Geotronics Surveys Ltd., Vancouver, B.C. The program has shown good correlation between known mineralized areas as described in the appropriate portion of the report on the 'SNOWFLAKE BLUEY AND PRIZE PROPERTIES, ASPEN GROVE AREA, NICOLA M.D., B.C., prepared by J.M. Dawson, Kerr, Dawson and Associates Ltd., Kamloops, B. C.

CONCLUSIONS

1. It would appear that three of the four known mineralized zones (K-D 2 to 4) are located along Anomalies A and A' which correlate to the northwest trending fault contact as interpreted by Preto, et al and referred to by both J. M. Dawson and David G. Mark. These anomalous zones appear to be narrow but the continuous correlation between VLF-EM and soil geochemistry anomalies suggests that they are the zones of major economic interest on the property. All physical work to date has been concentrated in areas of lesser overburden cover and as a result only small portions of the anomalous zones have been tested by others.
2. Anomalies C are also of further economic interest considering the very high Copper soil geochem value obtained on L36+00S and the larger area of Copper mineralization in zone K-D 1. This zone suggests the possibility of a large widespread area of Copper mineralization. This suggestion is supported by the interpretation of a broad VLF-EM conductor.
3. Anomaly C' and Anomaly B are also of further economic interest considering their high Copper and Silver soil geochemistry values.
4. The increased sample spacing has resulted in greatly improved correlation between VLF-EM and soil geochemistry anomalies and indicates that the mineralization

CONCLUSIONS (continued)

4. is likely related to the structures interpreted from the VLF-EM data.

5. It should be noted here that the 'South Zone', referred to in the 'GEOLOGICAL REPORT ON THE KENTUCKY LAKE PROPERTY, (AR CLAIM) OF BELMONT RESOURCES LTD., NICOLA M.D., B.C.' prepared by Laurence Sookochoff, Consulting Geologist, Vancouver, B.C., appears to lie within the boundaries of the Bluey Claim (see approximate AR and AM claim boundaries shown on Sheets 3 to 5). It is recommended by Sookochoff that this zone be tested by diamond drilling. This zone, as noted under Copper and Silver Anomalous Areas in this report (Page 15) appears to be in a large sub-anomalous area which occurs at the northern end of Copper anomalies A, A' and B.

RECOMMENDATIONS:

1. The VLF-EM survey should be continued over the remainder of the property as recommended by David Mark in his 1976 report.

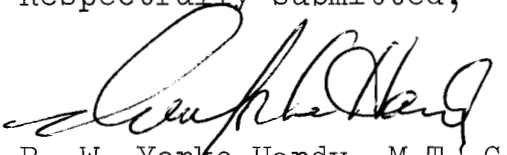
2. The closely spaced soil geochemistry sampling should be continued over the remainder of the property as recommended by David Mark in his 1976 report.

3. Composites of soil samples from each of the main anomalous zones should be prepared. A Semi-Quantitative Spectographic Analysis should be run on these composites

RECOMMENDATIONS (continued)

3. to determine whether other economic minerals might occur.
4. Check analyses by Atomic Absorption should be made for gold and zinc on the samples showing higher Copper and Silver results.
5. A detailed geological examination should be made on the Bluey Claim and the Balsam Fraction. Particular emphasis should be placed on geological mapping of the anomalous zones.
6. Where feasible, a 'cat' should be used to trench across parts of the anomalous zones.
7. Any parts of these anomalies that are of continued strong interest should then be diamond drilled.

Respectfully submitted,



27 July 1979.

R. W. Yorke-Hardy, M.T.,C.E.T.

APPENDIX 'A'

STATEMENT OF QUALIFICATIONS

I, ROBERT W. YORKE-HARDY, of the Province of British Columbia, do certify that:

1. I am a Mining Technologist and have practiced my profession for the past ten years. Prior to graduation, I had worked for several years in the mining and mining exploration industries.
2. I am a graduate of the British Columbia Institute of Technology, Burnaby, British Columbia.
3. I am a member of the Society of Engineering Technologists of British Columbia which is recognized by the Association of Professional Engineers of British Columbia. (Classification: Certified Engineering Technologist - Mining)
4. This report is based on a personally supervised program and personal observations of the property. Mr. S. E. Arnold, a self-employed trucker/logging contractor; was trained by the writer on a previous soil geochemical survey and was supervised by the writer on this program. Mr. Arnold has previous experience related to mining exploration and prospecting.
5. As much available reference material as possible was read in order to become familiar with the Aspen Grove area of British Columbia.

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EXPERIENCE:

Nov. 77 - to date	Geological Draftsman B.C. Hydro and Power Authority, Bag 5700, Revelstoke, B. C.
Dec. 74 - Nov. 77	Mine design draftsman, survey supervisor, and project engineer. Lornex Mining Corp. Ltd., P.O. Box 1500, Logan Lake, B. C.
Apr. 73 - Dec. 74	Geological draftsman and assistant to geological staff. IPEC - B.C. Hydro, P.O. Box 160, Mica Creek, B. C.
Nov. 71 - Apr. 73	Draftsman for forest engineering department. Evans Products Ltd., Golden, B.C.
Jan. 70 - Nov. 71	Assistant mine geologist and field geologist on drill projects. Sherritt-Gordon Mines Ltd., Lynn Lake, Manitoba.
May 67 - Jan. 70	Geological assistant and project supervisor. Manex Mining Ltd. Vancouver, B. C.
June 63 - May 67	Miner, mining exploration worker. Various Companies.

27 July 1979.

R. W. Yorke-Hardy, M.T., C.E.T.

APPENDIX 'B'

STATEMENT OF EXPENDITURES

Transportation (4 x 4 Pickup and Jeep):	
Pickup 10 days @ $40.00 /day	$ 400.00
Jeep 3 days @ $40.00 /day	120.00
Camper Rental and Groceries	350.00
Geochemical Analysis	665.00
Printing, Office Expenses and Miscellaneous Supplies	275.00
	$ 1,810.00
Labour	2,040.00
TOTAL	$ 3,850.00

EMPLOYMENT EXPENSES

Names and Addresses	Dates Employed	Job Done	Rate of Pay/Day	Total
R. W. Yorke-Hardy M.T., C.E.T. Box 2182, Revelstoke, B.C. V0E 2S0	June 1 & 2 /79	Project Mgmt.	$150.00	$ 300.00
	June 14/79	"	150.00	150.00
	July 19-20 /79	Drafting	120.00	240.00
	July 23-25 /79	Report Prep.	120.00	360.00
S.E. Arnold	June 3 to 13/79	Sampler & Chainman	$ 90.00	$ 990.00

27 July 1979.

R. W. Yorke-Hardy, M.T., C.E.T.

APPENDIX 'C'

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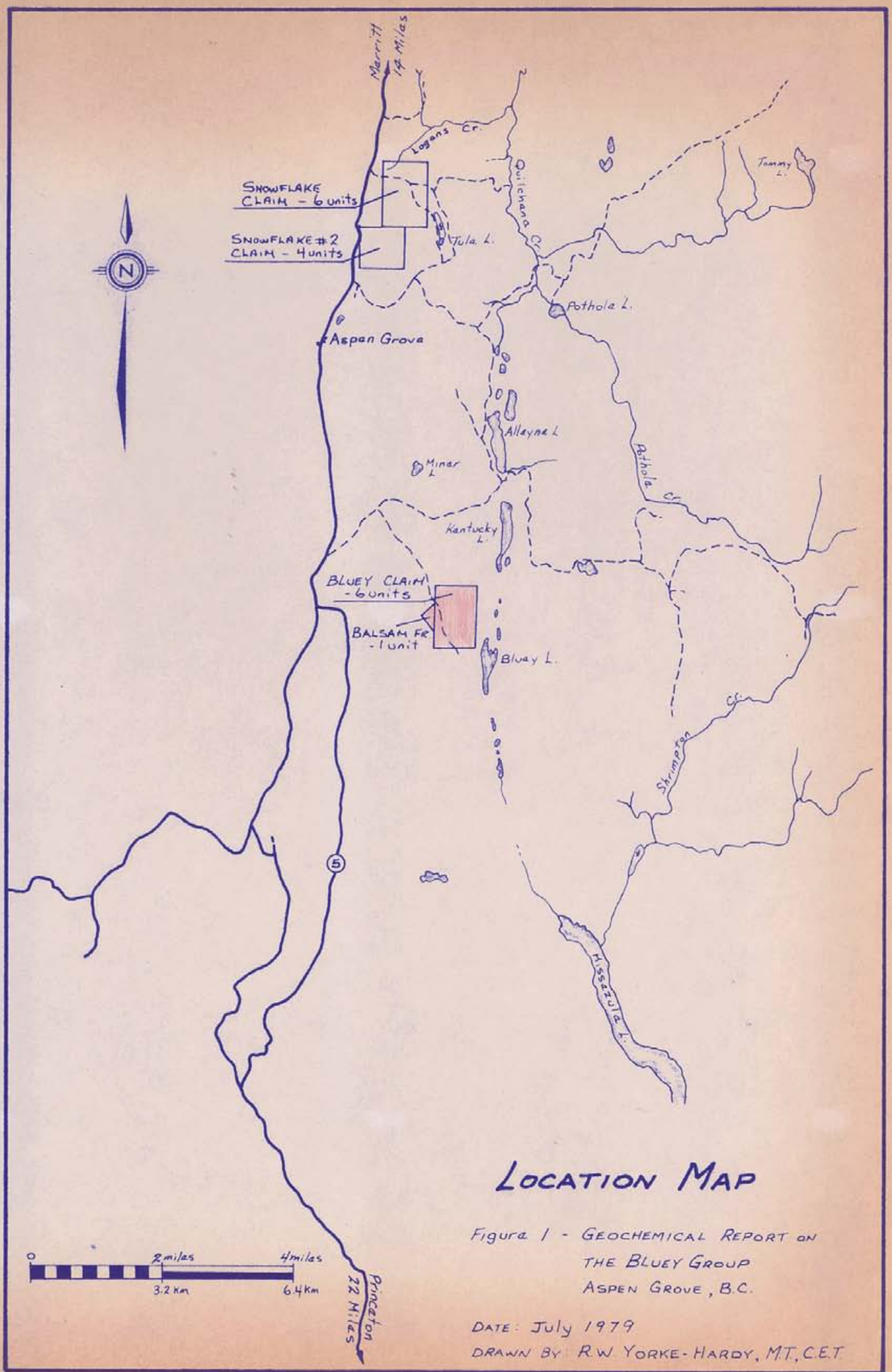
APPENDIX 'D'

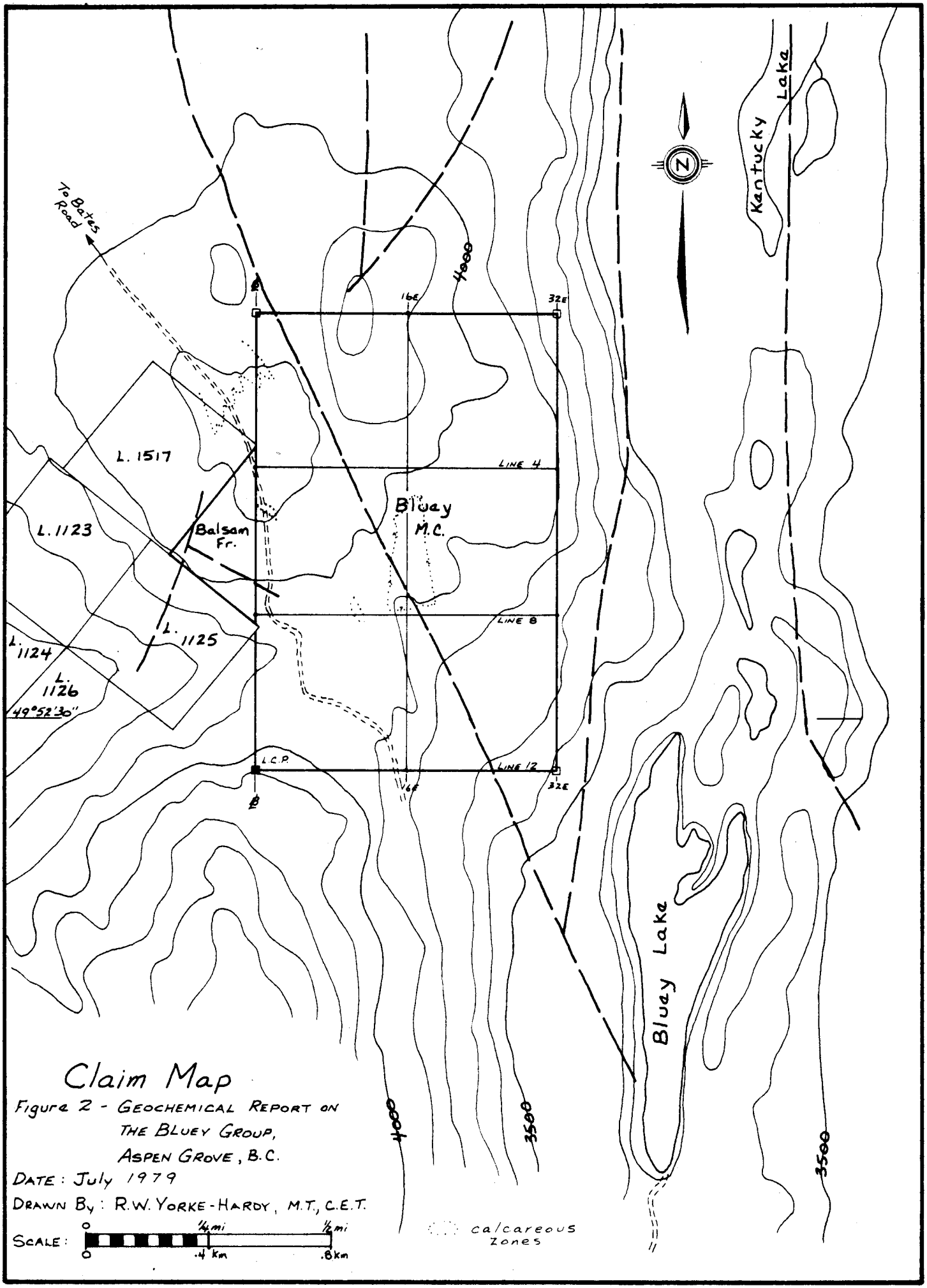


LOCATION MAP

Figure 1 - GEOCHEMICAL REPORT ON THE BLUEY GROUP ASPEN GROVE, B.C.

DATE: July 1979

DRAWN BY: R.W YORKE-HARDY, M.T, C.E.T



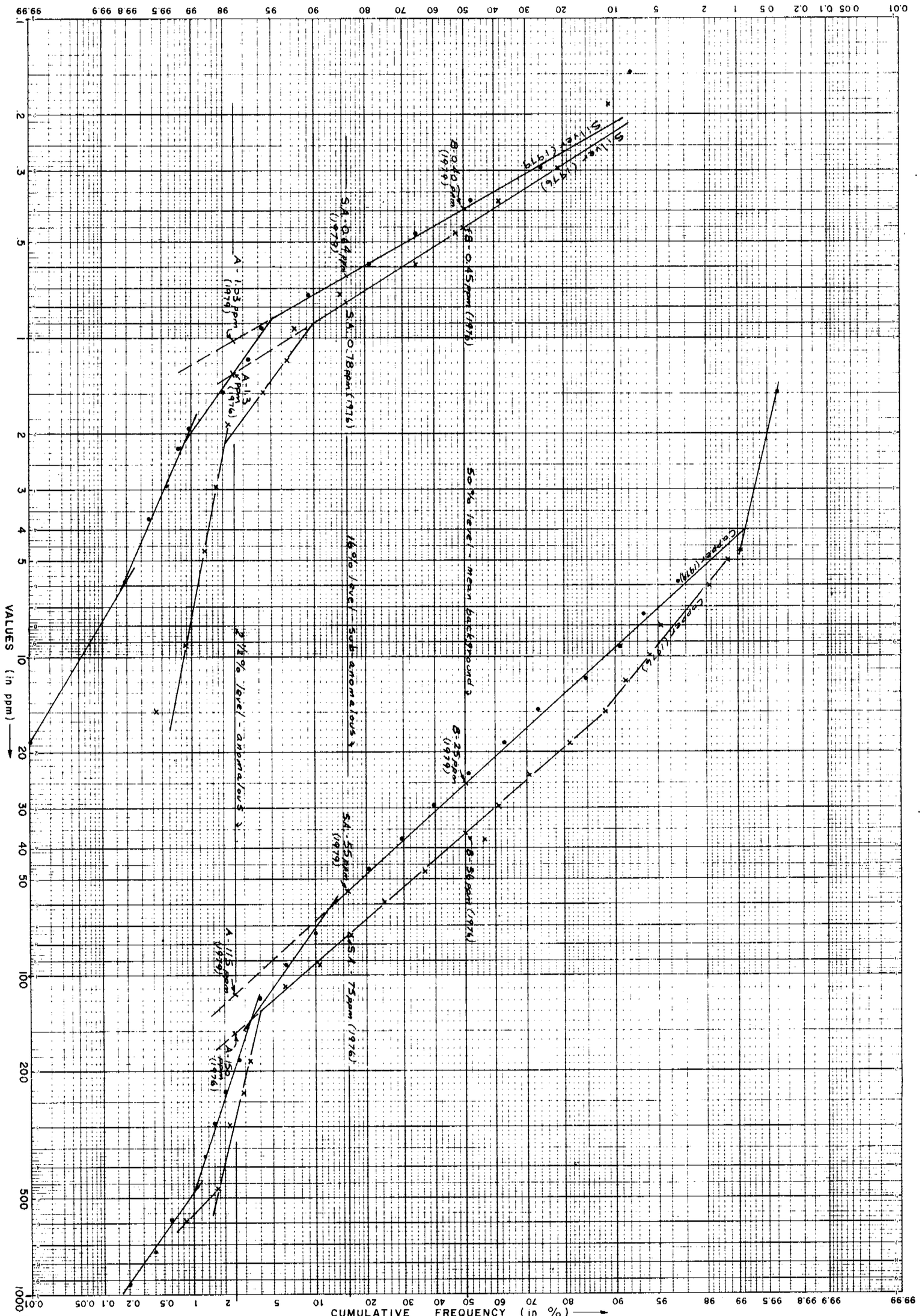
Claim Map

Figure 2 - Geochemical Report on The Bluey Group, Aspen Grove, B.C.

Date: July 1979

Drawn By: R.W. Yorke-Hardy, M.T., C.E.T.

Scale: 0 ¼ mi ½ mi; 0 .4 km .8 km



SHEET 6

MI... BRANCH
A... ORT
7669

BLUEY CLAIM GROUP
ASPEN GROVE AREA, NICOLA M.D., B.C.

CUMULATIVE FREQUENCY GRAPH
SOIL GEOCHEMISTRY

BLUEY CLAIM BOUNDARY (Rec. # 17)

BALSAM Fr. BOUNDARY (Rec # 16)

approximate boundary of overlapping AR Claim (Rec # 3191) and 1505 AR grid

approximate boundary of overlapping AM Claim (Rec # 161)

lake

legal corner post

North (magnetic)

Astro declination 23.5° E

0/s 1000' W | 0/s 800' W | 0/s 600' W | 0/s 400 W | 0/s 200' W | 0/s 0 E/W - Baseline | 0/s 200' E | 0/s 400' E | 0/s 600' E | 0/s 800' E | 0/s 1000'E | 0/s 1200'E | 0/s 1400'E | 0/s 1600'E | 0/s 1800'E | 0/s 2000'E | 0/s 2200'E | 0/s 2400'E | 0/s 2600'E | 0/s 2800'E | 0/s 3000'E | 0/s 3200'E

L- 0+00 N/S | L- 4+00S | L- 8+00S | L- 12+00S | L- 16+00S | L- 20+00S | L- 24+00S | L- 28+00S | L- 32+00S | L- 36+00S | L- 40+00S | L- 44+00S | L- 48+00S

A A' B B' C C'

LEGEND

- SWAMP
- ROAD
- 'CAT' or minor ROAD
- RIDGE
- GULLY
- EDGE OF HILL
- DRILL HOLE
- TRENCH or OLD WORKINGS
- 1976 Sample locations
- Resampled 1976 value / 1979 value

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 7679

PARAMETERS

MEAN BACKGROUND LEVEL	20 ppm	Regional (AR & AM claims)
	25 ppm	Bluey claims
SUB-ANOMALOUS THRESHOLD VALUE	40 ppm	AR & AM
	55 ppm	Bluey
ANOMALOUS THRESHOLD VALUE	75 ppm	AR & AM
	114 ppm	Bluey

CONTOUR INTERVAL - 1 STANDARD DEVIATION (logarithimic)

CONTOURS

- 40 ppm (sub-anomalous) Regional
- 55 Bluey
- 114 ppm (anomalous) (250, 555, 1225, 2695)

FEET
0 100 200 400 600 800 1000
0 25 50 100 150 200 250
METERS

BLUEY CLAIM GROUP

ASPEN GROVE AREA, NICOLA M.D., B.C.

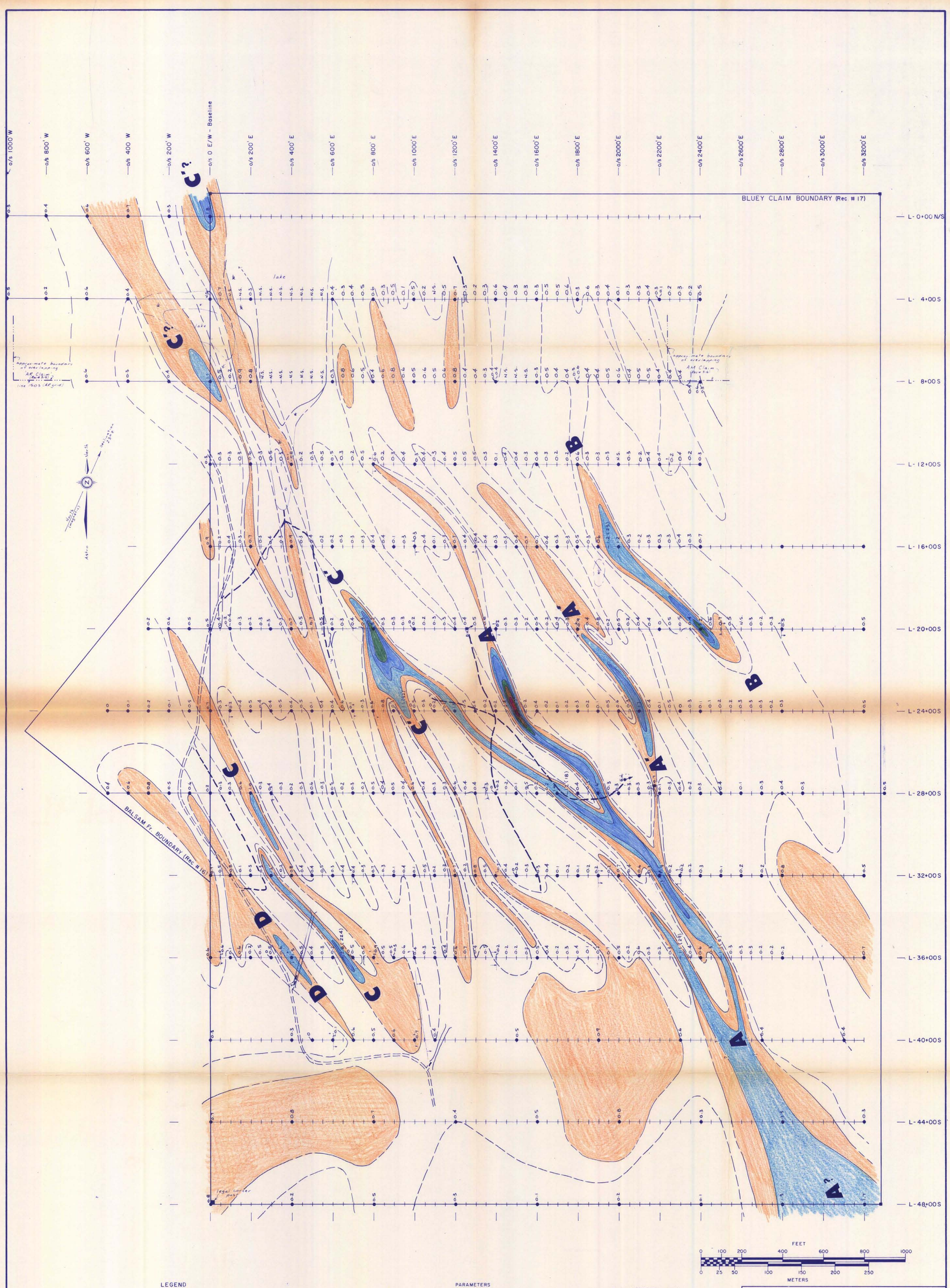
Soil Geochemistry Survey

COPPER

Data & Contours

Drawn by:	Date:	Sheet No.
Y-H. TECHNICAL SERVICES	JUNE 1979	3

To accompany geochemical report by ROBERT W. YORKE-HARDY (M.T., C.E.T.)



LEGEND

- SWAMP
- ROAD
- 'CAT' or minor ROAD
- RIDGE
- GULLY
- EDGE OF HILL
- DRILL HOLE
- TRENCH or OLD WORKINGS
- 0.7 1976 Sample locations
- 0.3 / 0.6 Resampled — 1976 value / 1979 value
- 2.8 (224) Spot Lead value (ppm)

PARAMETERS

MEAN BACKGROUND LEVEL	0.1 ppm	Regional (AR & AM claims)
	0.4 ppm	Bluey claims
SUB-ANOMALOUS THRESHOLD VALUE	0.2 ppm	AR & AM
	0.6 ppm	Bluey
ANOMALOUS THRESHOLD VALUE	0.4 ppm	AR & AM
	1.0 ppm	Bluey

CONTOUR INTERVAL - 1 STANDARD DEVIATION (logarithimic)

CONTOURS

- 0.4 ppm Regional anomalous
- 0.6 ppm (sub-anomalous)
- 1.0 ppm (anomalous) (1.6, 2.6, 4.2, 6.8, 10.8)

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 7679

BLUEY CLAIM GROUP

ASPEN GROVE AREA, NICOLA M.D., B.C.

Soil Geochemistry Survey

SILVER

Data & Contours

Drawn by: Y.-H. TECHNICAL SERVICES | Date: JUNE 1979 | Sheet No. 4

To accompany geochemical report by ROBERT W. YORKE-HARDY (M.T., C.E.T.)

o/s 1000'W | o/s 800'W | o/s 600'W | o/s 400 W | o/s 200' W | o/s 0 E/W - Baseline | o/s 200' E | o/s 400' E | o/s 600' E | o/s 800' E | o/s 1000'E | o/s 1200' E | o/s 1400'E | o/s 1600'E | o/s 1800'E | o/s 2000'E | o/s 2200'E | o/s 2400'E | o/s 2600'E | o/s 2800'E | o/s 3000'E | o/s 3200'E

BLUEY CLAIM BOUNDARY (Rec. # 17)

L- 0+00 N/S
L- 4+00S
L- 8+00S
L- 12+00S
L- 16+00S
L- 20+00S
L- 24+00S
L- 28+00S
L- 32+00S
L- 36+00S
L- 40+00S
L- 44+00S
L- 48+00S

lake
lake
approximate boundary of over lapping AR Claim (Rec. 3191) 2
line 150S (AR grid)
Approx. K-D 4
approximate boundary of overlapping AM Claim (Rec. 3161)
North (magnetic)
Declination 23°E
North
Astro
K-D 3
K-D 2
K-D 1
BALSAM Fr. BOUNDARY (Rec. #16)
legal corner post
Direction to Transmitter
See Hz 18's Kit.

FEET
0 100 200 400 600 800 1000
0 25 50 100 150 200 250
METERS

VLF-EM CONTOURS & DATA (as per report by Dave Mark)
//// 0°– 5° Zones
>5° Zones

MINERALIZED AREAS
K-D 1 Zone (as per report by J.M. Dawson)

LEGEND
- SWAMP
- ROAD
- 'CAT' or minor ROAD
- RIDGE
- GULLY
- EDGE OF HILL
- SLOPE DIRECTION
- DRILL HOLE
- TRENCH or OLD WORKINGS

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 7679

BLUEY CLAIM GROUP

ASPEN GROVE AREA, NICOLA M.D., B.C.

Soil Geochemistry Survey Surface Drainage and Slope Directions And VLF-EM (Fraser Filtered) Survey Data & Contours

Drawn by:	Date:	Sheet No.
Y-H. TECHNICAL SERVICES	JUNE 1979	5

To accompany geochemical report by ROBERT W. YORKE-HARDY (M.T., C.E.T.)