

GEOLOGICAL SURVEY BRANCH  
ASSESSMENT REPORTS

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Report on the

# GRIZZLY LAKE LEAD-ZINC PROPERTY

Cariboo Mining Division,  
British Columbia

Lat. 52°48'N; Long. 120°58'W  
NTS 93A/14E & 15W

SUB-RECORDER  
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JUL 20 1995

M.R. #.....\$.....  
VANCOUVER, B.C.

on behalf of

GOLDEN KOOTENAY RESOURCES INC.

by

James W. McLeod, P.Geo.

FILMED

July 9, 1995  
Delta, British Columbia

23,995

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

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## **SUMMARY**

During July 1994 Golden Kootenay Resources Inc. conducted a reconnaissance diamond core drilling program on the Grizzly Lake Zn-Pb property in the Cariboo Mining Division, B.C. The program included road repair and drill site access and preparation, rock trenching and drilling three reconnaissance AQ-wireline holes (DDH 94 1-3) to test a number of geophysical (VLF-EM and MAG) responses which were outlined during the 1993 field season. The rock trench opened up a lead-zinc mineralized quartz vein.

Significant zinc-lead mineralization was encountered in DDH 94-1 (see Appendix II). Holes DDH 94-2 and 3 rendered geological information. Further drilling is recommended for the property to test numerous surface mineralized zone which exhibit coincident geophysical expression.

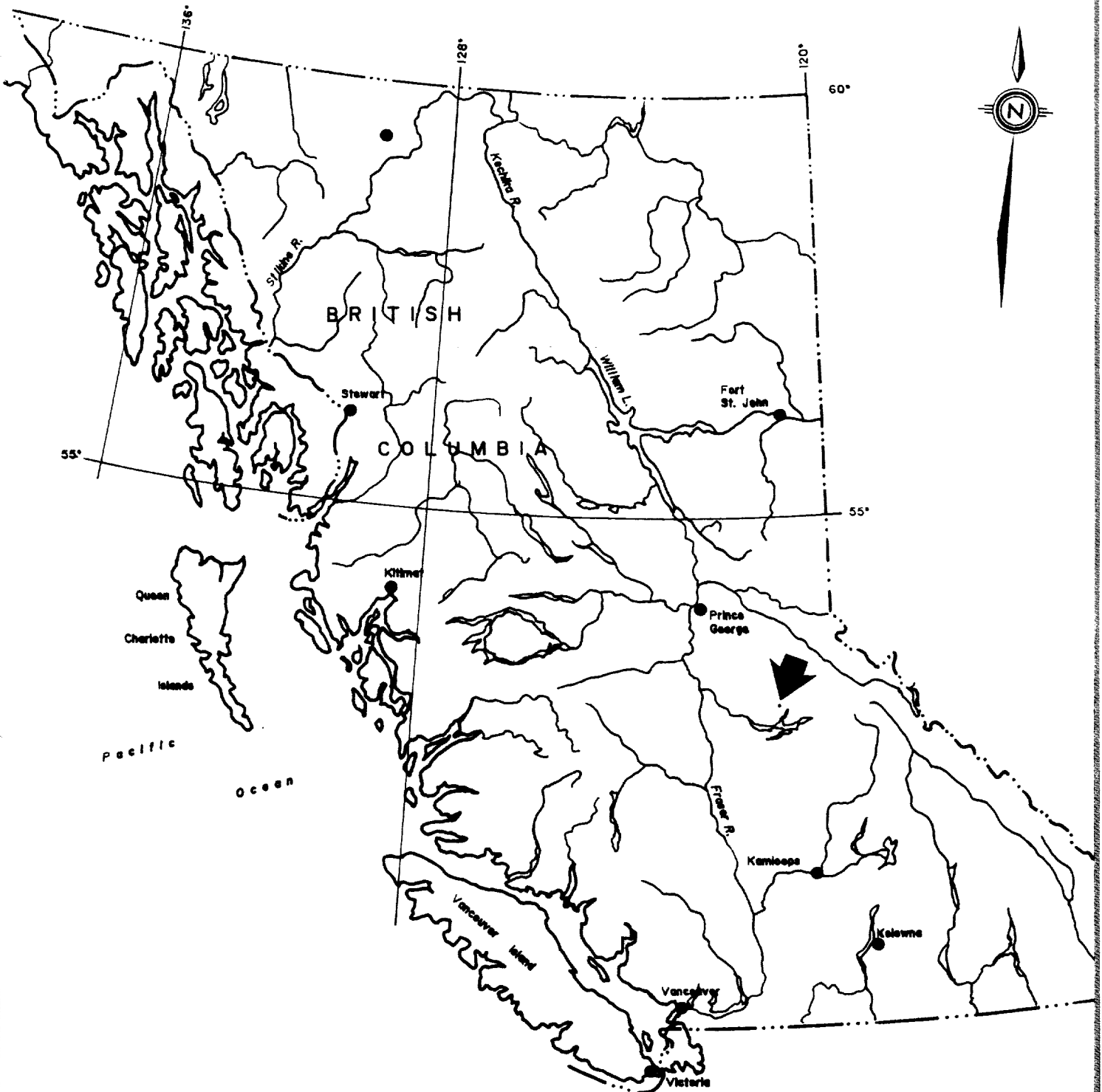
The recommended Phase I program is expected to take one month to complete at an estimated cost of \$94,000.

## **INTRODUCTION**

During the period July 12-30, 1994 the writer supervised a reconnaissance core drilling program on the Grizzly Lake Zn-Pb property. The three hole program tested two areas of geochemically anomalous soils and geophysical areas of interest. The data obtained from the first drill hole, DDH 94-1, affords an explanation for the anomalous responses. This hole was stopped in zinc-lead mineralization (see Appendix II).

One rock trench was undertaken on an outcropping quartz vein which returned significant values (See Sa #11206, Appendix II).

The program was conducted on behalf of Golden Kootenay Resources Inc. of Delta, B.C.



|  |               |
|--|---------------|
| <b>GOLDEN KOOTENAY<br/>RESOURCES LTD.</b>              |               |
| PROPERTY LOCATION MAP<br>GRIZZLY LAKE LEAD/ZINC OPTION |               |
| CARIBOO MINING DIVISION<br>NTS 093A15W                 |               |
| Scale: AS SHOWN  | Date: Dec./92 |
|  | FIGURE 1      |

## LOCATION AND ACCESS

The Grizzly Lake property is located 65 airmiles (105 km) east-southeast of Quesnel, B.C. and northeast of Williams Lake, B.C., respectively. The claim area may be located at latitude 52° 48 minutes north and longitude 120° and 58 minutes west (U.T.M. Grid Coordinates approx. 5855000N, 637000E) on NTS maps 93A/14E, 15W.

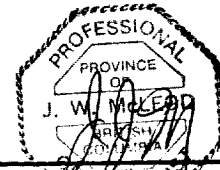
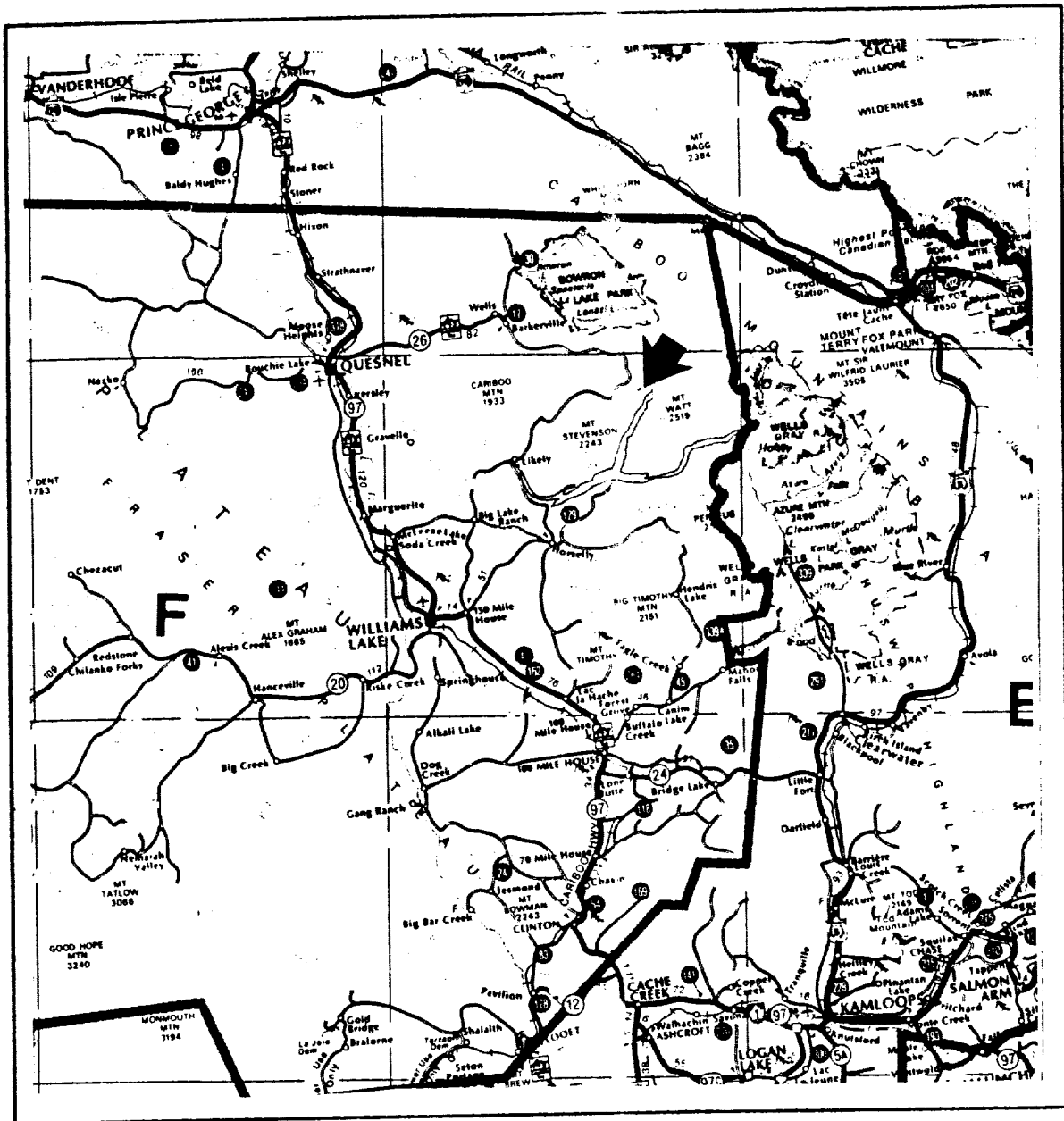
Access to the claims is provided by travelling to the northeast of the Town of Likely, B.C. for 39 miles (65 km) on a good gravel surfaced logging road (Weldwood 8400 Road) which also provides access to the historical mining towns of Barkerville and Wells, British Columbia.

The entire property is afforded road access from the main 8400 road by travelling 8 km east and 3 km west on mining property roads.

## PROPERTY AND OWNERSHIP

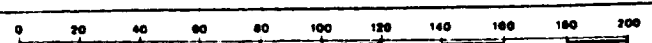
The Grizzly Lake property consists of 9 contiguous lode mineral claims comprising a total of 138 units which are listed as follows:

| Claim Name | No. of Units | Record No. | Anniversary Date |
|------------|--------------|------------|------------------|
| Fog 1      | 20           | 206699     | December 12      |
| Fog 13     | 20           | 206708     | December 12      |
| Dick 1     | 16           | 314843     | November 13      |
| Dick 2     | 20           | 314844     | November 14      |
| Dick 3     | 20           | 314845     | November 14      |
| Dick 4     | 20           | 314846     | November 14      |
| Dick 5     | 20           | 314847     | November 13      |
| Dick 6-15  | 10           | 325465-74  | May 12           |
| RM 1       | 1            | 320919     | September 10     |
| RM 2       | 1            | 320920     | September 10     |
| Total      | 148          |            |                  |



**GOLDEN KOOTENAY RESOURCES LTD.**

**SITE LOCATION MAP  
GRIZZLY LAKE LEAD/ZINC OPTION  
CARIBOO MINING DIVISION**



|                       |                  |           |                   |
|-----------------------|------------------|-----------|-------------------|
| SCALE:<br>1:2,500,000 | DATE:<br>Dec./92 | MAP:<br>2 | N.T.S.<br>093A15W |
|-----------------------|------------------|-----------|-------------------|

The claim area totals approximately 8,625 acres (3,450 hectares). The claims are owned by Golden Kootenay Resources Inc. of Delta, B.C.

## TOPOGRAPHICAL AND PHYSICAL ENVIRONMENT

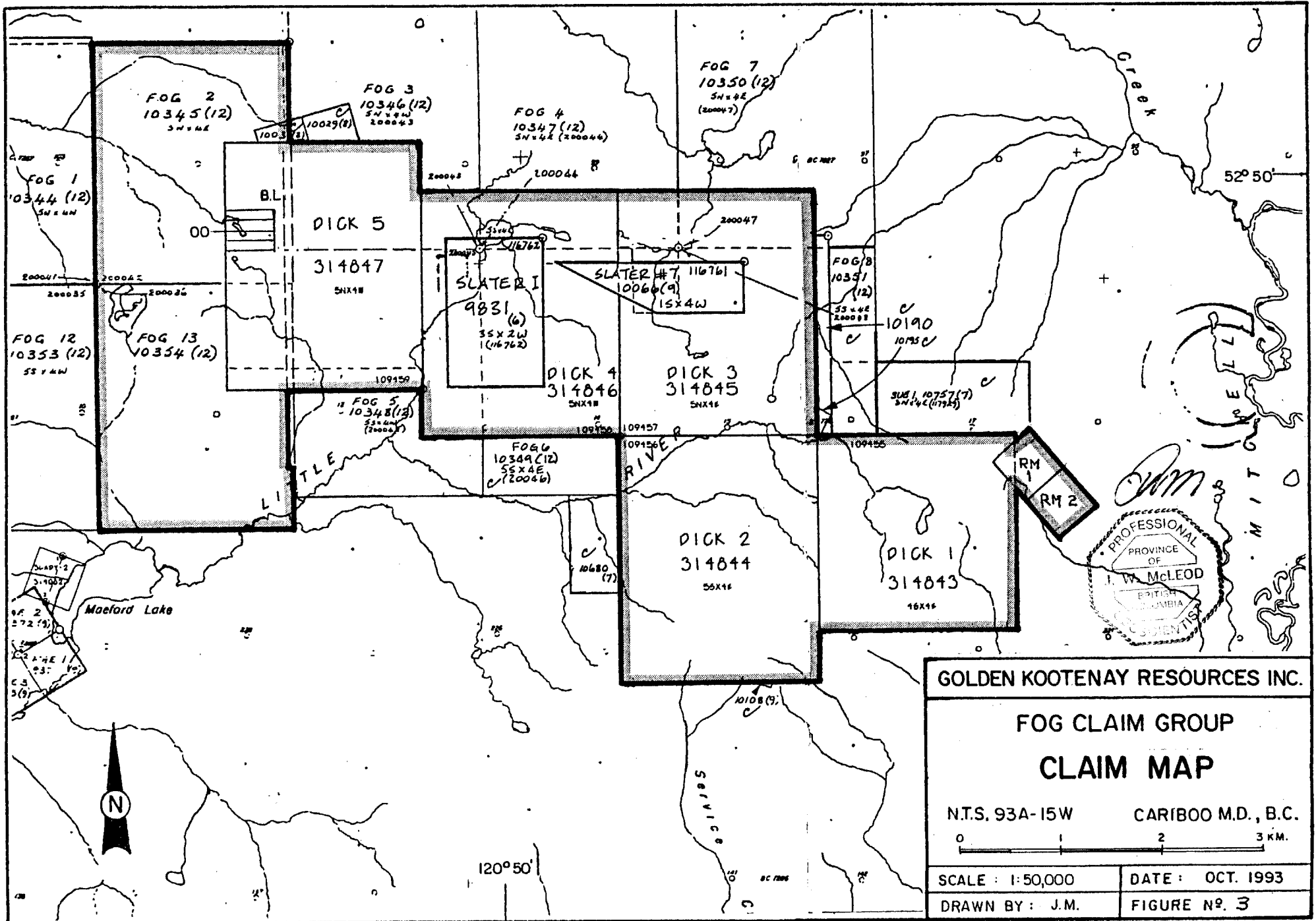
The property lies in the sub-alpine biotic zone in the Quesnel Highlands on the east side of the Interior Plateau. The claim area is open, sparse conifer covered by spruce and pine with much of the open areas covered by buck brush and some grasses. The property may be described as more of a mountainous plateau lying above and to the northwest of the north-arm of Quesnel Lake. The property lies in moderately steep mountainous terrain and ranges in elevation from 4,200 to 6,000 feet (1,280 to 1,830 metres) mean sea level.

The property area generally experiences a cool, wet climate with approximately 90 cm (35 inches) of annual precipitation of which 30 to 40% may occur as snow.

## HISTORY

The Grizzly Lake property historical exploration events are listed as follows:

| Year | Company  | Work Performed and Results  |
|------|--|---|
| 1969 | Canex Aerial Explorations Ltd. (now Placer Dome) | Silting creek on east side of property renders Pb-Zn anomalous samples, follow-up soil sampling reveals anomalous zone, but EM testing fails to indicate mineralization relationship.   |
| 1972 | Canadian Superior Explorations                   | Extends Canex work to west and outlines several I.P., EM and soil anomalies and the occurrence of some high grade Pb-Zn float and vein-type mineralization. A drill is helicoptered in - three holes totalling 1,157 feet (353 m) are completed. Two holes test soil anomalies, one cuts 60 feet of 0.6% Zn and 400 ppm Pb. The third hole tests an I.P. anomaly near soil anomaly of Canex, but only weak Zn-Pb mineralization is encountered in pyrite-pyrrhotite in shaley (phyllitic?) or argillaceous rocks. |



GOLDEN KOOTENAY RESOURCES INC.

FOG CLAIM GROUP  
CLAIM MAP

N.T.S. 93A-15W CARIBOO M.D., B.C.



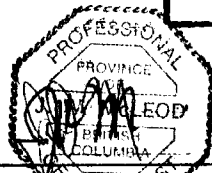
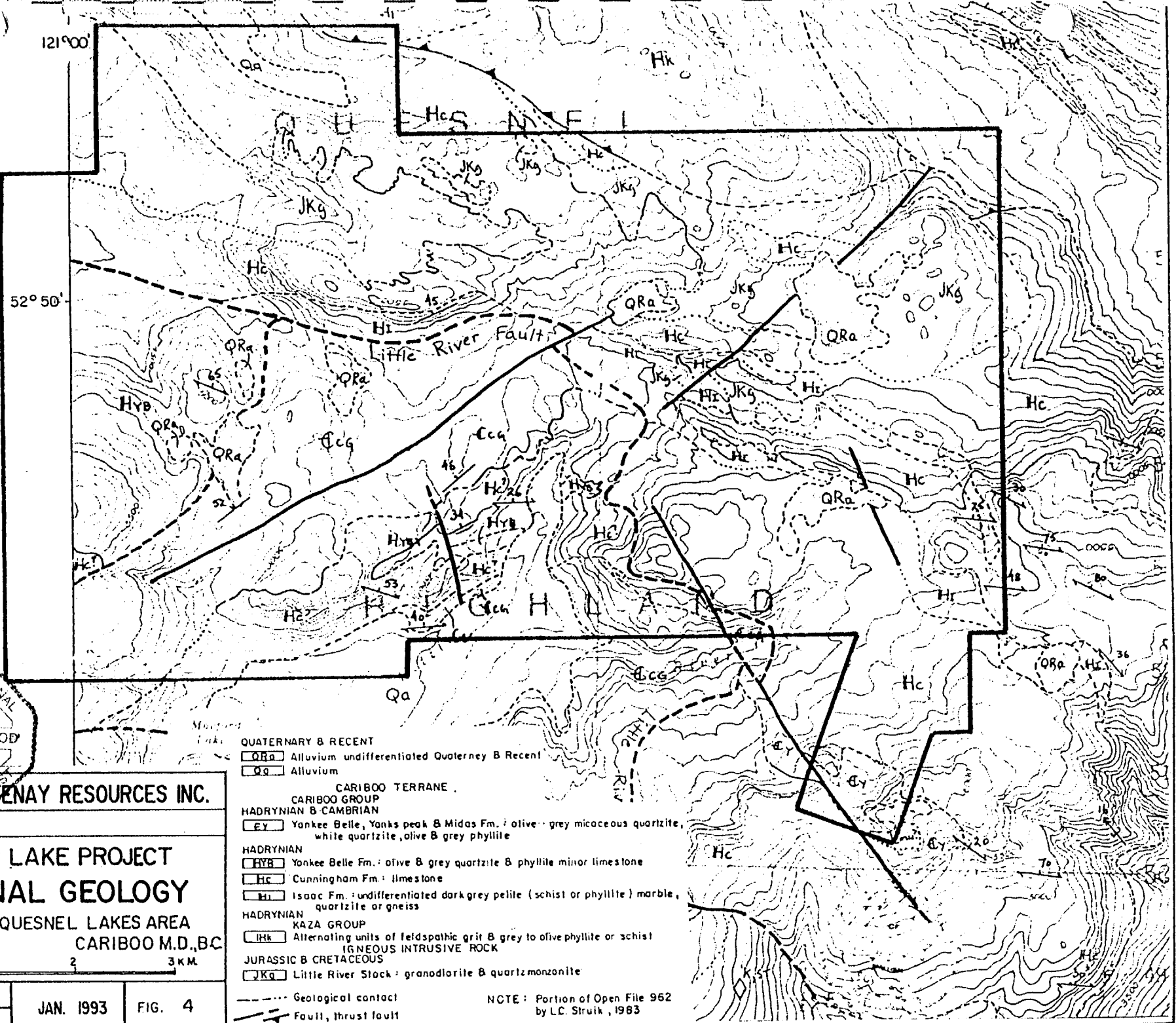
|                  |                  |
|------------------|------------------|
| SCALE : 1:50,000 | DATE : OCT. 1993 |
| DRAWN BY : J.M.  | FIGURE NO. 3     |



|                         |   |   |
|-------------------------|---|---|
| 1969-1972<br><br>(1971) | Cream Silver<br><br>and<br><br>Morocco Mines?       | Performed some geochemistry and hand trenching in Pb-Zn mineralization in DeBasher Lake area.<br><br>Drilled 4 holes totalling 1,968 feet (600 m) near Flipper Creek (central portion of present property), scattered remnant core appears to be largely phyllite or argillaceous carbonates.   |
| 1989                    | R.E. Mickle   | Prospecting and "Zinc-Zap" testing reveals 8-10 kilometre long, northwest-trending carbonate-hosted zinc trend. The area is seen to contain in excess of 65 separate? mineral occurrences, some of which display considerable areal extent as revealed by surface stripping. Galena is found to be present in many locations throughout the property. |
| 1989                    | James J. McDougall, P.Eng.                          | Recognized pervasive and widespread Zn mineralization. Arranges Winston Management - Mickle option. Winston Management - T.S.A. Explorations Ltd. option transfer.  |
| 1989-1990               | T.S.A.-Teck Corp. joint venture on R. Mickle claims | Teck assumes initial management and funding and undertakes large soil and rock geochemistry program, rock trenching, and stripping program, geological mapping, limited VLF-EM and four shallow Winkie drill holes and completes a reclamation program.   |
| 1990                    | R. Lonsdale as Cariboo Highland Metals (CHM)        | Option on former Canadian Superior ground where shallow trenching reveals numerous mineral (Zn-Pb) occurrences.   |
| 1992-1993               | CHM - Golden Kootenay Resources Inc. joint venture  | Present land position acquired and VLF-EM orientation survey undertaken. Detailed VLF-EM and MAG program undertaken.  |

## REGIONAL GEOLOGY

The regional geological setting in which the Grizzly Lake property occurs has been described by a number of parties (see References). The general central and eastern area is underlain by northwesterly trending stratified rocks of Hadrynian (upper Proterozoic) to Cambrian age which are referred to as Cariboo Terrane. In the western area of the property the bedrock apparently trends northeasterly and dips to the northwest. In this area, the Cariboo Terrane is comprised of two formations, the younger Cunningham and the older Isaac. These units are in places intruded



**GOLDEN KOOTENAY RESOURCES INC.**

**GRIZZLY LAKE PROJECT  
REGIONAL GEOLOGY**

MAEFORD, QUESNEL LAKES AREA  
N.T.S. 93A-15W CARIBOO M.D., B.C.



SCALE: 1:50,000  
BRAD'S DRAFTING  
JAN. 1993  
FIG. 4

- QUATERNARY & RECENT**
- QRa Alluvium undifferentiated Quaternary & Recent
  - Qa Alluvium
- CARIBOO TERRANE**
- CARIBOO GROUP**
- HADRYNIAN & CAMBRIAN**
- EY Yankee Belle, Yanks peak & Midas Fm.: olive-grey micaceous quartzite, white quartzite, olive & grey phyllite
- HADRYNIAN**
- HYB Yankee Belle Fm.: olive & grey quartzite & phyllite minor limestone
  - Hc Cunningham Fm.: limestone
  - Hl Isaac Fm.: undifferentiated dark grey pelite (schist or phyllite) marble, quartzite or gneiss
- HADRYNIAN KAZA GROUP**
- Hk Alternating units of feldspathic grit & grey to olive phyllite or schist
- IGNEOUS INTRUSIVE ROCK**
- JURASSIC & CRETACEOUS**
- JKg Little River Stock: granodiorite & quartzmonzonite
- Geological contact  
 -/- Fault, thrust fault

NOTE: Portion of Open File 962 by L.C. Struik, 1983

by small granodiorite and quartz monzonite stocks of Jurassic and/or Upper Triassic age which are termed the Little River intrusions.

The Cunningham Formation is characterized by carbonate units which are comprised of thin bedded grey-white limestone, massive grey to pink coloured limestone and white dolomitic limestone.

The Isaac Formation is generally observed as thin, 10 m to 100 m wide beds of light brown coloured impure calcite marble and calcareous schist and phyllites.

The carbonate-dolomite sequence, with which we are most concerned, is of considerable size, with a consistency of trend, but variations in metamorphic development and/or structural preparation offer a regional belt with significant potential to host economic occurrences of "Mississippi Valley Type" (MVT) Zn-Pb mineralization. The following quote is from McDougall, 1992: *"Several important lead-zinc occurrences are known within this carbonate sequence such as Pend Orielle-Salmo on the United States and British Columbia sides of the border, the Kootenay Lake trend in B.C., and north of Grizzly, the Williston Lake prospects of Cominco."* Examination of a geological map of this area reveals a belt of potentially favourable setting which may run the full length of the province and beyond. McDougall, 1992 also makes a suggestion that the typical large bulbous or stratiform mineralized masses of the MVT related to solution cavity fillings, etc. may not necessarily be required to afford Zn-Pb occurrences of economic significance. He recognizes similarities with the Grizzly Lake Zn-Pb occurrences and the "Irish Model" (IM) which appear to be controlled by the intersection of fault structures and favourable sedimentary units, for example the Lisheen Deposit in Ireland.

## **PROPERTY GEOLOGY**

The Grizzly Lake property has been described by others as being underlain by Precambrian and later "Cariboo Terrane" which is locally represented by schists and phyllites of the Isaac

Formation and the overlying carbonates comprised of limestones and dolomites assigned to the Cunningham Formation. Small stocks of granodiorite composition are observed on the north side of the mineralized carbonate units along the 8400 road and the writer observed one small outcropping of similar material on the north end of L14900E. The Grizzly Lake property has been geologically mapped in some detail, 1:10,000 scale, mainly after Lormand and Alford, 1989-90 and summarized by Murrell, 1991 for Teck Corp. The aerial extent of bedrock exposures on the Grizzly Lake property is low, i.e. <5%, but after completion of the 1993 fieldwork program the overburden cover on the property, although widespread, can most often be expected to be thin. Soil development throughout the property is variable with podzolization observed in many locations to be early or incomplete while in other locations it appears to be well developed. Near some of the small lakes or wetter, poorly drained areas of the property a 1 to 2 foot humus, highly carbonaceous layer occurs immediately below the surface which may render pick or maddock retrieved soil samples unreliable. Examination of some of the previously sampled sites leads the writer to cautiously accept some of the old soil geochemistry results and the broad (200 m x 50 m grid) soil contours are probably over extended and "spot" highs should be treated as such. There are well covered areas adjacent to extensive mineralized areas, thus offering considerable potential to expand known mineralized zones. The current geophysical results indicate that overburden may mask more bedrock-surface alteration and mineralization than has been found to date.

Alteration observed on the property is pervasive and widespread dolomitized portions of the exposed limestone (Cunningham Formation?), some local weak to strong silicification and/or brecciation of the dolomites, much free quartz in places (in both the carbonates and schists) and reported jasperoid occurrences in some of the early trenches, i.e. the Main Zone (Lormand and Alford, 1989-90) and some limonite and ankerite alteration in the brecciated dolomite. Ankerite may be very pervasive in the highly altered (and mineralized) zones. The very fine grained, greenish-grey phyllites and schists or metamorphosed siltstones (Isaac Formation) weather to a rusty brown colour. There are a number of occurrences of the carbonates of zinc and lead, smithsonite ( $ZnCO_3$ ) and limited cerrusite ( $PbCO_3$ ), respectively which may be due to alteration of the primary sulphides sphalerite ( $ZnS$ ) and galena ( $PbS$ ). Barite has been observed in veinlets

in the Flipper Creek area.

Mineralization observed on the property occurs mainly as sphalerite which varies from dark brown/black to light cream coloured indicating a variation from high iron content to low iron content, respectively, but the light coloured variety is far more abundant. Other minerals present are galena, minor pyrite, some pyrrhotite, smithsonite and cerrusite. There are in excess of 65 Zn-Pb mineral occurrences found within the structurally controlled, NE or NW trending, altered, stratabound carbonate sequence which underlies the property.

The general structural trend as described by Murrell, 1991 is as follows: *"Bedding trends about 240° dipping NW on the northwestern portion of the property and 310° dipping NE on the southeastern portion so that it appears a huge warp, with axis trending NE, dominates the structure. Bedding dips 50° or less but locally can be much steeper due to local folding. Gently open, large scale folding can be seen on the ridge north of DeBasher Lake."*

A major SW-NE fault is recorded as traversing diagonally across the property (see Figure 4) which has been suggested to be a "scissor fault" resulting in the upward displacement of the eastern portion of the property. The "Little River" fault winds sinuously from the western boundary of the property through the central part to the south-central boundary of the property. At the DeBasher zone it is suggested to be a thrust fault. Air photo linears in the southeastern portion of the property are seen to have a northerly trend. Current geophysical results confirm some of these structures with some modification of attitude, but in addition has indicated a multitude of others which change some of the previously suggested patterns of bedrock, alteration and mineralization.

The writer observes a strong contact relationship between the chemically tight phyllites and possibly argillites and the limestone-dolomites, both brecciated and massive, which are thought to have undergone considerable structural preparation where mineralization occurs. This idea is suggested by the four strong conductive zones thus far indicated by the geophysical program taking particular note of the location of the phyllite-dolomite? contact. One example is at sample

location L14500E - 10013N which occurs in a rusty, siliceous, vuggy, altered zone and is anomalous in cadmium and zinc. This particular sample comes from a zone appearing sub-parallel to and possibly as an extension of the west end of the East Grid - Anomaly B conductive zone. Extension of the sample grid to the north (approx. 500 m) in this and other locations may reveal conductive zones. It is the writer's feeling that further investigations (drilling, etc.) of these zones will reveal massive sulphide zones, in addition to the previously known widespread occurrence of lead-zinc carbonates and sulphides.

The diamond core holes drilled during the 1994 season have lent considerable understanding to the overall style of mineralization and the significance of the geophysical (VLF-EM and MAG) areas of interest which were revealed during the 1993 program.

A stratigraphic (dipping to NE?) succession of limestones and dolomites which are separated by a phyllite unit. This succession of from oldest to youngest is as dolomite - phyllite (talc) - limestone (see drill log of DDH 94-1). The highest (youngest) limestone units are characterized by a more crystalline texture, less fractured, low in iron,  $Ca > Mg$ , generally lacking quartz in veinlets. These rocks sometimes exhibit induration (hardening) in a very general fashion.

The middle sequence of (shaley) phyllites exhibit the characteristics to varying degrees of high iron content, they often contain abundant pyrite and/or pyrrhotite, and locally this unit may contain considerable thicknesses of talc with abundant secondary (veinlet) calcite and quartz. The dolomitized unit appears to be the lowest (oldest) since it does not appear to be overturned. This unit is characterized by localized zones of a high degree of fracturing or brecciation. It is generally very low in iron,  $Ca = Mg$  (approximately), hosts the zinc-lead mineralization, as well as accompanying secondary quartz-calcite veinlets.

These units offer considerable internal differences and yet an overall consistency of occurrence, if it is kept in mind that there is likely facies changes in a general west-east direction throughout the Grizzly Lake property. Also indicated north-south faulting appears to affect respective units.

Overall, the stratigraphic-tectonic sequence is indicated throughout the property which has the potential of hosting significant zinc-lead mineralization.

### PRESENT WORK PROGRAM

During the period July 12 - July 30, 1994, a reconnaissance diamond core drilling program was undertaken on the Grizzly Lake zinc-lead property. The program was designed to test: (1) geophysical (VLF-EM and MAG) areas of interest revealed by the 1993 geophysical program, and (2) the northeasterly dip? of the zinc-lead mineralization Main Zone area.

The program consisted of drilling three AQ-wireline diamond core drill holes for a total length of 257 metres (839 feet) which are listed as follows:

| Hole No. | Grid Location     | Azim. | Dip | Length m (ft) |
|----------|-------------------|-------|-----|---------------|
| 94-1     | L123E - 10325N    | N200  | -45 | 92.4 (303)    |
| 94-2     | L125+50E - 10200N | N200  | -45 | 90.6 (297)    |
| 94-3     | L125+50E - 10100N | N200  | -45 | 72.9 (239)    |
| TOTAL    |                   |       |     | 257 (839)     |

One north-south surface showing at approximately 12400E - 10600N was hand trenched. The dimensions of the trench are 2 metres x 1 metre x 1 metre (see Appendix sample no. 11206 for assay).

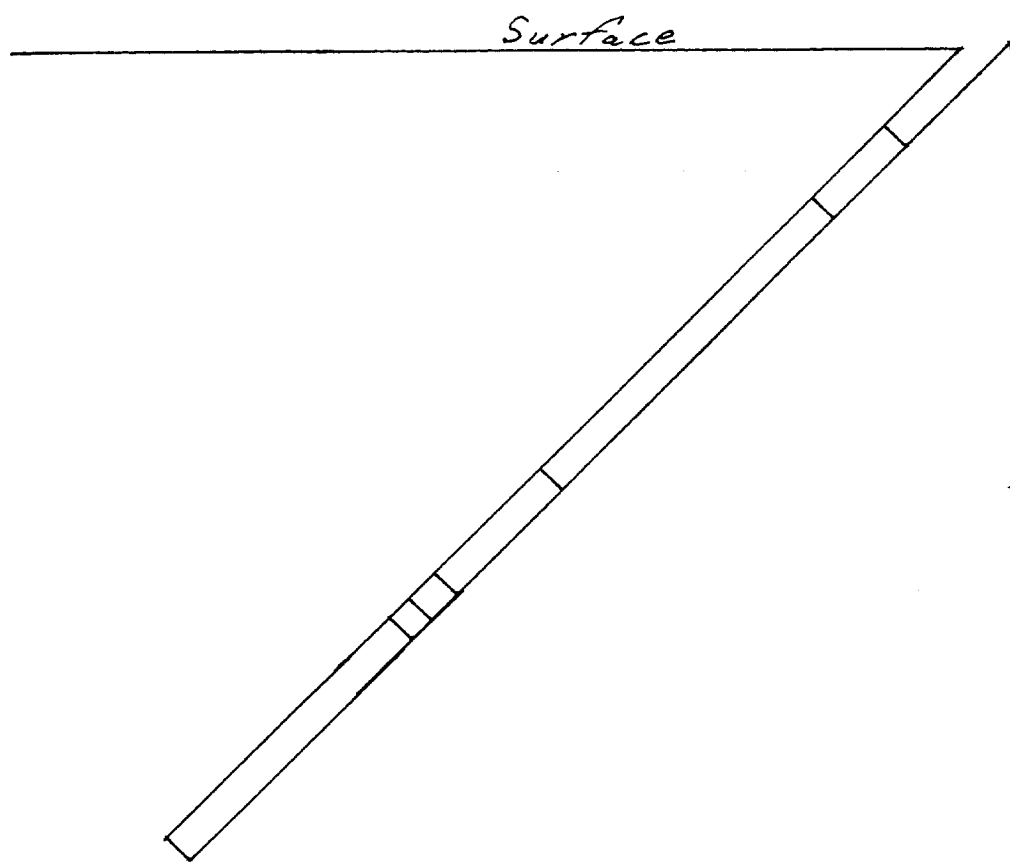
A total of 18 samples (G1-18) from DDH 94-1 were analyzed by Acme Analytical Labs of Vancouver, B.C.

All 19 samples underwent aqua regia digestion and either induction coupled plasma (ICP) and/or fire assay for silver and gold (see Appendix II).





DDH94-1  
 Azimuth - N200°  
 Dip - 45°  
 Location - 123+25E  
 103+75N



Casing.  
 C? Crystal grey limestone.  
 Dark-grey talc phyllite with  
 I py on Bd.  
 I Talc phyllite (dark grey).  
 I Light grey phyllite  
 CONTACT ZONE.  
 Grey dolomitic  
 C limestone.  
 ?  
 EOH

Legend

- I Isaac Formation  
 - Schist, phyllites (talcey).
- C Cunningham Formation  
 - bedded grey to white limestone.  
 - massive grey to pink limestone.  
 - white dolomitic limestone, often brecciated.

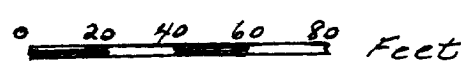
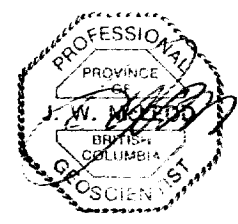
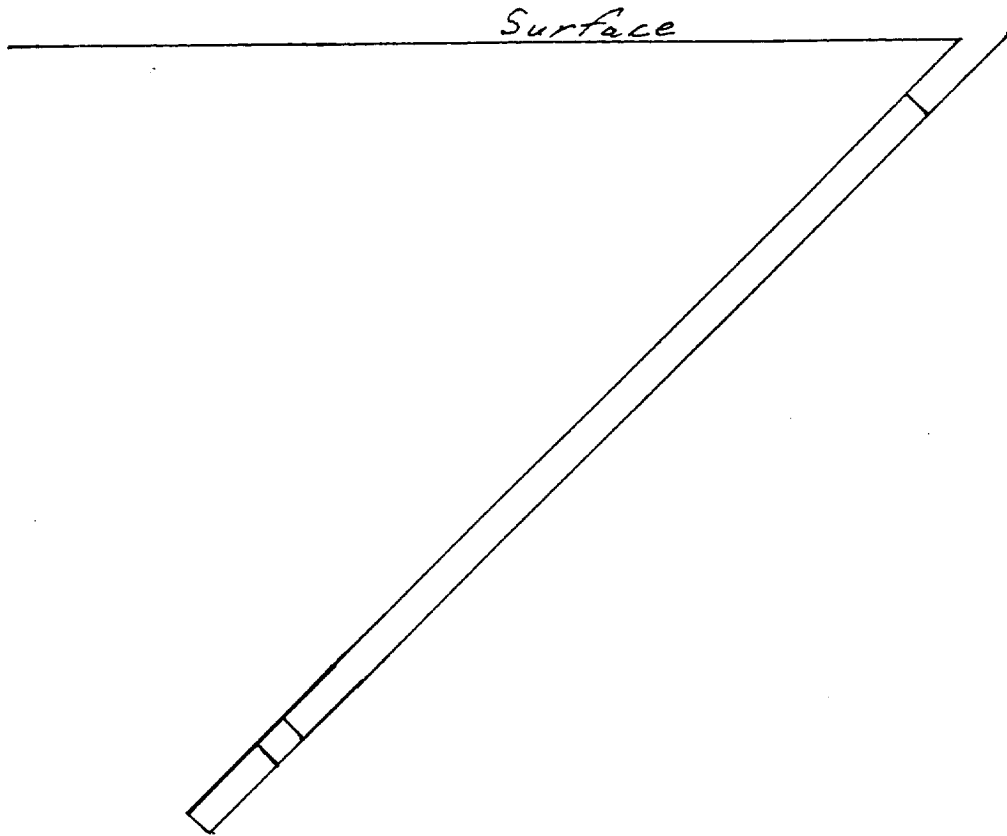


Figure 6  
 DDH 94-1 Section  
 Grizzly Lake Property  
 Cariboo, M.D. B.C.  
 NTS - 93A 14E-15W

DDH 94-2  
 Azimuth - N200°  
 DIP - 45°  
 Location - 125+50E  
 102+00N

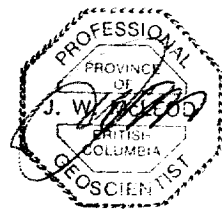


Casing.  
 Light gray-br'n  
 Creamy dolomite  
 breccia. Some  
 moderately fract-  
 ured with  
 calcite welding.  
 Some pyrite cubes  
 and/or hematite.

Cream carbonate  
 zone.  
 Dolomite breccia.  
 E.O.H.

Legend

- I Isaac Formation  
 - Schist, phyllites (talley).
- C Cunningham Formation  
 - bedded grey to white  
 limestone.  
 - massive grey to pink  
 limestone.  
 - white dolomitic limestone,  
 often brecciated.



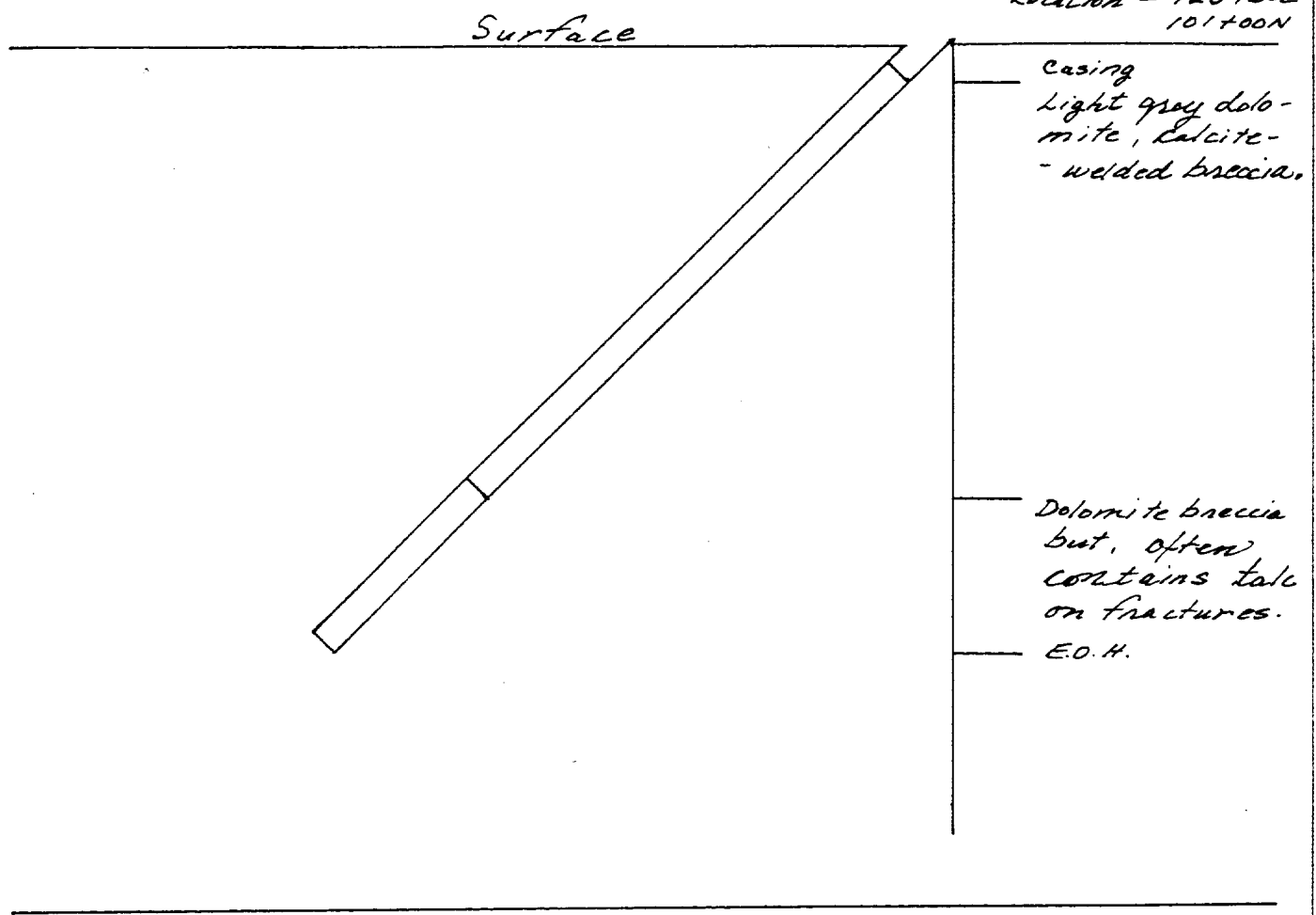
0 20 40 60 80 Feet

Figure 7  
 DDH 94-2 Section  
 Grizzly Lake Property

Cariboo, M.D.B.C.  
 NTS - 93A 14E-15W

Golden Kootenay Resources Inc.  
 June 1995 JMM.

DDH 94-3  
 Azimuth - N200°  
 Dip - 45°  
 Location - 125+50E  
 101+00N



Legend

- [I] Isaac Formation  
 - Schist, phyllites (talcey).
- [C] Cunningham Formation  
 - bedded grey to white limestone.  
 - massive grey to pink limestone.  
 - white dolomitic limestone, often brecciated.

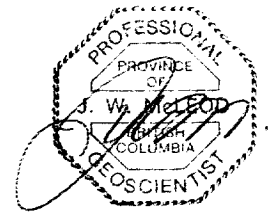
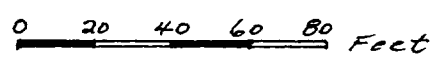


Figure 8  
 DDH 94-3 Section  
 Grizzly Lake Property  
 Cariboo, M.D. B.C.  
 NTS - 93A 14E-15W

## CONCLUSIONS

The 1994 reconnaissance drilling program confirmed the following features of the carbonate units in the vicinity of L123 to L125 - Baseline to 10103N (Main Showing) zone:

1. The attitude of the stratified carbonate-phyllite units are generally dipping northerly.
2. The mineralization (zinc-lead) observed in the large surface areas showing at L123+50E - 10175N has considerable downdip extension (see Figures 5 and 6), i.e. approximately 109 m (360 feet). Hole DDH 94-1 bottomed in a grey dolomite breccia zone with visible galena and sphalerite. The breccia was calcite-welded with some sericite on fractures. The approximate zinc-lead values at the end-of-hole were 0.10% and 0.32%, respectively.
3. The dolomite seems to occur below on the footwall of the northerly dipping phyllite unit.
4. The narrow, elongate northeast trending VLF-EM conductor is detecting the high pyrite and/or pyrrhotite content in the phyllite unit.
5. The thick talcy sections of the phyllite unit may be the result of quartz saturation derived from a siliceous fluid moving through the more porous (fracture prepared) dolomite which is sealed in by the overlying less permeable phyllite. The writer suggests that these conductive (VLF-EM) expressions could be used to guide future exploration efforts.

The Grizzly Lake zinc-lead property has undergone considerable work which has been well documented since 1989. The large east-west trending carbonate (dolomitized) - phyllite package has revealed at least 65 surface showings which have been outlined by geochemical soil, trenching and rock sampling. Material tested at many of the surface mineralized zones of which there are seven occurring in three main property divisions, i.e. West - Centre - East. Assays obtained from these areas in numerous multi-element and wet chemical assays revealed abundant zinc and/or lead of ore grade. Mapping performed to date has outlined favourable areas of

replacement in the dolomites and what are thought to be more vein styled mineralization in the limestones. Subsequent VLF-EM and MAG surveys outlined the carbonate - phyllite - dolomite sequences. The definition attained from these surveys leads the writer to recommend the following outlined exploration program.

## RECOMMENDATIONS

The writer recommends a program of gravity surveying utilizing the existing grid (with some rehabilitation) over areas of interest outlined by previous work. These areas of interest exhibit favourable bedrock geology, known surface showings and geochemical soil and zinc Zap areas of concentration, as well as favourable geophysical expression by VLF-EM and magnetometer surveys.

At this time, continued diamond core drilling would be undertaken contingent on the gravity results, but several areas of interesting surface results would undergo shallow drill testing. The following cost estimate is derived to accomplish this program and is structured as a two-phase work program with Phase II being contingent on the results obtained from Phase I.

## COST ESTIMATE

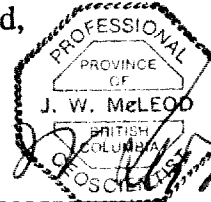
### Phase I

|  |              |
|--|--------------|
| Geology and supervision                                    | \$ 5,000     |
| Gravity survey - 32 kilometres @ \$1,000/km, all inclusive | 32,000       |
| Scout core drilling - 200 metres @ \$140/m                 | 28,000       |
| Transportation - 4x4 and 4 Trac, including fuel            | 5,000        |
| Camp and board - 60 mandays @ \$80/manday                  | 4,800        |
| Maps and reports   | 1,500        |
| Insurance, WCB, licences and fees                          | 6,500        |
| Assays and analyses  | 3,000        |
| Contingency @ 10%  | <u>8,200</u> |
| Subtotal   | \$94,000     |

**Phase II**

|  |               |
|--|---------------|
| Geology and supervision                                | \$10,000      |
| 2,000 m diamond core drilling @ \$140/m, all inclusive | 280,000       |
| Assays and analyses                                    | 3,500         |
| Licences, fees and insurance                           | 6,000         |
| Transportation - 4x4 and 4 Trac, including fuel        | 10,000        |
| Camp and board - 60 mandays @ \$80/manday              | 4,800         |
| Maps and reports                                       | 2,000         |
| Contingency @ 10%                                      | <u>30,000</u> |
| Subtotal   | \$346,000     |

Respectively submitted,



July 9, 1995

James W. McLeod, P. Geo.

**STATEMENT OF COSTS**

|   |                         |
|---|-------------------------|
| Geology and supervision - J. McLeod \$300/day for 19 days         | \$ 5,700                |
| Drilling contract @ \$97/m - G.DeLorme Drilling, July 12-30, 1994 | 24,750                  |
| Camp and board - 36 mandays @ \$80/manday                         | 2,880                   |
| Transportation  |                         |
| 1 - 4x4 pickup @ \$25/day and 1,000 km @ 20¢/km                   | 675                     |
| 1 - 4x4 pickup @ \$25/day   | 675                     |
| Trailer @ \$20/day for 19 days                                    | 380                     |
| 4 Trac - \$20/day for 15 days                                     | 300                     |
| Fuel  | 440                     |
| Equipment rentals, i.e. generator, chainsaw, rocksaw, etc.        | 1,700                   |
| Assays  | 300                     |
| Licences, fees, WCB, etc.   | 700                     |
| Reports and maps  | <u>1,500</u>            |
| <b>TOTAL</b>  | <b>\$ <u>40,000</u></b> |

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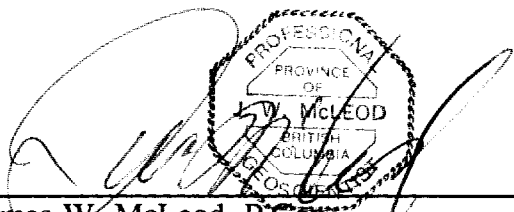


## CERTIFICATE

I, **JAMES W. McLEOD**, of the Municipality of Delta, Province of British Columbia, hereby certify as follows:

1. I am a Consulting Geologist with an office at #207, 1318 - 56th Street, Delta, B.C. V4L 2A4.
2. I am a Professional Geoscientist registered in the Province of British Columbia and a Fellow of the Geological Association of Canada.
3. I graduated with a degree of Bachelor of Science, Major in Geology, from the University of British Columbia in 1969.
4. I have practised my profession since 1969.
5. I am the President and a Director of Golden Kootenay Resources Inc. which owns Grizzly Lake Zn-Pb property.
6. The above report is based on personal field experience gained by myself in the general area over the past 25 years and in particular since supervising the current exploration program. Further available data was researched and personal communications were undertaken with other parties familiar with the area.

DATED at Delta, Province of British Columbia this 09th day of July, 1995.



James W. McLeod, P. Geol.  
Consulting Geologist

APPENDIX I

Diamond Drill Logs

DDH 94 1-3

# SAMPLE RECORD SHEET

Page 4

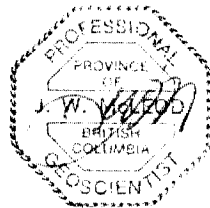
Drill Core Log

94-1

SAMPLER: J.W. McLeod

MAP SHEET: Q3A 14E & 15W

PROPERTY: G1 Zn Pb



PROJECT: Grizzly Lake 94

AREA: Cariboo, M.D.

COMPANY: Golden Kootenay

DATE: May 1995

No. of Sa.: 19

| Sample No. | DESCRIPTION  | TYPE of Sa. | WIDTH Feet         | Notebook Ref. | Recovery | Ca/Mg |  |  |
|------------|--|-------------|--------------------|---------------|----------|-------|--|--|
| G1         | Phyllite (talc) with Po in Bd // to ca   | Core        | Grab 1785          |               | 100%     | 0.53  |  |  |
| G2         | Phyllite (talc) " Po-py-cpy in Bd "  | "           | " 182.5            |               | "        | 1.50  |  |  |
| G3         | Clear talc phyllite  | "           | 189'-190'<br>12"   |               | "        | 1.48  |  |  |
| G4         | Blk shaley phyllite with qtz-py  | "           | 196-196.5<br>6"    |               | "        | 1.43  |  |  |
| G5         | Limy cream-grey dolomite breccia   | "           | 209-210<br>12"     |               | "        | 1.14  |  |  |
| G6         | Creamy-grey dolomite breccia   | "           | 213.5-214.5<br>12" |               | "        | 1.13  |  |  |
| G7         | Creamy-white " breccia with qtz<br>Pb-Zn   | "           | 220.5-222.9<br>24" |               | "        | 1.08  |  |  |
| G8         | Grey lms (dolo)  | "           | 238-239<br>12"     |               | "        | 1.58  |  |  |
| G9         | Grey dolo-lms with calcite frags   | "           | 239-242<br>36"     |               | "        | 1.56  |  |  |
| G10        | Grey dolo-lms with abund. calcite  | "           | 258-259<br>12"     |               | "        | 1.37  |  |  |
| G11        | Grey dolo-lms with "calcite<br>Low Zn<br>iron  | "           | 260-262<br>24"     |               | "        | 1.37  |  |  |
| G12        | Grey lms (dolo) with quartz with Zn  | "           | 262-264<br>24"     |               | "        | 1.21  |  |  |
| G13        | Grey limy dolo. with minor Zn  | "           | 282-287<br>60"     |               | "        | 1.23  |  |  |
| G14        | Grey limy dolomite.  | "           | 287-291<br>36"     |               | "        | 1.19  |  |  |
| G15        | Same grey limy dolomite  | "           | 291-295<br>48"     |               | "        | 1.16  |  |  |
| G16        | Same grey limy dolo. with calcite  | "           | 295-300<br>60"     |               | "        | 1.12  |  |  |
| G17        | Grey limy dolo. with alteration  | "           | 300-302<br>24"     |               | "        | 1.12  |  |  |
| G18        | Grey dolomite weak alteration  | "           | 302-303<br>12"     |               | "        | 1.10  |  |  |
| 11206      | Contact of N-S striking - steep (85°)<br>dip to W. Footwall - fmg. white<br>X'stl lms. H.Walk - grey lms & Ga<br>to act. l | Rock        | 24"                |               |          |       |  |  |

# SAMPLE K CORD SHEET

## Drill Core Log

SAMPLER: J.W. McLEOD

Hole - DDH 94-1  
 Azimuth - N200° Dip - 45°  
 Total Depth - 92.4m (303')  
 Grid Loc'n - L12300  
 10325

MAP SHEET: 93A 14E & 15W

PROPERTY: GL In Pb

PROJECT: Grizzly Lake - 94

AREA: Cariboo M.D.

COMPANY: Golden Kootenay

DATE: May 1995

No. of Sa.:

| Interval Sample No. (FEET) | DESCRIPTION  | TYPE of Sa. | WIDTH Feet | Notebook Ref. | % Recovery       |  |  |  |
|----------------------------|--|-------------|------------|---------------|------------------|--|--|--|
| 0-37'                      | Casing   |             |            |               |                  |  |  |  |
| 37-65'                     | Minor induration of mg. crystal grey limestone with calcite welded fracture plus minor py. on fract.                           |             |            |               | 100%             |  |  |  |
| 65'-166'                   | Dark grey phyllite (talc) with low angle to c.a. calcite and quartz welded fract's. Abund. py. on fract. or bedding?           |             |            |               | 100%             |  |  |  |
| 166'-205'                  | Light grey talc phyllite with moderate abund. py & po mix. Very minor q'tz welded fract's, py & po.                            |             |            |               | 100%             |  |  |  |
| 205'-207'                  | Indurated limestone with graphite stringers.   |             |            |               | 100%             |  |  |  |
| 207'-214'                  | Contact zone - Abund. q'tz stringers with galena, minor graph & indur.   |             |            |               | 95% <sup>+</sup> |  |  |  |
| 214'-222'                  | White crystal l'ns with galena sphal. on fract's. Abund Mn-stain   |             |            |               | 95% <sup>+</sup> |  |  |  |
| 222'-303'                  | Grey dolomitized l'ns, breccia welded with calcite. Sericite? on fract's. At 224' minor galena blebs + Zn-Zap + response. EOH! |             |            |               | 95% <sup>+</sup> |  |  |  |





Appendix II

Geochemical Results



## GEOCHEMICAL ANALYSIS CERTIFICATE



Golden Kootenay Resources Inc. File # 94-3879

207 - 1318 - 56th St., Delta BC V4L 2A4

| SAMPLE#    | Mo<br>ppm | Cu<br>ppm | Pb<br>ppm | Zn<br>ppm | Ag<br>ppm | Ni<br>ppm | Co<br>ppm | Mn<br>ppm | Fe<br>% | As<br>ppm | U<br>ppm | Au<br>ppm | Th<br>ppm | Sr<br>ppm | Cd<br>ppm | Sb<br>ppm | Bi<br>ppm | V<br>ppm | Ca<br>% | P<br>% | La<br>ppm | Cr<br>ppm | Mg<br>% | Ba<br>ppm | Ti<br>% | B<br>ppm | Al<br>% | Na<br>% | K<br>% | W<br>ppm | Au**<br>ppb |
|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|---------|--------|-----------|-----------|---------|-----------|---------|----------|---------|---------|--------|----------|-------------|
| G1         | 1         | 30        | 2         | 68        | <.1       | 47        | 17        | 165       | 4.29    | 2         | <5       | <2        | 19        | 17        | <.2       | <2        | <2        | 10       | .69     | .016   | 58        | 22        | 1.31    | 33        | <.01    | 2        | 1.73    | .02     | .33    | <.1      | 9           |
| G2         | 1         | 371       | 6         | 44        | <.1       | 41        | 10        | 651       | 3.72    | 51        | <5       | <2        | 15        | 80        | <.2       | <2        | <2        | 4        | 3.88    | .025   | 18        | 9         | 2.59    | 27        | <.01    | <2       | .80     | .02     | .26    | 1        | 15          |
| G3         | <1        | 35        | 3         | 71        | <.1       | 47        | 15        | 1091      | 4.52    | 7         | <5       | <2        | 14        | 83        | <.2       | 4         | <2        | 6        | 3.95    | .017   | 25        | 15        | 2.66    | 19        | <.01    | <2       | 1.19    | .01     | .18    | <.1      | -           |
| G4         | 1         | 35        | 4         | 34        | <.1       | 53        | 14        | 336       | 3.06    | 3         | <5       | <2        | 12        | 43        | <.2       | 3         | <2        | 4        | 2.01    | .019   | 15        | 9         | 1.41    | 44        | <.01    | 2        | .76     | .01     | .35    | 1        | 9           |
| G5         | 1         | 6         | 1792      | 1388      | .1        | 3         | <1        | 826       | .17     | 19        | <5       | <2        | <2        | 69        | 3.2       | 2         | <2        | <2       | 21.68   | .012   | <2        | 2         | 19.07   | 3         | <.01    | 2        | .06     | .01     | <.01   | <.1      | -           |
| G6         | 1         | 4         | 160       | 404       | <.1       | 3         | <1        | 1051      | .19     | 7         | <5       | <2        | <2        | 67        | .9        | <2        | <2        | <2       | 21.93   | .010   | <2        | 1         | 19.46   | 2         | <.01    | 2        | .05     | .01     | .01    | <.1      | -           |
| G7         | 4         | 9         | 9729      | 2722      | .8        | 8         | <1        | 890       | .26     | 27        | <5       | <2        | <2        | 64        | 7.1       | 10        | <2        | <2       | 16.51   | .010   | <2        | 6         | 15.26   | 3         | <.01    | <2       | .05     | .01     | .01    | <.1      | -           |
| G8         | 1         | 6         | 62        | 586       | <.1       | 4         | 1         | 1169      | .20     | 8         | <5       | <2        | <2        | 116       | 1.3       | 2         | <2        | <2       | 24.19   | .009   | 3         | 2         | 15.33   | 3         | <.01    | 2        | .06     | .01     | .01    | <.1      | -           |
| G9         | 3         | 17        | 693       | 9649      | <.1       | 5         | 2         | 899       | .42     | 10        | <5       | <2        | <2        | 107       | 23.5      | 3         | <2        | <2       | 22.52   | .015   | 3         | 9         | 14.47   | 3         | <.01    | 2        | .07     | .01     | <.01   | <.1      | -           |
| G10        | 2         | 8         | 159       | 4403      | <.1       | 3         | 2         | 1212      | .24     | 6         | <5       | <2        | <2        | 101       | 11.2      | <2        | 3         | <2       | 24.37   | .013   | 2         | 6         | 17.76   | 2         | <.01    | <2       | .06     | .01     | <.01   | <.1      | -           |
| G11        | 4         | 18        | 288       | 8803      | <.1       | 5         | 3         | 1112      | .33     | 7         | <5       | <2        | <2        | 113       | 24.1      | 2         | <2        | <2       | 22.45   | .015   | 3         | 7         | 16.36   | 7         | <.01    | <2       | .10     | .01     | .01    | <.1      | -           |
| G12        | 3         | 41        | 131       | 22146     | <.1       | 6         | 3         | 1265      | .32     | 8         | <5       | <2        | <2        | 81        | 68.0      | <2        | <2        | <2       | 20.11   | .013   | <2        | 7         | 16.63   | 2         | <.01    | 2        | .06     | .01     | <.01   | 4        | -           |
| G13        | 3         | 5         | 122       | 1179      | <.1       | 4         | 1         | 1028      | .21     | 5         | <5       | <2        | <2        | 79        | 2.5       | 2         | <2        | <2       | 21.67   | .013   | <2        | 3         | 17.59   | 3         | <.01    | 2        | .03     | .01     | <.01   | <.1      | -           |
| G14        | 1         | 4         | 42        | 312       | .1        | 1         | 1         | 1146      | .19     | 6         | <5       | <2        | <2        | 71        | .6        | 2         | <2        | <2       | 23.31   | .012   | <2        | 1         | 19.61   | 3         | <.01    | <2       | .03     | .01     | <.01   | <.1      | -           |
| G15        | 2         | 8         | 130       | 1476      | .1        | 3         | 1         | 910       | .26     | 5         | <5       | <2        | <2        | 69        | 4.3       | 2         | <2        | <2       | 22.52   | .014   | <2        | 3         | 19.36   | 3         | <.01    | <2       | .06     | <.01    | <.01   | <.1      | -           |
| RE G15     | 2         | 6         | 127       | 1503      | .1        | 2         | 1         | 911       | .26     | 5         | <5       | <2        | <2        | 68        | 4.0       | 2         | <2        | <2       | 22.56   | .014   | <2        | 3         | 19.45   | 3         | <.01    | <2       | .06     | .01     | <.01   | <.1      | -           |
| G16        | 1         | 6         | 62        | 723       | .1        | 4         | 2         | 957       | .24     | 6         | <5       | <2        | <2        | 66        | 1.7       | 2         | <2        | <2       | 21.11   | .013   | <2        | 2         | 18.83   | 3         | <.01    | <2       | .09     | <.01    | .01    | <.1      | -           |
| G17        | 1         | 7         | 76        | 1304      | .1        | 4         | 2         | 991       | .21     | 5         | <5       | <2        | <2        | 74        | 2.5       | <2        | 2         | <2       | 22.48   | .012   | <2        | 2         | 20.01   | 3         | <.01    | <2       | .04     | <.01    | <.01   | <.1      | -           |
| G18        | 2         | 7         | 3233      | 1043      | .3        | 3         | 1         | 683       | .20     | 13        | <5       | <2        | <2        | 53        | 2.3       | 5         | <2        | <2       | 18.42   | .011   | <2        | 3         | 16.75   | 2         | <.01    | <2       | .04     | .01     | .01    | <.1      | -           |
| STANDARD C | 20        | 63        | 36        | 140       | 7.4       | 74        | 31        | 1102      | 4.16    | 42        | 18       | 7         | 37        | 54        | 18.3      | 15        | 19        | 62       | .50     | .093   | 41        | 61        | .91     | 186       | .09     | 32       | 1.97    | .07     | .16    | 13       | -           |

ICP - .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 SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL.

ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS &gt; 1%, AG &gt; 30 PPM &amp; AU &gt; 1000 PPB

- SAMPLE TYPE: CORE AU\*\* ANALYSIS BY FA/ICP FROM 10 GM SAMPLE. Samples beginning 'RE' are duplicate samples.

DATE RECEIVED: OCT 27 1994

DATE REPORT MAILED: Nov 2/94

SIGNED BY: *C. Long* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS





## ASSAY CERTIFICATE

Omega Exploration Services Inc. File # 94-2397

616 - 470 Granville St., Vancouver BC V6C 1V5 Submitted by: James W. McLeod

| SAMPLE# | Pb<br>% | Zn<br>% | Ag**<br>oz/t | Au**<br>oz/t |
|---------|---------|---------|--------------|--------------|
| 11206   | 1.18    | .27     | .23          | .001         |

1 GM SAMPLE LEACHED IN 75 ML AQUA - REGIA, DILUTE TO 250 ML, ANALYSIS BY ICP.  
AG\*\* & AU\*\* BY FIRE ASSAY FROM 1 A.T. SAMPLE.  
- SAMPLE TYPE: ROCK

DATE RECEIVED: AUG 4 1994

DATE REPORT MAILED:

*Aug 12/94*SIGNED BY.....*C. Leong* D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS