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GEOLOGICAL,  
BIOGEOCHEMICAL AND GEOPHYSICAL  
ASSESSMENT REPORT

on the

AURIFEROUS 1&2 MINERAL CLAIMS  
BEAVERDELL AREA  
GREENWOOD MINING DIVISION

by

Murray Morrison, B.Sc.

Claims: Auriferous 1&2 (28 units)  
Location: The Auriferous property is situated at  
St. John Creek, 12 km northeast of  
Beaverdell, B.C.  
Lat. 49°32'; Long. 119°00';  
N.T.S. Maps 82-E-10 & 11  
Owner: Murray Morrison  
Operator: Murray Morrison  
Date Started: May 13, 1987  
Date Completed: July 9, 1987

16,998

Kelowna, B.C.

November 15, 1987

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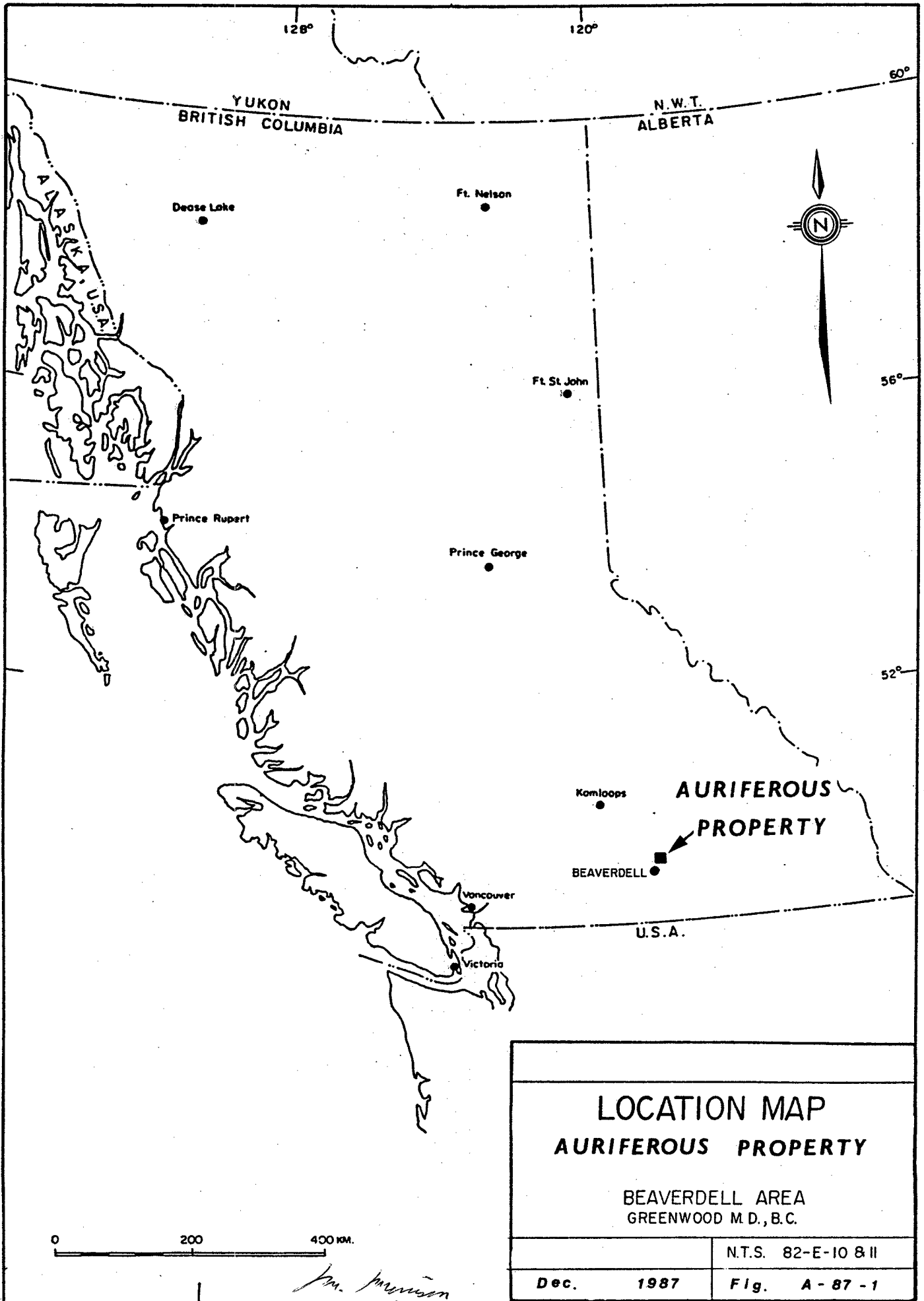
SUMMARY

The Auriferous property, located 12 km northeast of Teck Corporation's Highland Bell Silver Mine at Beaverdell, B.C., is comprised of two mineral claims, totalling 28 units, owned by the writer, M. Morrison of Kelowna, B.C. The property encircles 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 property is also underlain by Anarchist Group rocks which have been intruded by Nelson diorite.

An experimental biogeochemical survey conducted in 1986, using the twigs and needles of Douglas fir as a sampling medium, was expanded to cover the west-central portion of the Auriferous 1 mineral claim this year (1987). The same grid area was also mapped geologically and covered by ground VLF-EM and magnetometer surveys.

Two strong VLF-EM conductors with coincident magnetic anomalies and silver and cadmium biogeochemical anomalies were delineated during this year's surveys.

Because the gold values at the Rosemont Mine are associated with pyrite and magnetic pyrrhotite the conductors outlined this year on the Auriferous property are considered very significant. A Backhoe trenching program is recommended to expose the rock associated with the conductors. A drill program is also recommended if precious metal values are found to be associated with sulphides during the trenching program.



<b>LOCATION MAP</b> <b>AURIFEROUS PROPERTY</b>	
BEAVERDELL AREA GREENWOOD M.D., B.C.	
Dec. 1987	N.T.S. 82-E-10 & 11
Fig. A-87-1	

## INTRODUCTION

The Auriferous 1 & 2 mineral claims, 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) were staked by the writer to cover a geological environment believed to have favourable gold-bearing potential. The two, 4-post mineral claims, comprised of 28 units, encircle the old Rosemont Mine from which a limited amount of good grade gold ore (16 g/tonne) was shipped during the late 30's.

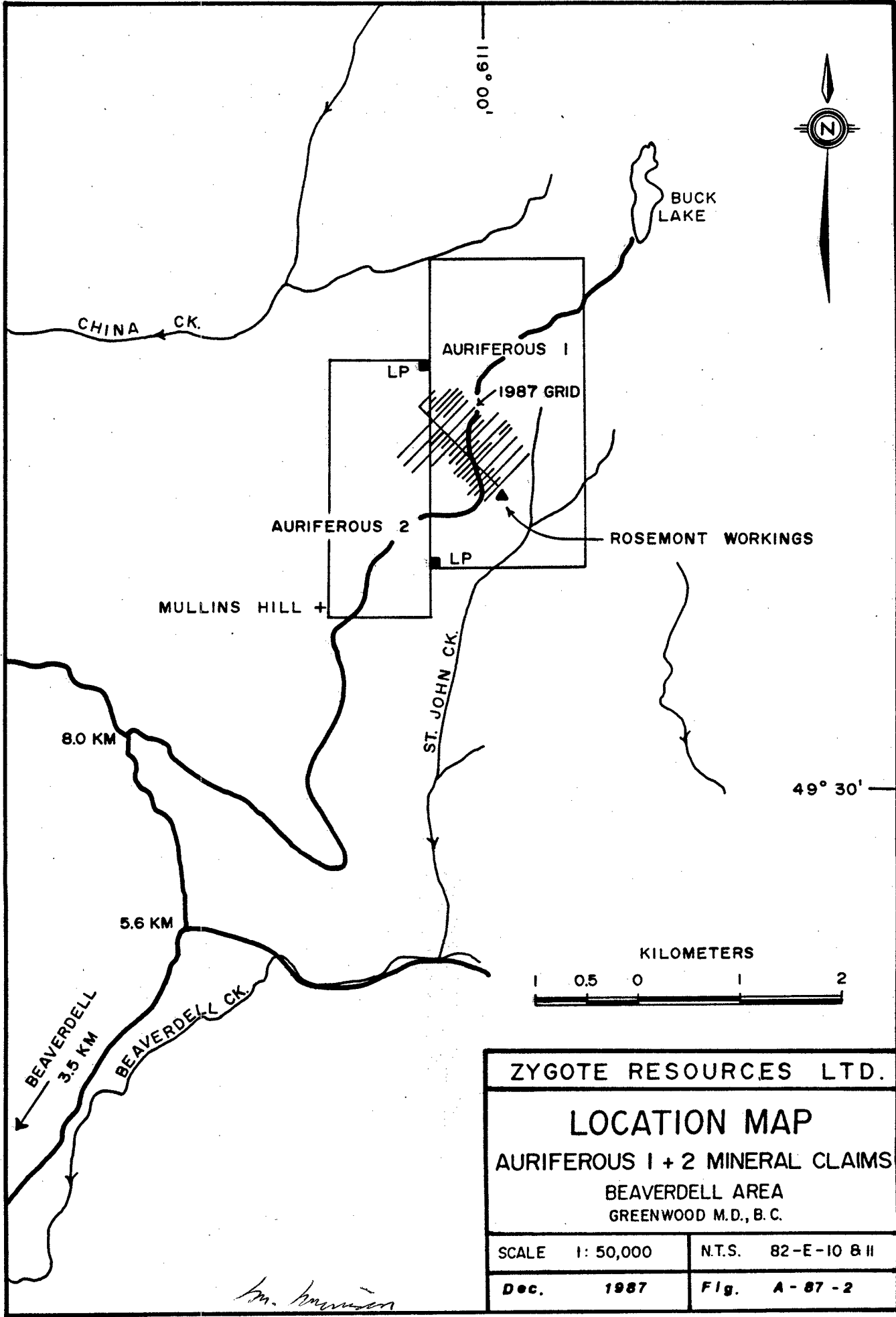
The Rosemont workings are located within a roof pendant of Anarchist Group (Permian and/or Triassic) metavolcanics and metasediments that has been intruded by Nelson (Cretaceous(?)) diorite. The Rosemont workings expose irregular quartz veins cutting through highly fractured Anarchist Group rocks near the diorite contact. Pockets of massive pyrite and pyrrhotite occur within the quartz, and these sulphides yield good gold assays. The Anarchist Group roof pendant rocks extend northwesterly from the area of the old Rosemont workings on to the Auriferous 1 & 2 mineral claims.

This year's (1987) geological, biogeochemical and geophysical surveys were designed to find possible extensions of the Rosemont mineralization on the Auriferous property immediately to the northwest. The results of the geological mapping, biogeochemical sampling, and VLF-EM surveying programs are discussed within the text of this report, while maps related to each study may be found in pockets at the back of this report.

## LOCATION AND ACCESS

The Auriferous property is located near Buck Lake, 12 kilometres northeast of Beaverdell, B.C. The property may be reached via the Beaverdell Creek road (5.6 km) and the Buck Lake road (10 km) as illustrated on Figure A-87-2. The trip requires 45 minutes

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ZYGOTE RESOURCES LTD.	
<b>LOCATION MAP</b> <b>AURIFEROUS 1 + 2 MINERAL CLAIMS</b> BEAVERDELL AREA GREENWOOD M.D., B.C.	
SCALE	1: 50,000
N.T.S.	82-E-10 & 11
Dec.	1987
Fig.	A-87-2

*Am. Morrison*

LOCATION AND ACCESS - Continued

driving time from Beaverdell during summer months.

The Buck Lake road, transecting the property as illustrated, provides the only access at present, but the country is very amenable to road construction.

PHYSICAL FEATURES AND CLIMATE

The Auriferous property straddles a 1400 metre ridge separating the headwaters of St. John and China Creeks 2 km southwest of Buck Lake. The ridge is a part of the Beaverdell Range, a low range of hummocky hills trending in a northeasterly direction across the southeastern margin of the Okanagan Highland. The moderately flat surface of the Highland, averaging 1350 metres above sea level, has been deeply incised by creeks flowing east and west in<sup>to</sup> the Kettle (760 m) and West Kettle (850 m) Rivers respectively.

The Highland surface has been glaciated with the low ridges rounded-off and the broad shallow valleys in-filled with deep drift.

The topography of the Auriferous property is typical of that of the Highland. The flat ridge crossing the centre of the property is covered by a mantle of clayey till with few natural outcroppings, while the upper valleys of St. John and China creeks are in-filled with deep glacial gravels. Rock exposure on the property equals less than 5%.

Forest fires of years past have left only a few hectares of mature Douglas fir on the property. The dominant forest cover is made up of a dense growth of young Douglas fir, Lodgepole pine, larch and alder.

Continued . . .



PHYSICAL FEATURES AND CLIMATE- Continued

Buck Lake provides drinking water for grazing cattle throughout the summer. The upper tributaries of St. John and China creeks also provide water most of the summer and autumn seasons.

The region receives 50 cm of precipitation annually - half of it in the form of winter snow. The winter snow pack of 1 to 1½ metres begins to accumulate in November and lingers in shaded areas until mid-May. The winters in the Beaverdell area are moderate and the summers are cooler than those of the hot Okanagan Valley lying just 40 kilometres to the west.

CLAIM STATUS

The Auriferous property is made up of the Auriferous 1 & 2, 4-post mineral claims, totalling 28 units. The claims were staked by the writer, M. Morrison, of Kelowna, B.C., and recorded in the Greenwood Mining Division.

Particulars on the two Auriferous mineral claims are listed below:

<u>CLAIM NAME</u>	<u>UNITS</u>	<u>DATE OF RECORDING</u>	<u>RECORD NO.</u>	<u>MINING DIVISION</u>	<u>EXPIRY DATE *</u>
Auriferous 1	18	Nov. 5/85	4432	Greenwood	Nov. 5/89
Auriferous 2	10	June 30/87	4973	Greenwood	June 30/91

\* The Expiry Date is based on the acceptance of this report for Assessment Work Credits.

It should be noted that the southwest corner of the Auriferous 2 mineral claim is believed to overlap a portion of the pre-existing IVY mineral claim, and it is therefore reduced in size by approximately 0.2 sq. km.

Continued . . .

CLAIM STATUS - Continued

The exact position of the Rosemont Crown Grant (Lot 3291s) is unknown although it is assumed to cover at least some of the old Rosemont workings immediately southeast of the grid shown on Figure A-87-2. The workings match those described in the literature under the title of the "Rosemont Mine". 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.

A further complication to the positioning of the Rosemont Crown Grant occurs on published government topographic and mineral claim reference maps. These maps indicate that Lot 3291s is located a full kilometre north of the Rosemont workings.

In spite of several searches none of the corner posts or surveyed boundaries of Lot 3291s have been found. It is believed that the Lot falls somewhere within the boundaries of the Auriferous 1 mineral claim, and that it 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.

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.

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## HISTORY - Continued

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 program over the central portion of their Goldie property (now the Auriferous 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 a portion of the Goldie 1 mineral claim by the writer.

The Goldie 1 mineral claim was subsequently restaked as the Auriferous 1 mineral claim, and the Auriferous 2 mineral claim was added to the west in June 1987.

During 1986 a trial biogeochemical survey was carried out over a small area on the Auriferous 1 mineral 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 intruded by a portion of the Beaverdell (Nelson) Batholith (Cretaceous?). The maps show that the Nelson granitic rocks

Continued . . .

REGIONAL GEOLOGY - Continued

have, in turn, been intruded by a body of Valhalla (Cretaceous?) intrusive rock 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.

1987 SURVEYS

Grid

A small grid established for a preliminary biogeochemical survey on the Auriferous 1 mineral claim in 1986 was greatly expanded this year (1987) to facilitate geological mapping and geophysical and biogeochemical surveying on the west-central portion of the Auriferous 1 mineral claim and north-eastern corner of the new Auriferous 2 mineral claim.

The 1986 flagged baseline was extended another 600 metres northwest, and 9.6 km of flagged grid line were added to the 1.7 km laid-out in 1986. The baseline was established at 315 degrees azimuth to coincide with the apparent geological trend of the property, while grid lines were measured off at 50 to 100 metre intervals as shown on map A-87-1. The density of the grid lines was governed by the favourability of the geology. Stations were identified at each 25 metres along the grid lines. The grid was established using a Silva Ranger compass and a belt chain during the course of geological mapping.

Geological Mapping

Geological mapping was conducted over the entire grid area

Continued . . .

1987 SURVEYS - CONTINUED

Geological Mapping - Continued

over a period of eight days. The results of the mapping are illustrated on Map A-87-1. Large areas of the property are mantled by glacial till as illustrated on the map, and rock exposures occur over less than 5% of the grid area.

Biogeochemical Survey

The 1987 biogeochemical survey which involved the collecting of 206 samples was a follow-up to an experimental survey of 77 samples collected from the southeast end of the grid area in 1986. This year geological mapping was conducted prior to the biogeochemical survey and some early decisions were made with regard to sample density. In general the sample spacing was 50 by 100 metres, but was increased to 25 by 50 metres in areas deemed to have more economic mineral potential. Regions considered to have little potential, such as the northwestern and southeastern corners of the grid area, were not sampled at all.

The sampling procedures this year were kept as close to the 1986 procedures as possible and the Douglas fir was again used as the sample medium. First and second year twigs and needles were clipped from Douglas fir at each sample 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 time consuming to separate first and second year twigs and both were collected for the samples.

Continued . . .

1987 SURVEYS - CONTINUED

Biogeochemical Survey - Continued

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 (by ignition) and ICP analyses of 10 elements. The laboratory procedures used for analysis are listed along with the values obtained for each element of each sample in Appendix A.

Contoured biogeochemical maps for silver and cadmium accompany this report (Maps A-87-2&3).

Seven man days were required for the biogeochemical survey.

VLF-EM 16 Ground Survey

A Geonics VLF-EM 16 model instrument was used to conduct a 4 day survey over the 11.3 km grid on the Auriferous property. The Annapolis, Maryland signal at 21.4 kHz was selected for the survey. The signal was received from a direction of 108 degrees azimuth, and all readings were taken at right-angles to the station, or at 198 degrees azimuth (facing southwest). The In-Phase Tilt Angles and Quadrature readings were recorded for each grid station. The Basic VLF-EM data is displayed on Map A-87-5, while the Fraser Filtered In-Phase values have been plotted and contoured on Map A-87-4. Five conductors (A to E) have been identified on the property.

The Fraser filtering of VLF-EM data has had widespread use for several years, and a full explanation of the technique is given in the geophysical papers by Fraser, Peterson and Ronka that

Continued . . .

1987 SURVEYS - CONTINUED

VLF-EM 16 Ground Survey - Continued

are listed with references at the end of this report.

The Fraser filtering technique may be briefly summarized as follows: By means of simple mathematical operations the tilt data can be transformed into contourable form, and the effects of noise and topography can be filtered from data. By averaging pairs of stations and taking differences between pairs separated by the appropriate distance, values may be plotted and contoured in plan that transform cross-overs into peaks, and a low-pass smoothing mathematical operator reduces noise.

PROPERTY GEOLOGY

Summary

A flat-lying (?) roof pendant of Anarchist Group (Permian and/or Triassic) metasediments and metavolcanics is intruded by Nelson (Cretaceous?) quartz diorite in the grid area on the Auriferous property. The country and intrusive rocks are intimately associated at many locations on the property, with the country rocks showing the effects of contact metamorphism, and the intrusive rocks exhibiting various degrees of contamination by the (suspected) assimilation of the country rocks. Various hybrid rock units have been mapped ranging from those of nearly pure intrusive composition to those of "baked" argillite or tuff.

In several areas the metamorphosed country rock and contaminated intrusive rock are well mineralized with 1 to 3% pyrite and pyrrhotite near the intrusive interface, but the zones of mineralization measure only a few metres in thickness. There are, however, local infolds or down-warps of the country rock into the intrusive resulting in larger mineralized areas.

Continued . . .

PROPERTY GEOLOGY - CONTINUED

Summary - Continued

One such area occurs on the Rosemont Crown Grant and has been explored with excavations. The few tons of rich (16 g/Tonne) gold ore won from the Rosemont Mine have come from pyrite and pyrrhotite pockets associated with irregular quartz veins found cutting through well-fractured Anarchist and Nelson rocks near the intrusive contact.

Anarchist Group - Permian and/or Triassic

Anarchist Group metasediments and metavolcanics underlie much of the central portion of the grid area on the Auriferous mineral claims. The predominant rocks are grey recrystallized limestones and fine to medium grained thin bedded andesite tuffs. Sandstones, argillaceous limestones, limy tuffs and fine to medium grained dacitic tuffs also form a part of the Anarchist Group rocks on the property. The limestones have been recrystallized and the sediments and limy tuffs metamorphosed to hornfels or skarny tuffs by the heat of the Nelson intrusive.

The succession of Anarchist rocks appears to start with sandstones and argillites which grade upward in argillaceous limestone and limestone. The thin bedded andesitic and dacitic tuffs appear to overlie the limestone.

Nelson Intrusions - Cretaceous(?)

Nelson diorite or quartz diorite appears to underlie Anarchist Group rocks in the entire grid area - sometimes at very shallow depth. At lower elevations, such as on grid line 29N at 23+50W, the intrusive is a fresh, equigranular quartz diorite, but at the higher elevations the intrusive shows the effects of contamination by the Anarchist Group rocks. The intrusive grades upwards into a hornblende diorite, and then into successively

Continued . . .



PROPERTY GEOLOGY - CONTINUED

Nelson Intrusions - Cretaceous(?) - Continued

finer grained and more mafic phases until it is difficult to distinguish from hornfels.

The Nelson batholithic rocks appear to have invaded the Anarchist rocks by assimilation and the intrusive contacts are gradational.

The Nelson intrusive rocks or hybrids are widespread across the grid area as illustrated on Map A-87-1.

Pyroxenites - Cretaceous(?)

Dyke-like bodies of fresh equigranular pyroxenite occur at several locations across the northeastern side of the grid area. The bodies are often in close proximity to limestone and are most probably derived from the assimilation of limestone by the Nelson intrusives. The pyroxenites are composed of 80% black euhedral to subhedral augite crystals of 2 to 10 mm and 20% plagioclase anhedral crystals of 2 to 5 mm.

Structural Geology and Faulting

The structural geology of the Anarchist roof pendant is not readily identifiable. The limestone displays shallow dip angles going every-which-way and appears to be generally contorted. Some steep dip angles have been measured in the bedded tuff units, but they are believed to be local. In general, it is believed that the roof pendant is flat-lying with possible local down-warps (folds) into the intrusive. One such down-warp occurs on grid line 20 N at 21+40 west where old Rosemont Crown Grant workings expose over 10 vertical metres of Anarchist rocks in an area surrounded by intrusive rock.

Continued . . .

PROPERTY GEOLOGY - CONTINUED

Structural Geology and Faulting - Continued

No distinct faults were recognized during the geological mapping of the Auriferous property, although fracturing of both the Anarchist and Nelson rocks is widespread. Indirect evidence of faulting is provided by the VLF-EM survey. The northern portion of Conductor B and Conductor D on Map A-87-4 are in part coincident with topographic depressions trending at 295 degrees and these conductors may well define geological faults.

Alteration and Mineralization

The mineralization at the Rosemont Mine can be described as mesothermal fracture filling at or near the Anarchist-Nelson contact zone. Pyrite and pyrrhotite blebs or pockets occur within 2 to 40 cm irregular quartz veins cutting small shear zones or cutting irregularly through the contact fracture zone. Gold values occur with the iron sulphides. The country rock is bleached or chlorite altered and mineralized with disseminated iron sulphides for a few metres on either side of the shear zones or veins.

Zones of bleached or chlorite altered rock with disseminated iron sulphide mineralization are widespread across the Auriferous property as are Anarchist-Nelson contact zones. As yet, no gold-bearing quartz veins have been found on the Auriferous property, but such veins may well occur associated with the VLF-EM-indicated fault zones that are presently concealed by overburden.

The mineralized quartz veins at the Rosemont Mine cut through both the Anarchist and Nelson rocks and they are therefore thought to originate with a post-Nelson hydrothermal event possibly related to the nearby Valhalla intrusives.

## DISCUSSION

### VLF-EM SURVEY

The VLF-EM survey appears to give the most decisive information gathered from the various surveys performed in 1987 and will therefore be discussed first. Five conductors (lettered A to E on Map A-87-4) were identified on the property are described as follows:

Conductor A Conductor A is a strong conductor striking at 285 degrees for a length of 250 metres between grid lines 28N and 30N. This conductor is thought to most probably represent a concentration of iron sulphide mineralization located within 75 metres of the surface.

Conductor B This conductor is moderate to strong and crosses the entire grid for 900 metres from line 20N to 29N. The conductor bends from a general strike direction of 295 degrees to 225 degrees near the south end of the grid area between lines 20N and 22N. The conductor is thought to represent a fault crossing the property and the stronger portion of the conductor, between lines 23N and 26N, may represent a zone mineralized with iron sulphides.

Conductor C This conductor is weak and located in an area of deep glacial overburden, and could in fact simply be a reflection of the local steep topography that hasn't been entirely filtered out by the Fraser filter technique.

Conductor D Conductor D is another weak conductor of 200 metres in length situated between lines 27N and 28N and parallel to the northern end of conductor B. This conductor coincides with a wet topographic depression and could represent a fault zone.

Continued . . .

DISCUSSION - CONTINUED

Conductor E This conductor is located at the southwest corner of the grid and curves for 250 metres between lines 20N and 22+50N. It is a weak conductor which may represent minor sulphide mineralization.

BIOGEOCHEMICAL SURVEY

Out of the 10 elements tested biogeochemically (Douglas fir twigs and needles) only the silver and cadmium values appear to give meaningful results when compared with the geology of the property. Values for copper, lead, zinc, cobalt, iron, arsenic, gold and strontium were either too low to be of use or were considered to be too erratic. Arsenic, in particular, yielded very high, but erratic, values that appear to have little to do with mineralization on the property. Acme Lab's chemists have warned that some of the arsenic may have been lost with the ignition of the samples.

A threshold value of 0.5 parts per million (ppm) was used in contouring the silver biogeochemical values on Map A-87-2. At the 0.5 ppm level weak silver anomalies are widespread in the grid area. The two most interesting silver anomalies are those centred at line 29N, 18+75W and at line 25N, 19W. The first anomaly, measuring just 50 by 100 metres, is coincident with VLF-EM conductor A, while the second anomaly is coincident with a portion of VLF-EM conductor B.

The cluster of weak silver anomalies at the southwest corner of the grid occurs in an area where roof pendant rocks are very thin, and the underlying intrusive rocks are exposed at many locations. Intrusive rocks are also believed to lie at or near surface on grid lines 25 to 27N and on 23+50N where silver concentrations of over 1 ppm are reached. The silver anomalies in these areas are considered to reflect a weak concentration of

Continued . . .

DISCUSSION - CONTINUED

BIOGEOCHEMICAL SURVEY - CONTINUED

silver in bedrock near the intrusive interface with country rock over a large surface area. However, the vertical extent of such mineralization in these areas is considered to be very limited. It is also interesting to note that these anomalies are not supported with VLF-EM survey data.

Based on the results of the silver biogeochemical survey large areas of the grid can be eliminated as having any economic mineral potential.

The best silver value of the survey (2.7 ppm) was obtained near a mineralized exploration pit at grid 20N, 21+75W.

Map A-87-3 outlines zones of cadmium values above a threshold of 3 ppm in the grid area. The cadmium map closely matches the silver map. Two small anomalous areas of cadmium are coincident with the silver anomaly over VLF-EM conductor A on line 29N, and a second zone of elevated cadmium values occurs near conductor B on line 24+50N.

The east-central portion of the grid area has a wide zone of elevated cadmium values closely associated with high silver values. As mentioned earlier, the erosion surface in this area is believed to be very near the Anarchist-Nelson intrusive interface, and there may be a slight "contact enrichment" of silver and cadmium in these rocks.

The elevated cadmium values, in general, are more restricted than the high silver values, and they are almost totally lacking west of the baseline and at the northeast corner of the grid.

One and two year twigs and needles of Douglas fir were beyond the reach of the sampler at some sample locations and therefore

Continued . . .

DISCUSSION - CONTINUED

BIOGEOCHEMICAL SURVEY - CONTINUED

only old and dry twigs without needles were used as a sample medium. It is of interest to note that most of these samples (denoted on Maps A-87-2&3) yielded greater concentrations of metallic elements than the normal samples. Lead values are particularly elevated in these samples, while iron, zinc, silver and cadmium all exhibit higher values than in normal samples.

The high values of silver and cadmium in dry twig samples have been largely discounted in contouring the biogeochemical maps accompanying this report. It is recommended, however, that further experimental biogeochemical surveying be done using dry twigs exclusively to test the effectiveness of this sample medium.

In summary, the biogeochemical survey must be considered experimental in nature and recognized as a very indirect means of locating gold mineralization on the Auriferous property. It should only be used in conjunction with the other surveys carried out on the property.

GEOLOGICAL MAPPING

The geological mapping of the Auriferous property was hampered by overburden. In regions that appear to have the most economic potential (ie. VLF-EM conductors A and B with associated silver and cadmium anomalies) there is little rock exposed, whereas in other areas, such as the northwest portion of the grid, there is good exposure, but poor economic potential.

The mapping has been useful in discounting the value of silver and cadmium biogeochemical anomalies on the east-central portion of the grid where intrusive rocks are believed to be covered by only a thin layer of Anarchist rocks. The intrusive

Continued . . .

DISCUSSION -- CONTINUED

GEOLOGICAL MAPPING - CONTINUED

interface is enriched with iron sulphides and silver and cadmium values, but it is believed to be of very limited vertical extent, and therefore does not constitute an exploration target.

Much the same can be said for the southwest portion of the grid area where a cluster of silver anomalous values are believed to simply reflect a slight "contact enrichment" of silver in the Anarchist rocks near the intrusive interface.

SUMMARY OF ALL SURVEYS

As mentioned earlier much of the geology on the Auriferous property is believed to be similar to that found on the Rosemont Crown Grant mineral claim which the Auriferous property encircles. The Rosemont Mine yielded rich gold (16 g/Tonne) from a very limited tonnage of ore (60 tons). The gold ore at the Rosemont Mine appears to have been won from irregular quartz veins (seldom over 30 cm) that cut through both Nelson and Anarchist rocks in the vicinity of the highly fractured and sheared contact zone. The quartz contains pockets of pyrite, pyrrhotite, and minor chalcopyrite. A sample of selected 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. A sample collected from the pit at grid 20N, 21+75W that same year was found to contain 2880 ppb gold, while a sample collected from the shaft area (grid 20N, 21+40W) by Cominco crews in 1981 was found to contain 25,000 ppb gold. At both grid locations Anarchist Group rocks are cut by shear zones in-filled with irregular narrow quartz veins or small zones of massive pyrite/pyrrhotite.

Although the grade of gold ore from the Rosemont Mine was good the tonnage potential of the mine was poor. Therefore, the

Continued . . .

DISCUSSION - CONTINUED

SUMMARY OF ALL SURVEYS - CONTINUED

main thrust of exploration on the Auriferous property has been to find a geological environment of greater dimensions than the Rosemont Mine with a similar grade of gold mineralization. Overburden has hampered the exploration effort somewhat, but this year's surveys appear to have delineated some very interesting exploration targets on the Auriferous property.

The biogeochemical and geophysical surveys are recognized as indirect methods for finding gold mineralization. However, the silver and cadmium of the biogeochemical surveys are thought to equate with gold, as silver and gold do occur together at the Rosemont Mine. The gold mineralization at the Rosemont Mine also occurs with massive pockets of pyrite and pyrrhotite, and the conductive properties of these iron sulphides and the magnetic property of pyrrhotite were considered in carrying out the VLF-EM and magnetometer surveys this year. In addition to delineating metallic conductors, the VLF-EM survey is also useful in tracing fault zones where mineralization can be expected to concentrate.

Based on an analysis of all of this year's surveys, VLF-EM conductors A and B are considered to be the most promising exploration targets found within the grid area. The strong conductors are thought to represent concentrations of iron sulphides (pyrite and pyrrhotite) associated with faulting. Some elevated silver and cadmium biogeochemical values are associated with portions of these conductors, indirectly indicating that the iron sulphides may contain silver or gold mineralization just as they do at the Rosemont Mine.

There is strong magnetic evidence that pyrrhotite is one of the sulphides associated with the conductors. A 3000 gamma "high"

Continued . . .



DISCUSSION - CONTINUED

SUMMARY OF ALL SURVEYS - CONTINUED

occurs at grid 29+60N, 18+90W coincident with conductor A, and a second high of 500 gammas occurs on grid line 25+50N at 18+75W coincident with conductor B. (A magnetometer survey was conducted over the grid area this year (1987), but it has not been made a part of this assessment report).

CONCLUSIONS AND RECOMMENDATIONS

The foregoing Discussion reveals that the geological, biogeochemical, and geophysical surveys conducted on the Auriferous property this year (1987) were successful in delineating exploration targets for gold mineralization. The highest priority targets are considered to be VLF-EM conductors, A&B, particularly those segments centred on grid line 29N at 18+75W and on grid line 25N at 18+75W respectively. It is believed that these conductors represent the in-filling of fault zones by pyrite and pyrrhotite - possibly associated with quartz veining. It is suggested that these iron sulphides may contain economic values in gold just as they do 500 to 1000 metres to the southeast at the Rosemont Mine.

Outcroppings are scarce in the regions of both strong conductors, but the overburden in each case is believed to be shallow. A series of Backhoe trenches should be excavated across each conductor axis at 25 metre intervals. Approximately 16 trenches of 25 metres length would be required to explore the stronger segments of conductors A and B. Any sulphide minerals uncovered during the trenching program should be assayed for silver and gold. A drilling program to test the conductors at depth should be considered if the sulphides are found to contain significant precious metal values.

November 15, 1987

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M. S. Morrison

REFERENCES

Christopher, P.A.

- 1975: Highland Bell (Beaverdell) Mine, Geology in British Columbia 1975; British Columbia Ministry of Energy, Mines and Petroleum Resources; pp. G30-33.

Cousens, B.L.

- 1981: Geochemical and Geological Assessment Report, Goldie Mineral Claims, Greenwood Mining Division. \*

Fraser, D.C.

- 1969: Contouring of VLF-EM Data, Geophysics, Vol. 14, No. 6, December, 1969.

Little, H.W.

- 1957: Geology, Kettle River (East Half) British Columbia, G.S.C., Map 6-1975.  
1961: Geology, Kettle River (West Half) British Columbia, G.S.C., Map 15-1961.

Ministry of Mines, B.C.; Annual Reports, Rosemont Mine - 1937, p.A36, D23; 1938, p.A34; 1939, p.77; 1940, p.63; 1941, p.25, 60.

Morrison, M.S.

- 1983: VLF-EM 16 Ground Survey on the Goldie 1&2 Mineral Claims, Beaverdell Area, Greenwood Mining Division. \*  
1986: Biogeochemical Assessment Report, W 1&2 Mineral Claims, Greenwood Mining Division. \*  
1986: Biogeochemical Assessment Report on the Auriferous 1 Mineral Claim, Beaverdell Area, Greenwood Mining Division. \*

Peterson, N.R. and Ronka, V.

- 1969: Five Years of Surveying with the VLF-EM Method, a paper presented at the 1969 Annual International Meeting, Society of Exploration Geophysicists.

Warren, H.V., Delavault, R.E., Barakso, J.J.

- 1968: The Arsenic Content of Douglas Fir as a Guide to Some Gold, Silver and Base Metal Deposits, CIM Bulletin for July, 1968; pp. 860-866.

\* These references are all filed as Assessment Reports with the British Columbia Ministry of Energy, Mines and Petroleum Resources.

## 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 NH FE CA P LA CR MG BA TI B W AND LIMITED FOR NA AND K. AU DETECTION LIMIT BY ICP IS 3 PPM.  
- SAMPLE TYPE: BIOGEOCHEM

DATE RECEIVED: JULY 9 1987

DATE REPORT MAILED:

July 22/87

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

M.S. MORRISON File # 87-2334 Page 1

SAMPLE#	CU PPM	PB PPM	ZN PPM	AG PPM	CO PPM	FE %	AS PPM	AU PPM	SR PPM	CD PPM
L29+50N 1900W	34	20	554	.8	2	.24	987	ND	1026	3
L29+50N 1875W	47	23	647	.3	1	.20	497	ND	1180	4
L29+50N 1850W	42	27	653	.5	1	.22	332	ND	1427	2
L29+50N 1825W	37	21	401	.3	2	.23	458	ND	1084	1
L29+50N 1800W	52	43	556	.5	2	.37	1303	ND	904	3
L29+00N 2350W	33	20	455	.4	1	.22	477	ND	1291	1
L29+00N 2300W	61	21	571	.3	1	.19	707	ND	960	1
L29+00N 2250W	43	22	358	.2	1	.22	330	ND	999	1
L29+00N 2200W	67	38	545	.2	1	.32	757	ND	954	1
L29+00N 2150W	53	18	1376	.3	1	.17	479	ND	648	4
L29+00N 2100W	116	22	981	.1	1	.15	694	ND	1202	2
L29+00N 2050W	58	23	647	.2	1	.23	1022	ND	911	1
L28+50N 1900W	52	27	617	.6	1	.24	1493	ND	822	1
L28+50N 1875W	68	21	575	.4	1	.21	1520	ND	1336	2
L28+50N 1850W	34	34	577	.6	1	.31	855	ND	1172	4
L28+50N 1825W	36	34	839	.3	2	.32	700	ND	1070	5
L28+50N 1800W	44	26	451	.4	1	.28	989	ND	945	2
L28+00N 2350W	60	34	608	.4	2	.25	1561	ND	1218	1
L28+00N 2300W	70	34	769	.3	1	.26	769	ND	463	1
L28+00N 2250W	65	28	860	.1	1	.26	603	ND	436	1
L28+00N 2200W	45	19	912	.1	1	.20	822	ND	475	1
L28+00N 2150W	62	30	611	.2	1	.20	1185	ND	437	1
L28+00N 2100W	74	31	1128	.1	1	.25	719	ND	517	2
L28+00N 2050W	69	27	503	.5	1	.24	1317	ND	457	1
L27+00N 2350W	68	32	719	.3	1	.28	1227	ND	678	2
L27+00N 2300W	58	21	666	.2	1	.23	1490	ND	602	1
L27+00N 2250W	57	26	1028	.1	1	.25	16	ND	662	2
L27+00N 2200W	96	123	1518	.4	4	1.18	28	ND	817	4
L27+00N 2150W	64	26	495	.4	1	.26	8	ND	839	1
L27+00N 2125W	75	51	1161	.5	3	.71	17	ND	1043	2
L27+00N 2100W	85	34	449	.4	2	.29	18	ND	984	1
L27+00N 2050W	60	18	665	.3	1	.24	318	ND	455	1
L26+00N 2350W	66	42	793	.1	1	.31	8	ND	934	1
L26+00N 2300W	61	40	625	.2	2	.35	72	ND	1149	2
L26+00N 2250W	59	30	492	.5	2	.25	388	ND	818	1
L26+00N 2200W	61	38	736	.4	1	.30	53	ND	541	1
STD C	55	38	127	7.3	29	3.99	42	7	48	18

Note: As (arsenic) recovery from ignition is variable. ∴ Do not use for plotting.

APPENDIX "A"

SAMPLE#	CU PPM	PB PPM	ZN PPM	AG PPM	CO PPM	FE %	AS PPM	AU PPM	SR PPM	CD PPM
L26+00N 2150W	64	44	543	.5	2	.32	99	ND	593	1
L26+00N 2125W	48	16	533	.3	1	.23	27	ND	715	1
L26+00N 2100W	47	15	343	.1	1	.24	3	ND	684	1
L26+00N 2050W	58	27	509	.2	2	.30	5	ND	794	1
L24+50N 2125W	55	30	581	.3	2	.28	45	ND	1211	1
L24+50N 2100W	59	27	602	.4	1	.26	157	ND	787	1
L24+50N 2075W	42	26	538	.3	1	.31	329	ND	623	1
L24+50N 2050W	38	29	498	.2	2	.31	104	ND	811	1
L24+00N 1700W	55	34	656	.8	2	.33	15	ND	1291	2
L24+00N 1650W	45	19	1024	.7	2	.23	120	ND	1418	8
L24+00N 1625W	49	29	587	.5	3	.31	623	ND	1255	3
L24+00N 1600W	47	27	657	.4	3	.29	80	ND	1477	4
L24+00N 1575W	59	27	828	.4	3	.23	138	ND	1498	3
L24+00N 1550W	50	32	593	.5	2	.27	204	ND	913	2
L24+00N 1500W	51	36	703	.7	3	.30	228	ND	1054	5
L23+50N 2200W	37	17	439	.2	1	.24	26	ND	1462	1
L23+50N 2150W	62	49	756	.1	1	.34	12	ND	998	1
L23+50N 2125W	66	41	661	.1	2	.30	45	ND	1438	1
L23+50N 2100W	62	43	621	.2	2	.32	124	ND	1491	1
L23+50N 2075W	50	42	632	.3	2	.31	58	ND	1031	1
L23+50N 2050W	43	22	598	.3	1	.22	154	ND	1155	1
L23+50N 2025W	42	21	530	.3	2	.19	323	ND	1055	1
L23+50N 2000W	46	40	567	.1	2	.31	165	ND	1172	1
L23+50N 1650W	50	41	769	1.7	3	.27	97	ND	1401	4
L23+50N 1625W	73	23	823	.9	2	.22	192	ND	2189	10
L23+50N 1600W	47	37	936	1.5	3	.32	128	ND	1516	6
L23+50N 1575W	41	32	762	.4	2	.25	29	ND	2113	4
L23+50N 1550W	38	20	652	.6	2	.22	43	ND	1428	4
L23+50N 1500W	61	24	926	.2	2	.27	76	ND	815	3
L23+00N 1950W	42	25	599	.2	2	.28	106	ND	1027	1
L23+00N 1900W	42	38	694	.1	2	.29	42	ND	853	1
L23+00N 1850W	60	36	931	.1	1	.37	21	ND	741	2
L23+00N 1800W	67	38	777	.5	1	.33	102	ND	1293	1
L23+00N 1750W	113	168	2396	.8	4	1.04	25	ND	1603	6
L23+00N 1700W	38	29	786	.3	1	.30	11	ND	1463	3
STD C	59	43	134	7.6	31	4.16	44	8	50	19

APPENDIX "A" - CONTINUED

## M.S. MORRISON FILE # 87-2334

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SAMPLE#	CU PPM	PB PPM	ZN PPM	AG PPM	CO PPM	FE %	AS PPM	AU PPM	SR PPM	CD PPM
L23+00N 1650W	59	24	741	1.2	3	.29	116	ND	1654	7
L23+00N 1625W	56	25	950	1.3	2	.30	227	ND	1635	11
L23+00N 1600W	46	21	580	.4	2	.22	137	ND	1304	3
L23+00N 1575W	53	20	772	1.1	3	.25	215	ND	1419	7
L23+00N 1550W	54	44	776	.8	3	.35	106	ND	1018	4
L23+00N 1500W	52	19	714	1.2	3	.23	41	ND	926	2
L22+50N 2200W	46	15	717	.4	1	.24	12	ND	1529	1
L22+50N 2150W	44	19	539	.1	1	.28	40	ND	1750	1
L22+50N 2125W	49	11	688	.2	1	.26	100	ND	1057	1
L22+50N 2100W	33	10	317	.4	1	.21	593	ND	1043	1
L22+50N 2075W	42	22	365	.2	2	.28	661	ND	1073	1
L22+50N 2050W	54	26	538	.2	2	.31	1070	ND	1422	1
L22+50N 2000W	49	21	597	.1	2	.38	497	ND	1261	2
L22+50N 1975W	43	26	706	.3	2	.31	658	ND	937	1
L22+50N 1950W	47	35	799	.3	2	.42	348	ND	781	1
L22+00N 1975W	42	25	417	.6	5	.25	422	ND	1397	1
L22+00N 1950W	48	34	572	.4	3	.29	426	ND	1308	1
L22+00N 1900W	48	30	1311	.2	1	.33	509	ND	1027	5
L22+00N 1850W	43	16	704	.5	2	.26	553	ND	924	1
L22+00N 1800W	52	23	594	.6	1	.27	659	ND	1174	1
L22+00N 1750W	57	31	693	.4	2	.37	488	ND	1474	1
L22+00N 1700W	88	22	754	.4	1	.27	1336	ND	1328	1
L22+00N 1650W	44	18	657	.4	3	.23	882	ND	1796	7
L22+00N 1600W	39	24	685	.5	2	.25	421	ND	1413	4
L22+00N 1550W	42	24	801	.1	1	.32	645	ND	1270	8
L21+50N 2200W	55	19	813	.4	1	.34	308	ND	921	1
L21+50N 2150W	47	24	557	.2	1	.25	340	ND	903	1
L21+50N 2125W	53	18	599	.4	5	.32	286	ND	1516	1
L21+50N 2100W	57	36	797	.1	4	.39	811	ND	991	2
L21+50N 2050W	63	33	925	.1	2	.41	446	ND	969	1
L21+50N 2000W	62	19	1114	.1	1	.26	453	ND	947	4
L21+50N 1975W	48	26	1030	.1	2	.28	1143	ND	1102	4
L21+50N 1950W	56	34	857	.7	3	.42	848	ND	1502	2
L21+00N 1975W	47	30	399	.1	3	.27	395	ND	1047	1
L21+00N 1950W	57	31	801	.4	1	.36	1309	ND	1200	1
L21+00N 1900W	44	18	866	.3	1	.32	1605	ND	1120	1
STD C	56	42	124	7.3	28	4.03	40	7	46	17

APPENDIX "A" - CONTINUED

## M.S. MORRISON FILE # 87-2334

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SAMPLE#	CU PPM	PB PPM	ZN PPM	AG PPM	CO PPM	FE %	AS PPM	AU PPM	SR PPM	CD PPM
L21+00N 1850W	47	42	723	.6	3	.40	69	ND	1119	7
L21+00N 1800W	33	29	850	.4	3	.30	23	ND	1432	4
L21+00N 1750W	100	180	1649	1.8	10	1.23	39	ND	1225	14
L21+00N 1700W	42	43	1174	.1	3	.33	17	ND	1154	1
L20+50N 2200W	64	31	708	.2	3	.32	32	ND	1344	1
L20+50N 2175W	45	34	516	.2	2	.42	18	ND	1009	1
L20+50N 2150W	59	33	574	.2	3	.41	74	ND	1098	1
L20+50N 2125W	60	31	799	.3	3	.33	61	ND	1332	1
L20+50N 2100W	73	29	722	.3	4	.31	94	ND	1086	1
L20+50N 2075W	79	39	719	.1	4	.38	154	ND	864	1
L20+50N 2050W	57	37	1182	.1	3	.51	80	ND	628	1
L20+50N 2025W	62	31	539	.4	3	.32	222	ND	1170	1
L20+50N 2000W	51	38	859	.1	3	.41	66	ND	826	2
L20+50N 1975W	61	26	664	.1	3	.29	126	ND	805	2
L20+50N 1950W	57	16	771	.4	4	.22	95	ND	973	2
L20+00N 1975W	39	29	595	.6	3	.32	137	ND	1503	1
L20+00N 1950W	38	16	792	.5	3	.30	121	ND	804	2
L20+00N 1900W	41	18	587	.2	3	.25	188	ND	1569	1
L20+00N 1850W	47	16	567	.6	5	.33	231	ND	1131	3
L20+00N 1800W	39	24	773	.9	3	.28	73	ND	910	2
L20+00N 1750W	78	17	993	.5	2	.23	227	ND	759	6
L20+00N 1700W	94	144	1445	.6	5	1.08	148	ND	1095	7
L23+00N 1675W	65	17	786	.2	3	.20	461	ND	1389	3
STD C	56	39	128	7.1	28	4.08	41	7	49	18

APPENDIX "A" - CONTINUED

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## M.S. MORRISON FILE # 87-1832

SAMPLE#	CU PPM	PB PPM	ZN PPM	AG PPM	CO PPM	FE %	AS PPM	AU PPM	SR PPM	CD PPM
L24+50N 2000W	55	28	638	.3	1	.24	249	ND	781	4
L24+50N 1950W	45	21	702	.1	3	.25	86	ND	1192	4
L24+50N 1900W	47	28	836	.7	2	.28	23	ND	732	5
L24+50N 1850W	64	23	609	.4	1	.24	8	ND	923	5
L24+50N 1800W	71	19	701	.4	1	.22	19	ND	1527	11

## 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 NH FE CA P LA CR MG BA TI B W AND LIMITED FOR NA AND K. AU DETECTION LIMIT BY ICP IS 3 PPM.  
- SAMPLE TYPE: BIOGEOCHEM

DATE RECEIVED: JUNE 17 1987

DATE REPORT MAILED: *June 30/87*ASSAYER: *A. J. ...* DEAN TOYE, CERTIFIED B.C. ASSAYER

M.S. MORRISON File # 87-1832 Page 1

SAMPLE#	CU PPM	PB PPM	ZN PPM	AG PPM	CO PPM	FE %	AS PPM	AU PPM	SR PPM	CD PPM
L31N 2000W	82	12	433	.2	2	.21	3	ND	1199	1
L31N 1950W	132	10	656	.2	1	.18	2	ND	1215	1
L31N 1900W	77	7	364	.3	1	.17	3	ND	460	1
L31N 1875W	80	17	1009	.5	2	.23	4	ND	824	4
L31N 1850W	36	19	496	.9	2	.22	67	ND	869	2
L31N 1825W	49	10	679	.3	1	.19	8	ND	714	1
L31N 1800W	42	13	166	.3	1	.21	12	ND	533	1
L31N 1750W	58	23	187	.2	1	.26	7	ND	749	1
L30+50N 1900W	69	12	801	.1	1	.16	3	ND	736	1
L30+50N 1875W	59	12	484	.2	1	.21	5	ND	599	1
L30+50N 1850W	65	15	404	.2	1	.21	7	ND	770	1
L30+50N 1825W	47	15	383	.2	3	.19	173	ND	986	1
L30+50N 1800W	28	16	449	.3	1	.21	48	ND	1033	1
L30N 2000W	129	221	1439	.5	4	1.17	10	ND	1058	4
L30N 1950W	59	9	1425	.1	1	.18	3	ND	511	1
L30N 1900W	65	14	449	.3	1	.22	90	ND	991	1
L30N 1875W	44	14	453	.2	1	.19	21	ND	1907	1
L30N 1850W	43	22	654	.5	2	.24	97	ND	1235	3
L30N 1825W	47	31	630	.3	4	.25	149	ND	706	1
L30N 1800W	44	24	564	.2	2	.26	109	ND	743	1
L30N 1750W	38	23	347	.3	1	.22	15	ND	916	1
L30N 1700W	46	22	354	.3	2	.22	13	ND	1111	1
L30N 1650W	38	22	513	.3	2	.23	57	ND	1073	1
L29N 2000W	71	8	598	.2	1	.15	11	ND	858	1
L29N 1950W	60	13	1126	.1	1	.19	7	ND	698	1
L29N 1900W	52	15	663	.9	1	.23	17	ND	906	3
L29N 1875W	55	18	1067	1.4	1	.25	53	ND	868	3
L29N 1850W	44	21	520	.3	1	.23	130	ND	1304	2
L29N 1825W	43	33	541	.4	2	.30	64	ND	838	2
L29N 1800W	51	23	654	.6	1	.24	75	ND	1003	1
L29N 1750W	57	27	499	.5	2	.25	136	ND	791	1
L29N 1700W	59	23	552	.4	2	.25	58	ND	1076	1
L29N 1650W	64	35	791	.2	2	.33	19	ND	1185	1
L29N 1600W	55	22	542	.1	1	.26	10	ND	1769	1
L28N 2000W	115	206	1322	.4	4	1.00	30	ND	1586	4
L28N 1950W	58	22	756	.1	1	.27	10	ND	639	1
STD C	57	37	131	6.7	27	3.97	42	7	46	17

APPENDIX "A" - CONTINUED

## M. S. MORRISON FILE # 87-1832

Page 2

SAMPLE#	CU PPM	PB PPM	ZN PPM	AG PPM	CO PPM	FE %	AS PPM	AU PPM	SR PPM	CD PPM
L28N 1900W	55	22	717	.1	1	.26	4	ND	713	1
L28N 1875W	43	36	535	.4	1	.30	100	ND	966	2
L28N 1850W	52	16	706	.2	2	.25	79	ND	1337	1
L28N 1800W	43	22	491	.3	1	.25	132	ND	769	1
L28N 1750W	63	34	556	.4	3	.31	164	ND	1022	1
L28N 1700W	52	33	800	.4	1	.30	90	ND	944	3
L28N 1650W	40	30	602	.3	1	.27	46	ND	935	2
L28N 1600W	56	27	655	.3	1	.24	56	ND	876	1
L27N 2000W	53	33	716	.2	1	.30	5	ND	689	1
L27N 1950W	54	29	773	.1	1	.29	3	ND	1070	1
L27N 1900W	47	20	770	.1	1	.21	4	ND	716	1
L27N 1875W	54	30	870	.1	2	1.01	5	ND	666	2
L27N 1850W	58	26	895	.4	1	.27	5	ND	758	3
L27N 1825W	42	27	805	.5	1	.28	53	ND	969	3
L27N 1800W	50	27	596	.8	1	.24	13	ND	1872	4
L27N 1750W	43	30	1193	1.0	2	.29	41	ND	1078	7
L27N 1700W	41	24	942	.7	2	.28	33	ND	1802	5
L27N 1650W	37	29	673	.6	1	.24	40	ND	1130	3
L27N 1600W	65	42	783	.6	2	.34	222	ND	800	2
L26N 2000W	42	15	528	.1	1	.22	3	ND	850	1
L26N 1975W	44	27	433	.4	1	.23	36	ND	678	1
L26N 1950W	94	224	918	.5	4	1.34	25	ND	1060	4
L26N 1925W	43	19	540	.3	1	.23	235	ND	2451	1
L26N 1900W	54	24	704	.5	1	.25	18	ND	1224	2
L26N 1850W	43	24	504	.2	1	.26	7	ND	1246	1
L26N 1800W	61	30	695	.2	1	.30	13	ND	1306	1
L26N 1750W	38	25	856	.5	1	.25	11	ND	1358	5
L26N 1700W	60	28	990	1.5	1	.31	26	ND	1384	7
L26N 1650W	50	33	987	.7	3	.30	17	ND	1212	6
L26N 1600W	65	33	604	.4	2	.32	25	ND	662	2
L25N 1700W	75	21	534	.8	1	.23	13	ND	1089	2
L25N 1650W	47	25	657	1.1	3	.25	77	ND	1288	2
L25N 1600W	65	37	748	.6	2	.31	12	ND	830	2
L25N 1550W	71	27	680	.5	2	.25	65	ND	1334	2
L25N 1500W	61	31	879	.3	2	.24	164	ND	1192	5
STD C	57	40	133	6.6	27	3.97	43	6	47	17

APPENDIX "A" - CONTINUED



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 seventeen years.
3. During the past seventeen 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 seventeen years.
5. I personally conducted the Geological Mapping, and Biogeochemical and VLF-EM 16 surveys outlined in this report.
6. I own a 100% interest in the Auriferous 1&2 mineral claims.

November 15, 1987

Kelowna, B.C.

  
Murray Morrison, B.Sc.

APPENDIX E

STATEMENT OF EXPENDITURES - ON THE AURIFEROUS 1&2 MINERAL CLAIMS

Statement of Expenditures in connection with the Geological, Biogeochemical and Geophysical Surveys carried out on the Auriferous 1 & 2 Mineral Claims, located at St. John Creek, 12 km northeast of Beaverdell, British Columbia (N.T.S. Maps 82-E-10&11) for the year 1987.

FIELDWORK - GEOLOGICAL MAPPING (0.6 sq. km) AND GRID ESTABLISHMENT (12.2 km).

M. Morrison, geologist	8 days @ \$200.00/day	\$ 1,600.00
Meals and Lodging	no cost	0.00
Truck, 4x4, including gasoline	8 days @ \$65.00/day	520.00
Flagging, belt chain thread, etc.		30.00
	Sub-total	<u>\$ 2,150.00</u>

FIELDWORK - BIOGEOCHEMICAL SAMPLING (7.7 km)

M. Morrison, geologist	7 days @ \$200.00/day	\$ 1,400.00
Meals and Lodging	no cost	0.00
Truck, 4x4, including gasoline	7 days @ \$65.00/day	455.00
	Sub-total	<u>\$ 1,855.00</u>

ASSAYING AND SHIPPING COSTS

206 biogeochemical samples analyzed for 10 elements by ICP @ \$7.25 each		\$ 1,493.00
sample bags and shipping boxes		34.00
shipping costs		34.00
	Sub-total	<u>\$ 1,561.00</u>

Continued . . .

APPENDIX E - Continued

VLF-EM GROUND SURVEY (11.3 km)

M. Morrison, geologist	4 days @ \$200.00/day	\$ 800.00
Meals and Lodging	no cost	0.00
Truck (4x4, incl. gasoline)	4 days @ \$ 65.00/day	260.00
Instrument Rental and Shipping Costs		<u>264.00</u>
	Sub-total	\$ 1,324.00

REPORT PREPARATION COSTS

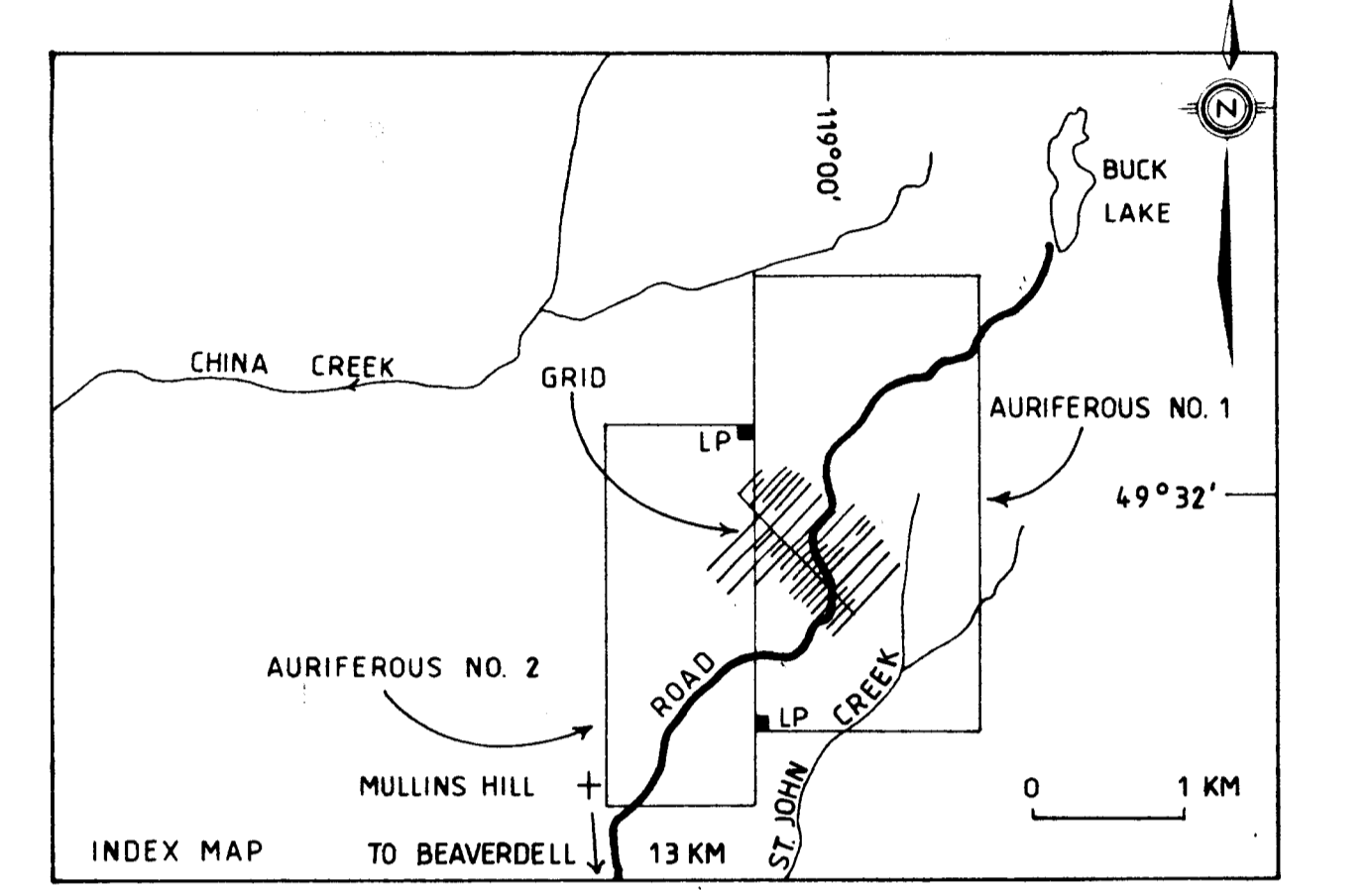
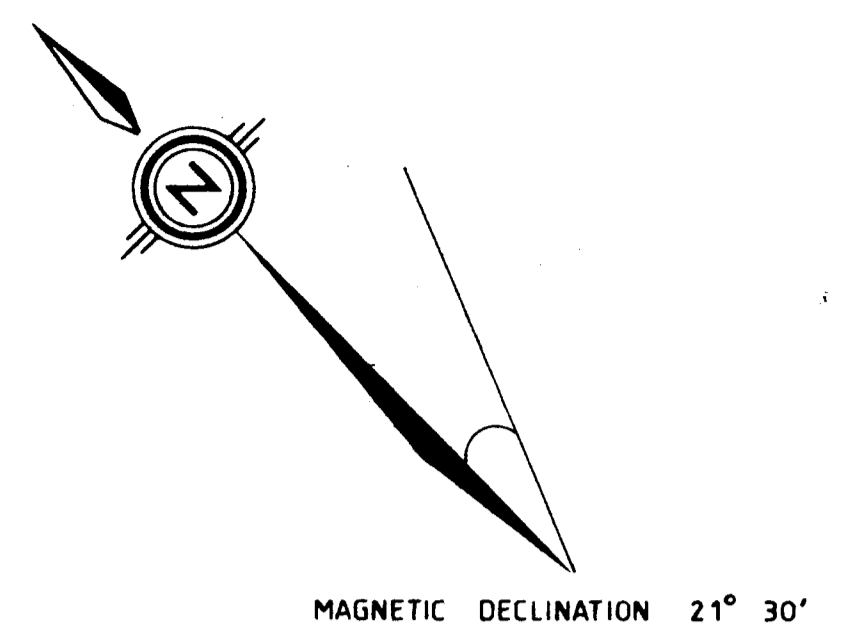
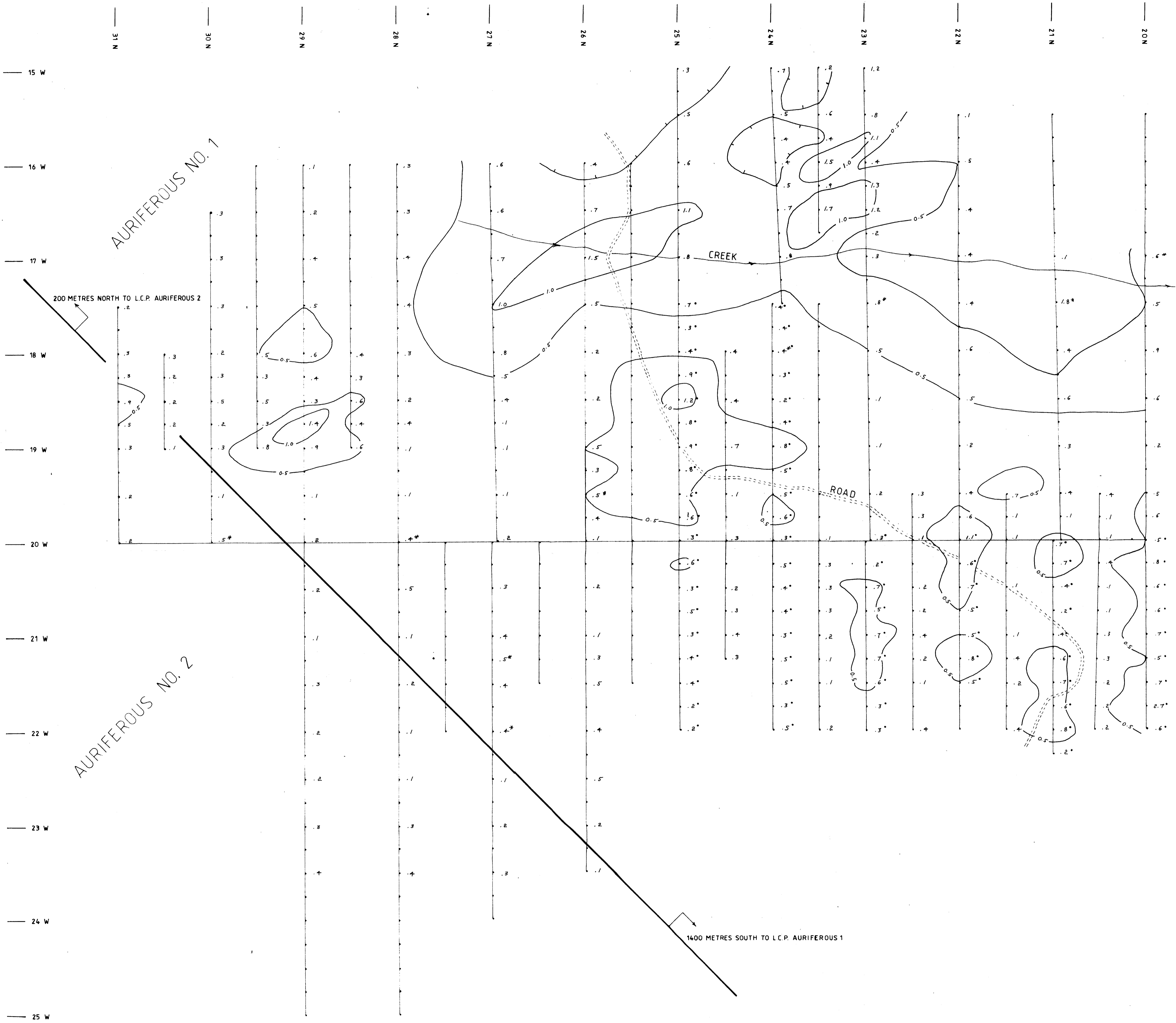
M. Morrison, geologist	3 days @ \$200.00/day	\$ 600.00
Drafting		192.00
Typing		80.00
Copying		<u>20.00</u>
	Sub-total	\$ 892.00

GRAND TOTAL \$ 7,782.00

I hereby certify that the preceding statement is a true statement of monies expended in connection with the Geological, Bio-geochemical and Geophysical Surveys carried out May 13th to July 9th, 1987.

November 15, 1987

  
Murray Morrison - Geologist



PLEASE SEE MAP A-87-1 FOR GEOLOGY



SAMPLE MEDIUM : DOUGLAS FIR TWIGS AND NEEDLES

\* DENOTES OLD DRY TWIGS ONLY

.5\* DENOTES 1986 SAMPLE

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**16,998**

TO ACCOMPANY A BIOGEOCHEMICAL REPORT BY M. MORRISON

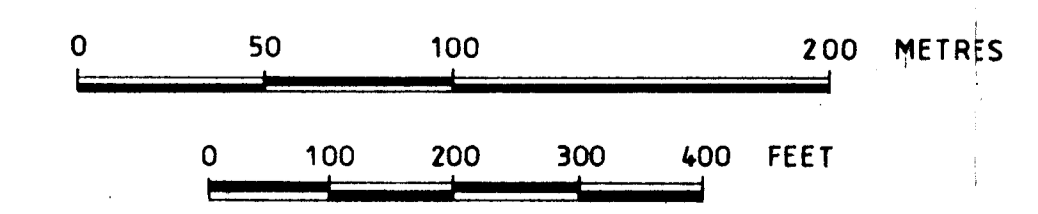
ZYGOTE RESOURCES LTD

AURIFEROUS PROPERTY  
BEAVERDELL AREA, GREENWOOD M.D., B.C.

**BIOGEOCHEMICAL SURVEY  
SILVER**

AURIFEROUS 1 + 2 MINERAL CLAIMS

SURVEY BY M.M.	JULY 1987	N.T.S. 82-E-10-11
DRAWN BY MM/AH	SCALE 1:2000	MAP A-87-2

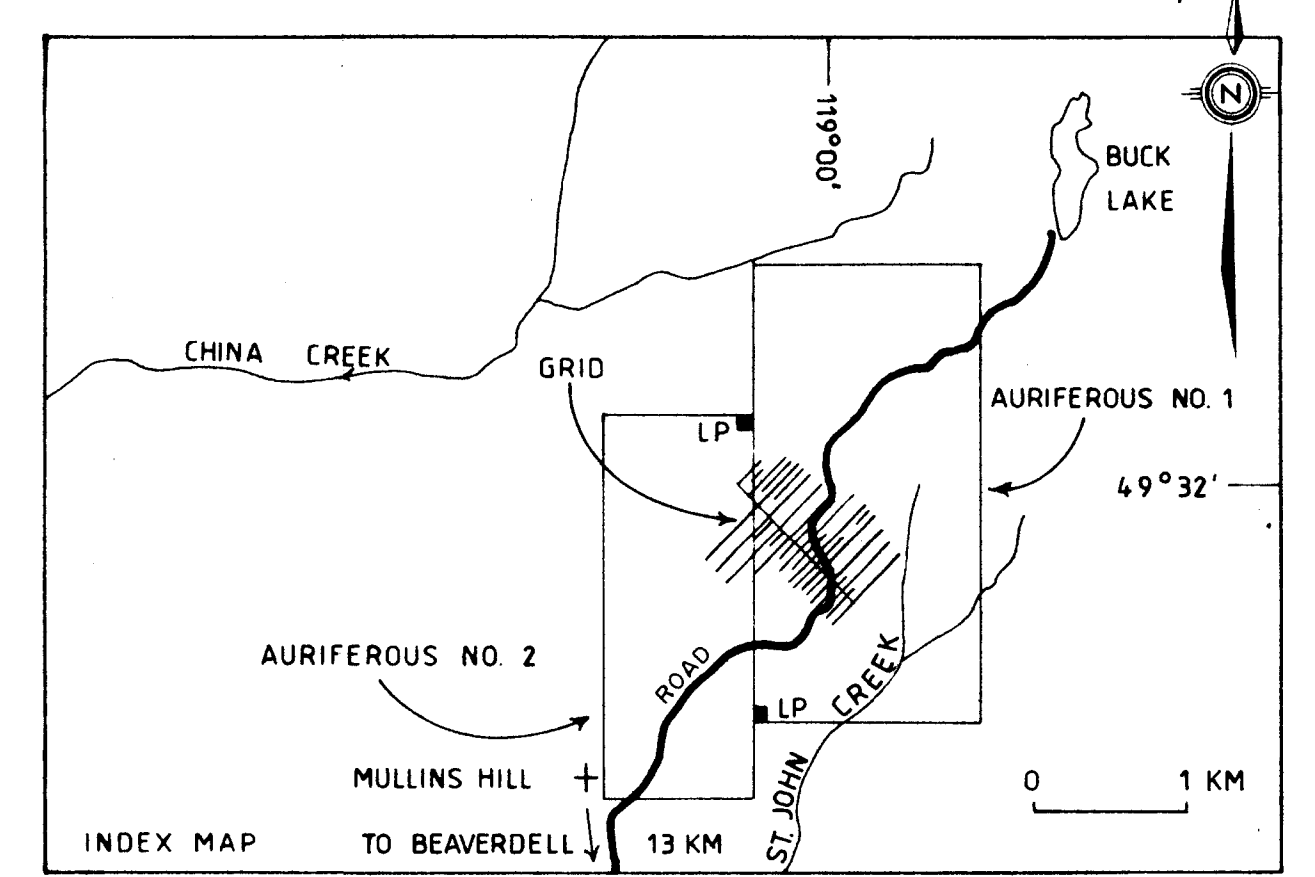
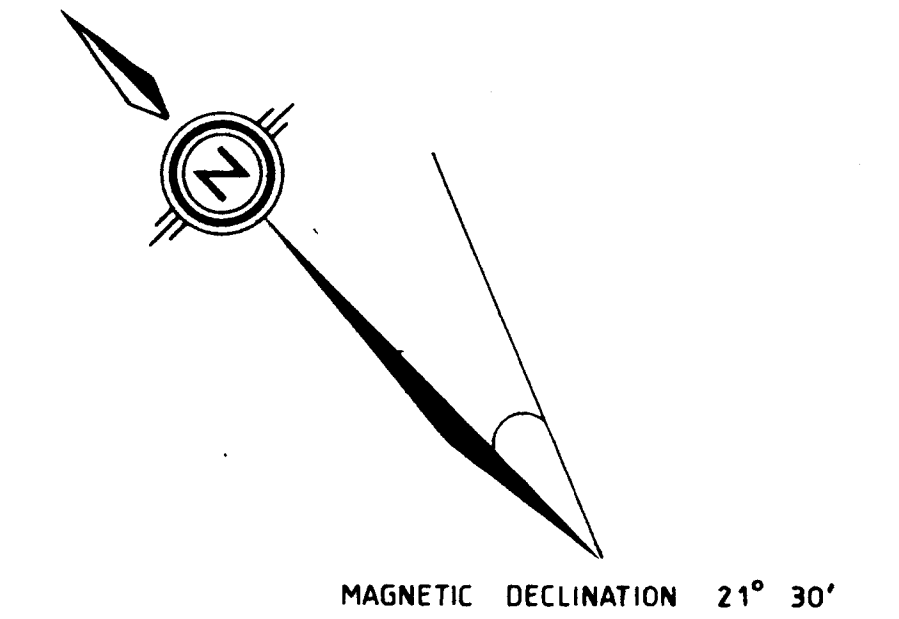
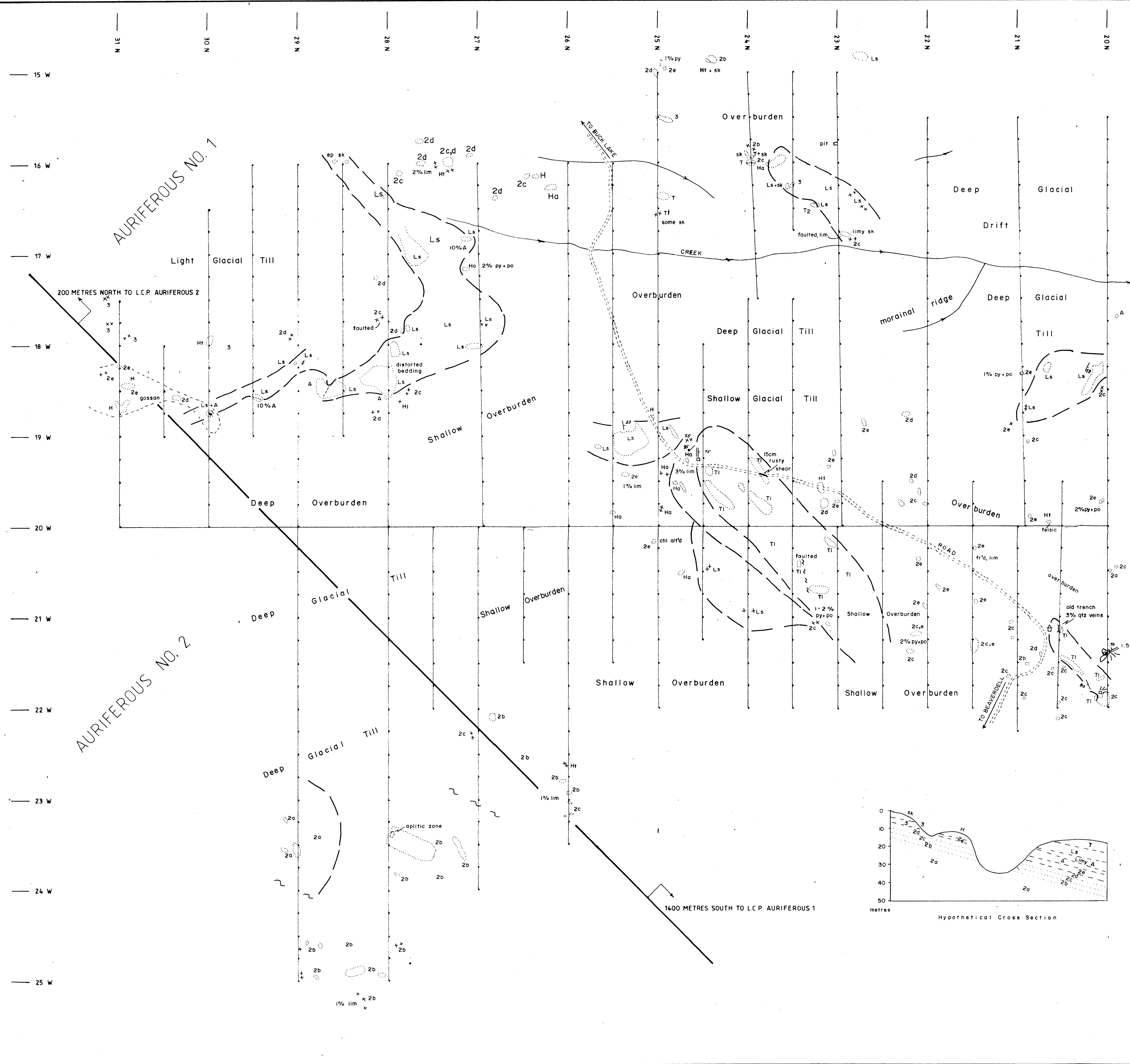


AURIFEROUS NO. 1

AURIFEROUS NO. 2

200 METRES NORTH TO L.C.P. AURIFEROUS 2

1400 METRES SOUTH TO L.C.P. AURIFEROUS 1



- GEOLOGY -

- CRETACEOUS (?)
- 3 Pyroxenite Dykes ?
  - 2 Nelson intrusive, Diorite, Quartz Diorite
    - 2a fresh m.g. equigranular diorite, quartz diorite
    - 2b hornblende diorite
    - 2c m. to f.g. diorite, slightly hybrid
    - 2d m. to f.g. diorite, moderately converted to hybrid
    - 2e f.g. salt and pepper diorite-hornfels hybrid
- PERMIAN AND/OR TRIASSIC
- 1 Anarchist Group
    - T tuff
      - T1 andesitic tuff
      - T2 dacitic tuff
    - Ls limestone
    - A argillite
    - H hornfels
      - H1 slightly dioritic hornfels
      - Ha hornfels after argillite
      - Ht hornfels after f.g. volcanoclastic sediments and tuff

- LEGEND -

- alt'd altered
- chl chlorite
- fr'd fractured
- lim limonite
- py pyrrhotite
- py pyrite
- sk skarn
- ss sandstone
- ep epidote
- f.g. fine grained
- mg medium grained
- outcrop
- angular float
- joints, bedding
- shearing, faulting
- assumed geological contact, fault
- pit, trench, dump
- sample pits and hauls

GEOLOGICAL BRANCH ASSESSMENT REPORT

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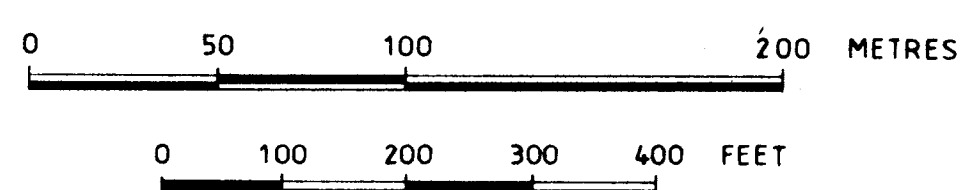
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ZYLLITE RESOURCES LTD.

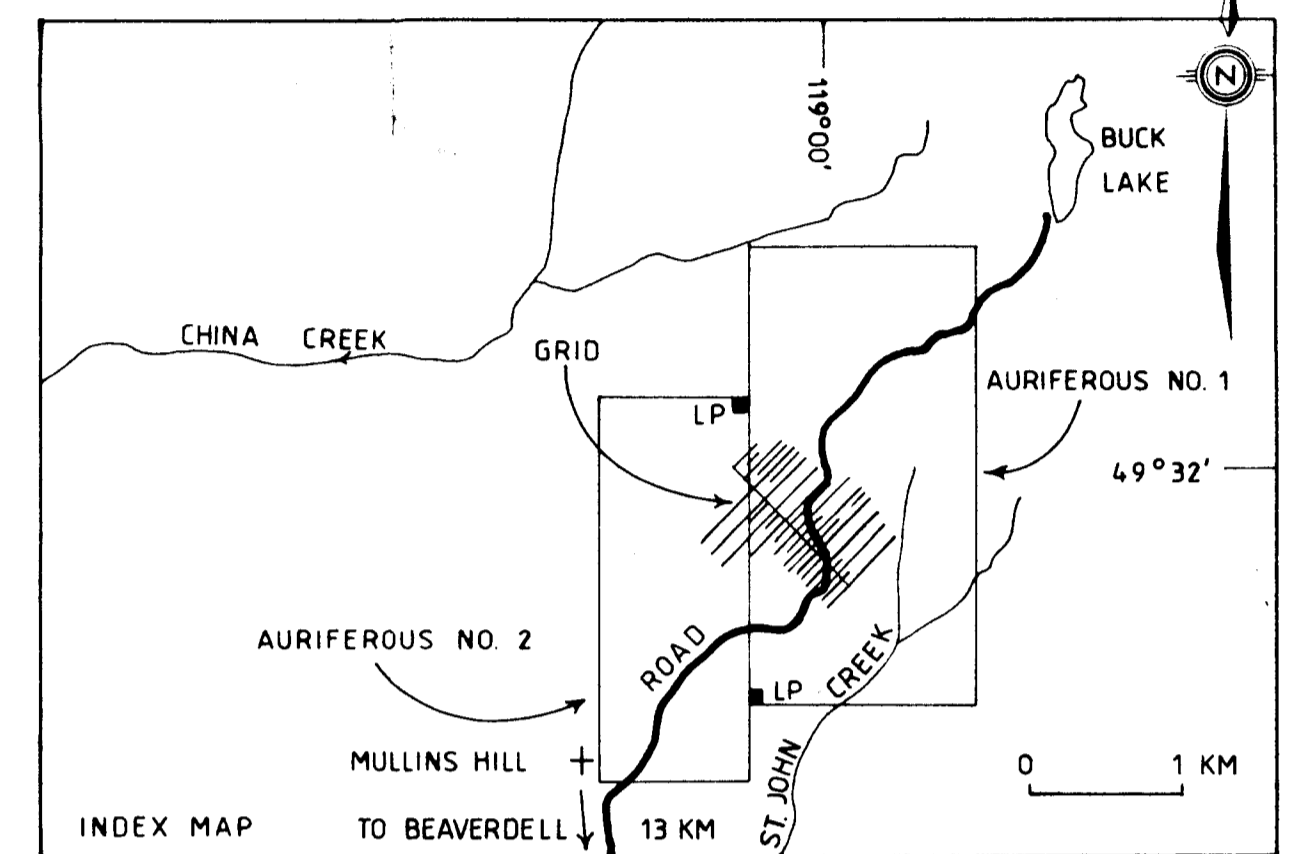
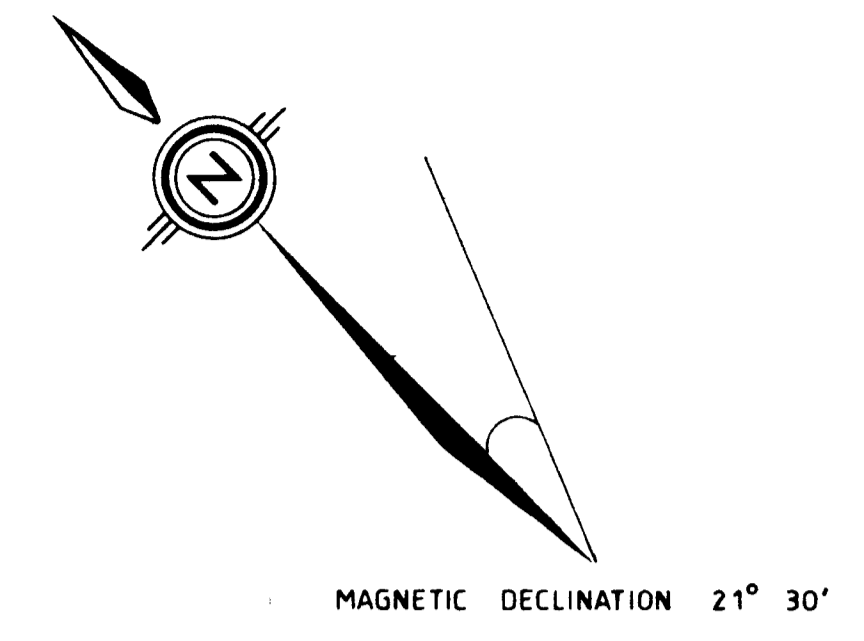
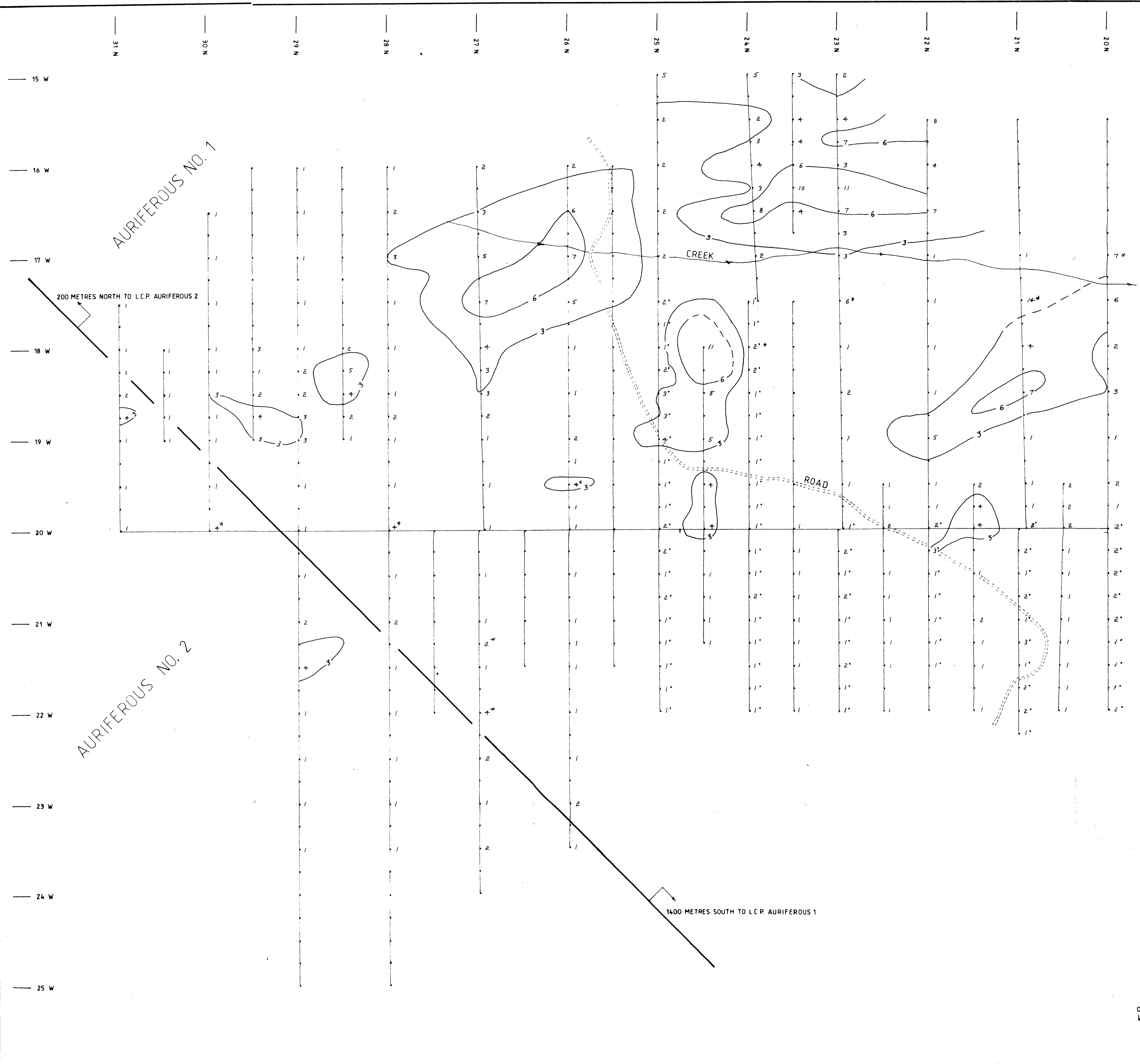
AURIFEROUS PROPERTY  
BEAVERDELL AREA, GREENWOOD M.D., B.C.

GEOLOGY

AURIFEROUS 1 + 2 MINERAL CLAIMS

SURVEY BY MM	JULY 1987	N.T.S. 82-E-10+11
DRAWN BY MM/AH	SCALE 1:2000	MAP A-87-1





PLEASE SEE MAP A-87-1 FOR GEOLOGY

6 CADMIUM IN PPM  
3 " "

SAMPLE MEDIUM : DOUGLAS FIR TWIGS AND NEEDLES

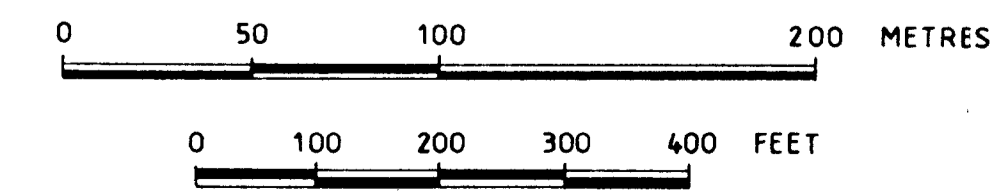
\* : DENOTES OLD DRY TWIGS ONLY

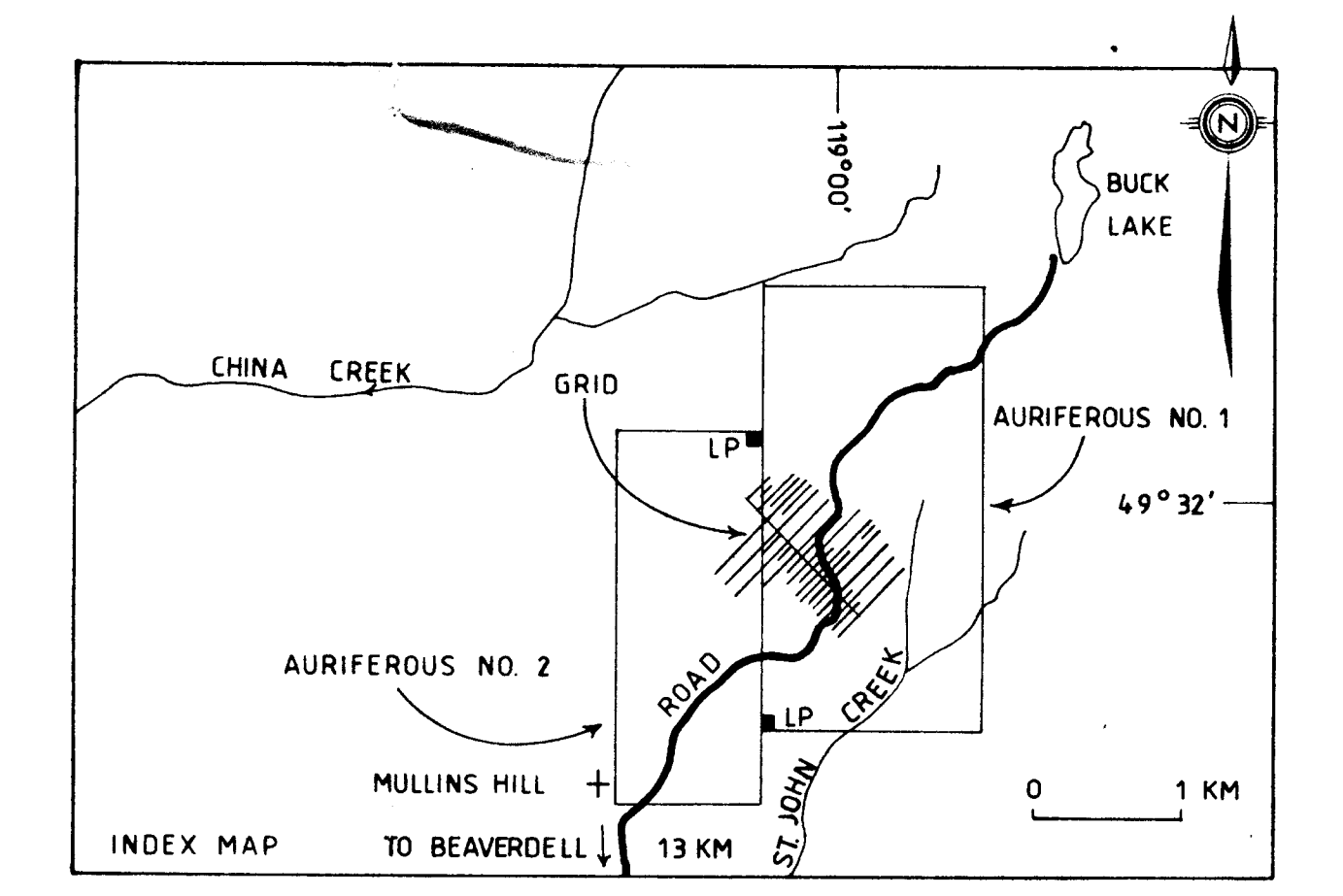
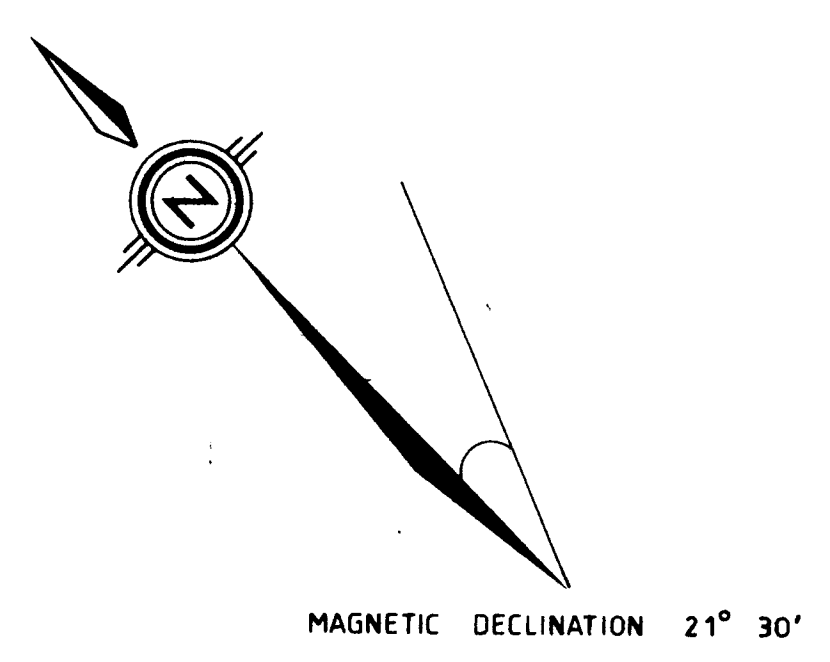
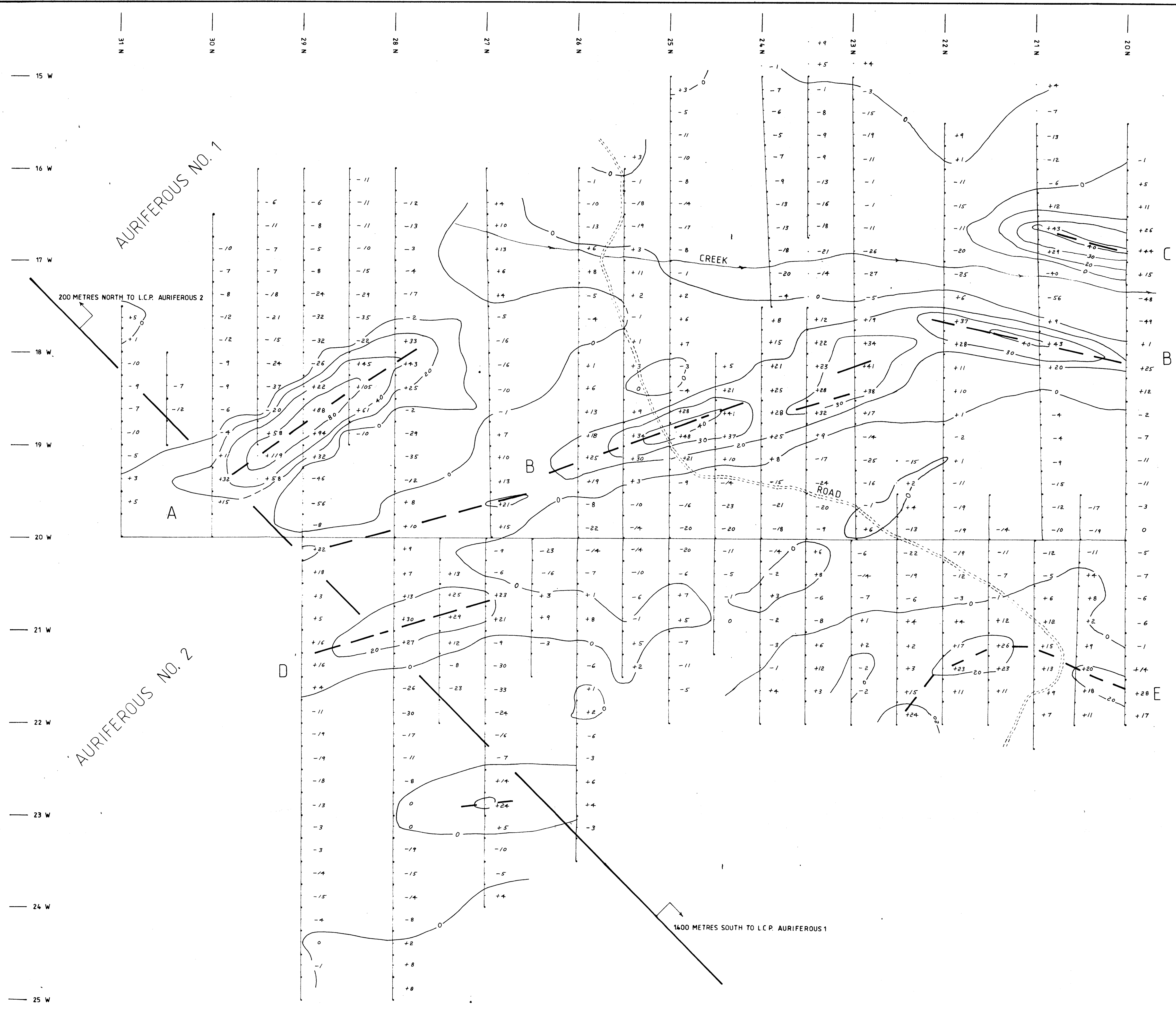
2\* : DENOTES 1986 SAMPLE

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

**16,998**

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ZYGOTE RESOURCES LTD.		
AURIFEROUS PROPERTY BEAVERDELL AREA, GREENWOOD M.D., BC		
BIOGEOCHEMICAL SURVEY CADMIUM		
AURIFEROUS 1 + 2 MINERAL CLAIMS		
SURVEY BY MM	JULY 1987	N.T.S. 82-E-10-11
DRAWN BY MM/AH	SCALE 1:2000	MAP A-87-3





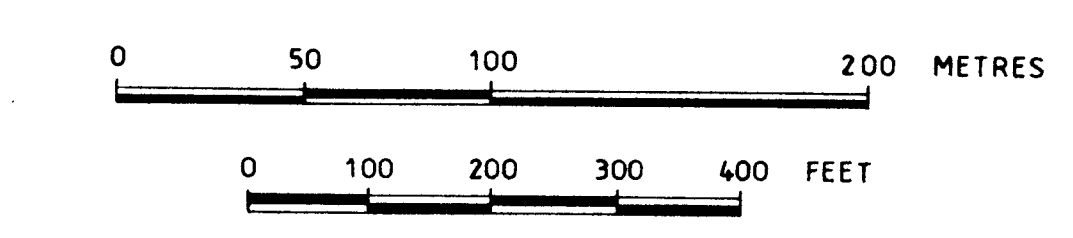
INSTRUMENT : GEONICS EM - 16  
 PLEASE SEE BASIC DATA ON MAP A-87-5  
 CONTOUR INTERVAL : 0, 20, (30), 40, 80 %  
 FRASER FILTERED DIP ANGLE  
 --- AXES OF CONDUCTORS

SIGNAL STATION  
 ANNAPOLIS, MARYLAND

PLEASE SEE GEOLOGY ON MAP A-87-1 **GEOLOGICAL BRANCH  
 ASSESSMENT REPORT**

**16,998**

TO ACCOMPANY A GEOPHYSICS REPORT BY M. MORRISON		
ZYGOTE RESOURCES LTD.		
AURIFEROUS PROPERTY BEAVERDELL AREA, GREENWOOD MD., BC.		
VLF-EM SURVEY FRASER FILTERED DATA AURIFEROUS 1 + 2 MINERAL CLAIMS		
SURVEY BY M.M.	JULY 1987	N.T.S. 82-E-10+11
DRAWN BY MM/AH	SCALE 1:2000	MAP A-87-4

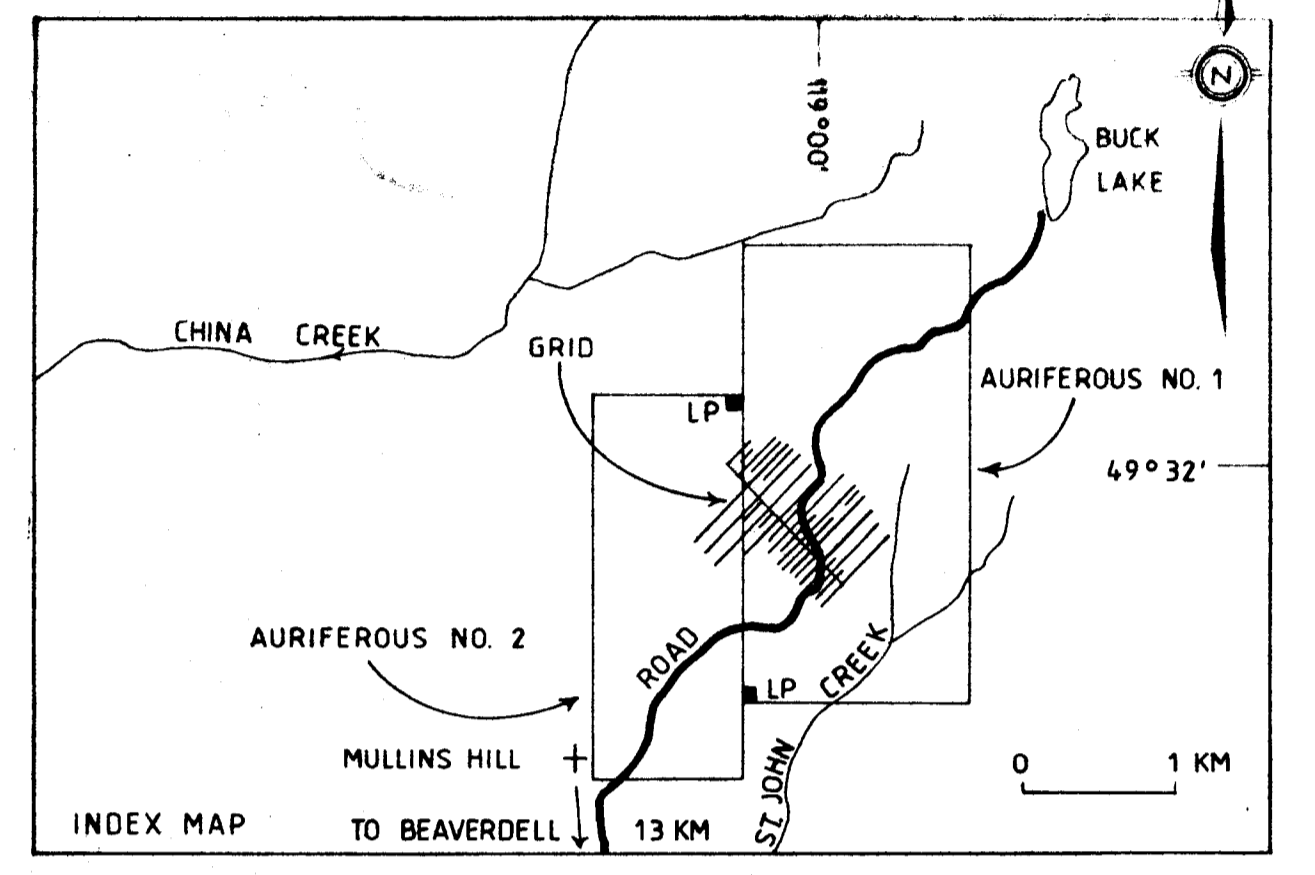
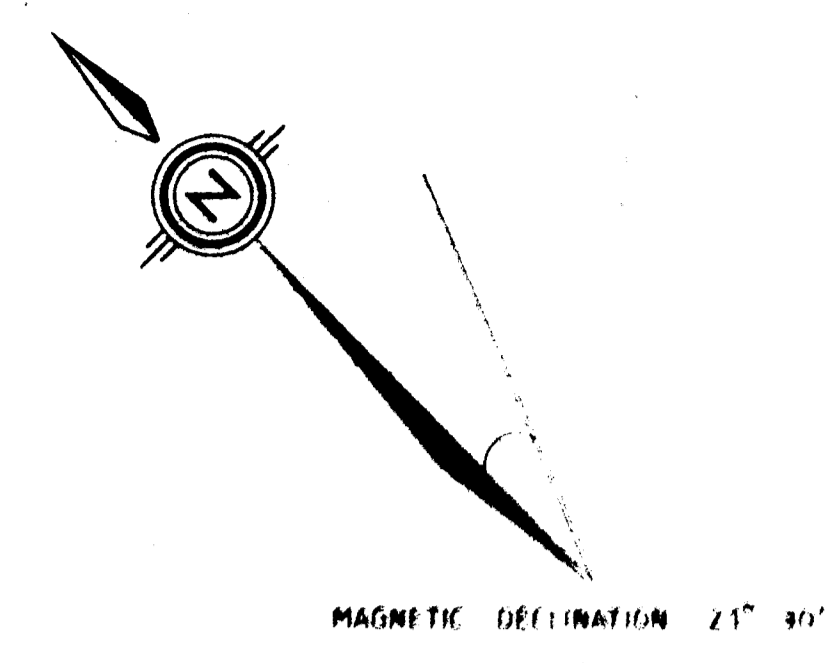
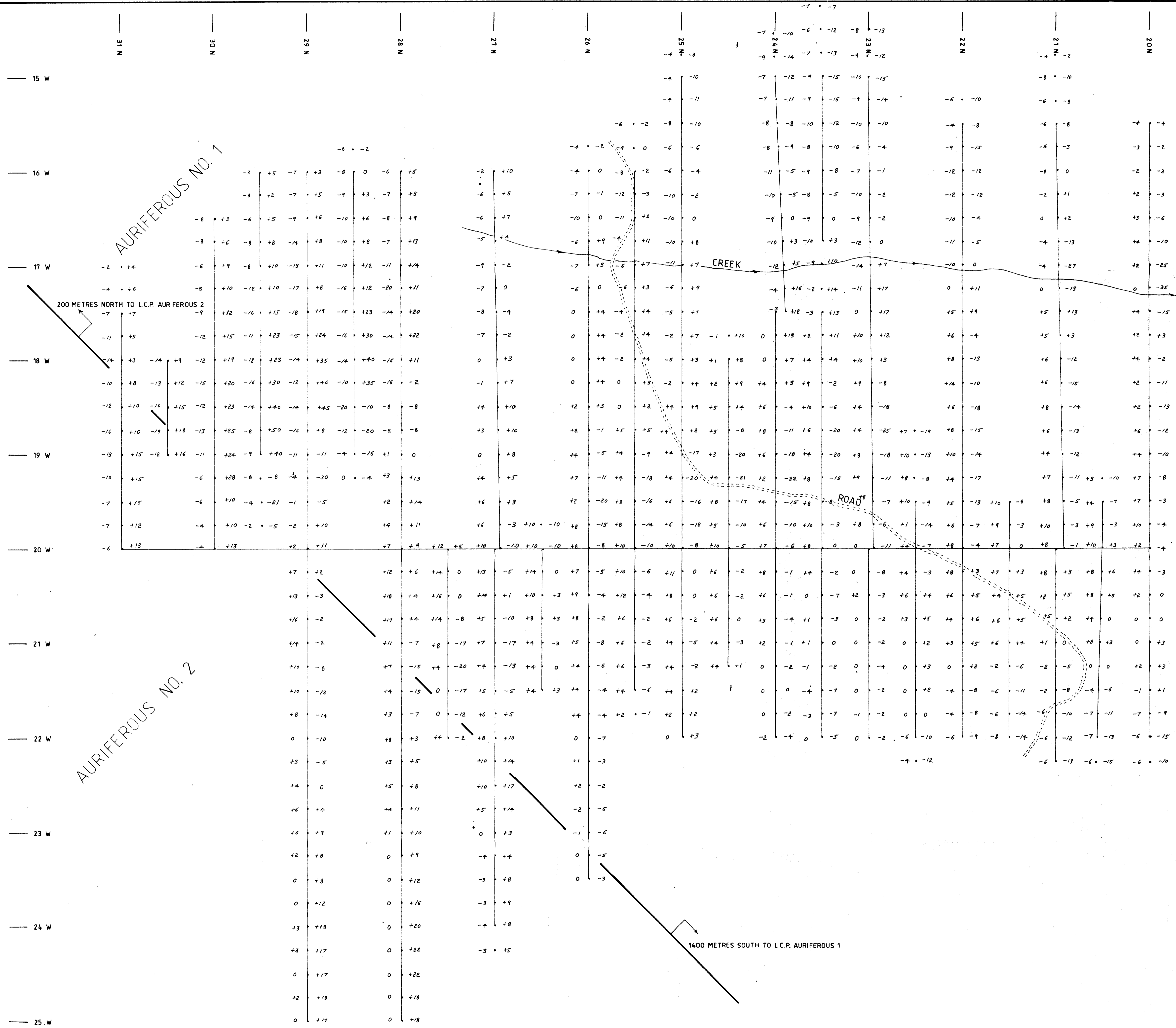


AURIFEROUS NO. 1

AURIFEROUS NO. 2

200 METRES NORTH TO L.C.P. AURIFEROUS 2

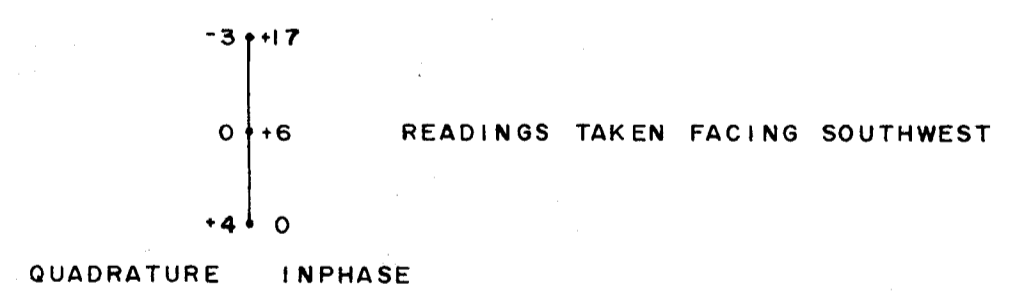
1400 METRES SOUTH TO L.C.P. AURIFEROUS 1



INSTRUMENT : GEONICS EM-16

PLEASE SEE MAP A-87-4 FOR FRASER FILTERED DATA

PLEASE SEE MAP A-87-1 FOR GEOLOGY



SIGNAL STATION  
ANNAPOLIS, MARYLAND

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**16,998**

TO AC COMPANY GEOPHYSICS REPORT BY MORRISON

ZYGOTE RESOURCES LTD.

AURIFEROUS PROPERTY  
BEAVERDELL AREA, GREENWOOD MD., B.C.

**VLF-EM SURVEY  
BASIC DATA**

AURIFEROUS 1 + 2 MINERAL CLAIMS

SURVEY BY M.M. JULY 1987 N.T.S. 82-E-10-11

DRAWN BY M.M./A.H. SCALE 1:2000 MAP A-87-5

