

86-923-15439

BIOGEOCHEMICAL
ASSESSMENT REPORT

on the

AURIFEROUS 1 MINERAL CLAIM

BEAVERDELL AREA

GREENWOOD MINING DIVISION

by

MURRAY MORRISON, B.Sc.

Claims: Auriferous 1 (18 units)

Location: The Auriferous property is situated at
St. John Creek, 12 km northeast of
Beaverdell, B.C.
31.8'
Lat. 49°~~32~~^{31.8}; Long. 119°00~~2~~¹;
N.T.S. ~~82-108-10~~ BZE/11E, 10W

Owner: Murray Morrison

Operator: Murray Morrison

Date Started: October 28, 1986

Date Completed: October 31, 1986

GEOLOGICAL BRANCH
ASSESSMENT REPORT

Kelowna, B.C.

December 30, 1986

15,439

FILMED

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SUMMARY

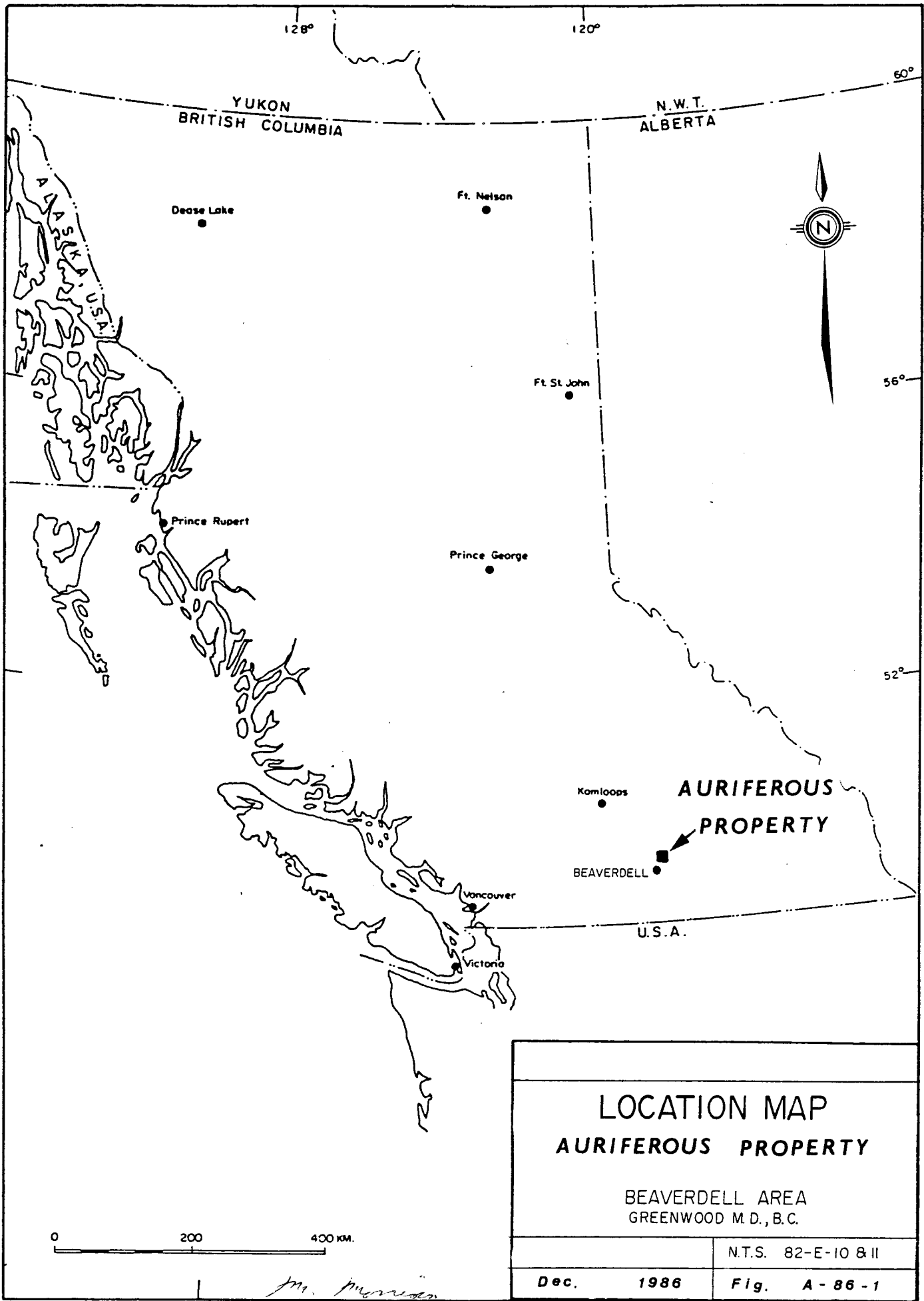
The Auriferous property, located 12 km northeast of Teck Corporation's Highland Bell Silver Mine at Beaverdell, B.C., is comprised of a single mineral claim of 18 units owned by the writer, M. Morrison, of Kelowna, B.C. The mineral claim surrounds the old Rosemont Mine from which limited shipments of gold averaging 16 grams per tonne were made in the late thirties. The ore at the Rosemont Mine occurs in a roof pendant of Anarchist Group rocks that has been intruded by Nelson diorite. The Auriferous 1 mineral claim covers the extension of the roof pendant to the northwest of the old Rosemont workings.

A soil geochemical sampling program carried out over the central portion of the Auriferous 1 mineral claim by Cominco Ltd. in 1981 failed to outline any anomalies in spite of the nearby gold mineralization of the Rosemont workings. It is now believed that a clayey till may have hampered the effectiveness of the soil survey.

This year's (1986) experimental biogeochemical survey, using the twigs and needles of Douglas fir as a sampling medium, was conducted over some of the Rosemont workings, and a portion of the roof pendant to the northwest of the workings earlier covered by the Cominco soil survey. This year's survey did identify anomalous zones of silver, arsenic, iron, lead and zinc coincident with the Rosemont workings and extending to the northwest on to the Auriferous 1 mineral claim.

The initial results of the biogeochemical survey are encouraging and a program recommending both fill-in sampling, and an expansion of the survey has been made.

Backhoe trenching of anomalies is considered feasible in light of the shallow overburden cover over much of the survey area.



INTRODUCTION

The Auriferous #1 mineral claim, situated at St. John Creek, 12 km northeast of Beaverdell, B.C. (Lat. 49° 32'; Long. 119° 00'; N.T.S. 82-E 10&11) was staked by the writer to cover a geological environment believed to have favourable gold-bearing potential. The 4-post mineral claim, comprised of 18 units, encircles the old Rosemont Mine from which a limited amount of good grade gold ore (16 g/tonne) was shipped during the late 30's.

The Rosemont workings are located within a roof pendant of Anarchist Group (Permian and/or Triassic) metavolcanics and metasediments that has been intruded by Nelson (Cretaceous(?)) diorite. The Rosemont workings expose irregular quartz veins cutting through well fractured Anarchist Group rocks near the diorite contact. Zones of massive pyrite and pyrrhotite occur within the quartz, and these sulphides yield good gold assays. The mineralized roof pendant rocks are believed to extend northwesterly from the area of the old Rosemont workings into an untested region of the Auriferous 1 mineral claim where overburden hampered the prospecting efforts of the "oldtimers".

The Auriferous #1 mineral claim has previously been staked as the Goldie #1 mineral claim (1980), and the Golden Lady #1 mineral claim (1984). In 1981 Cominco Ltd. carried out a soil geochemical survey on the Goldie #1 mineral claim with discouraging results (Cousens, 1981). However, in 1983 a VLF-EM survey conducted by the writer outlined three conductors trending northwesterly across the claim (Morrison, 1983). One conductor, coincident with the Rosemont workings, extends northwesterly into unexplored territory now covered by the Auriferous #1 mineral claim.

Continued...

INTRODUCTION continued

During October of this year (1986) 77 biogeochemical samples were collected from Douglas fir trees on a grid covering a portion of the Rosemont workings and extending to the northwest. The results of the biogeochemical survey are discussed in the text of this report, while the values of the key elements used for the survey are plotted and contoured on Figures A-86-4 to A-86-10 accompanying this report.

LOCATION, TOPOGRAPHY, VEGETATION, AND ACCESS.

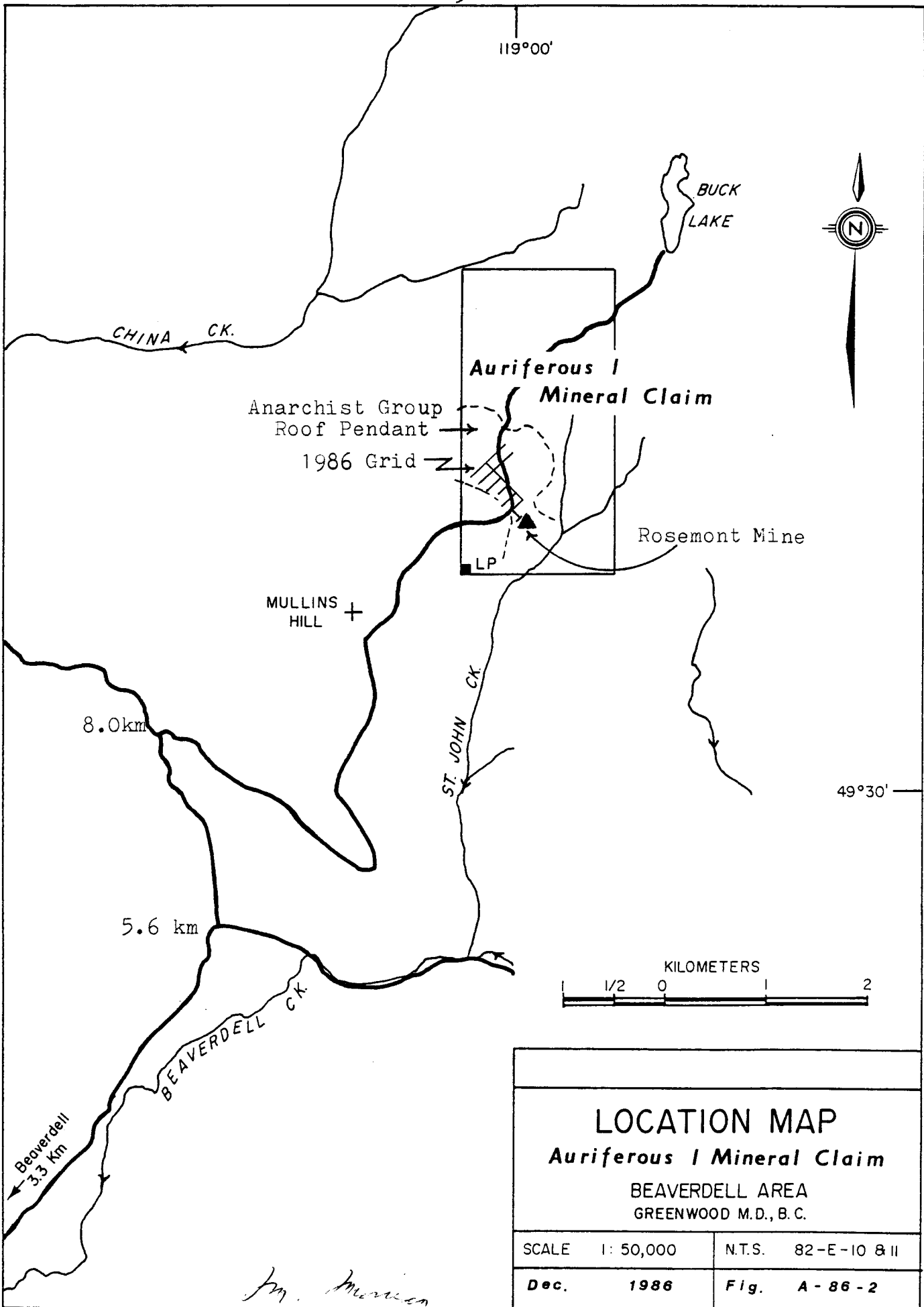
The Auriferous #1 mineral claim straddles a flat-topped ridge 2 km southwest of Buck Lake, or 12 km northeast of Beaverdell, B. C. (see Figure A-86-2). The northwest side of the ridge slopes gently into the watershed of China Creek, while the southeast side of the ridge drops much more abruptly into St. John Creek. Elevations on the property range from 1200 to 1400 metres, and winter snows, averaging one metre in depth, can be expected to cover the property until mid-May.

Forest cover on the property varies from an open park-like stand of mature Douglas fir to a tangle of young pine, fir, and larch trees in areas scarred by forest fires, and on northeastern slopes.

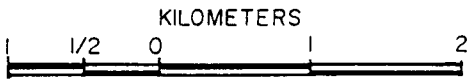
Access to the property from Beaverdell is via the Beaver Creek, and Buck Lake roads, a distance of 17 km, as shown on Figure A-86-2. The Buck Lake road is currently suitable for logging trucks as far as Mullins Hill, and further logging is planned to the northeast of the hill in the near future (possibly 1987). The proposed new logging is to extend to the area now covered by the Auriferous #1 mineral claim.

It presently requires 45 minutes to reach the Auriferous property from Beaverdell.

119°00'



49°30'



LOCATION MAP			
Auriferous I Mineral Claim			
BEAVERDELL AREA GREENWOOD M.D., B. C.			
SCALE	1 : 50,000	N.T.S.	82-E-10 & 11
Dec.	1986	Fig.	A - 86 - 2

Jm. Morrison

CLAIM STATUS

The Auriferous 1 mineral claim, comprised of 18 units, was staked in October 1985. The claim was recorded in the Greenwood Mining Division November 5, 1985, and given record number 4432. The claim is 100% owned by the writer, M. Morrison, of Kelowna, B.C.

The exact position of the Rosemont Crown Grant (Lot 3291s) is unknown, although it is assumed that it covers at least some of the old mine workings illustrated on Figure A-86-3. The workings match those described in the literature under the title of the Rosemont Mine. However, the original Rosemont property was made up of 4 mineral claims, and it is unknown as to what extent the present single Rosemont Crown Grant covers the Rosemont Mine Workings.

The position of Lot 3291s on published government topographic maps and mineral claim reference maps is shown to be one kilometre north of the workings, and this positioning of the Rosemont Crown Grant is believed to be in error.

In summary, Lot 3291s is believed to fall somewhere within the boundaries of the Auriferous 1 mineral claim, and most probably covers at least some of the old mine workings. The Rosemont Crown Grant is not owned by the writer.

HISTORY

The Auriferous property is located 12 km northeast of Teck Corporation's Highland Bell Mine, which has been producing silver ore since 1900 on a continuous basis. The Rosemont Mine, which lies within the boundaries of the Auriferous 1 mineral claim (see Claim Status section), appears to have been discovered and staked in 1937.

Continued...

HISTORY - Continued

Prior to 1939, 41 tons of ore were shipped from the Rosemont Mine, yielding 26 oz of gold and 28 oz of silver. In 1939 the property was optioned to Highland Bell Ltd., which shipped 22 tons of ore that yielded 10 oz of gold and 4 oz of silver.

The following year (1940) Highland Bell Ltd. did 30 feet of drifting and 100 feet of cross-cutting, and in 1941 they did another 50 feet of drifting before dropping their option on the property.

Minor cat trenching was carried out in the vicinity of the old pits on top of the ridge, well above the adits, by persons unknown in the 1960's (?).

During 1981 crews of Cominco Ltd. carried out a soil geochem programme over the central portion of their Goldie property. Samples were analyzed for gold, silver, copper, lead and zinc. The results of the survey were discouraging and the property was transferred to the writer in September, 1983.

In October 1984 a VLF-EM 16 ground survey was conducted on the Goldie 1 mineral claim by the writer.

The Goldie 1 mineral claim has subsequently been restaked as the Auriferous 1 mineral claim, and this year's (1986) biogeochemical survey was the first work conducted on the new claim.

REGIONAL GEOLOGY

The Geological Survey of Canada maps for Kettle River, East Half (Map 6-1957), and West Half (Map 15-1961), both by H.W. Little, show that the Auriferous property covers a roof pendant of Anarchist rock (Permian and/or Triassic) that has been

Continued...

REGIONAL GEOLOGY - Continued

intruded by a portion of the Beaverdell Nelson Batholith (Cretaceous?). The maps show that the Nelson rocks have, in turn, been intruded by a body of Valhalla intrusive rock (Cretaceous?) immediately north of the Auriferous property.

At the Beaverdell Mining Camp, 12 km to the southwest, ore occurs in shear zones cutting Nelson granitic rocks predominantly, and to a lesser extent, Anarchist rocks. The ore solutions are believed to have originated from a local stock of Valhalla quartz monzonite. Very similar conditions are believed to occur at the Auriferous property.

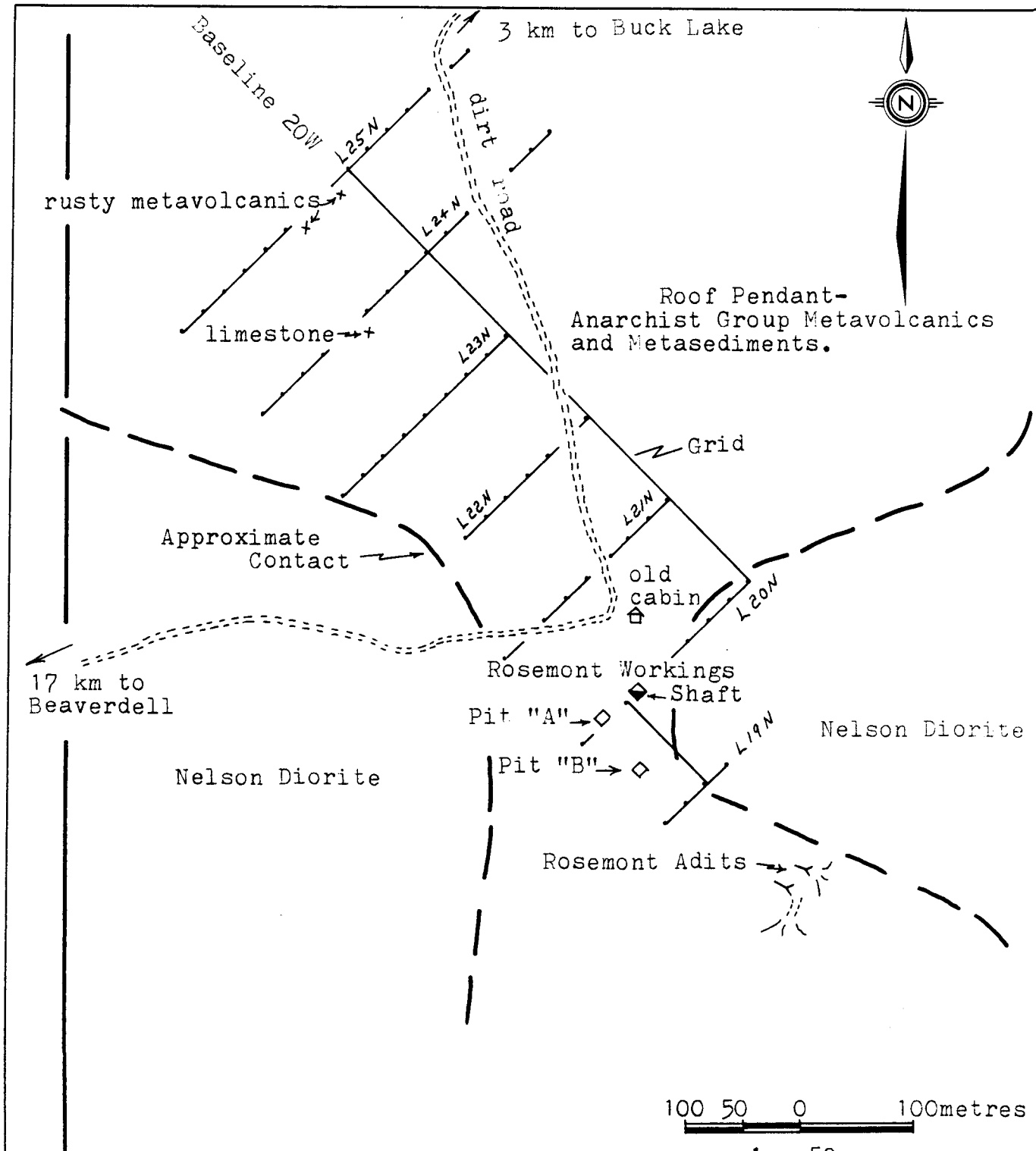
LOCAL GEOLOGY

A roof pendant of Anarchist Group metavolcanics and meta-sediments measuring one square kilometre in area underlies the southwestern portion of the Auriferous 1 mineral claim. The Anarchist Group rocks making up the roof pendant are for the most part fine grained and hornfelsed, while the intruding Nelson diorite, which is generally medium grained, becomes fine grained towards the Anarchist rock interface.

The original Anarchist Group rocks are believed to have been fine to medium grained, thinly bedded, tuffs, sandstones and argillites. The Group also includes some thick limestone lenses.

Only the southern half of the roof pendant is illustrated on Figure A-86-3 accompanying this report. The southern half of the pendant contains the old workings of the Rosemont Crown Grant as well as the main subject area of this year's biogeochemical survey lying to the northwest of the old workings. The area covered by overburden to the northwest of the workings is considered to have high exploration potential.

Continued...



To accompany a biogeochemical
by M. Morrison.

M. Morrison

Legal Corner Post tied-in
to grid by compass and belt
chain.

L.C.P. Auriferous #1 M. C.

(6 units north by 3 units east)

AURIFEROUS PROPERTY	
Beaverdell Area	Greenwood M. D., B.C.
PRELIMINARY GEOLOGY & ROSEMONT WORKINGS Auriferous / Mineral Claim	
Scale	1:5,000
Dec.	1986
NTS	82-E-10&11
Fig.	A-86-3

LOCAL GEOLOGY - Continued

The host rocks at the old Rosemont workings are composed of highly fractured, fine to medium grained, bedded, hornfelsed metavolcanics and metasediments of the Anarchist Group that lie in close proximity to the Nelson intrusive contact. The rocks contain 0.2 to 1% disseminated pyrite, and they are locally cut by shear zones containing up to 15 cm of massive pyrite. The best ore on the property comes from the adits shown on figure A-86-3, where quartz vein material fills fractures in Anarchist rocks. A sample of quartz vein material collected by the writer in 1980 contained 40% pyrrhotite, 10% pyrite, 0.5% chalcopyrite, 16,000 ppb gold, 1.1 ppm silver and 4 ppm arsenic. The gold content of the sample compares well with the ore shipped from the property in the late thirties.

A sample collected from pit A (Figure A-86-3) by the writer in 1980 was found to contain 2880 ppb gold, while a sample collected from the Shaft area by Cominco crews in 1981 was found to contain 25,000 ppb gold. At both locations Anarchist Group rocks are cut by shear zones infilled with irregular narrow quartz veins or small zones of massive pyrite/pyrrhotite.

1986 BIOGEOCHEMICAL SURVEY

As stated earlier, the geochemical soil survey conducted by Cominco Ltd. in 1981 over ground now covered by the Auriferous 1 mineral claim failed to yield any anomalies, in spite of the proven existence of gold mineralization nearby. It has long been suspected by the writer that the 1 to 3 metre mantle of clay-rich glacial till generally covering the area greatly hampered the effectiveness of soil geochemistry as an exploration tool on the property.

Continued...

1986 BIOGEOCHEMICAL SURVEY - Continued

An experimental biogeochemical survey carried out by the writer in 1986 on another Beaverdell area property (the W property) with a similar glacial till cover yielded anomalous values coincident with a known mineralized zone (see ref. Morrison, 1986). The success of the W property survey prompted the writer to conduct a similar biogeochemical test survey on the Auriferous 1 mineral claim late in October 1986.

A flagged Baseline of 500 metres length was measured out at 315 degrees across the south-central portion of the Auriferous 1 mineral claim. Grid lines were then established at 100 metre intervals perpendicular to the Baseline. Flagged stations were marked at each 25 metres along the grid lines. The grid was established during the course of the biogeochemical survey using a Silva Ranger Compass and a Topolite Belt Chain.

The grid, as illustrated on the biogeochemical maps accompanying this report, covers the possible northwesterly extension of a gold bearing zone projected at 315 degrees from an alignment of the old Rosemont Crown Grant adits, shafts and pits.

The Douglas fir was selected as the forest species best suited for testing the Auriferous 1 mineral claim, because of its availability, its proven success on the "W" property as mentioned earlier, and its known ability to concentrate arsenic (Warren, et al. 1968).

First and second year twigs and needles were clipped from Douglas fir at each survey station, and placed in kitchen garbage bags. Approximately 350 grams of sample were collected at each site. An effort was made to use similar-sized trees at each station and trees of 15 cm diameter were selected for the survey. Samples were collected from several different branches of the 2 or 3 trees nearest the survey station. It was found to be too

Continued...

1986 BIOGEOCHEMICAL SURVEY - Continued

time consuming to separate first and second year twigs and both were collected for the samples.

Factors noted during the course of the biogeochemical survey in addition to tree species and size included: slope directions, drainage, estimated depth of overburden, bedrock geology and nearness to old workings.

The samples were sent to Acme Analytical Laboratories in Vancouver for ashing and the ICP analyses of 10 elements. Gold was tested by atomic absorption in the first shipment of 39 samples, but found to be of little biogeochemical use and dropped from the analysis of the second shipment of 38 samples. The laboratory procedures used for analyses are listed along with the values obtained for each element of each sample in Appendix A.

Contoured biogeochemical maps for silver, arsenic, iron, lead, zinc and strontium accompany this report. (Figures A-86-4 to A-86-9).

Figure A-86-10, also accompanying this report, represents a composite biogeochemical map made up by assigning a value of +1 for each element found to be anomalous at each station. A further value of +1 is added to each station for every multiple that a given element is above its threshold value. Strontium was not used in developing the composite map as it does not correlate well with the other elements. Cadmium was used, on the other hand, because it correlates well with silver. The six elements used for the composite map were silver, arsenic, iron, lead, zinc and cadmium with threshold values of 0.5 ppm, 80 ppm, 0.35%, 29 ppm, 700 ppm and 2 ppm respectively. A sample site with concentrations above the threshold values for all six elements would rate a 6 on the composite biogeochem map. If only 3 of the elements were above threshold values the station would get a value of 3 on the composite map. If the

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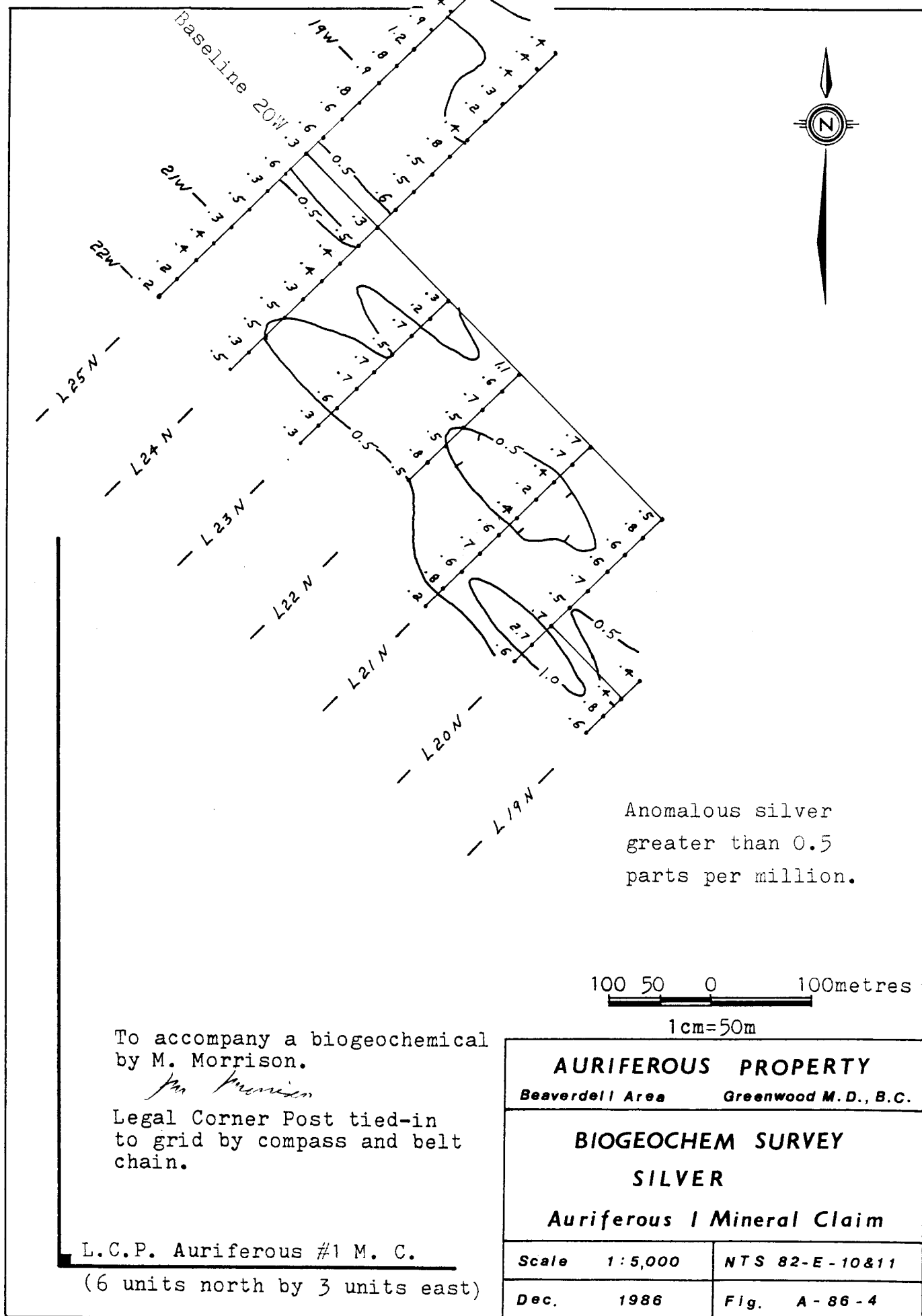
1986 BIOGEOCHEMICAL SURVEY - Continued

arsenic concentration was 166 ppm (or twice the threshold value) at a sample station the station would be given an extra value of +1. Using station 23N, 21+25W as an example, it is noted that the concentrations are as follows: lead 48 ppm, zinc 953 ppm, silver 0.7 ppm, iron 0.29%, arsenic 176 ppm, and cadmium 1 ppm. Three of the elements (lead, zinc and silver) are above the threshold values listed earlier and one element (arsenic) is over twice its threshold value. The sample site therefore rates a +1 for each of the three elements and a +2 for arsenic for a total value of 5 on the composite map. In such a way the composite biogeochemical map (Figure A-86-10) represents the entire survey in a simple numerical form that is easily contoured.

DISCUSSION OF THE 1986 BIOGEOCHEMICAL SURVEY

The values obtained from the biogeochemical survey, and listed in Appendix "A", have been studied at length and considered in light of what is known about the mineralization at the old Rosemont workings. The elements that appear to give the most meaningful response over the region of known mineralization have been selected for plotting and contouring on a series of figures (A-86-4 to A-86-9) accompanying this report. Elements that appear to give meaningless or erratic results have not been plotted and contoured. The gold, molybdenum and copper concentrations listed in Appendix "A" show little differentiation from one part of the survey to the next and appear to have no value in outlining Rosemont type "ore" zones. Cobalt and cadmium show some response (generally at the 2 to 3 ppm level), but cobalt is only slightly elevated in samples that are already shown to be clearly anomalous with other elements, and cadmium levels are slightly anomalous in samples already known to contain anomalous silver values. Strontium values are high and clearly anomalous (Figure A-86-9), but display both a positive and negative correlation with the five elements that are considered to have the most value in outlining Rosemont type mineralization.

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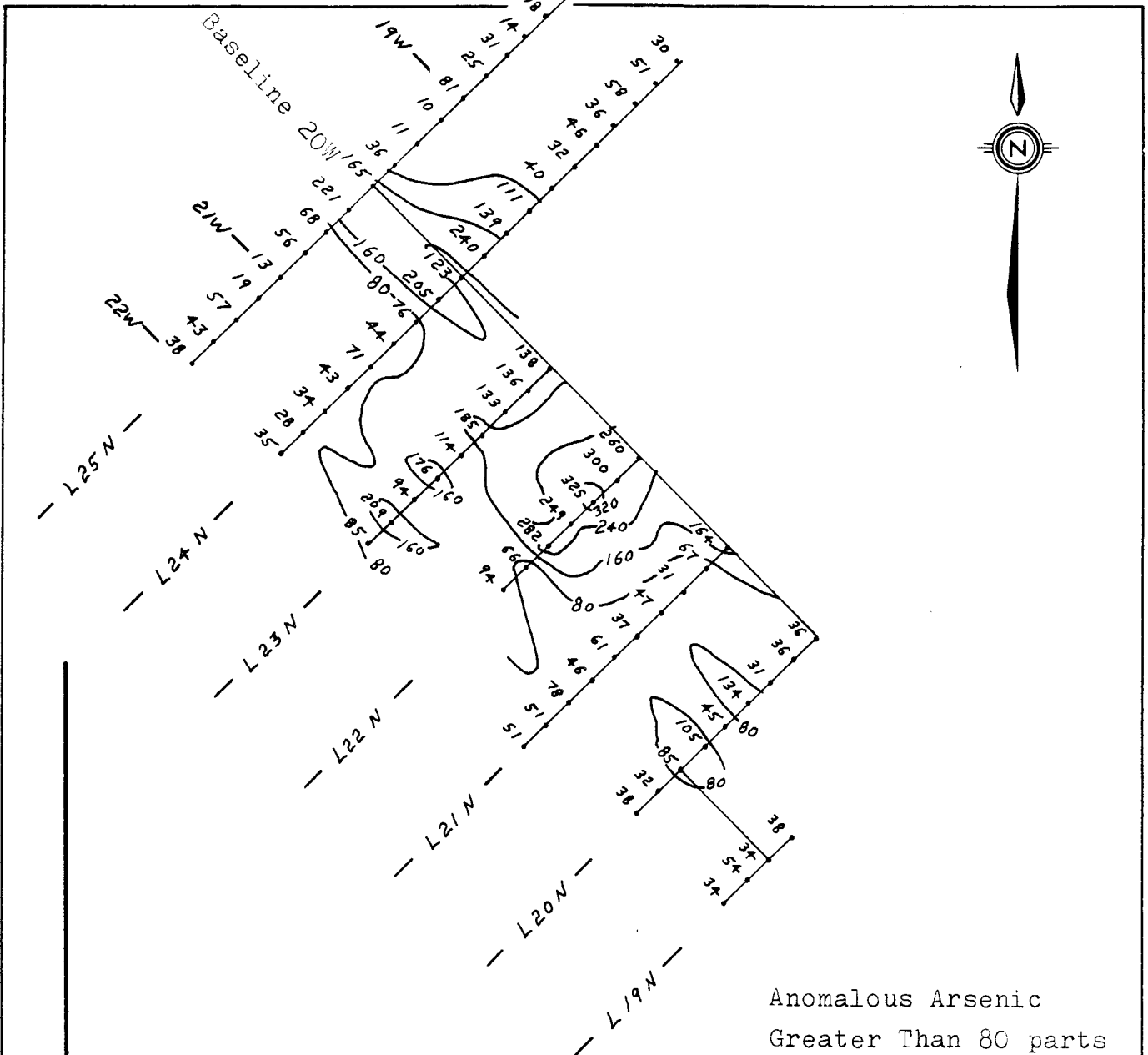
To accompany a biogeochemical
by M. Morrison.

M Morrison

Legal Corner Post tied-in
to grid by compass and belt
chain.

L.C.P. Auriferous #1 M. C.
(6 units north by 3 units east)

AURIFEROUS PROPERTY	
Beaverdell Area	Greenwood M. D., B.C.
BIOGEOCHEM SURVEY	
SILVER	
Auriferous / Mineral Claim	
Scale	1:5,000
Dec.	1986
NTS	82-E-10&11
Fig.	A-86-4



Anomalous Arsenic
Greater Than 80 parts
per million.

100 50 0 100metres

1cm=50m

To accompany a biogeochemical
by M. Morrison.

M. Morrison

Legal Corner Post tied-in
to grid by compass and belt
chain.

L.C.P. Auriferous #1 M. C.

(6 units north by 3 units east)

AURIFEROUS PROPERTY

Beaverdell Area

Greenwood M. D., B.C.

BIOGEOCHEM SURVEY

ARSENIC

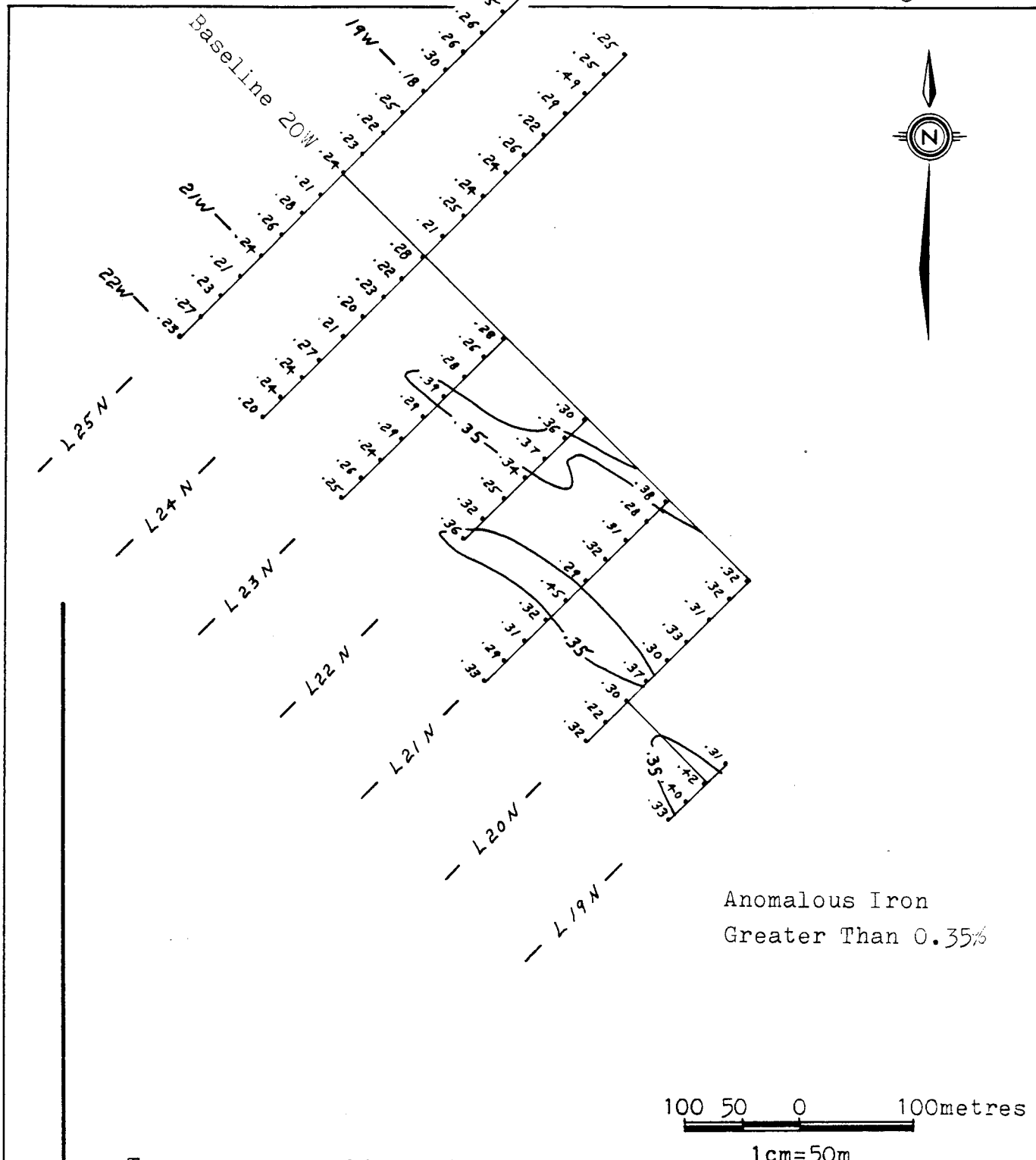
Auriferous / Mineral Claim

Scale 1:5,000

NTS 82-E-10&11

Dec. 1986

Fig. A-86-5



Anomalous Iron
Greater Than 0.35%

100 50 0 100metres
1cm=50m

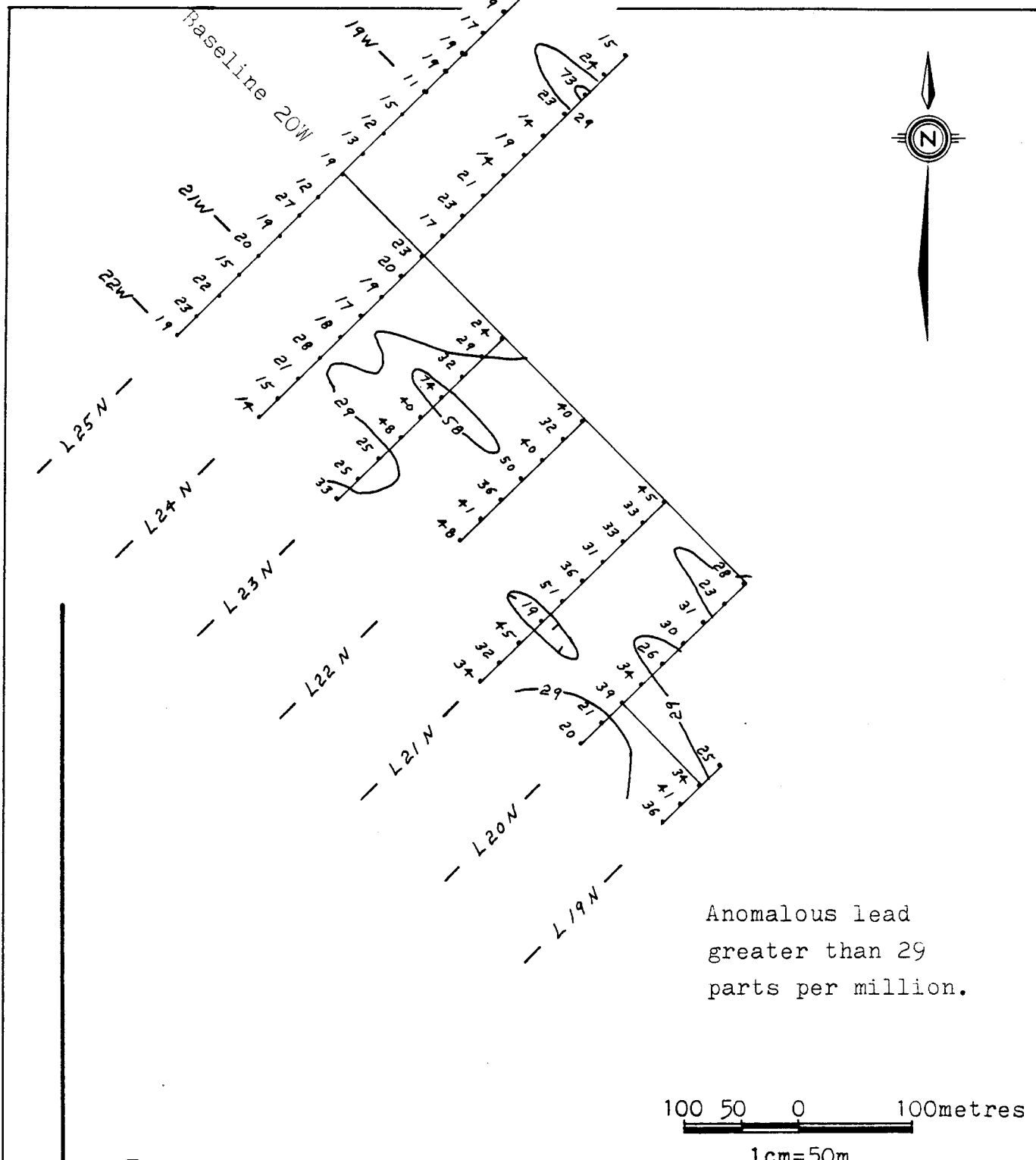
To accompany a biogeochemical
by M. Morrison.

M. Morrison

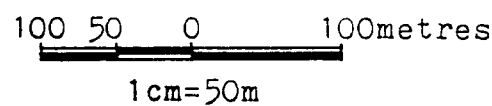
Legal Corner Post tied-in
to grid by compass and belt
chain.

L.C.P. Auriferous #1 M. C.
(6 units north by 3 units east)

AURIFEROUS PROPERTY		
Beaverdell Area		Greenwood M. D., B.C.
BIOGEOCHEM SURVEY		
IRON		
Auriferous / Mineral Claim		
Scale	1:5,000	NTS 82-E-10&11
Dec.	1986	Fig. A-86-6



Anomalous lead
greater than 29
parts per million.



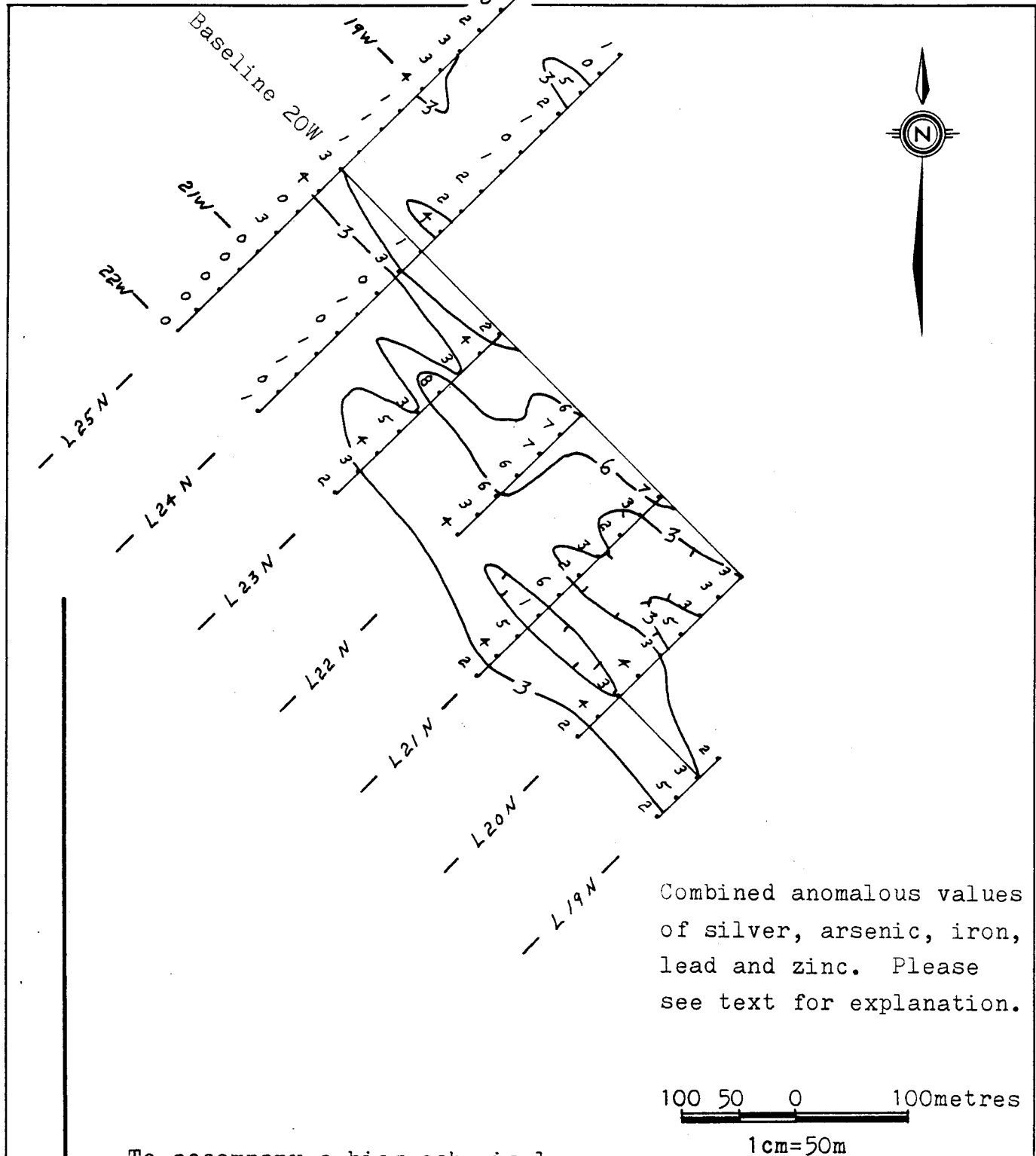
To accompany a biogeochemical
by M. Morrison.

M. Morrison

Legal Corner Post tied-in
to grid by compass and belt
chain.

L.C.P. Auriferous #1 M. C.
(6 units north by 3 units east)

AURIFEROUS PROPERTY		
Beaverdell Area		Greenwood M. D., B.C.
BIOGEOCHEM SURVEY		
LEAD		
Auriferous / Mineral Claim		
Scale	1:5,000	NTS 82-E-10&11
Dec.	1986	Fig. A-86-7



Combined anomalous values of silver, arsenic, iron, lead and zinc. Please see text for explanation.

To accompany a biogeochemical by M. Morrison.
M. Morrison

Legal Corner Post tied-in to grid by compass and belt chain.

L.C.P. Auriferous #1 M. C.
 (6 units north by 3 units east)

AURIFEROUS PROPERTY	
Beaverdell Area	Greenwood M. D., B.C.
BIOGEOCHEM SURVEY	
COMPOSITE MAP	
Auriferous / Mineral Claim	
Scale	1 : 5,000
NTS	82-E-10&11
Dec.	1986
Fig.	A-86-10

DISCUSSION OF THE 1986 BIOGEOCHEMICAL SURVEY - Continued

The five elements that yielded the most meaningful results during the survey are silver, arsenic, iron, lead and zinc, and of these five, silver illustrates the best correlation with the mineralized zones of the Rosemont workings.

Composite Biogeochemical Map (Figure A-86-10).

The composite biogeochemical map (Figure A-86-10) shows a large anomaly with a strong core centered on line 22N between 20W and 21W, and open to the east. A 50 to 100 metre lobe of the anomaly extends southwesterly 300 metres to cover the area of the Rosemont workings, while a narrower zone trends northwesterly through lines 24N and 25N, a distance of 200 metres from the core of anomaly.

Silver Biogeochem. Figure A-86-4.

The configuration of the main silver anomaly on Figure A-86-4 closely resembles the composite anomaly, yet it is more accentuated near the old Rosemont workings, but narrower through lines 24N and 25N. The silver anomaly is also open to the east.

A broad silver anomaly east of the Baseline on lines 24N and 25N is open to the north. This anomaly is only weakly expressed on the composite map.

Arsenic Biogeochem. Figure A-86-5.

The arsenic anomaly on Figure A-86-5 accentuates the core of the anomaly contoured on the composite map, and clearly identifies an anomalous zone extending northwesterly through lines 24 and 25N. However, to the southwest the only anomalous arsenic values are restricted to the immediate area of the Rosemont Shaft.

Iron Biogeochem. Figure A-86-6.

The iron anomalies on Figure A-86-6 are much restricted in area when compared with the composite map, but are interesting in that they clearly show the core of the main anomaly, and they pass through the Rosemont workings. The iron possibly represents concentrations of pyrite and pyrrhotite in the samples.

Continued...

DISCUSSION OF THE 1986 BIOGEOCHEMICAL SURVEY - Continued

Lead Biogeochem, Figure A-86-7.

The lead anomaly, contoured at the 29 ppm level (Figure A-86-7), covers much of the southern grid area, but like the composite anomaly has a core near Baseline 20W between lines 21N and 22N, and is open to the east. A strong lobe of the anomaly extends southwesterly through the area of the Rosemont workings. The higher values within the anomaly have a strong positive correlation with the higher iron values on Figure A-86-6. A combination of these two elements may give very meaningful results in defining zones of Rosemont type mineralization.

Zinc Biogeochem, Figure A-86-8.

The main zinc anomaly on Figure A-86-8 extends over a large area and is partly coincident with the composite anomaly. The anomaly is nowhere strong, and shows both a positive and negative correlation with the other elements of the survey. The most notable correlation is the negative correlation with arsenic observed at several stations, and it may be that arsenic and zinc compete with each other during the absorption of elements by the Douglas fir.

A small zinc anomaly is coincident with high silver values on line 25N at 19E.

Strontium Biogeochem, Figure A-86-9.

Strontium (Figure A-86-9) like zinc shows both a negative and positive correlation with the other elements of the survey. In general, high strontium values do not correlate well with some of the more promising biogeochemical elements such as silver, arsenic, iron and lead, and therefore, strontium does not appear to be a useful element for defining Rosemont type mineralization. It is of interest to note, however, that there is a strong strontium anomaly coincident with the silver anomaly centred on line 25N, 19E.

Summary - Biogeochem.

In summary, silver and arsenic appear to have yielded the strongest anomalies during the survey, with silver best defining the area of the Rosemont workings, and arsenic showing the best concentration buildup of any of the elements. Unfortunately, the

Continued...

DISCUSSION OF THE 1986 BIOGEOCHEMICAL SURVEY - Continued

two elements do not have an absolute positive correlation. Arsenic is barely anomalous in the vicinity of the Rosemont workings, or at the broad silver anomaly on line 25N at 19E. Part of the problem with arsenic as a biogeochemical element might result from the competition of zinc with arsenic during absorption of elements by the Douglas fir as referred to previously.

Lead and iron appear to work well as indicator biogeochemical elements, but are much more restricted in area than silver or arsenic. This restriction would be a disadvantage to a broadly spaced regional survey, but may be an advantage when it comes to follow-up work such as trenching.

The use of composite maps, likewise, would be of great use for regional studies, whereas the individual element maps might be most useful for follow-up work.

CONCLUSIONS AND RECOMMENDATIONS

The experimental biogeochemical program using the twigs and needles of Douglas fir as a sample medium on the Auriferous 1 mineral claim has yielded very interesting results. The biogeochemical survey has identified anomalies for silver, arsenic, lead, zinc and iron where a geochemical soil sampling survey failed to yield any anomalies. Silver (and to a lesser extent lead and iron) has yielded anomalous biogeochemical anomalies coincident with the old Rosemont gold workings. These anomalies continue northwesterly from the known workings into an overburden area on the Auriferous 1 mineral claim that has never been explored.

During the survey a second silver biogeochemical anomaly was defined 400 metres to the north of the Rosemont workings and a strong arsenic anomaly was outlined 250 metres north of the

Continued...

CONCLUSIONS AND RECOMMENDATIONS - Continued


old workings. The silver anomaly is open to the north, while the arsenic anomaly is open to the east.

An expanded biogeochemical survey using Douglas fir as a medium is recommended for the entire roof pendant area of the Auriferous 1 mineral claim. The roof pendant is believed to extend 400 m both to the northwest and northeast of the present grid. Such an expansion of the survey would define the limits of the arsenic and silver anomalies still open to the east and north respectively.

It is further recommended that intermediate lines (50 metres apart) be established in areas of biogeochemical anomalies, and that samples be collected and analyzed from these lines to better define the anomalies.

Backhoe trenching of any zones found to be anomalous in all five of the "proven" biogeochemical indicator elements (silver, arsenic, iron, lead and zinc) is highly recommended. Overburden is expected to be less than 3 metres deep over most of the survey area.

Kelowna, B.C.
December 30, 1986


Murray Morrison, B.Sc.

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APPENDIX "A"

ACME ANALYTICAL LABORATORIES LTD.
E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE 253-3158 DATA LINE 251-1011

DATE RECEIVED: NOV 20 1986

DATE REPORT MAILED:

Nov. 27/86

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN.FE.CA.P.CR.MG.BA.TI.B.AL.NA.K.W.SI.ZR.CE.SN.Y.NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.

- SAMPLE TYPE: BIOGEOCHEM ANALYSIS BY AA FROM 10 GRAM SAMPLE.

ASSAYER: *D. Toy* DEAN TOYE. CERTIFIED B.C. ASSAYER.

M.S. MORRISON

FILE # 86-3760

PAGE 1

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Co PPM	Fe %	As PPM	Sr PPM	Cd PPM	Au# PPB
L23N 22+00W	2	43	33	505	.3	1	.25	85	1430	1	1
L23N 21+75W	3	56	25	726	.3	1	.26	209	1155	1	1
L23N 21+50W	4	57	25	1038	.6	1	.24	94	1245	2	1
L23N 21+25W	5	58	48	953	.7	2	.29	176	1244	1	2
L23N 21+00W	4	51	40	515	.7	2	.29	114	1284	1	1
L23N 20+75W	4	70	74	772	.5	2	.39	185	1209	2	1
L23N 20+50W	5	50	32	592	.7	1	.28	133	1272	1	1
L23N 20+25W	6	66	29	1112	.2	2	.26	136	671	2	1
L23N 20+00W	5	58	24	987	.3	1	.28	138	518	1	1
L22N 21+50W	5	72	48	519	.5	1	.36	94	1379	1	1
L22N 21+25W	5	70	41	830	.8	2	.32	66	1105	1	1
L22N 21+00W	5	57	36	771	.5	2	.25	382	886	1	2
L22N 20+75W	4	58	50	734	.5	2	.34	249	984	1	1
L22N 20+50W	8	57	40	828	.7	2	.37	325	1418	1	1
L22N 20+25W	4	54	32	643	.6	2	.36	300	1102	3	1
L22N 20+00W	4	58	40	656	1.1	3	.30	260	1278	2	1
L21N 22+25W	5	62	34	782	.2	1	.33	51	888	1	1
L21N 22+00W	3	71	32	726	.8	2	.29	51	1196	2	2
L21N 21+75W	3	63	45	753	.6	2	.31	78	1330	2	1
L21N 21+50W	2	50	19	548	.7	1	.32	46	1484	1	1
L21N 21+25W	3	94	51	801	.6	3	.45	61	1354	3	1
L21N 21+00W	6	51	36	948	.4	2	.29	37	996	1	1
L21N 20+75W	11	88	31	1217	.2	1	.32	47	591	2	1
L21N 20+50W	6	55	33	1049	.4	1	.31	31	605	1	2
L21N 20+25W	5	60	33	637	.7	1	.28	67	1136	2	1
L21N 20+00W	5	69	45	795	.7	3	.38	164	999	2	1
L20N 22+00W	2	58	20	798	.6	2	.32	38	1356	1	1
L20N 21+75W	2	135	21	754	2.7	10	.22	32	653	1	1
L20N 21+50W	3	54	39	553	.7	3	.30	85	869	1	1
L20N 21+25W	3	44	34	606	.5	3	.37	105	789	1	1
L20N 21+00W	4	67	26	1016	.7	2	.30	45	945	2	1
L20N 20+75W	5	72	30	913	.6	2	.33	134	1037	2	1
L20N 20+50W	4	55	31	653	.6	2	.31	31	1473	2	2
L20N 20+25W	4	56	23	759	.8	2	.32	36	1271	2	1
L20N 20+00W	4	52	28	713	.5	2	.32	36	1404	2	1
L19N 22+00W	3	56	36	537	.6	2	.33	34	1537	1	1
STD C/AU-S	21	59	40	139	7.0	29	3.97	42	44	18	50

APPENDIX "A" - CONTINUED

M. S. MORRISON

FILE # 86-3760

PAGE 2

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Co PPM	Fe %	As PPM	Sr PPM	Cd PPM	Au# PPB
L19N 21+75W	4	66	41	745	.8	2	.40	54	1284	2	1
L19N 21+50W	4	69	34	589	.4	3	.42	34	1238	2	1
L19N 21+25W	5	45	25	698	.4	2	.31	38	1068	2	1
STD C/AU S	22	60	40	140	7.1	28	3.96	39	48	18	48

APPENDIX "A" - CONTINUED

ACME ANALYTICAL LABORATORIES LTD.
 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
 ONE 253-3158 DATA LINE 251-1011

DATE RECEIVED: DEC 29 1986

DATE REPORT MAILED:

Jan 13/87...

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
 THIS LEACH IS PARTIAL FOR MN.FE.CA.P.CR.MG.BA.TI.B.AL.NA.K.W.SI.ZR.CE.SN.Y.NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.

- SAMPLE TYPE: BIOGEOCHEM *Ashed at 475°C*

ASSAYER: *D. J. Dean* DEAN TOYE. CERTIFIED B.C. ASSAYER.

M.S. MORRISON

FILE # 86-4089

PAGE 1

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Co PPM	Fe %	As PPM	Au PPM	Sr PPM	Cd PPM
L25N 22+00W	45	19	525	.2	1	.23	38	ND	1629	1
L25N 21+75W	47	23	551	.2	2	.27	43	ND	1215	1
L25N 21+50W	43	22	573	.4	1	.23	57	ND	1145	1
L25N 21+25W	41	15	561	.4	2	.21	19	ND	1081	1
L25N 21+00W	56	20	396	.3	2	.24	13	ND	1184	1
L25N 20+75W	50	19	699	.5	1	.26	56	ND	1128	2
L25N 20+50W	37	27	500	.3	2	.28	68	ND	1241	1
L25N 20+25W	39	12	617	.6	2	.21	221	ND	976	2
L25N 20+00W	33	19	520	.3	3	.24	165	ND	855	2
L25N 19+75W	42	13	366	.6	3	.23	36	ND	1007	1
L25N 19+50W	30	12	575	.6	1	.22	11	ND	1079	1
L25N 19+25W	37	15	541	.8	1	.25	10	ND	1318	1
L25N 19+00W	44	11	771	.9	1	.18	81	ND	1905	4
L25N 18+75W	30	19	744	.8	1	.30	25	ND	1324	3
L25N 18+50W	49	19	659	1.2	2	.26	31	ND	1150	3
L25N 18+25W	32	17	556	.9	1	.26	14	ND	1173	2
L25N 18+00W	64	19	394	.4	2	.25	18	ND	1512	1
L25N 17+75W	64	16	532	.3	2	.26	10	ND	1268	1
L25N 17+50W	52	20	420	.7	1	.27	6	ND	1141	2
L24N 22+00W	43	14	474	.5	1	.20	35	ND	1206	1
L24N 21+75W	45	15	627	.3	1	.24	28	ND	1142	1
L24N 21+50W	56	21	506	.5	1	.24	34	ND	1197	1
L24N 21+25W	37	28	402	.5	1	.27	43	ND	1268	1
L24N 21+00W	30	18	363	.3	1	.21	71	ND	1214	1
L24N 20+75W	36	17	499	.4	1	.20	44	ND	1093	2
L24N 20+50W	31	19	620	.4	1	.23	76	ND	1157	1
L24N 20+25W	50	20	449	.5	2	.22	205	ND	904	1
L24N 20+00W	32	23	452	.3	1	.28	123	ND	1172	1
L24N 19+75W	46	17	387	.6	3	.21	240	ND	1402	1
L24N 19+50W	41	23	436	.5	2	.25	139	ND	1146	1
L24N 19+25W	49	21	464	.5	3	.24	111	ND	1058	1
L24N 19+00W	32	14	478	.8	2	.24	40	ND	1149	1
L24N 18+75W	54	19	480	.4	1	.26	32	ND	1097	1
STD C	60	38	132	6.9	28	3.96	42	8	49	17

APPENDIX "A" - CONTINUED

SAMPLE#	M.S. MORRISON					FILE # 86-4089			PAGE 2	
	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Co PPM	Fe %	As PPM	Au PPM	Sr PPM	Cd PPM
L24N 18+50W	52	14	713	.2	1	.22	46	ND	1076	1
L24N 18+25W	62	23	817	.3	2	.29	36	ND	1207	2
L24N 18+00W	74	73	701	.4	3	.49	58	ND	1097	2
L24N 17+75W	60	24	613	.4	2	.25	51	ND	1485	1
L24N 17+50W	56	15	760	.4	2	.25	30	ND	1264	1
STD C	60	37	131	6.7	29	3.96	41	7	47	16


APPENDIX "B"

STATEMENT OF QUALIFICATIONS

I, Murray Morrison, of the City of Kelowna, in the Province of British Columbia, do hereby state that:

1. I graduated from the University of British Columbia in 1969 with a B.Sc. Degree in Geology.
2. I have been working in all phases of mining exploration in Canada for the past sixteen years.
3. During the past sixteen years, I have intermittently held responsible positions as a geologist with various mineral exploration companies in Canada.
4. I have examined many mineral properties in Southern British Columbia during the past sixteen years.
5. I conducted the Biogeochemical Survey outlined in this report.
6. I own a 100% interest in the Auriferous 1 mineral claim.

December 30, 1986
Kelowna, B.C.



Murray S. Morrison, B.Sc.

APPENDIX "C"

STATEMENT OF EXPENDITURES - ON THE AURIFEROUS 1 MINERAL CLAIM

Statement of Expenditures in connection with the Biogeochemical Survey carried out on the Auriferous 1 mineral claim, located at St. John Creek, 12 km northeast of Beaverdell, British Columbia (N.T.S. 82-E-10&11) for the year 1986.

FIELDWORK - COLLECTING BIOGEOCHEMICAL SAMPLES

M. Morrison, Geologist	4 days @ \$200.00/day	\$ 800.
Meals and Lodging		000.
Truck, 4x4 (incl. gasoline)	4 days @ \$ 50.00/day	200.
Supplies (sample bags, flagging, belt chain thread)		20.
		<hr/>
	Sub-total	\$ 1020.

LABORATORY AND SHIPPING COSTS


39 samples analyzed for 10 elements by ICP and for gold by AA	@ \$ 11.00/each	\$ 429.
38 samples analyzed for 10 elements by ICP	@ \$ 7.00/each	266.
Cost of shipping samples to lab.		17.
		<hr/>
	Sub-total	\$ 712.

REPORT PREPARATION COSTS

M. Morrison, geologist	1 day @ \$200.00/day	\$ 200.
Drafting		00.
Typing		00.
Copying		8.
		<hr/>
	Sub-total	\$ 208.
	GRAND TOTAL	<u><u>\$ 1,940.</u></u>

I hereby certify that the preceding statement is a true statement of monies expended in connection with the Biogeochemical Survey carried out October 28-31, 1986.

December 30, 1986



Murray Morrison - Geologist