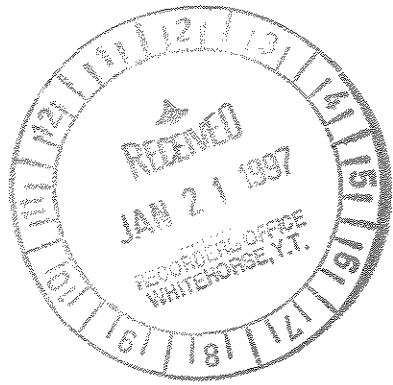




**REPORT ON**  
**TRENCHING, ROAD REHABILITATION AND ROAD CONSTRUCTION**

**on the**

**CANADIAN CREEK PROPERTY**

**DAWSON RANGE, YUKON TERRITORY**

**NTS: 115J/10**

**Latitude: 62° 44' N, Longitude: 138° 57' W**

**FOR**

**EASTFIELD RESOURCES LTD.**

**by**

**J.W. Morton P.Geo.**

**January, 1997**

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| <b>Table of Contents</b>              | <b>Page No.</b> |
|---------------------------------------|-----------------|
| SUMMARY                               | 2               |
| INTRODUCTION                          | 3               |
| LOCATION AND ACCESS                   | 3               |
| CLIMATE, TOPOGRAPHY AND VEGETATION    | 3               |
| PROPERTY STATUS                       | 4               |
| HISTORY AND PREVIOUS WORK             | 5               |
| REGIONAL GEOLOGY                      | 6               |
| PROPERTY GEOLOGY                      | 7               |
| PROGRAM SUMMARY                       | 10              |
| TRENCHING RESULTS                     | 11              |
| RECOMMENDATIONS FOR FURTHER TRENCHING | 15              |
| PERSONEL,DATES AND COSTS              | 16              |
| GENERAL LOCATION MAP                  | FIGURE 1        |
| CLAIM MAP                             | FIGURE 2        |
| CANADIAN CREEK-ANA AREA               | FIGURE 3        |
| KOFFEE AREA                           | FIGURE 4        |
| APPENDIX                              |                 |
| Sample Descriptions and Assays        | Appendix 1      |
| Petrographic Descriptions             | Appendix 2      |
| Analytical Certificates               | Appendix 3      |
| Landmark Management Invoice           | Appendix 4      |

## SUMMARY

The Canadian Creek Property owned by Eastfield Resources Ltd. is located 160 km south of Dawson City, in the Dawson Range, Yukon Territory, and in the Whitehorse Mining District on NTS map sheets 115J/10, 11 and 14. The property comprises 224 contiguous quartz claims in the ANA, KOFFEE, AZTEC, MAYA, AND ICE claims blocks. Eastfield owns all the claims 100%. Breckenridge resources Ltd. has a 18.5 % working interest in the 54 ANA claims. Alexis Resources Ltd. has an option to earn 51% of the all properties.

Access to the property is available by air via Helicopters based in Carmacks and Dawson, the fixed wing transportation via the Casino airstrip and the Britannia Creek barge landing on the Yukon River for heavy equipment in summer.

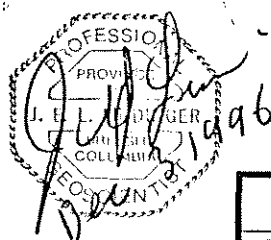
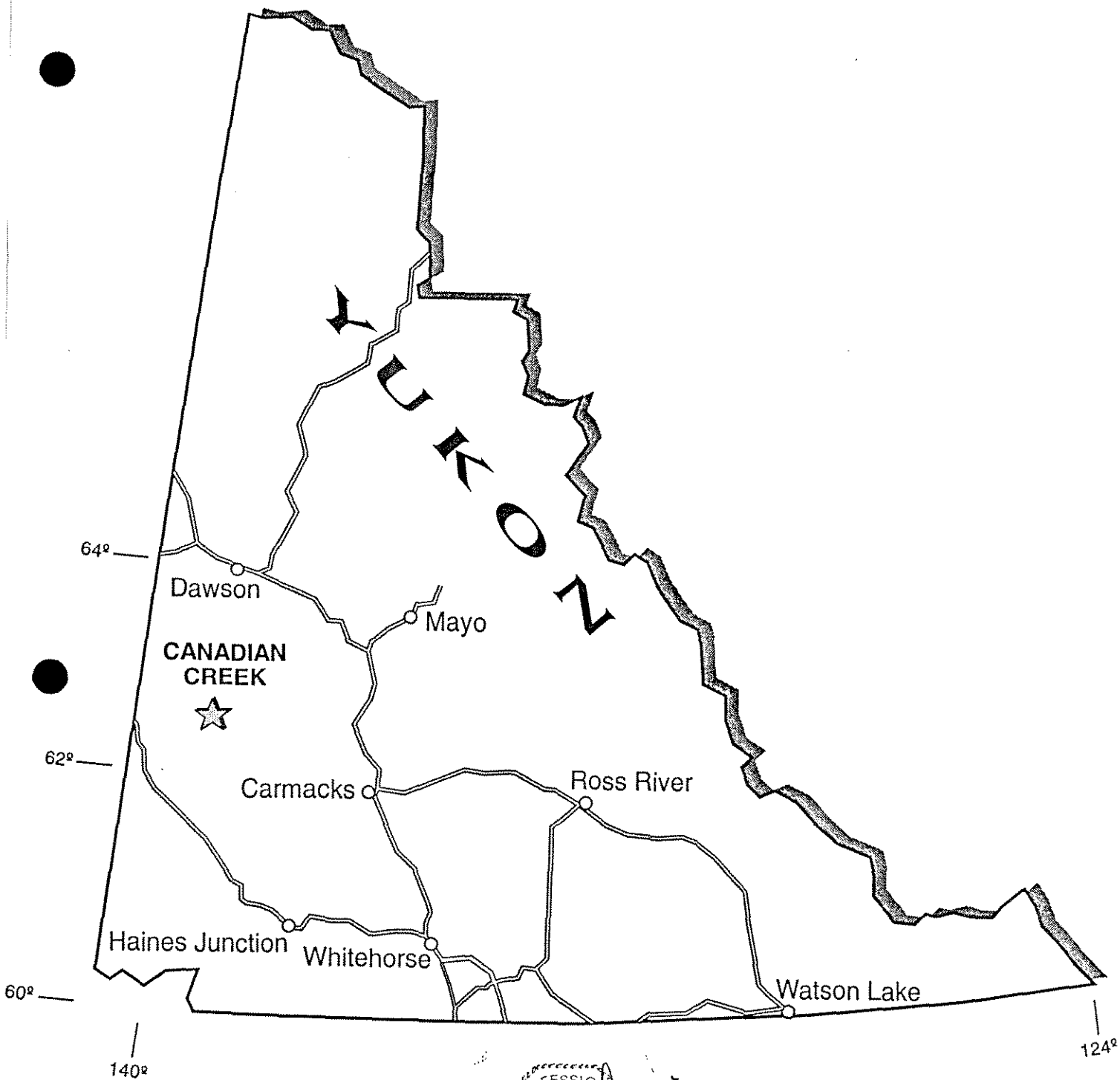
The Canadian Creek property adjoins to the west of the Casino property which hosts a copper-gold-molybdenum porphyry deposit currently owned by Pacific Sentinel Gold Corp. the Casino Deposit has over 550 million tonnes grading 0.27 g/t gold, 0.023 % copper, and 0.024% molybdenum. Upper Cretaceous intrusives of the Casino complex, which host the Casino deposit, have been located in several areas on the Canadian Creek property.

In August 1996, a surface exploration including access road construction and improvement. Results of the trenching program confirmed and enlarged areas on the Ana-Canadian Creek, and upper Koffee Creek areas underlain by Casino complex intrusives and related breccias the include potassically altered and weathered mineralized variants. In addition to the porphyry copper-gold targets several structural hosted breccia bodies and veins hosting highly anomalous gold reporting up to 1340 ppb gold over a 6 meter true width.

## INTRODUCTION

The exploration targets that occur on the Canadian Creek Property are copper, gold, molybdenum porphyry and related peripheral precious metal mineralization similar to the adjoining Casino deposit 3 km east of the east property boundary.

Upper Cretaceous quartz dioritic to quartz monzonitic intrusives and related breccias called the Casino Complex, intruded mid Cretaceous Dawson Range batholithic diorites and Palaeozoic? Yukon metamorphic complex rocks. At least one breccia event generated alteration and mineralizing systems that affect all lithologies. The Casino Deposit has a published geological reserve exceeding 550 million tonnes grading 0.27 g/t gold, 0.23% copper, and 0.024% molybdenum in oxide, supergene sulphide and hypogene zones (derived from Bower, et al pp 353). Numerous smaller gold enriched metasomatic fault controlled zones and breccias, and silver bearing base metal veins thought to be related to late activity during the waning stages of the porphyry systems are found throughout the area. Due to the unglaciated terrain of the central Yukon surface weathering has been ongoing for at least 20 million years resulting of deep oxidation of



|                                                         |             |          |        |
|---------------------------------------------------------|-------------|----------|--------|
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| <b>CANADIAN CREEK PROJECT</b><br>Whitehorse M.D., Yukon |             |          |        |
| <b>General Location Map</b>                             |             |          |        |
| Scale                                                   | as shown    | NTS      | Figure |
| Date                                                    | October '96 | Drawn by | 1      |
| J.E.L. Lindinger P.Geo.                                 |             |          |        |

sulphide bearing rocks, and in particular copper bearing sulphides.

Casino Complex rocks are located in several areas on the Canadian Creek property. They tend to be recessive due to their hydrothermally altered nature, rarely outcropping, and where they do are extensively oxidized.

The road work utilising a Komatsu (cat 225 equivalent) excavator extended and improved the Canadian Creek- Koffee Creek access road from the adjoining Casino property. Induced polarization, ground magnetic and soil geochemical programs infilled and extended to the west, the work completed during 1993. The program culminated with an extensive excavator trenching program on accessible targets defined by this and the earlier programs.

### **LOCATION AND ACCESS**

The Canadian Creek Property is located within the Dawson Range in the west central portion of the Yukon Territory. It lies approximately 340 kilometres northwest of Whitehorse, and 160 kilometres south of Dawson City. The property is centred at latitude 62°43' N and longitude 138° 57' W and is found NTS map sheet 115J/10, 115J/11, and 115J/14, (Figure 1, Figure 2).

Access to the property is possible by helicopter from bases in Carmacks and Dawson City. Unrefueled fixed wing access is possible from Whitehorse via the Casino airstrip 7 road kilometres east of the property. Road access for heavy equipment is possible during the summer months using Jacobs Barge Services on the Yukon River via a landing at the mouth of Britannia Creek some 22 road km NE of the property. A main winter trail crosses the property. The subalpine physiography allow ATV vehicles to access most of the unroaded parts of the property over 1500 meters in elevation.

### **CLIMATE, TOPOGRAPHY AND VEGETATION**

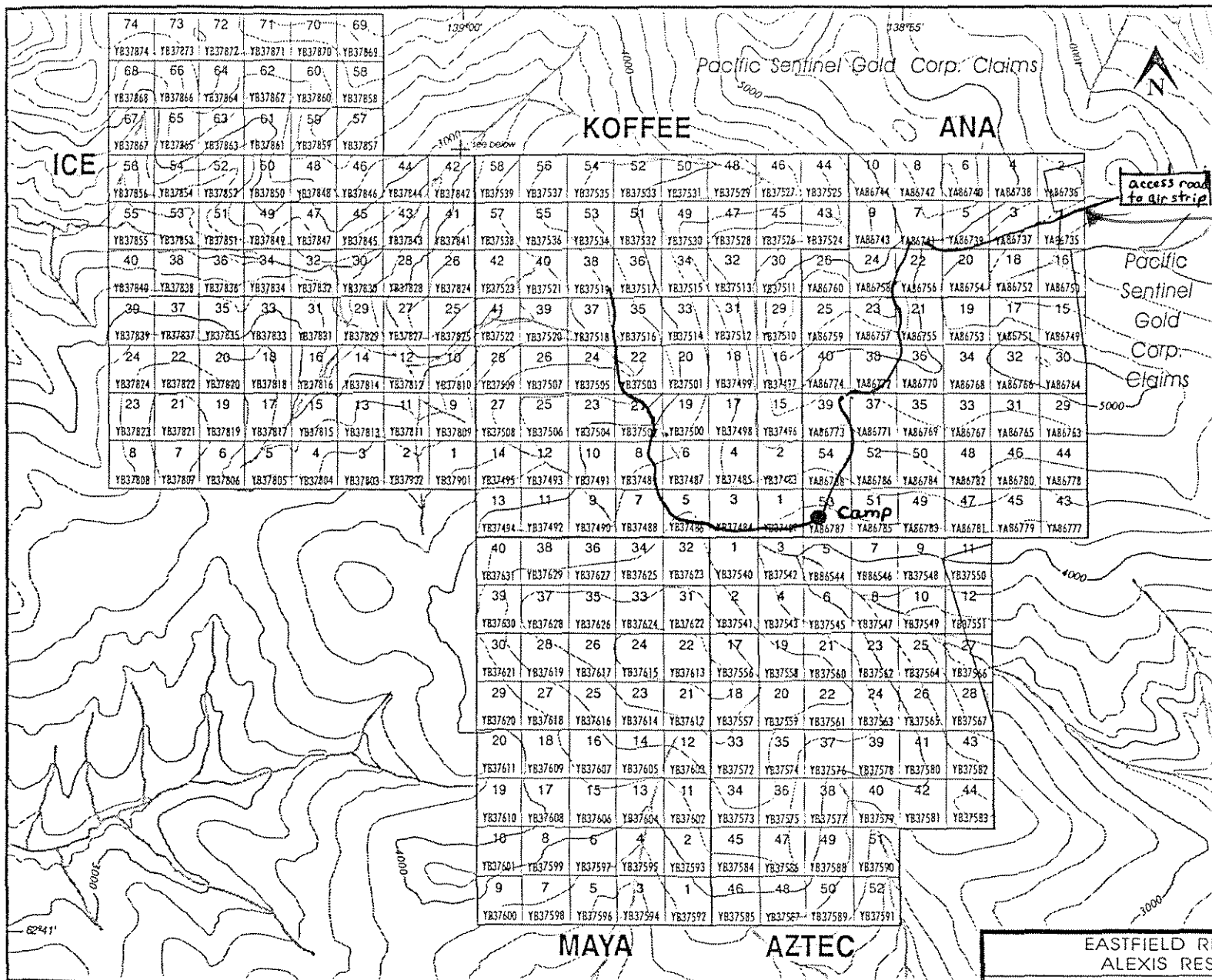
The Property lies within the subarctic climatic zone. Precipitation is about 20 cm per year, and is about equally divided between rain and snow. Annual temperature range is from -30 to + 20 degrees centigrade with an annual average temperature of -5 degrees. The property lies within the Dawson Range physiographic province. This unglaciated terrain is characterised by tor peaked but otherwise rounded hills of up to 300 meters elevation. Elevation on the property range from 880 meters at the west edge where Koffee Creek leaves the property to over 1670 meters along the ridge near the northeast boundary. The axis of the Dawson Range passes through the Casino deposit and westward through the Canadian Creek property. Isolated stands of black spruce occur to 1300 meters. Low buckbrush gives way to alpine grasses and mosses at about 1525 meters.

## PROPERTY STATUS

The Canadian Creek Property consists of ANA, KOFFEE, ICE, MAYA, and AZTEC claim groups. All claims are contiguous (Figure 2). The claims are registered in the name of and are beneficially owned 100% by Eastfield Resources Ltd. Breckenridge Resources Ltd. currently has an 18.7 % diluting working interest in the Ana 1-54 Claims. Alexis Resources Ltd. has an option to earn 51% in the property subject to 51% of a 5% net profits interest in favour of Big Creek Resources Ltd. (now Pacific Sentinel Gold Corp.) on the Ana 1-54 Claims only. To fulfil this requirement Alexis Resources Ltd. must issue Eastfield Resources Ltd. 100,000 shares, pay \$250,000 and incur \$1.5 million of exploration expenditures on the Canadian Creek Property by June 21, 2000..

Pertinent claim data is as follows:

| Claim Name  | Grant No.s      | No. of Claims | Expiry Day & month | Expiry date Year |
|-------------|-----------------|---------------|--------------------|------------------|
| Ana 1-10    | YA86735-YA86744 | 10            | 17-Feb             | 2000             |
| Ana 15-26   | YA86749-YA86760 | 12            | 17-Feb             | 2000             |
| Ana 29-40   | YA86763-YA86774 | 12            | 17-Feb             | 2000             |
| Ana 43-54   | YA86777-YA86788 | 12            | 17-Feb             | 2000             |
| Koffee 1-58 | YB37482-YB37539 | 58            | 21-Sep             | 2000             |
| Aztec 1     | YB37540         | 1             | 21-Sep             | 2000             |
| Aztec 2     | YB37541         | 1             | 21-Sep             | 1998             |
| Aztec 3     | YB37542         | 1             | 21-Sep             | 2000             |
| Aztec 4     | YB37543         | 1             | 21-Sep             | 1998             |
| Aztec 5     | YB37544         | 1             | 21-Sep             | 2000             |
| Aztec 6     | YB37545         | 1             | 21-Sep             | 1998             |
| Aztec 7     | YB37546         | 1             | 21-Sep             | 2000             |
| Aztec 8     | YB37547         | 1             | 21-Sep             | 1998             |
| Aztec 9     | YB37548         | 1             | 21-Sep             | 2000             |
| Aztec 10    | YB37549         | 1             | 21-Sep             | 1998             |
| Aztec 11    | YB37550         | 1             | 21-Sep             | 2000             |
| Aztec 12    | YB37551         | 1             | 21-Sep             | 1998             |
| Aztec 17-28 | YB37556-YB37567 | 12            | 21-Sep             | 1998             |
| Aztec 33-52 | YB37572-YB37591 | 20            | 21-Sep             | 1998             |
| Maya 1-31   | YB37592-YB37622 | 31            | 21-Sep             | 1998             |
| Maya 32     | YB37623         | 1             | 21-Sep             | 2000             |
| Maya 33     | YB37624         | 1             | 21-Sep             | 1998             |
| Maya 34     | YB37625         | 1             | 21-Sep             | 2000             |
| Maya 35     | YB37626         | 1             | 21-Sep             | 1998             |
| Maya 36     | YB37627         | 1             | 21-Sep             | 2000             |
| Maya 37     | YB37628         | 1             | 21-Sep             | 1998             |
| Maya 38     | YB37629         | 1             | 21-Sep             | 2000             |
| Maya 39     | YB37630         | 1             | 21-Sep             | 1998             |
| Maya 40     | YB37631         | 1             | 21-Sep             | 2000             |
| Ice 1-43    | YB37801-YB37843 | 43            | 27-Jan             | 2000             |
| Ice 44      | YB37844         | 1             | 27-Jan             | 1999             |
| Ice 45      | YB37845         | 1             | 27-Jan             | 2000             |
| Ice 46      | YB37846         | 1             | 27-Jan             | 1998             |



|                               |             |                       |          |
|-------------------------------|-------------|-----------------------|----------|
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| <b>CANADIAN CREEK PROJECT</b> |             |                       |          |
| Whitehorse M.D., Yukon        |             |                       |          |
| <b>Claim Map</b>              |             |                       |          |
| Scale                         | as shown    | NTS                   | Figure 2 |
| Date                          | October '96 | Drawn by              |          |
| J.E.L. Lindinger              |             | P.Geo.                |          |

|              |                 |            |        |      |
|--------------|-----------------|------------|--------|------|
| Ice 47-54    | YB37847-YB37854 | 8          | 27-Jan | 2000 |
| Ice 55-74    | YB37855-YB37874 | 20         | 27-Jan | 1998 |
| <b>TOTAL</b> |                 | <b>262</b> |        |      |

## HISTORY AND PREVIOUS WORK

1969:

The western portion of the property was staked as the Aztec and a copper soil geochemical survey carried out.

1970:

Trans-Columbia Explorations Ltd. performed a soil geochemical survey over a large area west of the Casino deposit. part of this survey included sampling over 60% of what is now the Ana property. Samples were analysed for copper and molybdenum and outlined a Cu anomaly trending east from Ana Peak. The eastern portion of the property was mapped by Colin Godwin, while working on the Casino project, and he recognised Casino style breccias on the Ana claims.

1973 and 1987:

Regional mapping was done by Tempelman- Kluit (1973) and Payne et al (1987).

1985:

Nordac Mining Corporation collected 44 soil samples from the central area of the property and analysed them for gold. These samples indicated anomalous gold in the Canadian Creek basin.

1986:

Nordac Mining Corporation expanded the 1985 grid and collected an additional 250 soil samples.

Archer Cathro and Associated (1981) Limited. conducted an extensive surface trenching program on the Casino deposit to test its oxide gold potential during 1985.

In 1991, Archer Cathro & Associates (1981) Ltd. who had the Casino property under option, optioned it to Big Creek Resources Ltd. A drill program in 1992 of 21 HQ holes upgraded the gold and copper grades from the results of earlier smaller drill holes. Later in 1992 Pacific Sentinel Gold Corp., through the amalgamation of Big Creek Resources and Casino Silver Mines Ltd. acquired 100% interest in the property. In 1993 and 1994, Pacific Sentinel Gold Corp. completed a major exploration program including surface mapping and 177 of HQ and NQ diamond drilling totalling 64605 m.

Also during 1992 Eastfield Resources Ltd. acquired the Ana, Koffee, Aztec, Ice and Maya claims immediately west of the Casino claim block. During 1993 Eastfield and various partners conducted multielement geochemistry, induced polarization, ground magnetics on all claim blocks except the Maya and

Ice groups. Eastfield and Breckenridge Resources Ltd. also completed 3 bulldozer trenches and 6 HQ diamond drill holes totalling 804 m on the Ana claim block. Eastfield and Rockwealth International Resources Corp. finalised the program on the Koffee claims with 3 bulldozer trenches and one 46.7 m diamond drill hole.

## REGIONAL GEOLOGY

The Casino deposit (and similar mineral occurrences on the Canadian Creek property) occurs in an overlapping zone of the Yukon Cataclastic Terrane to the north and the Yukon Crystalline Terrane to the south (Templeman- Kluit, 1976). An elongate band of ultramafic rocks 1 km north of the casino deposit may occur along a major tectonic suture which separates the two terranes. The southern terrane contains the Dawson Range Batholith with scattered roof pendants and blocks of the Yukon Metamorphic Complex. The northern terrane is dominated by rocks of the Yukon Metamorphic Complex with scattered intrusion of the Coffee Creek Suite which are petrographically distinct from the Dawson Range Batholith. The latter are similar to rocks near Mount Nansen dated at 108 Ma...

Rocks of the Yukon Metamorphic Complex are dominated by quartz-biotite-plagioclase gneiss, metamorphosed granodiorite to quartz diorite, and less abundant quartzite and metadiorite/amphibolite. All are complexly deformed; original deformation probably occurred during the late Triassic to Early Jurassic, but may have occurred as early as the Late Palaeozoic. Weaker deformation probably occurred during the intrusion of the west- northwest trending Dawson Range Batholith.

The Dawson Range Batholith is dominated by medium- to coarse grained quartz diorite to granodiorite, with subordinate fine to locally medium grained diorite. It contains scattered locally abundant, centimetre sized, metadiorite xenoliths of the Yukon Metamorphic Complex.

The Casino intrusions are stocks up to 5 km across which intrude the Dawson Range Batholith and are concentrated in a west- northwest trending belt along the Big Creek lineament and its north-western extension. Most Casino intrusions are dominated by biotite-bearing to leucocratic granodiorite to quartz monzonite; some are hypabyssal porphyritic dacite (Patton Porphyry). Many types of hydrothermal alteration and sulphide and precious-metal mineralization occur in and adjacent to the genetically related intrusions'

Chapman and Garrett, 1993 (1) pp 8; state that the Dawson Range Batholith can be divided into three varieties: hornblende potassic quartz diorite,; biotite hornblende quartz diorite, and biotite bearing leucocratic granodiorite to quartz monzonite.

Sinclair 1991, pp 66 -71; implies that the Dawson Range Batholith (Klotassin Batholith by Sinclair and other authors) was formed during collision of the Insular Superterrane with North America. He also suggests that the right lateral movement occurring on the northwest striking Tintina fault which crosses 100 km

northeast of the Casino area began during the mid Cretaceous and by late Cretaceous stopped. By the early Tertiary right lateral movement of the Pacific Plate with elements of the Insular Superterrane now occurred along what became the Denali fault system roughly 100 km southwest of the Casino area.

The Casino Complex rocks were emplaced throughout the Dawson Range usually in rocks of the Dawson Range Batholith at about the time that the locus of plate movement was being transferred from the Tintina to the Denali faults.

Other known regional structures include the east-northeast striking Dip Creek fault with unknown movement, possibly west-northwest striking structure subparalleling the regional fabric of the area and steep north-northwest right lateral strike slip faults. Many of these structures, especially the NNW faults host base metal veins systems thought to be partially related to the porphyry mineralizing events.

The Tertiary in the Dawson Range was one of moderate uplift and erosion. Many of the porphyry and other metallic mineralized systems were exposed and weathered. Due to the lack of glacial activity during the Quaternary these deposits exhibit deeply weathered characteristics more typical of deposits in much warmer climates.

## PROPERTY GEOLOGY

Within the Ana-Casino area the oldest rocks belong to the Proterozoic- Paleozoic Yukon Metamorphic Complex which has been intruded by the Cretaceous Dawson Range granodiorite batholith and slightly younger Casino Complex intrusives.

The Yukon Metamorphic Complex consists predominantly of quartzites, gneisses and minor diorite, usually as xenoliths. The quartzite are generally fine grained, pale grey to grey-brown or grey-green, are competent and often show a weak foliation. Quartz and feldspar grains account for approximately 90-95% of the rock in a generally siliceous but locally weakly calcareous matrix. Gneisses range from felsic to mafic in composition and are very fine to fine grained. The finer grained felsic varieties are very similar to the foliated quartzites and appear to have gradational contacts. Within the gneissic zones the transition from felsic to mafic varieties can be gradational over a few centimetres or tens of centimetres. Mafic gneisses can be dark grey-green to almost black with up to 80% fine grained biotite. Generally the biotite is extensively altered to chlorite. Pyrite occurs as fine grained linear disseminations and locally composes up to 20% of the rock.

Diorite occurs as fine grained generally weakly foliated dark green fragments within breccias and occasionally the Dawson Range batholith.

On the Canadian Creek property outcrops of Yukon Metamorphic Terrane occur mostly on the ridge north of Canadian Creek, and on the ridge east of Coffee Creek as (roof ?) pendants gneissic metapelites, quartzites, marble contained within the Dawson Range granodiorite.

Cretaceous granodiorite of the Dawson Range Batholith (unit 3) is the most abundant rock type exposed on the Canadian Creek property. This generally occurs as a relatively fresh medium grained to coarse grained weakly magnetic rock containing 10-25% mafics. Biotite is the dominant mafic occurring as books up to 5 millimetres in size. Hornblende is less common but is locally dominant over biotite occurring as phenocrysts up to 1 centimetre long. The plagioclase/orthoclase ratio varies from 95/5 to 75/25. Ana Peak and the southeast trending ridge between Canadian Creek and Aztec Creek and the ridges south of north Coffee Creek largest areas of granodiorite exposure.

A megacrystic k-spar locally foliated quartz diorite (unit 2) which outcrops along the ridge north of Canadian Creek, and on the ridge east of Coffee Creek with older Yukon Metamorphic Complex rocks, are believed to remnants of a weakly metamorphosed pre- batholith intrusion (Payne, 1993). This rock type is generally medium grained to coarse grained, grey, and contains potassium feldspar phenocrysts up to 1.5 centimetres across.

The Casino Complex (unit 4) consists of quartz monzonite, a rhyodacitic / dacitic unit known as the Patton Porphyry and various breccias. These are generally quite recessive and consequently have very little exposure. Volumetrically the quartz monzonite is the most abundant rock type and best exposed. It occurs as a fine to coarse grained, equigranular to inequigranular pale to medium grey rock. The dominant form is a medium grained equigranular grey unit with less than 10% mafics, predominantly biotite.

Inequigranular quartz monzonite contains phenocrysts of quartz and/or potassium feldspar (<10%) up to 5 millimetres generally in a fine grained to medium grained matrix, which occasionally exhibits a graphic or myrmekitic texture. This unit is exposed in an old cat trench in the Canadian Creek drainage and may underlie much of the valley floor. It also the dominant host rock type exposed in the breccia zone on Ana Saddle and in the trenches around 10600 W 11800 N in the Coffee area.

On the Casino property the Patton Porphyry has been subdivided into an earlier and a later phase, with the earlier occurring predominantly as clasts within intrusion breccias and containing only plagioclase phenocrysts. The later Patton Porphyry forms dykes or plugs with generally sharp contacts. It has a rhyodacite to dacite composition with a dark very fine grained to aphanitic groundmass with predominantly plagioclase phenocrysts however quartz, potassium feldspar and biotite phenocrysts may also be present. Within the Ana claims early Patton Porphyry exposed by trenches south of trench 93-03, and in drill holes A-93-6, and K -93-1 in the Ana and Koffee areas respectively. No surface expression of the Patton Porphyry near the drill holes exists. At least two phases of later Patton Porphyry are found. The largest is a 20 m or greater thick northwest striking dyke located on the southeast corner of Ana Peak. A small feldspar porphyritic rhyolite heterolithic breccia dyke was exposed south of Ana peak in trench 96-22.

Several distinctive breccia units appear to be both temporally and spatially associated with the Casino Complex intrusions. In the vicinity of the Casino deposit these are known as a micro or milled breccia, a homolithic intrusion breccia and a heterolithic intrusion breccia. Economically the micro breccia and the homolithic intrusion breccia are the most significant units.

Micro breccia float was noted at several locations on the property but predominantly within the Canadian creek drainage. This unit is composed of a matrix of very fine granular quartz and feldspar with fragments of granodiorite, quartz monzonite and/or Patton Porphyry. The micro breccia varies from matrix supported with less than 20% fragments, to clast supported with less than 10% matrix. Triangular quartz fragments are distinctive of this unit, which can also contain locally up to 5% tourmaline as clusters of radiating crystals or black amorphous masses.

The homolithic intrusion breccia at Casino is essentially a brecciated quartz monzonite occurring within or on the edge of the quartz monzonite stocks. It consists of fragments of quartz monzonite, which are locally indistinct, in a fine to medium grained monzonite groundmass. Fragment size is generally less than 10 centimetres.

This style of brecciation was observed in the rocks trenched in Ana Saddle, and locally in the rocks exposed by trenches 96-6, 7, 9, and 10.

Heterolithic intrusion breccias appear to be related to the margins of the Casino Complex as a whole. Fragments consist of Dawson Range granodiorite and diorite, gneisses and quartzites of the Yukon Metamorphic Complex, and minor quartz monzonite and Patton Porphyry in a fine to coarse grained quartz monzonite groundmass. The range of fragment sizes is much larger than in the homolithic intrusion breccia, varying from a few centimetres to over 10 meters. Similarly the groundmass ranges from less than 10% to greater than 80%. This unit was observed in drill holes A-1, A-4 and A-5.

A Heterolithic breccia was also mapped as part of the breccia body in Ana Saddle between Canadian Creek and Aztec Creek. This breccia is matrix supported with granodiorite/quartz monzonite clasts (extensively leached and altered) up to 10 centimetres, within a dark grey very fine grained vuggy quartz, tourmaline and rock flour groundmass. The high tourmaline content distinguishes this unit from the typical intrusive breccia. On the Ana saddle it is exposed over a 400 meter strike length and is at least 250 meter wide. Float of this material was also observed in the north east portion of the claims in the vicinity of the new road cut and also in the southwest corner of the claims.

A Cretaceous/Tertiary latite and porphyritic latite have been documented on the Casino property which may be equivalent to the breccia in the upper portion of drill hole 93-A-5. They may reflect the waning stages of the Casino intrusions. These are typically pale creamy to brown, fine grained and locally contain quartz or plagioclase phenocrysts. An explosive/intrusive latite breccia occurs within the eastern portion of the Casino

deposit, however it is barren of any mineralization. ...

North- northwest striking latite and crowded quartz porphyritic dykes occur throughout the Coffee Creek alteration zone.

Overburden is extensive on the Canadian Creek Property however, it is generally not excessively deep. Exceptions are in the headwaters of drainages where over 7 meters of overburden was exposed in drill holes and trenches. The majority of the outcrops are located along Coffee Creek with most of the rest of the property covered by a thick moss and permafrost horizon.

## PROGRAM SUMMARY

Permafrost conditions exist throughout the area commonly under a thick cover of insulating sphagnum moss. This condition restricts surface drainage, hindering exploration efforts by preventing excavation by mechanical equipment, and creating wide areas of water saturated organic soils hindering equipment mobility. Removal of the insulating organic cover allows thawing and drying of the substrate permitting improved access and the ability to explore the substrate for mineralization in a cost effective manner.

2 km of new road were built, 3 km of pre-existing road was upgraded, and 1 km of new trails were cleared for thawing.

The excavator trenching program was largely confined to areas of moderate relief that were; previously cleared to allow for thawing to take place, existing roads, south facing slopes with minimal insulating vegetation and relatively free of large angular boulders.

The priority for trenching were areas of highly anomalous gold and copper, and geophysical anomalies considered significant, specifically chargeability results between 15 and 30 millivolt / volt, resistivity results between 200 and 500 ohm-meters, and the flanks of local magnetic highs suggestive of intrusive centres.

76 trenches ranging from 140 meters to 4 meters long and 8 test pits designed to penetrate overburden to determine bedrock type were completed. Roughly 70% of the trenches reached bedrock or subcrop. Over 85% reached permafrost prior to hard bedrock or full depth reach of the hoe (about 7 meters). Roughly 90 percent were sampled. Material not sampled was frozen material not indicative of the possible bedrock such as till, fluvial deposits and unaltered soliflucted material from upslope areas. Efforts were made to ensure representative sampling of the bedrock material in the trench. The technique varied due to the characteristics of the material in the trench, i.e. homogenous bedrock, two or more intrusive phases, changes in alteration, veining, etc. The stability and depth of the trench often dictated the sampling procedure; relatively shallow, dry stable trenches allowed for channel sampling and detailed sketch mapping if required. Trenches in areas of high water tables often flooded in 10's of seconds and examination was confined to a quick glance and

sometimes a photograph. The material sampled were representative grabs of the regolith, subcrop, or bedrock from selected material excavated by the backhoe. The depth of the sample was recorded for all trench samples.

Other areas not specifically trenched were areas of altered and mineralized rock exposed during the road building. When time permitted, examination and sampling was completed.

## TRENCHING RESULTS

### KOFFEE AREA

The trenches in the Koffee area exposed parts of a very large phyllic alteration zone extending from Trench 3 at 12500 N 10900 W south for about 1 km to past trench 93-2, west past trench 96-12 and east past trench 96-8. The dominant rock type within the alteration halo is the quartz diorites of the Coffee Creek stock. The rocks are moderately to strongly silicified with feldspars altered to clays and sericite, and biotite to muscovite. Brittle fracture is common with numerous open silica veinlets that commonly display (usually weathered) sulphide bearing cores. The dominant sulphide by far is crystalline disseminated and late fracture controlled pyrite. The dominant orientation of the fracture systems within the phyllic alteration halo are north- northwest steeply east dipping, and secondary shallow dipping swarms with no observed primary preserved strike. Locally, east west striking steeply dipping fractures are common.

Intruding the north- northwest structures are innumerable late stage crowded quartz porphyritic feldspar dykes. Sub- to anhedral quartz porphyroblasts ranging from 2 to 5 mm can comprise up to 70% but normally form 40 % of the rock. The feldspars are commonly completely clay altered. Geochemical results of the phyllic alteration indicate depleted copper, and weak to moderately enrichment in gold, however the rocks are usually highly oxidized. Peripheral to the phyllic alteration in trenches 96-01 and 96-02 underlying part of the western end of the arsenic-silver (lead-zinc-gold) anomaly several 10 to 40 cm thick northeast striking steeply southeast dipping structures containing highly oxidized limonitic gouge and less commonly quartz bearing veins reported precious metal values up to 409 ppb gold, 1.9 ppm silver and 1136 ppm arsenic (sample C103162), 17.1, ppm silver, 777 ppm lead (C103167) and 1716 ppm arsenic (C103165). As all veins were highly oxidized the actual gold, silver and lead content of the unoxidized vein at depth is undetermined. The host intrusives displayed proximal argillic and more distal propylitic alteration haloes adjacent to the veins. All rocks that contained secondary pyrite as part of the propylitic alteration halo are enriched in gold. The south end of Trench 96-02 uncovered a steep north- northwest striking structure with crowded quartz porphyry dyke. 1.5 to 2 km south of this area numerous zones of north- northwest striking structures with argillic altered intrusive contacts with several stages of dyking and sometimes veining occur. These rocks however only weakly anomalous in gold.

Within the phyllic alteration halo in the Koffee area are several areas that have potential economic significance. A low hill is exposed near 12100 N 10700 W. Various authors have noted the outcrop to be anything from a quartz monzonite to a felsite to quartz diorite of the Coffee Creek stock. Essentially all are partially correct as the outcrop appears to display rock of several intrusive episodes. The "outcrop" has no real bedrock exposure and is mostly a felsite covered mound. A thorough examination of the entire 100 m by 100 m square exposure would be required prior to determining the contact relationships.

Trenches 96-04 through 13 were excavated near the northeast contact of the low grade copper anomaly, on the 15 millivolt / volt chargeability, and 300 ohm-meter contour and on the northeast edge of a magnetometer high suggestive of an intrusive centre.

Trench 96-05, 96-06 and 96-13 to the southwest and west of this exposure uncovered locally highly anomalous quartz-fracture vein hosted molybdenum mineralization. Also in trench 96-06 rock samples (96-6, C103188) of Casino? quartz monzonite intruding along a north striking contact the Coffee quartz diorite (C103187) containing intense, chaotic, brittle, open silica selvaged fractures with oxidized iron, copper sulphide, and molybdenum mineralization. These samples were removed about 2.5 to 3 meters below the surface. Most fractures were highly to completely oxidized. The degree and nature of the fracturing indicates a possible 5% preoxidation sulphide content.

Trenches 96-7 at 11950 N 10600 W exposed potassically altered, with phyllic overprinted quartz monzonite which reported 117 ppm copper, 21 ppm molybdenum and 50 ppb gold.

Trenches 96-9 and 96-10, 200 and 95 meters southeast of trench 96-7 respectively exposed intensely phyllic altered and brecciated quartz monzonite "homolithic" breccia or "microbreccia". Both were moderately anomalous in copper (100 - 215 ppm), and molybdenum (9 - 32 ppm) and barium.

A northerly striking steeply dipping 15 cm quartz vein in Trench 96-05 some 200 meters northwest of 96-06 contained a quartz vein containing 2144 ppm extremely fine grained molybdenum mineralization. All samples from trench 96-13 some 200 meters northwest of trench 96-05 are moderately anomalous in molybdenum, and weakly anomalous in gold and copper. The sample from trench 96-12a was of strongly phyllic altered quartz diorite of the Coffee Creek Stock.

Petrographic analysis of rocks from Trenches 96-05 (C103191), 96-06 (C103187, 88, 96-6), and 96-12a (Payne Appendix 3) reveal the presence of disseminated chalcopyrite with greater amounts of oxidized copper sulphides.

Trench 96-08 was excavated at a proposed drill site at grid location 11600 N 10200 W. The trench revealed the following; the top 3 meters comprised soliflucted Yukon Metamorphic rocks and finer debris derived from outcrops 800 meters to the east, from 3 to 5 meters was bright orange transported intensely altered intrusive rock (samples 96-8a,b,c) from 5 to 6 m was subcrop of intensely phyllic altered crowded

plagioclase? quartz porphyry (Patton Porphyry?) or Casino quartz monzonite. From 6 to 7.5 meters (the ultimate hoe digging depth) bedrock of intensely phyllic altered crowded feldspar quartz porphyry was removed. Intruding this rock were quartz flood zones and veins. The host rock crumbled into a granular mush upon handling. The Petrographic analysis of sample 96-8e was of silica flooded material (the only material retaining coherence in a hand sized specimen. Of interest was the presence of chalcopyrite, and possibly galena in the relatively barren siliceous rock. Geochemical analysis of 8a to 8d (sample 8e was lost) revealed decreasing gold 132 - 14 ppb, copper (90 - 16 ppm) molybdenum (9 - 4 ppm), zinc (160 - 32 ppm), iron, arsenic (1014 - 100 ppm) and all other metals. Considering the intensity of the oxidation of the transported material, which report the highest metal values, a significant metal source is indicated upslope to the east of this site. This is coincident with 20-30 millivolt / volt chargeability anomaly, a local resistivity anomaly, and decreasing magnetic intensity to the east. Based on these visual indications, additional trails were created to the north, east and south of this trench/drill site. About 150 meters were cleared east and south to the edge of large boulder fields of transported material. A new 300 m trail was cleared to the north along line 10200 W.

Trench 93-2 was excavated to 7 meters and revealed phyllic-argillic altered quartz monzonite and may be a Casino intrusive. The rock was friable with plagioclase altered to clay. No sulphides were observed. The strong geochemical anomaly from this area and float samples collected in the past suggest that similar to the observations in trench 96-08 a significant metal source exist up hill to the east. The soil anomaly may be from material transported over time and forced to the surface by the bedrock. DDH K-93-1, 200 meters south of trench 93-2 and trench 96-11 200 meters further north intersected at least 6 meters of overburden characterised by numerous float samples of Gneissic Yukon Metamorphic Terrane material from the ridges over 1 km to the east. The existing geochemical anomalies would represent transported and diluted material from mineralized and barren sources. The float samples reporting over 2000 ppm copper obtained from past programs and the results of DDH K-93-1 where an average of over 500 ppm copper was obtained has economic significance as the source of the soil anomaly is not represented by the result of hole K-93-1. The material from trench 93-3 is of particular interest as is in part a gravel deposit forming part of beach? terrace. A multi element geochemical anomaly covers much of this deposit. Again the logical source area would be from the east, up hill and masked by a thick felsemeer apron of barren material from beyond the metal source. The induced polarization and magnetics indicate an intrusive centre a 11200 N 11000 W with very high chargeability and resistivity gradients occurring as far as 9600 E.

## CANADIAN CREEK AREA

The bulk of the trenching program was completed in the Ana Saddle area (trenches 96-15 - 96-36, 96-39 - 96-64. The rationale was favourable geology, significant gold and copper anomalies, geophysical signatures indicating metallic mineralization, and favourable conditions for excavating (south slope and thin vegetation cover). The trenches succeeded in exposing a 600 m by 150 east- northeast striking quartz monzonitic breccia body striking from 11000 N 8300 W to 11200 N 7700 W that contains lithological, and alteration

characteristics Casino deposit 5 km east. These are leucocratic quartz monzonite, quartz monzonitic homolithic breccias, rocks resembling "microbreccia", and rocks resembling at least 3 phases of "Patton Porphyry". The breccias are altered to a characteristic light brown to dirty yellow colour similar to the Casino breccias. Central to this intrusive the rocks are potassically altered, with surrounding phyllic alteration characterised by locally intensive quartz, tourmaline, pyrite breccias. The quartz tourmaline breccia extends to the northeast for another 100 meters in to the surrounding hornblende porphyritic diorites.

Coincident with this intrusion is a small magnetic high, chargeability and resistivity anomalies. The entire intrusive is highly oxidized. Quartz tourmaline breccia that contain fragments of altered and mineralized porphyry report up to 1897 ppb gold, 353 ppb copper (trench 96-25). Peripheral to this intrusive on its south and west sides within the host hornblende biotite diorite is a 100 to 200 meter thick propylitic altered zone (chlorite, pyrite, carbonate). The extensive propylitic (chlorite, epidote, pyrite) alteration zone that covers Ana Peak may be related to this as well as other Casino quartz monzonite dykes located on the access road crossing the peaks east side. In this area these epidote-pyrite propylitically altered rocks have volumetrically the highest gold and copper values and this is reflected in the soil anomalies and subsequent trench results. Corbett and Leach - 1995 (Figure 4-1) depict the presence of epidote in propylitic alteration can occur proximal to potassic alteration. The strong copper and gold anomalies appear to support this possibility in this area. The high copper and gold content in pyrite-epidote bearing propylitically altered rocks indicate that a strong copper bearing system is (was?) nearby.

Trenches to the west and north of this intrusive (Trenches 96-15 to 96-22) were excavated to locate the bedrock source of a chargeability high and resistivity low in a broad topographically depressed area centred at 11500 N, 8600 W. Strong phyllic altered Dawson Range diorites were exposed having locally intense phyllic alteration with quartz selvaged breccia veins in a bright orange iron oxide bearing host rock. Petrographic analysis of rock from trench 96-15 indicate up to 3 percent pyrite in the unoxidized equivalent rock. The geochemical signature of the trenches in this area are indicative of metal depleting phyllic alteration typical of the Casino model, however the rocks are extensively oxidized and metal leaching has occurred. The Ana peak copper-gold anomaly is immediately northeast of this location.

Trenches excavated east of line 7600 E revealed propylitically altered diorite that have been crosscut by numerous north-northwest striking steeply dipping Casino intrusive and related precious metal bearing faults. Trench 96-59 was excavated to locate the bedrock source of a local but strong gold anomaly on line 7600 W at 11000 N. Sample 59c was a representative sample of a 6 meter wide limonitic gouge zone reporting 1340 ppb gold, and the adjacent sample 59d was a 7 meter wide intensely altered quartz porphyritic monzonite dyke that reported 332 ppb gold. Due to the sample density these results can only be preliminary however a 13 meter true width section averaging 835 ppb gold can be inferred. This intrusive appears to continue north to the larger intrusive in Ana Saddle described earlier.

A large "Patton Porphyry" dyke of the early coarse plagioclase porphyry type is found east of line 7400 W. It is strongly chloritically altered and traces of chalcopyrite were seen in hand specimen. Between this unit and the older rocks to the west is a 1 meter thick fresh leucocratic flow banded plagioclase porphyry dyke that

appears to post date the larger porphyry. The altered "Patton Porphyry" continues to the east beyond the trenching program. Trench 93-2 was revisited and two stubs were excavated into "fresh rock. A north-northwest striking structure contained a unique coarse grained k-spar-pyrite-tourmaline 'pegmatite' appearing rock. Representative chip samples across the full width of this zone (samples 93-2b, 93-2c) reported 900 ppb gold over a 3.2 meter true width. Petrographic analysis describe the rock as metasomatic. The host rock is hornblende porphyritic diorite. Trench 93-3 11000 N 8000 W excavated about 50 meters south of the 600 meter long Casino intrusive body but without hitting bedrock in 1993 was revisited and bedrock of well pyritized propylitically altered hornblende diorite was exposed. A selected chip of well mineralized material returned 584 ppm copper, 11 ppm molybdenum and 23 ppb gold. Drill hole 93-3 located 200 meters east of trench 93-3 and about 100 meters south of the aforementioned contact was selectively sampled. The hole average about 100 ppm copper and 75 ppb gold over 60 meters (200 ppm copper and 200 ppb gold over 20 meters).

The trenching program in the Canadian Creek basin near the Casino property boundary was generally disappointing due to several trenches failing to reach bedrock. However the following discoveries were made: On the north side of Canadian Creek trenches 96-65, 96-67 and 96-76 exposed intensely phyllic altered Yukon Metamorphic Complex gneiss, trench 96-66 exposed subcrop of intensely phyllic altered fine grained siliceous intrusive, trenches 96-68, 96-71 and 96-72 exposed a distinctive dark green pebble till. Trench 96-73 exposed phyllic altered gneissic float only.

On the south side of Canadian Creek, trench 96-69 exposed fresh crowded hornblende porphyry diorite, trench 96-74 near Canadian Creek at 7100 W exposed float and possible subcrop of pyritic stockwork veined altered intrusive. A select grab reported 254 ppm copper and 25 ppm molybdenum. trench 96-75 80 meters southwest of 96-74 exposed fresh unaltered hornblende porphyritic granodiorite.

## RECOMMENDATIONS FOR FURTHER TRENCHING

Trenching is recommended on the coincident 800 meter long east west striking copper-gold anomaly in the Koffee area centred at 12200 N 11700 W. Additional trenching should be completed south, east and north of trench 96-08 to penetrate the barren blanket and expose the bedrock and hopefully the source of transported soil and overburden anomalies.

The size and strength of the arsenic-silver lead zinc anomaly on the northeast Koffee grid should be trenched to expose possible co-economic silver bearing vein mineralization.

Additional trenching northeast and east of the Ana saddle area is recommended to expose the bedrock source of gold and copper mineralization.

Based on experience a machine with suitably equipped with running gear, and digging equipment capable of penetrating permafrost to a depth of at least 5 meters in boulder strewn terrain would be ideal.

## PERSONNEL, DATES AND COSTS

The 1996 field program was completed between August 2 and 30, 1996.

The excavator, a Komatsu (Caterpillar 225 equivalent), leased to Landmark Management (Bruce Cairnes of Whitehorse) was barged to the Britannia Creek road by Jacobs Industries Ltd. of Whitehorse. The ensuing program was supervised by L. Lindinger P.Geo.

Direct excavator costs were \$31,950 and a 6x6 service vehicle \$4,000. Other costs related to the barge mobilization, camp and supervision remain unstated. A copy of the Landmark invoice is appended to this report.

Signed

J.W. Morton P.Geo



J.W. MORTON  
January 15, 1997

January 10/1997

EXPENDITURE STATEMENT  
CANADIAN CREEK PROPERTY  
JULY - DECEMBER, 1996

*Professional Fees:*

|             |                    |             |
|-------------|--------------------|-------------|
| J.W. Morton | 3 days @ \$375/day | \$ 1,125.00 |
|-------------|--------------------|-------------|

*Field Personnel Fees:*

|                  |                       |          |
|------------------|-----------------------|----------|
| G. Charbonneau   | 19.5 days @ \$225/day | 4,387.50 |
| F. Larocque      | 42 days @ \$225/day   | 9,450.00 |
| J. Campbell      | 30 days @ \$245/day   | 7,350.00 |
| J. McConville    | 30 days @ \$250/day   | 7,500.00 |
| J.P. Charbonneau | 1 day @ \$225/day     | 225.00   |

*Rentals:*

|                   |                         |          |
|-------------------|-------------------------|----------|
| Truck             |                         | 945.20   |
| Camp              | 26 days @ \$150/day     | 4,650.00 |
| Generator         | 26 days @ \$20/day      | 620.00   |
| Chainsaw          | 26 days @ \$5/day       | 155.00   |
| 4 Handhelds       | 26 days @ \$5/day each  | 620.00   |
| 3 ATV's           | 26 days @ \$50/day each | 4,650.00 |
| ATV (Charbonneau) | 26 days @ \$50/day      | 1,300.00 |

*Transportation:*

|                      |                         |           |
|----------------------|-------------------------|-----------|
| Helicopter           | 8 hours @ \$784.85/hour | 6,278.80  |
| Scheduled Flights    |                         | 2,365.37  |
| Fixed Wing - Charter |                         | 17,227.00 |
| Bus                  |                         | 40.70     |

*Travel Expenses:*

1,423.90

|              |          |
|--------------|----------|
| <i>Fuel:</i> | 7,264.87 |
|--------------|----------|

|                         |          |
|-------------------------|----------|
| <i>Field Equipment:</i> | 5,059.80 |
|-------------------------|----------|

|                          |                                      |                      |
|--------------------------|--------------------------------------|----------------------|
| <i>Analyses:</i>         |                                      |                      |
| Geochemical              | 367 samples @ \$15.75/sample         | 5,781.89             |
| Petrographic             |                                      | 2,987.50             |
| <i>Sub Contractor:</i>   |                                      |                      |
| Geological               | L. Lindinger - 52.8 days @ \$350/day | 18,480.00            |
| Road Building            |                                      | 10,000.00            |
| Trenching                |                                      | 26,052.62            |
| Expediung                |                                      | 2,564.14             |
| Geophysical              |                                      | 23,358.23            |
| Barge                    |                                      | 41,191.59            |
| <i>Government:</i>       |                                      |                      |
|                          | Filing Fees                          | 1,345.00             |
|                          | Permit                               | 350.00               |
| <i>Communication:</i>    |                                      |                      |
|                          | Telephone                            | 4,895.49             |
|                          | Courier                              | 600.66               |
|                          | SAT Phone                            | 1,301.72             |
| <i>Freight:</i>          |                                      | 5,498.54             |
| <i>Reproduction:</i>     |                                      |                      |
|                          | Maps                                 | 110.56               |
|                          | Reports                              | 87.22                |
|                          | Photos                               | 67.10                |
| <i>Miscellaneous:</i>    |                                      | 19.69                |
| <i>Drafting:</i>         |                                      | 210.00               |
| <i>Food:</i>             |                                      | 7,422.28             |
| <i>Vehicle Expenses:</i> |                                      | 1,602.02             |
| <i>Accomodation:</i>     |                                      | <u>1,002.60</u>      |
| <b>TOTAL</b>             |                                      | <b>\$ 237,566.99</b> |

# KOFFEE GRID

| Trench # | Average Width m | Length m | Average Depth m |
|----------|-----------------|----------|-----------------|
| 1        | 3               | 30       | 7               |
| 1A       | 3               | 30       | 7               |
| 2        | 3               | 140      | 7               |
| 3        | 3               | 20       | 7               |
| 4        | 3               | 20       | 7               |
| 5        | 3               | 20       | 7               |
| 6        | 3               | 20       | 7               |
| 7        | 3               | 20       | 6               |
| 8        | 3               | 20       | 6               |
| 9        | 3               | 20       | 6               |
| 10       | 3               | 20       | 6               |
| 12       | 3               | 20       | 6               |
| 13       | 3               | 20       | 6               |
| C103197  | 3               | 80       | 6               |
| C103198  | 3               | 80       | 6               |
| TP1      | 3               | 4        | 6               |
| TP2      | 3               | 4        | 6               |
| TP3      | 3               | 4        | 6               |
| TP4      | 3               | 4        | 6               |
| TP5      | 3               | 4        | 6               |
| TP6      | 3               | 4        | 6               |
| TP7      | 3               | 5        | 6               |
| TP8      | 3               | 5        | 6               |
|          |                 |          |                 |

# ANA GRID

| Trench # | Average Width m | Length m | Average Depth m |
|----------|-----------------|----------|-----------------|
| 17       | 3               | 20       | 6               |
| 18       | 3               | 20       | 6               |
| 19       | 3               | 20       | 6               |
| 20       | 3               | 20       | 6               |
| 21       | 3               | 20       | 6               |
| 22       | 3               | 20       | 6               |
| 23       | 3               | 20       | 6               |
| 24       | 3               | 20       | 6               |
| 25       | 3               | 20       | 6               |
| 26       | 3               | 20       | 6               |
| 27       | 3               | 20       | 6               |
| 28       | 3               | 20       | 6               |
| 29       | 3               | 20       | 6               |
| 30       | 3               | 20       | 6               |
| 31       | 3               | 20       | 6               |
| 32       | 3               | 20       | 6               |
| 33       | 3               | 20       | 6               |
| 34       | 3               | 20       | 6               |
| 35       | 3               | 20       | 6               |
| 36       | 3               | 20       | 6               |
| 37       | 3               | 20       | 6               |
| 38       | 3               | 20       | 6               |
| 39       | 3               | 20       | 6               |
| 40       | 3               | 20       | 6               |
| 41       | 3               | 20       | 6               |
| 42       | 3               | 20       | 6               |
| 43       | 3               | 20       | 6               |
| 44       | 3               | 150      | 7               |
| 45       | 3               | 20       | 6               |
| 46       | 3               | 20       | 6               |

|    |   |    |   |
|----|---|----|---|
| 47 | 3 | 20 | 6 |
| 48 | 3 | 20 | 6 |
| 49 | 3 | 20 | 6 |
| 50 | 3 | 20 | 6 |
| 51 | 3 | 20 | 6 |
| 52 | 3 | 20 | 6 |
| 53 | 3 | 20 | 6 |
| 54 | 3 | 20 | 6 |
| 55 | 3 | 20 | 6 |
| 56 | 3 | 20 | 6 |
| 57 | 3 | 4  | 6 |
| 58 | 3 | 20 | 6 |
| 59 | 3 | 20 | 6 |
| 60 | 3 | 20 | 6 |
| 61 | 3 | 20 | 6 |
| 62 | 3 | 20 | 7 |
| 63 | 3 | 50 | 6 |
| 64 | 3 | 20 | 6 |
| 65 | 3 | 20 | 6 |
| 66 | 3 | 20 | 6 |
| 67 | 3 | 20 | 6 |
| 68 | 3 | 20 | 6 |
| 69 | 3 | 20 | 6 |
| 70 | 3 | 20 | 6 |
| 71 | 3 | 20 | 6 |
| 72 | 3 | 20 | 6 |
| 73 | 3 | 20 | 6 |
| 74 | 3 | 20 | 6 |
| 75 | 3 | 20 | 6 |
| 76 | 3 | 20 | 6 |
|    |   |    |   |

## TRENCHES RE-EXCAVATED

| Trench # | Average Width m | Length m | Average Depth m |
|----------|-----------------|----------|-----------------|
| 93-1     | 4               | 55       | 7               |
| 93-2     | 4               | 100      | 7               |
| 93-3     | 4               | 100      | 7               |
|          |                 |          |                 |
|          |                 |          |                 |

## PERSONNEL, DATES AND COSTS

The 1996 field program was completed between August 2 and 30, 1996.

The excavator, a Komatsu (Caterpillar 225 equivalent), leased to Landmark Management (Bruce Cairnes of Whitehorse) was barged to the Britannia Creek road by Jacobs Industries Ltd. of Whitehorse. The ensuing program was supervised by L. Lindinger P. Geo.

Direct excavator costs were \$31,950 and a 6x6 service vehicle \$4,000. Other costs related to the barge mobilization, camp and supervision remain unstated. A copy of the Landmark invoice is appended to this report.

Signed

J.W Morton P. Geo

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January 15, 1997

## **APPENDIX 1**

| MINCORD EXPLORATION CONSULTANTS LTD.<br>CANADIAN CREEK PROJECT<br>ROCK SAMPLE DESCRIPTION AND ASSAY RESULTS |       |            |                             |        |  |                  |  |                                                                                                                                                                                                                                                             |  |  |  | ppb | ppm | ppm                       | ppm | ppm  | ppm   | ppm  | ppm  |
|-------------------------------------------------------------------------------------------------------------|-------|------------|-----------------------------|--------|--|------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|-----|-----|---------------------------|-----|------|-------|------|------|
| SAMPLE IDENTIFIER                                                                                           |       | NORTH WEST |                             | ZONE   |  | SAMPLE DEPTH (M) |  | LITHOLOGICAL DESCRIPTION                                                                                                                                                                                                                                    |  |  |  | Au  | Cu  | Ag                        | Mo  | Zn   | Pb    | As   | Sb   |
| CC-LL-96-001                                                                                                | 11900 | 9150       | EAST                        | KOFFEE |  |                  |  | quartz feldspar porphyry dyke - +10 cm thick. moderately crowded subrounded 1 to 3 mm quartz porphyroblasts and strongly argillically altered feldspars. rock resembles 'microbreccia' of Casino. rock contains up to 20% finely disseminated subhedral py. |  |  |  | 125 | 13  | 5.4                       | 1   | 1175 | 694   | 8195 | 94   |
| CC-LL-96-002                                                                                                | 12100 | 9375       | EAST                        | KOFFEE |  | 0                |  | Sucrosic banded quartz vein. Assoc. with 070 str structure. 10+cm thick. Locally strongly disseminated to massive up to 1 cm thick pyrite with minor galena mineralization. av. 10% py and 1.55 galena. Possible arsenopyrite.                              |  |  |  | 490 | 28  | 33.8                      | 2   | 1000 | 10407 | 1194 | 1769 |
| CC-LL-96-003                                                                                                | 12450 | 9900       | EAST                        | KOFFEE |  | 0                |  | very fine grained quartz monzonite dyke? 0.5 mm grain size. strong argillic alteration after Kspar flooding???. Xcut by hairline quartz-py veinlets. Limy pelitic gneiss wallrock is silicified, pyritized with strong manganese oxide staining.            |  |  |  | 95  | 7   | <del>12.06</del><br>12.06 | 2   | 983  | 3453  | 6058 | 41   |
| CC-LL-96-004                                                                                                | 12500 | 9825       | EAST                        | KOFFEE |  | 0                |  | Very fine grained quartz monzonite dyke? 0.5 mm grain size. Strong argillic alteration Xcut by hairline quartz-py veinlets. Limy pelitic gneiss wallrock is silicified, pyritized with strong manganese oxide staining.                                     |  |  |  | 31  | 17  | <del>12.05</del><br>12.05 | 2   | 927  | 25    | 1839 | 58   |
| CC-LL-96-005                                                                                                | 10600 | 8550       | SW ANA                      |        |  | 0                |  | Hydrothermal breccia. Altered quartz monzonite??? that has undergone intense hydro-brecciation followed by silicification and sulphide mineralization. Tr. to 3% sulphide oxidized with minor pyrite remaining. numerous cockscomb quartz crystals in vugs. |  |  |  | 23  | 6   | 0.3                       | 2   | 23   | 18    | 64   | 2    |
| CC-LL-96-006                                                                                                | 10600 | 8550       | SW ANA                      |        |  | 0                |  | Hydrothermal quartz tourmaline breccia float with highly argillically altered quartz monzonite breccia fragments.                                                                                                                                           |  |  |  | 115 | 7   | 0.4                       | 5   | 19   | 9     | 48   | 2    |
| CC-LL-96-007                                                                                                | 12500 | 8500       | UPPER ZAPPA<br>CK NW<br>ANA |        |  | 0                |  | Hornblende quartz porphyry diorite (Klotassin) that contains weak stockwork pyrite 1-2% and trace disseminated pyrite. Float sample follow-up of IP chargeability high and resistivity low.                                                                 |  |  |  | 2   | 14  | 0.3                       | 1   | 29   | 22    | 12   | 2    |
| CC-LL-96-008                                                                                                | 9950  | 9000       | CAMP<br>FLOAT               |        |  | 0                |  | Hydrothermal breccia. Altered quartz monzonite??? that has undergone intense hydro-brecciation followed by silicification and sulphide mineralization. Tr to 3% sulphide oxidized with minor pyrite remaining. numerous cockscomb quartz crystals in vugs.  |  |  |  | 4   | 7   | 0.3                       | 6   | 68   | 21    | 5    | 2    |
| CC-BM-96-001                                                                                                | 10010 | 9736       | SW ANA                      |        |  | 0                |  | Fine grained hornblende porphyry biotite diorite. rock contains 2-3% disseminated pyrite associated with mafics. hairline q.v. and later kspar flooded fracture contain traces of vfg cpy and py. Similar to Patton Porphyry.                               |  |  |  | 5   | 27  | 0.3                       | 2   | 42   | 3     | 2    | 2    |
| CC-BM-96-002                                                                                                | 11975 | 10715      | KOFFEE                      |        |  | 0                |  | Irregular fine grained quartz aggregate plagioclase orthoclase porphyry breccia? Feldspars are moderately clay altered. Numerous 0.5 mm late brittle quartz sulphide? fracture veining. Rock is similar to Casino quartz monzonite 'microbreccia'.          |  |  |  | 105 | 30  | 0.3                       | 9   | 13   | 13    | 18   | 2    |
| SEE PETROGRAPHIC DESCRIPTION                                                                                |       |            |                             |        |  |                  |  |                                                                                                                                                                                                                                                             |  |  |  |     |     |                           |     |      |       |      |      |
| CC-BM-96-003                                                                                                | 11960 | 10670      | KOFFEE                      |        |  | 0                |  | Irregular crowded fine grained quartz aggregate porphyry. Clay altered feldspar matrix. Numerous 0.5 mm late brittle quartz sulphide fracture veins.                                                                                                        |  |  |  | 15  | 19  | 0.3                       | 3   | 15   | 19    | 20   | 4    |

MINCORD EXPLORATION CONSULTANTS LTD.  
CANADIAN CREEK PROJECT  
ROCK SAMPLE DESCRIPTION AND ASSAY RESULTS

| ROCK SAMPLE DESCRIPTION AND ASSAY RESULTS |        |            |          |                  | ppb                                                                                                                                                                                                                                                           | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
|-------------------------------------------|--------|------------|----------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| SAMPLE IDENTIFIER                         |        | NORTH WEST | ZONE     | SAMPLE DEPTH (M) | LITHOLOGICAL DESCRIPTION                                                                                                                                                                                                                                      | Au  | Cu  | Ag  | Mo  | Zn  | Pb  | As  | Sb  |
| CC-BM-96-004                              | 11965  | 10600      | KOFFEE   | 0                | Irregular fine grained pyritic quartz aggregate plagioclase orthoclase porphyry breccia? Feldspars are moderately clay altered. Numerous 0.5 mm late brittle quartz sulphide? fracture veining. Rock is similar to Casino quartz monzonite 'microbreccia'.    | 125 | 45  | 0.4 | 40  | 16  | 28  | 17  | 2   |
| CC-BM-96-005                              | 11326  | 10575      | KOFFEE   | 0                | Crowded plagioclase quartz porphyry. Porphyroblasts appear to be milky quartz or plagioclase core with clear quartz rims. Matrix is a potassic clay altered microscopic groundmass. Potassic matrix or Kspar surround quartz-plagioclase porphyroblasts.      | 29  | 46  | 0.3 | 25  | 6   | 11  | 3   | 2   |
| CC-BM-96-005 cont'd                       |        |            | KOFFEE   |                  | Common late quartz weathered sulphide fractures.                                                                                                                                                                                                              |     |     |     |     |     |     |     |     |
| CC-BM-96-006                              | (Camp) |            | KOFFEE   | 0                | SEE PETROGRAPHIC DESCRIPTION                                                                                                                                                                                                                                  |     |     |     |     |     |     |     |     |
|                                           | 10075  | 8450       | SW ANA   | 0                | Pink fine grained quartz aggregate orthoclase porphyry syenite dyke. trace pyrite in late brittle fracture veinlets. Rock is 55% euhedral quartz and 45% euhedral to interstitial orthoclase. Rock is probably a Casino Complex intrusive.                    | ns  | ns  | ns  | ns  | ns  | ns  | ns  | ns  |
|                                           | 10075  | 8480       | SW ANA   | 0                | Pink medium grained hornblende orthoclase porphyry syenite dyke. Minor chlorite-epidote fracture veinlets. Chloritized mafics. Rock is 10% euhedral hornblende and 70% orthoclase, and 15% clay altered plagioclase. Rock is a Casino Complex intrusive?      | ns  | ns  | ns  | ns  | ns  | ns  | ns  | ns  |
|                                           | 10600  | 11400      | KOFFEE   | 0                | Medium grained hornblende porphyritic plagioclase quartz diorite. Minor primary fine grained biotite.                                                                                                                                                         | ns  | ns  | ns  | ns  | ns  | ns  | ns  | ns  |
|                                           | 12700  | 10900      | N KOFFEE | 0                | Medium grained hornblende porphyritic plagioclase quartz diorite. Minor primary fine grained biotite. Trace interstitial sericite veining                                                                                                                     | ns  | ns  | ns  | ns  | ns  | ns  | ns  | ns  |
|                                           | 11300  | 7700       | N ANA    | 0                | Mottled tan medium grained quartz feldspar porphyritic round fragment monolithic intrusion breccia. weak pervasive matrix potassic alteration dominantly argillic. Rock corresponds to 'microbreccia' of Casino complex.                                      | ns  | ns  | ns  | ns  | ns  | ns  | ns  | ns  |
|                                           | 11950  | 7200       | N ANA    | 0                |                                                                                                                                                                                                                                                               | 376 | 89  | 3   | 4   | 33  | 24  | 152 | 45  |
|                                           | 12100  | 7200       | N ANA    | 0                |                                                                                                                                                                                                                                                               | 6   | 5   | 0.3 | 1   | 78  | 5   | 2   | 2   |
| C 103150                                  | 10800  | 8200       | SW ANA   | 0                | Mottled tan medium grained quartz feldspar porphyritic round fragment monolithic intrusion breccia. weak pervasive matrix potassic alteration dominantly argillic. Rock corresponds to 'microbreccia' of Casino complex.                                      | na  | na  | na  | na  | na  | na  | na  | na  |
| C 103151                                  | 10800  | 8200       | SW ANA   | 0                | Leucocratic, quartz-feldspar-hornblende porphyry monolithic intrusion breccia crosscut and altered by multiphasic quartz-kspar sulphide dykelet and veins. sample is about 10 cm thick. Host rock is intensely silica-argillic-sulphide altered.              | 12  | 10  | 0.3 | 2   | 25  | 63  | 60  | 2   |
| C 103152                                  | 10800  | 8200       | SW ANA   | 0                | heterolithic tourmaline veined breccia. clasts 1 to 5 cm rounded highly silicified and sulphidized fragments of dawson range and casino complex fragments. at least 7% vugs from weathered sulphides. Tourmaline with later quartz bx matrix. 10% open vugs   | 12  | 11  | 0.4 | 7   | 11  | 5   | 8   | 2   |
| C 103153                                  | 10800  | 8200       | SW ANA   | 0                | Heterolithic tourmaline veined breccia. Fragments 1 to 5 cm rounded highly silicified and sulphidized fragments of Dawson Range and Casino Complex fragments. at least 5% vugs from weathered sulphides. Tourmaline with later quartz bx matrix. 5% open vugs | 36  | 7   | 0.3 | 3   | 13  | 12  | 22  | 2   |
| C 103154                                  | 10907  | 8205       | SW ANA   | 0                | dark and grey banded. crowded quartz-feldspar porphyry multiphasic breccia. crosscut by black matrix feldspar quartz porphyry breccia dykes. older rocks contain 3-4% prev sulphide bearing vugs.                                                             | 9   | 20  | 0.3 | 4   | 26  | 8   | 62  | 2   |

| MINCORD EXPLORATION CONSULTANTS LTD.<br>CANADIAN CREEK PROJECT<br>ROCK SAMPLE DESCRIPTION AND ASSAY RESULTS |            |                    |           |                                                                                                                                                                                                                                                           |      |      |     |     |     |     |      |    |
|-------------------------------------------------------------------------------------------------------------|------------|--------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|-----|-----|-----|-----|------|----|
| SAMPLE                                                                                                      |            |                    |           |                                                                                                                                                                                                                                                           |      |      |     |     |     |     |      |    |
| SAMPLE IDENTIFIER                                                                                           | NORTH WEST | ZONE               | DEPTH (M) | LITHOLOGICAL DESCRIPTION                                                                                                                                                                                                                                  | Au   | Cu   | Ag  | Mo  | Zn  | Pb  | As   | Sb |
| C 103155                                                                                                    | 10900      | 8200 SW ANA        | 0         | Grey-green very fine grained feldspar porphyry dacite. 10% 0.5-2mm plagioclase porphyroblasts in a vfg felted chloritically altered groundmass. 3% evenly disseminated 5mm loose aggregate pyrite clots. Very fine grained 'Patton Porphyry'              | 46   | 59   | 0.3 | 2   | 108 | 16  | 7    | 2  |
| C 103156                                                                                                    | 11062      | 8200 W ANA         | 0         | Grey flow banded feldspar porphyritic dacite? 20% 2-4 mm feldspar porphyroblastic a grey-green chloritic felspathic aphanitic groundmass. 1-2% pyrite erratically disseminated throughout rock and in later fractures. "Patton Porphyry"                  | 62   | 32   | 0.3 | 1   | 76  | 20  | 95   | 2  |
| C 103157                                                                                                    | 13075      | 8260 W ANA         | 0         | Grey weakly flow banded crowded feldspar with minor hornblende diorite. Crackle brecciated with pyrite and trace Chalcocopyrite??? veinlets. Possibly leucocratic phase of 'Patton Porphyry'.                                                             | 6    | 17   | 0.3 | 1   | 53  | 15  | 17   | 2  |
| C 103158                                                                                                    | 11062      | 8200 W ANA         | 0         | grey leucocratic crowded quartz-feldspar porphyry leucogranite Rock appears silicified and moderately argillically altered. minor tourmaline quartz veining and brecciation. rusty weathering due to minor weathered sulphides.                           | 67   | 89   | 0.3 | 3   | 32  | 7   | 21   | 2  |
| C 103159                                                                                                    | 9970       | 9830 KOFFEE SADDLE | 0         | brown mottled weathering multi episodic quartz-fspar banded breccia vein. up to 15 cm thick. found as float in cat road.                                                                                                                                  | 9    | 22   | 0.3 | 2   | 46  | 31  | 225  | 26 |
| C 103160                                                                                                    | 9970       | 9800 KOFFEE SADDLE | 0         | Dark brown rusty weathering highly clay altered feldspar porphyroblast and matrix pyritic quartz feldspar porphyry. Numerous late open space curvilinear siliceous fractures along grain boundaries. Possibly a homolitic intrusion breccia.              | 59   | 2156 | 0.4 | 117 | 104 | 21  | 5    | 2  |
| TRENCH-93 2-a                                                                                               | 11200      | 7360 ANA           | 1.5       | Hornblende diorite. Medium grained phanerite. 20% chloritized and pyritized hornblende. 70% feldspars (dominantly plagioclase), and minor quartz and biotite. Rock is chloritic-pyrite propylitic altered.                                                | 57   | 127  | 0.3 | 2   | 36  | 7   | 17   | 2  |
| TRENCH-93 2-b                                                                                               | 11200      | 7363               | 1.5       | SEE PETROGRAPHIC DESCRIPTION                                                                                                                                                                                                                              | 340  | 121  | 0.3 | 3   | 21  | 10  | 62   | 2  |
| TRENCH-93 2-c                                                                                               | 11200      | 7366               | 1.5       | Orthoclase, pyrite tourmaline pegmatite or vein. 40-70% feldspar dominantly secondary orthoclase, 20-60% brassy pyrite aggregates to 10 mm dia. and 10-30% 5 to 10 mm tourmaline porphyroblasts.                                                          | 1837 | 187  | 0.8 | 3   | 19  | 22  | 381  | 2  |
| TRENCH-93 2-d                                                                                               | 11205      | 7368               | 1.5       | Hornblende feldspar hornblende porphyry diorite. 25% medium grained chloritized and pyritized hornblende. 65% coarse grained plagioclase, minor quartz and biotite. 3% pyrite in late fracture veins. Rock is chloritic-pyrite propylitic altered.        | 95   | 210  | 0.3 | 1   | 40  | 8   | 23   | 2  |
| TRENCH-93 3                                                                                                 | 11050      | 7940               | 1.5       | SEE PETROGRAPHIC DESCRIPTION                                                                                                                                                                                                                              | 23   | 584  | 0.3 | 11  | 29  | 16  | 2    | 2  |
| C 103161                                                                                                    | 13005      | 10936 TRENCH 96-01 | 1.5       | green and white mottled quartz feldspar porphyry. Fspars have been altered to clay. Mafics altered to clay and pyritic disseminations. 1-2% evenly disseminated euhedral 0.5 mm pyrite grains throughout rock. weathers to a tan to brown limonite gouge. | 37   | 126  | 1   | 2   | 210 | 65  | 282  | 2  |
| C 103162                                                                                                    | 13001      | 10936 TRENCH 96-01 | 1.5       | dark brown weathering quartz - fspar?? breccia vein with 2-3% erratically disseminated euhedral pyrite crystals throughout. highly oxidized rusty weathering wall rocks.                                                                                  | 409  | 89   | 1.9 | 4   | 432 | 225 | 1136 | 7  |
| C 103163                                                                                                    | 12995      | 10932 TRENCH 96-01 | 1.5       | Black and pale grey - medium grained hornblende-biotite-quartz diorite. 50% quartz, 35% plagioclase, 5% chloritized hornblende, and 5% biotite. Mafics weakly chloritized.                                                                                | 5    | 13   | 0.3 | 2   | 72  | 11  | 18   | 2  |

MINCORD EXPLORATION CONSULTANTS LTD.  
CANADIAN CREEK PROJECT  
ROCK SAMPLE DESCRIPTION AND ASSAY RESULTS

| CANADIAN CREEK PROJECT<br>ROCK SAMPLE DESCRIPTION AND ASSAY RESULTS |       |       |                  |                          |                                                                                                                                                                                                                                                            | ppb | ppm | ppm  | ppm | ppm | ppm | ppm  | ppm |
|---------------------------------------------------------------------|-------|-------|------------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|------|-----|-----|-----|------|-----|
| SAMPLE IDENTIFIER NORTH WEST ZONE                                   |       |       | SAMPLE DEPTH (M) | LITHOLOGICAL DESCRIPTION |                                                                                                                                                                                                                                                            | Au  | Cu  | Ag   | Mo  | Zn  | Pb  | As   | Sb  |
| C 103164                                                            | 13011 | 10940 | TRENCH 96-01     | 1.5                      | green and white mottled quartz feldspar porphyry. Fspars have been altered to clay. Mafics altered to clay and pyritic disseminations. 2-3% evenly disseminated euhedral 0.5 mm pyrite grains throughout rock. weathers to a tan to brown limonitic gouge. | 44  | 35  | 0.9  | 2   | 232 | 79  | 173  | 2   |
| ALSO SEE PETROGRAPHIC DESCRIPTION                                   |       |       |                  |                          |                                                                                                                                                                                                                                                            |     |     |      |     |     |     |      |     |
| C 103165                                                            | 13014 | 10941 | TRENCH 96-01     | 1.5                      | Pale tan limonitic gouge no real fresh bedrock found over this interval                                                                                                                                                                                    | 61  | 13  | 3.9  | 6   | 36  | 286 | 1716 | 6   |
| C 103166                                                            | 13035 | 10935 | TRENCH 96-01     | 1.5                      | green and white mottled to chloritic green altered quartz feldspar porphyry. Fspars have been altered to clay. Mafics altered to chloritic or clay and pyritic disseminations. 2-3% evenly disseminated euhedral 0.5 mm pyrite grains conc. in shears..    | 15  | 72  | 0.5  | 1   | 206 | 21  | 41   | 2   |
| C 103167                                                            | 13031 | 10935 | TRENCH 96-01     | 1.5                      | Pale tan limonitic gouge no real fresh bedrock found over this interval                                                                                                                                                                                    | 375 | 63  | 17.1 | 2   | 85  | 777 | 343  | 501 |
| C 103168                                                            | 13027 | 10935 | TRENCH 96-01     | 1.5                      | green and white mottled to chloritic green altered quartz feldspar porphyry. Fspars have been altered to clay. Mafics altered to chloritic or clay and pyritic disseminations. 2-3% disseminated euhedral 0.5 mm pyrite grains.                            | 19  | 42  | 0.7  | 1   | 268 | 24  | 36   | 2   |
| C 103169                                                            | 13024 | 10935 | TRENCH 96-01     | 1.5                      | Leucocratic fine grained crowded quartz feldspar porphyry dyke. Rock is 65% quartz. Feldspars as euhedral to interstitial clay altered material. late siliceous fracture with very fine grained disseminated selvages. Rock is a Casino complex intrusive. | 82  | 39  | 3.7  | 1   | 125 | 115 | 293  | 6   |
| C 103170                                                            | 13025 | 10935 | TRENCH 96-01     | 1.5                      | Dark brown rusty weathering - pyritic quartz diorite that appears to be chloritized.                                                                                                                                                                       | 257 | 14  | 8.2  | 2   | 36  | 216 | 547  | 2   |
| C 103171                                                            | 12769 | 10900 | TRENCH 96-02     | 1.8                      | Pale tan to rusty limonitic gouge no real fresh bedrock found over this interval                                                                                                                                                                           | 38  | 90  | 0.6  | 2   | 44  | 12  | 43   | 3   |
| C 103172                                                            | 12765 | 10898 | TRENCH 96-02     | 1.8                      | Chloritic green altered quartz feldspar porphyry diorite. Fspars have been altered to clay. Mafics altered to chloritic pyritic disseminations. 2-3% 0.5 by 1-2 mm pyrite grains conc. in shears..                                                         | 106 | 102 | 0.6  | 1   | 70  | 9   | 4    | 2   |
| C 103173                                                            | 12739 | 10893 | TRENCH 96-02     | 1.8                      | Pale tan to rusty limonitic gouge with fragments of clay altered quartz plagioclase porphyry and later banded sucrosic quartz pyrite vein. No real fresh bedrock found over this interval                                                                  | 219 | 56  | 0.8  | 3   | 22  | 37  | 32   | 5   |
| C 103173-a                                                          | 12739 | 10893 | TRENCH 96-02     | 1.8                      | Medium to coarse grained quartz plagioclase porphyritic diorite. Broken hornblende and biotite are chloritically altered. Trace anhedral interstitial orthoclase. 20% quartz to 7 mm porphyroblasts, 65% plagioclase, 10% hornblende. Remainder biotite.   | 23  | 110 | 0.6  | 2   | 52  | 9   | 3    | 2   |
| C 103074                                                            | 12718 | 10890 | TRENCH 96-02     | 1.8                      | Medium to coarse grained quartz plagioclase porphyritic diorite. Euhedral hornblende and biotite are chloritically altered. 2% anhedral interstitial orthoclase. 20% quartz to 7 mm porphyroblasts, 65% plagioclase, 10% hornblende. Remainder biotite.    | 32  | 20  | 0.3  | 1   | 61  | 8   | 5    | 2   |
| C 103075                                                            | 12702 | 10885 | TRENCH 96-02     | 1.8                      | Limonitic Gouge in NNW striking structure. 30 cm width                                                                                                                                                                                                     | 69  | 68  | 0.6  | 34  | 29  | 27  | 116  | 8   |
| C 103076                                                            | 12699 | 10880 | TRENCH 96-02     | 1.8                      | Leucocratic fine grained crowded quartz feldspar porphyry dyke. Rock is 65% quartz. Feldspars as euhedral to interstitial clay altered material. late siliceous fracture with very fine grained disseminated selvages. Rock is a Casino complex intrusive. | 98  | 17  | 1    | 2   | 7   | 23  | 20   | 5   |

MINCORD EXPLORATION CONSULTANTS LTD.

CANADIAN CREEK PROJECT

ROCK SAMPLE DESCRIPTION AND ASSAY RESULTS

|                   |       |            |                          |           |                                                                                                                                                                                                                                                      | ppb                      | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
|-------------------|-------|------------|--------------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-----|-----|-----|-----|-----|-----|-----|
| SAMPLE IDENTIFIER |       | NORTH WEST |                          | SAMPLE    |                                                                                                                                                                                                                                                      | LITHOLOGICAL DESCRIPTION |     |     |     |     |     |     |     |
|                   |       |            | ZONE                     | DEPTH (M) |                                                                                                                                                                                                                                                      | Au                       | Cu  | Ag  | Mo  | Zn  | Pb  | As  | Sb  |
| C 103077          | 12265 | 10800      | TRENCH<br>96-04          | 2.5       | Leucocratic fine grained crowded quartz feldspar porphyry dyke. Rock is 65% quartz. Feldspars as euhedral to interstitial clay altered material. Numerous late quartz pyrite fracture veinlets. Secondary disseminated sericite. Casino intrusive.   | 40                       | 22  | 0.4 | 3   | 6   | 21  | 14  | 3   |
| C 103078          | 12259 | 10800      | TRENCH<br>96-04          | 2.8       | Leucocratic fine grained crowded quartz feldspar porphyry dyke. Rock is 65% quartz. Feldspars as euhedral to interstitial clay altered material. Late quartz pyrite fracture veinlets. Secondary disseminated sericite. Rock is a Casino intrusive.  | 16                       | 16  | 0.3 | 26  | 12  | 12  | 6   | 2   |
| C 103180          | 12253 | 10800      | TRENCH<br>96-04          | 2.8       | Leucocratic fine grained crowded quartz feldspar porphyry dyke. Rock is 50% quartz. Feldspars as euhedral to interstitial clay altered material. Late quartz pyrite fracture veinlets. Secondary disseminated sericite. Rock is a Casino intrusive.  | 49                       | 23  | 0.3 | 4   | 8   | 11  | 12  | 2   |
| C 103181          | 12249 | 10800      | TRENCH<br>96-04          | 3         | Crowded quartz plagioclase orthoclase porphyry quartz monzonite. 40% quartz, 30% plagioclase, and 20% orthoclase and 10% late quartz +/- pyrite veinlets. Feldspars highly clay altered. Casino intrusive.                                           | 6                        | 18  | 0.3 | 2   | 5   | 11  | 2   | 2   |
| C 103182          | 12245 | 10800      | TRENCH<br>96-04          | 3         | Hornblende quartz feldspar porphyry diorite. SEE PETROGRAPHIC DESCRIPTION                                                                                                                                                                            | 10                       | 33  | 0.3 | 3   | 9   | 18  | 4   | 2   |
| C 103183          | 12310 | 10805      | KOFFEE<br>TP 96-1        | 2.5       | Crowded quartz plagioclase orthoclase porphyry quartz monzonite. 30% quartz, 50% plagioclase, and 20% orthoclase. Feldspars moderately clay altered. Numerous crosscutting late brittle quartz sulphide fracture veinlets. Casino intrusive.         | 49                       | 42  | 0.3 | 2   | 16  | 6   | 6   | 3   |
| C 103184          | 12345 | 10810      | KOFFEE<br>TP 96-2        | 2.5       | Propylitically altered quartz diorite? hand sample lost.                                                                                                                                                                                             | 6                        | 75  | 0.3 | 2   | 28  | 8   | 2   | 2   |
| C 103185          | 12401 | 10815      | KOFFEE<br>TP 96-3        | 2.5       | Strongly clay altered leucocratic quartz diorite with random quartz (oxidized) pyrite veins and silicified selvages.                                                                                                                                 | 9                        | 60  | 0.3 | 2   | 28  | 10  | 5   | 2   |
| C 103186          | 12425 | 10820      | KOFFEE<br>TP 96-4        | 3         | Crowded quartz plagioclase orthoclase porphyry quartz monzonite. 60% quartz, 25% plagioclase, 10% orthoclase and 5% secondary sericite. Feldspars clay altered. Minor crosscutting late brittle quartz sulphide fracture veinlets. Casino intrusive. | 47                       | 32  | 0.3 | 5   | 7   | 32  | 82  | 4   |
| C 103187          | 12445 | 10825      | KOFFEE<br>TP 96-5        | 3         | SEE PETROGRAPHIC DESCRIPTION - weak phyllic-argillic altered quartz diorite (Koffee Stock?)                                                                                                                                                          | 33                       | 34  | 0.3 | 200 | 21  | 7   | 5   | 2   |
| C 103188          | 12115 | 10810      | KOFFEE<br>TRENCH<br>96-6 | 2.5       | SEE PETROGRAPHIC DESCRIPTION - Phyllic -argillic altered quartz Monzonite (Casino intrusive)                                                                                                                                                         | 13                       | 276 | 0.3 | 21  | 18  | 12  | 3   | 2   |
| C 103189          | 12115 | 10805      | KOFFEE<br>TRENCH<br>96-6 | 2.5       | no hand sample taken as 103188                                                                                                                                                                                                                       | 12                       | 158 | 0.3 | 50  | 26  | 11  | 2   | 2   |
| TRENCH 96- 6      | 12115 | 10810      | KOFFEE                   | 27        | Dark mottled brown brittle fracturing Kspar? altered hornblende plagioclase porphyry. 45% plagioclase, 35% pink orthoclase as interstitial minerals, 10% fine to coarse hornblende and 10% fine to medium grained quartz. Py and moly on fractures.  |                          |     |     |     |     |     |     |     |
| C 103190          | 12170 | 10840      | KOFFEE<br>TRENCH<br>96-5 | 1.2       | Crowded quartz plagioclase porphyry. 75% quartz, 20% plagioclase, 2% finely disseminated secondary sericite. 2% finely disseminated secondary pyrite. Feldspars strongly clay altered. Casino intrusive.                                             | 6                        | 53  | 0.3 | 116 | 5   | 38  | 56  | 15  |

| MINCORD EXPLORATION CONSULTANTS LTD.<br>CANADIAN CREEK PROJECT<br>ROCK SAMPLE DESCRIPTION AND ASSAY RESULTS |       |       |        |        |                                                                                                                                                                                                                                                 | ppb                                                                                                                                                                                                                                          | ppm | ppm | ppm | ppm  | ppm | ppm | ppm | ppm  |   |
|-------------------------------------------------------------------------------------------------------------|-------|-------|--------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-----|------|-----|-----|-----|------|---|
| SAMPLE IDENTIFIER                                                                                           |       | NORTH | WEST   | ZONE   | SAMPLE DEPTH (M)                                                                                                                                                                                                                                | LITHOLOGICAL DESCRIPTION                                                                                                                                                                                                                     | Au  | Cu  | Ag  | Mo   | Zn  | Pb  | As  | Sb   |   |
| C 103191                                                                                                    | 12165 | 10840 | KOFFEE | 1.2    | SEE PETROGRAPHIC DESCRIPTION ALSO. 20 cm white to tan pyritic quartz vein . Sulphides in fractures.                                                                                                                                             |                                                                                                                                                                                                                                              | 32  | 35  | 0.3 | 2144 | 3   | 23  | 23  | 7    |   |
|                                                                                                             |       |       | TRENCH | 96-5   |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                              |     |     |     |      |     |     |     |      |   |
| C 103192                                                                                                    | 12175 | 10840 | KOFFEE | 1.2    | Irregular fine grained quartz aggregate plagioclase orthoclase porphyry Feldspars are moderately potassically altered. 2% fine grained disseminated pyrite. Numerous late brittle quartz pyrite sericite fracture veinlets Rock is Casino Age.. |                                                                                                                                                                                                                                              | 5   | 29  | 0.3 | 27   | 3   | 12  | 6   | 2    |   |
|                                                                                                             |       |       | TRENCH | 96-5   |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                              |     |     |     |      |     |     |     |      |   |
| C 103193                                                                                                    | 11950 | 10600 | KOFFEE | 2.5    | Irregular fine grained quartz aggregate plagioclase orthoclase porphyry Monzonite. Feldspars are potassically altered. 2% fine grained disseminated pyrite. Numerous late brittle quartz pyrite sericite fracture veinlets Rock is Casino Age.. |                                                                                                                                                                                                                                              | 50  | 117 | 1.3 | 21   | 15  | 19  | 5   | 3    |   |
|                                                                                                             |       |       | TRENCH | 96-7   |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                              |     |     |     |      |     |     |     |      |   |
| C 103194                                                                                                    | 11810 | 10215 | KOFFEE | 0      | Irregular crowded very fine grained flow banded quartz porphyry . Clay altered feldspar matrix. Numerous 0.5 mm late brittle quartz sulphide fracture veins with many orientations..                                                            |                                                                                                                                                                                                                                              | 354 | 45  | 0.3 | 4    | 8   | 9   | 30  | 3    |   |
|                                                                                                             |       |       | FLOAT  |        |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                              |     |     |     |      |     |     |     |      |   |
|                                                                                                             |       |       | SAMPLE |        |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                              |     |     |     |      |     |     |     |      |   |
| C 103195                                                                                                    | 11180 | 10660 | KOFFEE | 0      | Melanocratic very dark grey fine grained plagioclase porphyry diorite. Similar to Patton porphyry in composition and appearance.                                                                                                                |                                                                                                                                                                                                                                              | 13  | 45  | 0.3 | 1    | 48  | 3   | 2   | 2    |   |
|                                                                                                             |       |       | FLOAT  |        |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                              |     |     |     |      |     |     |     |      |   |
| C 103196                                                                                                    | 10920 | 10300 | KOFFEE | 0      | Irregular fine grained quartz aggregate plagioclase orthoclase porphyry Feldspars are moderately potassically altered. 2% fine grained disseminated pyrite. Numerous late brittle quartz pyrite sericite fracture veinlets Rock is Casino Age.. |                                                                                                                                                                                                                                              | 296 | 17  | 0.3 | 2    | 10  | 11  | 7   | 2    |   |
|                                                                                                             |       |       | SOUTH  |        |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                              |     |     |     |      |     |     |     |      |   |
| C 103197                                                                                                    | 10700 | 10350 | KOFFEE | 0      | Aplite dyke no hand sample.                                                                                                                                                                                                                     |                                                                                                                                                                                                                                              | 44  | 14  | 0.8 | 5    | 69  | 84  | 78  | 2    |   |
|                                                                                                             |       |       | SOUTH  |        |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                              |     |     |     |      |     |     |     |      |   |
| C 103198                                                                                                    | 10500 | 10280 | KOFFEE | 0      | Black weathering dacite breccia dyke no hand sample.                                                                                                                                                                                            |                                                                                                                                                                                                                                              | 7   | 6   | 0.3 | 7    | 124 | 29  | 42  | 2    |   |
|                                                                                                             |       |       | SOUTH  |        |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                              |     |     |     |      |     |     |     |      |   |
| TP-96-                                                                                                      | 6     | 12570 | 13000  | KOFFEE | 0.7                                                                                                                                                                                                                                             | Irregular fine grained quartz aggregate plagioclase orthoclase porphyry breccia Feldspars are highly clay altered. Numerous 0.5 mm late brittle quartz sulphide fracture veining. Rock is similar to Casino quartz monzonite 'microbreccia'. |     | 99  | 42  | 0.3  | 3   | 14  | 28  | 8    | 5 |
|                                                                                                             |       |       | float  |        |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                              |     |     |     |      |     |     |     |      |   |
|                                                                                                             |       |       | sample |        |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                              |     |     |     |      |     |     |     |      |   |
| TP-96-                                                                                                      | 7     | 12330 | 13080  | KOFFEE | 0.6                                                                                                                                                                                                                                             | Irregular fine grained quartz aggregate plagioclase orthoclase porphyry. Feldspars are highly clay altered. Numerous 0.5 mm late brittle quartz sulphide fracture veining. Rock is similar to Casino quartz monzonite.                       |     | 18  | 53  | 0.4  | 3   | 7   | 10  | 2    | 2 |
|                                                                                                             |       |       | float  |        |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                              |     |     |     |      |     |     |     |      |   |
|                                                                                                             |       |       | sample |        |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                              |     |     |     |      |     |     |     |      |   |
| TP-96-                                                                                                      | 8     | 12570 | 13000  |        | 0.4                                                                                                                                                                                                                                             | no sample permafrost soil not penetrated.                                                                                                                                                                                                    |     |     |     |      |     |     |     |      |   |
| TRENCH 96-                                                                                                  | 3     | 12500 | 10830  | KOFFEE | 4                                                                                                                                                                                                                                               | Quartz hornblende porphyry diorite 15% broken hornblende laths to 8 mm x 3 mm. 40% loose aggregates of up to 3 mm long quartz porphyroblasts. 40% anhedral plagioclase and 5 % anhedral orthoclase. 5% secondary biotite in hornblende.      | na  | na  | na  | na   | na  | na  | na  | na   |   |
|                                                                                                             |       |       |        |        |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                              |     |     |     |      |     |     |     |      |   |
| TRENCH 96-                                                                                                  | 8-a   | 11700 | 10185  | KOFFEE | 4                                                                                                                                                                                                                                               | Bright orange siliceous limonitic regolith                                                                                                                                                                                                   |     | 132 | 57  | 0.3  | 9   | 160 | 6   | 1014 | 3 |
|                                                                                                             |       |       | EAST   |        |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                              |     |     |     |      |     |     |     |      |   |
| TRENCH 96-                                                                                                  | 8-b   | 11700 | 10185  | KOFFEE | 4.5                                                                                                                                                                                                                                             | Bright orange siliceous limonitic regolith                                                                                                                                                                                                   |     | 47  | 34  | 0.3  | 5   | 143 | 9   | 421  | 6 |
|                                                                                                             |       |       | EAST   |        |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                              |     |     |     |      |     |     |     |      |   |
| TRENCH 96-                                                                                                  | 8-c   | 11700 | 10185  | KOFFEE | 5                                                                                                                                                                                                                                               | Bright orange siliceous limonitic regolith                                                                                                                                                                                                   |     | 24  | 17  | 0.3  | 6   | 100 | 10  | 375  | 2 |
|                                                                                                             |       |       | EAST   |        |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                              |     |     |     |      |     |     |     |      |   |
| TRENCH 96-                                                                                                  | 8-d   | 11700 | 10185  | KOFFEE | 6                                                                                                                                                                                                                                               | Leucocratic round plagioclase porphyritic rock with subhedral quartz. 70% plagioclase, 30% quartz, trace secondary sericite. 5% pyrite in late quartz fracture veinlets.                                                                     |     | 14  | 16  | 0.3  | 4   | 32  | 7   | 102  | 2 |
|                                                                                                             |       |       | EAST   |        |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                              |     |     |     |      |     |     |     |      |   |

MINCORD EXPLORATION CONSULTANTS LTD.  
CANADIAN CREEK PROJECT  
ROCK SAMPLE DESCRIPTION AND ASSAY RESULTS

| CANADIAN CREEK PROJECT<br>ROCK SAMPLE DESCRIPTION AND ASSAY RESULTS |       |       |        |             |                     | ppb                                                                                                                                                                                                                                                        | ppm | ppm | ppm | ppm | ppm | ppm | ppm |    |
|---------------------------------------------------------------------|-------|-------|--------|-------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|----|
| SAMPLE IDENTIFIER                                                   |       | NORTH | WEST   | ZONE        | SAMPLE<br>DEPTH (M) | LITHOLOGICAL DESCRIPTION                                                                                                                                                                                                                                   | Au  | Cu  | Ag  | Mo  | Zn  | Pb  | As  | Sb |
| TRENCH 96- 8-e                                                      | 11700 | 10185 | KOFFEE | EAST        | 6.5                 | Leucocratic round plagioclase porphyritic rock with subhedral quartz. 70% plagioclase, 30% quartz, trace secondary sericite. 5% pyrite in late quartz fracture veinlets.                                                                                   | na  | na  | na  | na  | na  | na  | na  | na |
| TRENCH 96- 9-a                                                      | 11845 | 10430 | KOFFEE | EAST        | 4.5                 | Irregular fine grained quartz aggregate plagioclase orthoclase porphyry breccia Feldspars are highly clay altered. 5 mm late brittle quartz fracture vein with disseminated pyrite in selvage. Hostrock is Casino quartz monzonite 'microbreccia'.         | 21  | 100 | 0.3 | 9   | 32  | 9   | 44  | 8  |
| TRENCH 96- 9-b                                                      | 11845 | 10430 | KOFFEE | EAST        | 5.5                 | Irregular fine grained quartz aggregate plagioclase orthoclase porphyry breccia Feldspars are highly clay altered. 5 mm late brittle quartz fracture veins with disseminated pyrite in selvage. Hostrock is Casino quartz monzonite 'microbreccia'.        | 9   | 215 | 0.4 | 24  | 77  | 13  | 70  | 2  |
| TRENCH 96- 10                                                       | 11890 | 10525 | KOFFEE | SAMPLE<br>1 | 4?                  | Irregular fine grained pyritic quartz aggregate plagioclase orthoclase porphyry breccia? Feldspars are moderately clay altered. Numerous 0.5 mm late brittle quartz sulphide? fracture veining. Rock is similar to Casino quartz monzonite 'microbreccia'. | 11  | 105 | 0.3 | 32  | 22  | 16  | 12  | 2  |
| TRENCH 96- 10                                                       | 11890 | 10525 | KOFFEE | SAMPLE<br>2 | 4?                  | Irregular fine grained pyritic quartz aggregate plagioclase porphyry breccia? Feldspars are moderately clay altered. Numerous 0.5 mm late brittle quartz sulphide? fracture veining. Rock is silicified Casino quartz monzonite 'microbreccia'.            | na  | na  | na  | na  | na  | na  | na  | na |
| TRENCH 96- 11                                                       | 11800 | 10615 | KOFFEE |             | 7                   | deep overburden -no bedrock reached                                                                                                                                                                                                                        | na  | na  | na  | na  | na  | na  | na  | na |
| TRENCH 96- 12-a                                                     | 12470 | 13005 | KOFFEE |             | 2.5                 |                                                                                                                                                                                                                                                            | 120 | 136 | 0.5 | 36  | 50  | 205 | 97  | 4  |
| TRENCH 96- 12-b                                                     | 12465 | 13000 | KOFFEE |             | 2.5                 | Brown and white multiphasic quartz breccia vein > 10 cm wide. Large goethitic boxwork vugs caused by weathered sulphides.                                                                                                                                  | 121 | 309 | 0.3 | 63  | 69  | 23  | 149 | 4  |
| TRENCH 96- 13                                                       |       |       | KOFFEE |             | 2                   | Propylitically altered intrusive no hand sample as 13d                                                                                                                                                                                                     | 4   | 60  | 0.3 | 60  | 76  | 10  | 3   | 2  |
| TRENCH 96- 13-a                                                     | 12310 | 11042 | KOFFEE |             | 2                   | Dark brown friable boxwork quartz vein. @200/65 LHR                                                                                                                                                                                                        | 19  | 36  | 0.3 | 47  | 5   | 3   | 2   | 2  |
| TRENCH 96- 13-b                                                     | 12312 | 11044 | KOFFEE |             | 2                   | as 13d                                                                                                                                                                                                                                                     | 33  | 95  | 0.3 | 19  | 27  | 6   | 3   | 3  |
| TRENCH 96- 13-c                                                     | 12314 | 11046 | KOFFEE |             | 2                   | Dark brown friable boxwork quartz vein. @200/65 LHR                                                                                                                                                                                                        | 42  | 191 | 0.3 | 176 | 30  | 41  | 334 | 4  |
| TRENCH 96- 13-d                                                     | 12316 | 11048 | KOFFEE |             | 2                   | Crowded quartz porphyry. 65% quartz, 25% strongly clay altered interstitial plagioclase. Crosscut by numerous quartz sulphide fracture veinlets. Casino intrusive.                                                                                         | 26  | 34  | 0.3 | 13  | 7   | 14  | 9   | 2  |
| TRENCH 96- 14-a                                                     | 11180 | 10665 | KOFFEE |             | 1.5                 | Red oxidized 3m+ diameter boulder of argillically altered intrusive. no hand sample                                                                                                                                                                        | 7   | 67  | 0.3 | 3   | 35  | 6   | 2   | 2  |
|                                                                     | 14-b  | 11180 | 10665  | KOFFEE      | 2                   | Red oxidized 3m+ diameter boulder of argillically altered intrusive.                                                                                                                                                                                       | 8   | 105 | 0.3 | 7   | 51  | 10  | 6   | 2  |
| TRENCH 96- 15                                                       | 11500 | 8600  | ANA    | WEST        | 4                   | SEE PETROGRAPHIC DESCRIPTION - Strong Phyllic Altered Quartz Diorite                                                                                                                                                                                       | 49  | 45  | 0.3 | 2   | 43  | 7   | 2   | 3  |
| TRENCH 96- 16                                                       | 11500 | 8715  | ANA    | WEST        | 4                   | Strongly to intensely clay altered quartz porphyritic rock. Plagioclase and mafics altered to clays with about 20% relict quartz porphyroblasts. Rock was probably quartz monzonite or diorite.                                                            | 5   | 27  | 0.3 | 3   | 143 | 18  | 387 | 2  |
| TRENCH 96- 17                                                       | 11645 | 8600  | ANA    | WEST        | 4                   | Salt and pepper medium to coarse grained hornblende magnetite plagioclase porphyry dyke 6 % interstitial quartz.                                                                                                                                           | ns  | ns  | ns  | ns  | ns  | ns  | ns  | ns |
| TRENCH 96- 18-a                                                     | 11575 | 8600  | ANA    | WEST        | 4                   | Dark grey green plagioclase hornblende porphyritic dyke. Porphyroblasts are indistinct, comprising 30% of rock. Plagioclase and matrix are moderately clay altered. hornblende is chlorite pyrite altered.                                                 | 16  | 68  | 0.3 | 1   | 85  | 6   | 6   | 2  |
| TRENCH 96- 18-b                                                     | 11575 | 8600  | ANA    | WEST        | 5                   | Tan and white mottled intensely clay altered limonitic gouge.                                                                                                                                                                                              | 8   | 52  | 0.3 | 7   | 55  | 48  | 3   | 2  |

MINCORD EXPLORATION CONSULTANTS LTD.  
CANADIAN CREEK PROJECT  
ROCK SAMPLE DESCRIPTION AND ASSAY RESULTS

| CANADIAN CREEK PROJECT<br>ROCK SAMPLE DESCRIPTION AND ASSAY RESULTS |       |      |            |                     | ppb                                                                                                                                                                                                                                                | ppm  | ppm | ppm  | ppm | ppm | ppm | ppm  |    |
|---------------------------------------------------------------------|-------|------|------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|------|-----|-----|-----|------|----|
| SAMPLE IDENTIFIER                                                   | NORTH | WEST | ZONE       | SAMPLE<br>DEPTH (M) | LITHOLOGICAL DESCRIPTION                                                                                                                                                                                                                           | Au   | Cu  | Ag   | Mo  | Zn  | Pb  | As   | Sb |
| TRENCH 96- 19                                                       | 11300 | 8600 | ANA WEST   | 5                   | Hornblende porphyry diorite? Phyllic altered. no hand sample - frozen grit.                                                                                                                                                                        | 6    | 15  | 0.3  | 2   | 92  | 9   | 34   | 2  |
| TRENCH 96- 20                                                       | 11500 | 8400 | ANA WEST   | 3                   | Quartz hornblende plagioclase porphyry diorite 15% broken chloritized hornblende laths to 8 mm x 3 mm. 30% up to 5 mm long quartz porphyroblasts. 50% subhedral plagioclase and 5% anhedral orthoclase. All feldspars are highly clay altered.     | 9    | 34  | 0.3  | 7   | 38  | 12  | 21   | 2  |
| TRENCH 96- 21                                                       | 11400 | 8400 | ANA WEST   | 5                   | Tan intensely clay altered plagioclase quartz porphyry with quartz sulfide breccia veining in it. quartz as round porphyroblast to 6 mm in diameter.                                                                                               | 15   | 15  | 0.3  | 21  | 33  | 9   | 28   | 2  |
| TRENCH 96- 22                                                       | 11285 | 8400 | ANA WEST   | 5                   | Buff limonitic (clay altered?) crumbly plagioclase, quartz hornblende porphyry quartz monzonite or diorite.                                                                                                                                        | 10   | 23  | 0.3  | 3   | 78  | 7   | 5    | 2  |
| TRENCH 96- 23                                                       | 11170 | 8370 | ANA WEST   | 2.5                 | Quartz hornblende porphyry diorite 15% broken hornblende laths to 8 mm x 3 mm. 20% up to 5 mm long quartz porphyroblasts. 60% anhedral plagioclase and 5% biotite.                                                                                 | ns   | ns  | ns   | ns  | ns  | ns  | ns   | ns |
| TRENCH 96- 24                                                       | 11110 | 8200 | ANA WEST   | 2.5                 | Intensely chloritically altered homolitic breccia. Highly weathered disseminated pyrite and locally strong quartz sulphide stockwork. No preferred orientation. Stockwork totally oxidized. Rock thaws to crumbly clay rich material.              | 57   | 101 | 0.3  | 2   | 23  | 7   | 5    | 2  |
| TRENCH 96- 25                                                       | 11040 | 8160 | ANA WEST   | 1.5                 | Float only of intensely clay altered rock with strong quartz tourmaline sulphide breccia. ALSO SEE PETROGRAPHIC DESCRIPTION                                                                                                                        | 1397 | 353 | 17.4 | 9   | 137 | 9   | 134  | 2  |
| TRENCH 96- 26                                                       | 11200 | 8200 | ANA WEST   |                     | SEE PETROGRAPHIC DESCRIPTION - Hornblende biotite quartz diorite - strong propylitic alteration.                                                                                                                                                   | 189  | 111 | 0.3  | 2   | 25  | 319 | 2303 | 21 |
| TRENCH 96- 27-a                                                     | 11292 | 8195 | ANA WEST   | 3                   | Brown to tan coarse grained silicified argillically altered plagioclase quartz porphyry homolitic intrusive breccia. 70 % subhedral plagioclase 15 % euhedral quartz aggregates and 10% relict chloritized hornblende. Highly variable grain size. | 59   | 114 | 0.4  | 6   | 18  | 19  | 72   | 2  |
| TRENCH 96- 27-b                                                     | 11292 | 8195 | ANA WEST   | 4                   | Brown oxidized altered quartz Monzonite?                                                                                                                                                                                                           | 95   | 86  | 0.3  | 4   | 25  | 14  | 13   | 2  |
| TRENCH 96- 28                                                       | 11365 | 8200 | ANA WEST   | 3.5                 | (Rhyolitic) Heterolitic breccia dyke (.4 m thick 030/80) intruding grey crowded quartz feldspar biotite porphyry. minor sulphide stockwork veining. ALSO SEE PETROGRAPHIC DESCRIPTION                                                              | 142  | 310 | 1.4  | 8   | 75  | 13  | 3    | 2  |
| TRENCH 96- 29                                                       | 11480 | 8000 | ANA CENTER | 1                   | Buff fine to medium grained plagioclase quartz porphyry. 50% 5 mm plagioclase, 25% highly variable quartz, 15 % interstitial orthoclase, and 10% strongly chloritized hornblende. Trace pyrite associated with mafics.                             | ns   | ns  | ns   | ns  | ns  | ns  | ns   | ns |
| TRENCH 96- 30                                                       | 11400 | 8000 | ANA CENTER | 1.5                 | Dark red-brown crowded medium grained plagioclase porphyry. Two plages one stained red. Rock has been silicified and strongly clay altered with aphanitic sericite interstitial coatings.                                                          | 9    | 30  | 0.3  | 2   | 44  | 11  | 43   | 2  |
| TRENCH 96- 31-a                                                     | 11343 | 8000 | ANA CENTER | 1.2                 | Dark brown frozen crumbly 'Casino quartz monzonite' float only. no hand specimen.                                                                                                                                                                  | 5    | 35  | 0.3  | 2   | 72  | 14  | 6    | 2  |
| TRENCH 96- 31-b                                                     | 11347 | 8000 | ANA CENTER | 1.2                 | Black fine grained sulphide breccia dike frozen crumbly float or subcrop. no hand specimen.                                                                                                                                                        | 4    | 29  | 0.3  | 2   | 120 | 8   | 2    | 2  |
| TRENCH 96- 31-c                                                     | 11350 | 8000 | ANA CENTER | 1.2                 | Bleached tan intensely clay altered intrusive with siliceous tourmaline breccia. Float or subcrop only. no hand specimen.                                                                                                                          | 8    | 21  | 0.3  | 2   | 19  | 13  | 7    | 2  |
| TRENCH 96- 32                                                       | 10955 | 8005 | ANA CENTER | 2                   | Grey crowded quartz hornblende porphyry. 35% irregular aggregates of quartz, 30% clay altered plagioclase, 20% interstitial orthoclase, and 10% chloritized hornblende, and 5% chloritized biotite.                                                | ns   | ns  | ns   | ns  | ns  | ns  | ns   | ns |

MINCORD EXPLORATION CONSULTANTS LTD.

CANADIAN CREEK PROJECT

ROCK SAMPLE DESCRIPTION AND ASSAY RESULTS

| SAMPLE IDENTIFIER NORTH WEST ZONE |       |      |            |     | SAMPLE DEPTH (M)                                                                                                                                                                                                                                       | LITHOLOGICAL DESCRIPTION | Au | Cu  | Ag | Mo  | Zn  | Pb  | As  | Sb |
|-----------------------------------|-------|------|------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|----|-----|----|-----|-----|-----|-----|----|
| TRENCH 96- 33                     | 11250 | 8100 | ANA CENTER | 1.5 | Pale tan crowded plagioclase quartz porphyry. 60% anhedral plagioclase and 35% subhedral quartz aggregates crosscut by quartz tourmaline pyrite veins. Moderately clay altered plagioclase. Trace sericite.                                            | 8                        | 21 | 0.4 | 2  | 17  | 18  | 25  | 0.2 |    |
| TRENCH 96- 34                     | 11250 | 8050 | ANA CENTER | 1.5 | Tan coarse grained silicified argillically altered plagioclase quartz hornblende porphyry homolithic intrusive breccia. 55 % subhedral plagioclase 35 % euhedral quartz aggregates and 10% relict chloritized hornblende. Highly variable grain size.  | 8                        | 9  | 0.4 | 3  | 32  | 19  | 25  | 0.2 |    |
| TRENCH 96- 35                     | 11200 | 8050 | ANA CENTER | 1.2 | Float only of hydrothermal quartz tourmaline breccia float with highly argillically altered quartz monzonite breccia fragments. Cockscomb quartz crystals to 8 mm long in open vugs. frozen subsoil.                                                   | ns                       | ns | ns  | ns | ns  | ns  | ns  | ns  |    |
| TRENCH 96- 36                     | 10840 | 8470 | ANA WEST   | 2.5 | Brown crumbly propylitically altered hornblende feldspar porphyry. No hand specimen taken                                                                                                                                                              | 1                        | 11 | 0.3 | 1  | 165 | 8   | 37  | 2   |    |
| TRENCH 96- 37-a                   | 10810 | 8450 | ANA WEST   | 2   | dark grey weathering argillically altered and weakly silicified quartz monzonite intrusive. Numerous black quartz Tourmaline? fracture sheet veinlets @040/25                                                                                          | 1                        | 13 | 0.3 | 2  | 232 | 18  | 93  | 2   |    |
| TRENCH 96- 37-b                   | 10807 | 8452 | ANA WEST   | 2   | Dark brown medium grain crowded plagioclase quartz hornblende porphyry diorite. 60% Plagioclase, 35% quartz and 15 % chloritized hornblende. Rock is weakly silicified with strong clay altered feldspars.                                             | 2                        | 19 | 1.1 | 2  | 450 | 219 | 451 | 4   |    |
| TRENCH 96- 38                     | 11050 | 8520 | ANA WEST   | 6   | SEE PETROGRAPHIC DESCRIPTION. Hornblende quartz diorite - strong propylitic alteration.                                                                                                                                                                | ns                       | ns | ns  | ns | ns  | ns  | ns  | ns  |    |
| TRENCH 96- 39                     | 11150 | 8200 | ANA WEST   | 2.5 | Float or subcrop of quartz porphyry intrusive with weak chlorite, epidote with trace pyrite. No hand or assay sample taken.                                                                                                                            | ns                       | ns | ns  | ns | ns  | ns  | ns  | ns  |    |
| TRENCH 96- 40                     | 11200 | 8100 | ANA CENTER | 2.5 | Grey crowded quartz hornblende porphyry. 25% irregular aggregates of quartz, 35% clay altered plagioclase, 25% interstitial orthoclase, and 10% chloritized hornblende, and 5% chloritized biotite.                                                    | 15                       | 22 | 0.3 | 2  | 67  | 5   | 21  | 4   |    |
| TRENCH 96- 41                     | 11200 | 8060 | ANA CENTER | 1.2 | Tan and white limonitic gouge float no bedrock reached at 6.5 m depth, no sample taken.                                                                                                                                                                | ns                       | ns | ns  | ns | ns  | ns  | ns  | ns  |    |
| TRENCH 96- 42-a                   | 11205 | 8136 | ANA CENTER | 1.5 | Crowded quartz hornblende porphyry with hydrothermal tourmalinized and pyritized hornblende. Rock is highly silicified. 65% quartz, 15% hornblende, 15% plagioclase, 5% interstitial orthoclase. 12% tourmaline and 3% pyrite replacing hornblende.    | 16                       | 29 | 0.3 | 4  | 28  | 17  | 3   | 2   |    |
| TRENCH 96- 42-b                   | 11205 | 8140 | ANA CENTER | 1.5 | Plagioclase quartz hornblende porphyry with hydrothermal tourmalinized and pyritized hornblende. Rock is strongly clay alt. 40% plagioclase, 20% quartz, 10% hornblende 20% interstitial orthoclase. 9% tourmaline and 1% pyrite replacing hornblende. | 18                       | 44 | 0.4 | 3  | 49  | 24  | 8   | 2   |    |
| TRENCH 96- 42-c                   | 11205 | 8145 | ANA CENTER | 1.5 | Tan strongly silicified and potassic altered quartz porphyry. complete clayey potassium flooding of feldspathic minerals. Numerous limonitic hairline fractures.                                                                                       | 8                        | 22 | 0.3 | 2  | 30  | 33  | 55  | 3   |    |
| TRENCH 96- 43-a                   | 11231 | 8140 | ANA CENTER | 1.5 | Hornblende porphyritic granodiorite. strong chlorite pyrite propylitic alteration. SEE PETROGRAPHIC DESCRIPTION                                                                                                                                        | 10                       | 34 | 0.3 | 2  | 62  | 17  | 13  | 2   |    |
| TRENCH 96- 43-b                   | 11213 | 8140 | ANA CENTER | 1.5 | Strong argillic altered crowded quartz feldspar porphyry. thaws to quartz grains in a limonitic gumbo.                                                                                                                                                 | 74                       | 39 | 0.3 | 3  | 44  | 14  | 21  | 2   |    |
| TRENCH 96- 43-c                   | 11208 | 8140 | ANA CENTER | 1.5 | quartz sericite altered 'phylic' crowded quartz feldspar porphyry. thaws to clay gumbo.                                                                                                                                                                | 8                        | 21 | 0.3 | 3  | 33  | 10  | 6   | 2   |    |

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CANADIAN CREEK PROJECT  
ROCK SAMPLE DESCRIPTION AND ASSAY RESULTS

| CANADIAN CREEK PROJECT<br>ROCK SAMPLE DESCRIPTION AND ASSAY RESULTS |       |      |            |                  |                                                                                                                                                                                                                                         | ppb | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
|---------------------------------------------------------------------|-------|------|------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| SAMPLE IDENTIFIER                                                   | NORTH | WEST | ZONE       | SAMPLE DEPTH (M) | LITHOLOGICAL DESCRIPTION                                                                                                                                                                                                                | Au  | Cu  | Ag  | Mo  | Zn  | Pb  | As  | Sb  |
| TRENCH 96 44-a                                                      | 11157 | 7830 | ANA CENTER | 1.2              | Tan altered feldspar quartz porphyry weakly silicified with 2-4% very finely disseminated sulphides. Siliceous matrix with potassic clay altered interstitia. SEE PETROGRAPHIC DESCRIPTION                                              | 181 | 17  | 2.2 | 3   | 8   | 51  | 29  | 3   |
| TRENCH 96 44-b                                                      | 11170 | 7830 | ANA CENTER | 1.2              | Tan altered quartz feldspar porphyry. Strongly silicified with late quartz tourmaline breccia veining. Trace sulphides. Potassic clay altered matrix.                                                                                   | 22  | 8   | 0.3 | 3   | 3   | 14  | 37  | 2   |
| TRENCH 96 44-c                                                      | 11186 | 7830 | ANA CENTER | 1.2              | Tan altered feldspar quartz porphyry intrusion breccia weakly silicified with 2-4% very finely disseminated sulphides. Siliceous matrix with potassic clay altered interstitia.                                                         | 10  | 22  | 0.3 | 3   | 27  | 12  | 16  | 2   |
| TRENCH 96 44-d                                                      | 11198 | 7830 | ANA CENTER | 1.2              | Tan altered feldspar quartz porphyry intrusion breccia weakly silicified with 2-4% very finely disseminated sulphides. Siliceous matrix with potassic clay altered interstitia. wow wow                                                 | 27  | 20  | 0.3 | 2   | 19  | 18  | 24  | 2   |
| TRENCH 96 44-e                                                      | 11210 | 7830 | ANA CENTER | 1.2              | as 44 d                                                                                                                                                                                                                                 | 48  | 22  | 0.3 | 3   | 6   | 11  | 12  | 2   |
| TRENCH 96 44-f                                                      | 11220 | 7830 | ANA CENTER | 1.2              | Tan altered feldspar quartz porphyry intrusion breccia weakly silicified with 2-4% very finely disseminated sulphides. Random quartz pyrite fracture veining. Siliceous matrix with potassic clay altered interstitia.                  | 46  | 40  | 0.3 | 2   | 14  | 9   | 21  | 2   |
| TRENCH 96 44-g                                                      | 11246 | 7830 | ANA CENTER | 1.2              | as 44f                                                                                                                                                                                                                                  | 203 | 25  | 0.3 | 3   | 6   | 8   | 25  | 2   |
| TRENCH 96 44-h                                                      | 11248 | 7830 | ANA CENTER | 1.2              | Dark brown plagioclase quartz hornblende porphyry monzonite? Rock is weakly clay altered with crumbly grain boundaries and chloritic altered biotite.                                                                                   | 28  | 88  | 0.3 | 1   | 47  | 10  | 8   | 2   |
| TRENCH 96 44-i                                                      | 11258 | 7830 | ANA CENTER | 1.2              | Tan altered quartz feldspar porphyry diorite. Strongly silicified with late quartz tourmaline breccia veining. Trace sulphides. Potassic clay altered matrix. SEE PETROGRAPHIC DESCRIPTION. (argillic -phylic alteration)               | 200 | 15  | 0.3 | 4   | 4   | 8   | 7   | 2   |
| TRENCH 96 45                                                        | 11140 | 7965 | ANA CENTER | 2                | Medium grained quartz plagioclase porphyritic diorite. 10% broken hornblende and 5% biotite are chloritically altered. 4% anhedral interstitial orthoclase. 30% quartz to 7 mm porphyroblasts, 55% plagioclase. 3% disseminated pyrite. | 21  | 17  | 0.5 | 2   | 69  | 15  | 32  | 2   |
| TRENCH 96- 46                                                       | 11175 | 7950 | ANA CENTER | 2                | SEE PETROGRAPHIC DESCRIPTION - quartz diorite strong potassic phyllic alteration.                                                                                                                                                       | 103 | 13  | 0.4 | 3   | 8   | 8   | 58  | 2   |
| TRENCH 96- 47                                                       | 11210 | 7950 | ANA CENTER | 2                | Hydrothermal quartz tourmaline breccia float with highly argillically altered and silicified quartz porphyry intrusive breccia fragments. Open vugs with fine to medium cockscomb quartz and up to 7% fine to medium euhedral pyrite    | 23  | 9   | 0.3 | 4   | 5   | 15  | 18  | 2   |
| TRENCH 96- 48                                                       | 11250 | 7900 | ANA CENTER | 2                | No bedrock reached at 2 m. Float of 'microbreccia' and tourmaline stockwork vein-breccia.                                                                                                                                               | 149 | 12  | 0.8 | 8   | 5   | 11  | 63  | 2   |
| TRENCH 96- 49                                                       | 11190 | 7910 | ANA CENTER | 2                | No bedrock reached at 2 m. Float of 'microbreccia'.                                                                                                                                                                                     | 18  | 11  | 0.3 | 2   | 4   | 16  | 3   | 2   |
| TRENCH 96- 50                                                       | 11310 | 7900 | ANA CENTER | 1                | No bedrock reached at 1.5 m. Float of 'microbreccia', Casino quartz monzonite, and red-brown altered Dawson Range granodiorite. Grab of all lithologies.                                                                                | 48  | 116 | 0.3 | 3   | 38  | 10  | 16  | 2   |
| TRENCH 96- 50-a                                                     | 11310 | 7900 | ANA CENTER | 1                | sample of Casino 'Microbreccia'                                                                                                                                                                                                         | 26  | 33  | 0.3 | 2   | 74  | 22  | 19  | 2   |

MINCORD EXPLORATION CONSULTANTS LTD.  
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|                   |       |      |            |                  |                                                                                                                                                                                                                                   | ppb  | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
|-------------------|-------|------|------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|-----|-----|-----|-----|-----|-----|
| SAMPLE IDENTIFIER | NORTH | WEST | ZONE       | SAMPLE DEPTH (M) | LITHOLOGICAL DESCRIPTION                                                                                                                                                                                                          | Au   | Cu  | Ag  | Mo  | Zn  | Pb  | As  | Sb  |
| TRENCH 96- 51     | 11150 | 7740 | ANA CENTER | 1.5              | No bedrock reached at 1.5 m. Float of 'microbreccia'.                                                                                                                                                                             | 152  | 17  | 1.4 | 2   | 5   | 25  | 16  | 2   |
| TRENCH 96- 52     | 11080 | 7730 | ANA CENTER | 2.5              | Tan Limonitic fault gouge at 1.7 m. 145 deg. structure.                                                                                                                                                                           | 97   | 52  | 0.3 | 1   | 70  | 9   | 39  | 2   |
| TRENCH 96- 53     | 11200 | 7750 | ANA CENTER | 2                | Crowded quartz plagioclase orthoclase porphyry quartz monzonite. 30% quartz, 40% plagioclase, and 25% orthoclase. Feldspars strongly clay altered. Numerous crosscutting late brittle quartz tourmaline pyrite fracture veinlets. | 20   | 12  | 0.9 | 2   | 5   | 13  | 13  | 3   |
| TRENCH 96- 54     | 11200 | 7700 | ANA CENTER | 1.5              | No bedrock reached at 1.5 m. Float of yellow 'microbreccia' and tourmaline stockwork vein-breccia.                                                                                                                                | 85   | 15  | 0.3 | 4   | 6   | 17  | 58  | 3   |
| TRENCH 96- 55     | 11150 | 7650 | ANA CENTER | 2                | Very pale tan very fine grained quartz porphyry dyke. 35% 1 mm quartz porphyroblasts in a white very fine grained clay altered feldspathic groundmass. secondary silicification and 0.5-2 mm quartz veinlets.                     | 20   | 11  | 0.3 | 2   | 4   | 8   | 10  | 2   |
| TRENCH 96- 56     | 11200 | 7600 | ANA CENTER | 2                | Tan and black hornblende porphyry monzonite? 50 % plagioclase ankeritic? altered to a homogenous tan colour, 20% orthoclase? stained to an amorphous pink. 20% chloritized hornblende. 10% fine grained chloritized biotite.      | 30   | 40  | 0.3 | 1   | 59  | 7   | 5   | 2   |
| TRENCH 96- 57-a   | 11155 | 7600 | ANA CENTER | 0                | altered hornblende porphyry intrusive hosting limonitic fault and vein gouge. fault sample only.                                                                                                                                  | 269  | 57  | 2   | 2   | 24  | 54  | 194 | 2   |
| 57-b              | 11155 | 7600 | ANA CENTER | 2                | Altered Hornblende porphyry intrusive.                                                                                                                                                                                            | 32   | 53  | 0.4 | 2   | 64  | 11  | 20  | 2   |
| TRENCH 96- 58     | 11040 | 7650 | ANA CENTER | 1                | No sample taken hornblende biotite granodiorite float in trench. depth 1 M.                                                                                                                                                       | ns   | ns  | ns  | ns  | ns  | ns  | ns  | ns  |
| TRENCH 96- 59-a   | 11065 | 7660 | ANA CENTER | 2.5              | Argillically altered Hornblende biotite porphyritic quartz monzonite? 2 meters thick.                                                                                                                                             | 28   | 99  | 0.5 | 1   | 60  | 19  | 11  | 4   |
| TRENCH 96- 59-b   | 11070 | 7665 | ANA CENTER | 2.5              | Tan clay gouge with quartz tourmaline breccia veining. crumbly. No specimen taken. 1 meter thick.                                                                                                                                 | 119  | 69  | 0.9 | 2   | 59  | 87  | 70  | 3   |
| TRENCH 96- 59-c   | 11075 | 7670 | ANA CENTER | 3                | Tan to locally cream limonitic gouge zone. strike 148/90. 6 meters thick.                                                                                                                                                         | 1340 | 87  | 0.9 | 1   | 79  | 23  | 62  | 2   |
| TRENCH 96- 59-d   | 11080 | 7675 | ANA CENTER | 2.5              | SEE PETROGRAPHIC DESCRIPTION - quartz diorite - moderate argillic-phyllitic alteration secondary pyrite common.                                                                                                                   | 332  | 91  | 1.8 | 1   | 27  | 24  | 50  | 2   |
| TRENCH 96- 60     | 11095 | 7600 | ANA CENTER |                  | No bedrock reached. Float sample at 1.5 m of propylitic altered hornblende granodiorite.                                                                                                                                          | ns   | ns  | ns  | ns  | ns  | ns  | ns  | ns  |
| TRENCH 96- 61     | 11093 | 7545 | ANA CENTER |                  | Medium grained silicified plagioclase porphyritic diorite. 10% broken hornblende and 5% biotite are strongly chloritically altered. , 66% plagioclase 10% quartz. 4% interstitial sericite 3% vein pyrite. 2% tourmaline veining. | 44   | 46  | 0.3 | 1   | 67  | 17  | 2   | 2   |
| TRENCH 96- 62     | 11095 | 7500 | ANA CENTER |                  | Medium to coarse grained quartz plagioclase porphyritic diorite. Hornblende and biotite are chloritically altered. 4% orthoclase. 25% quartz to 7 mm porphyroblasts, 55% plagioclase, 10% hornblende, 3% vein pyrite.             | 27   | 92  | 0.5 | 1   | 53  | 10  | 8   | 2   |
| TRENCH 96- 63-a   | 11078 | 7451 | ANA CENTER |                  | Medium to coarse grained quartz plagioclase porphyritic diorite. Hornblende and biotite are chloritically altered. 4% orthoclase. 25% quartz to 7 mm porphyroblasts, 55% plagioclase, 10% hornblende, 3% vein pyrite.             | 16   | 104 | 0.5 | 2   | 72  | 9   | 42  | 3   |

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| CANADIAN CREEK PROJECT<br>ROCK SAMPLE DESCRIPTION AND ASSAY RESULTS |            |                 |                  |                                                                                                                                                                                                                                                    | ppb | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
|---------------------------------------------------------------------|------------|-----------------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| SAMPLE IDENTIFIER                                                   | NORTH WEST | ZONE            | SAMPLE DEPTH (M) | LITHOLOGICAL DESCRIPTION                                                                                                                                                                                                                           | Au  | Cu  | Ag  | Mo  | Zn  | Pb  | As  | Sb  |     |
| TRENCH 96- 63-b                                                     | 11072      | 7458 ANA CENTER |                  | Medium to coarse grained quartz plagioclase porphyritic diorite. Hornblende and biotite are chloritically altered. 50% plagioclase, 35% quartz, 7% hornblende and 5% anhedral interstitial orthoclase. Feldspars strongly clay altered.            | 46  | 83  | 0.3 | 1   | 46  | 12  | 64  | 2   |     |
| TRENCH 96- 63-c                                                     | 11065      | 7465 ANA CENTER |                  | Patton Porphyry dyke. Pale grey weakly mottled with cloudy plagioclase porphyroblasts in a gray flow banded feldspathic groundmass.                                                                                                                | 48  | 62  | 0.4 | 3   | 58  | 15  | 67  | 2   |     |
| TRENCH 96- 63-d                                                     | 11060      | 7470 ANA CENTER |                  | White and green mottled coarse grained plagioclase hornblende porphyry 'Patton Porphyry'. Rock has been altered with interstitial sericite? veining, and tourmaline-pyrite alteration of hornblende. 70% plag, 25% mafics. 5% alteration minerals. | 15  | 47  | 0.3 | 2   | 57  | 12  | 11  | 2   |     |
| TRENCH 96- 64                                                       | 11095      | 7400 ANA CENTER | 2.5              | White and green mottled coarse grained plagioclase hornblende porphyry 'Patton Porphyry'. Rock has been altered with interstitial sericite? veining, and tourmaline-pyrite alteration of hornblende. 70% plag, 25% mafics. 5% alteration minerals. | 118 | 132 | 0.6 | 1   | 58  | 15  | 42  | 2   |     |
| TRENCH 96- 65                                                       | 12600      | 6620 EAST ANA   | 2                | tan foliated biotite feldspar dioritic gneiss of the Yukon Metamorphic complex float. No bedrock. no sample taken.                                                                                                                                 | ns  | ns  | ns  | ns  | ns  | ns  | ns  | ns  |     |
| TRENCH 96- 66                                                       | 12530      | 6680 EAST ANA   | 3.5              | Tan intensely clay altered very fine grained felsic rock. well oxidized. No hand sample.                                                                                                                                                           | 9   | 45  | 0.3 | 1   | 32  | 138 | 42  | 2   |     |
| TRENCH 96- 67                                                       | 12430      | 6720 EAST ANA   | 2.5              | pale tan intensely altered schist. sericitic. with hematitic weathered stockwork veining. no hand sample.                                                                                                                                          | 39  | 22  | 0.3 | 1   | 6   | 7   | 2   | 2   |     |
| TRENCH 96- 68                                                       | 12180      | 6500 EAST ANA   | 3.5              | Dark green glacial pebble till. Several rounded altered and mineralized schist and 'Casino' intrusive rocks observed. no hand or assay sample taken.                                                                                               | ns  | ns  | ns  | ns  | ns  | ns  | ns  | ns  |     |
| TRENCH 96- 69                                                       | 11850      | 6500 EAST ANA   | 6.5              | Crowded hornblende feldspar porphyry granodiorite? Fresh unaltered.                                                                                                                                                                                | ns  | ns  | ns  | ns  | ns  | ns  | ns  | ns  |     |
| TRENCH 96- 70-a                                                     | 11800      | 6540 EAST ANA   | 3                | pale tan intensely altered schist. sericitic. with hematitic weathered stockwork veining. No hand sample.                                                                                                                                          | 34  | 97  | 0.3 | 15  | 18  | 7   | 5   | 2   |     |
| TRENCH 96- 70-b                                                     | 11800      | 6540 EAST ANA   | 3                | Coarse grained biotite porphyry dyke. moderate argillic alteration. This intrusive not observed elsewhere                                                                                                                                          | 31  | 231 | 0.3 | 14  | 47  | 3   | 2   | 2   |     |
| TRENCH 96- 71                                                       | 12140      | 6670 EAST ANA   | 2.5              | Dark green glacial pebble till. Several rounded altered and mineralized schist and 'Casino' intrusive rocks observed. no hand samples taken. Analytical sample is representative of material in trench.                                            | 17  | 25  | 0.3 | 4   | 17  | 7   | 14  | 2   |     |
| TRENCH 96- 72                                                       | 12180      | 6750 EAST ANA   | 2.7              | Dark green glacial pebble till. Several rounded altered and mineralized schist and 'Casino' intrusive rocks observed. no hand samples taken. Analytical sample is representative of material in trench.                                            | 5   | 10  | 0.3 | 3   | 4   | 5   | 3   | 5   |     |
| TRENCH 96- 73                                                       | 12210      | 6950 EAST ANA   | 6                | Deep overburden. Yukon metamorphic schist float only.                                                                                                                                                                                              | ns  | ns  | ns  | ns  | ns  | ns  | ns  | ns  |     |
| TRENCH 96- 74                                                       | 11850      | 7160 EAST ANA   | 7                | Dark tan oxidized pyritic stockwork float and subcrop? highly variable alteration of float including quart tourmaline breccia samples. Sample of pyritic stockwork intrusive subcrop and float.                                                    | 19  | 254 | 0.3 | 25  | 23  | 7   | 5   | 2   |     |
| TRENCH 96- 75                                                       | 11800      | 7210 EAST ANA   | 3                | Hornblende biotite plagioclase porphyritic granodiorite. fresh and unaltered.                                                                                                                                                                      | ns  | ns  | ns  | ns  | ns  | ns  | ns  | ns  |     |
| TRENCH 96- 76                                                       | 12200      | 7100 EAST ANA   | 6                | Bleached and altered schist of the Yukon Metamorphic complex. subcrop only. no hand sample taken.                                                                                                                                                  | 12  | 12  | 0.3 | 3   | 3   | 3   | 3   | 2   |     |

## APPENDIX 2



# Vancouver Petrographics Ltd.

8080 GLOVER ROAD, LANGLEY, B.C. V3A 4P9  
PHONE (604) 888-1323 • FAX (604) 888-3642

Report # 960558 for:

**Bill Morton,  
Eastfield Resources Ltd.,  
110 - 325 Howe Street,  
Vancouver, B.C., V6C 1Z7**

**September 1996**

**Project: Canadian Creek**

**Samples: BM-96-002, -006**

## **Summary:**

**Sample BM-96-002** is a medium grained, leucocratic granodiorite in which plagioclase was altered strongly to sericite/muscovite and less abundant quartz, biotite was replaced completely by muscovite/sericite-rutile, and K-feldspar was replaced slightly to moderately by jarosite. A few replacement patches are of extremely fine grained K-feldspar-(quartz-sericite). Jarosite forms a few replacement patches, in part pseudomorphic after pyrite and in part representing transported iron.

**Sample BM-96-006** is a medium grained quartz diorite dominated by plagioclase and quartz with much less abundant biotite and hornblende and minor apatite. Plagioclase was altered moderately to extremely fine to very fine grained sericite/muscovite. Biotite was replaced completely by muscovite-sericite-leucoxene, and hornblende was replaced completely by sericite-leucoxene-limonite. A few seams are of sericite-hematite/limonite.

**John G. Payne, PhD.,  
Tel: (604)-986-2928  
Fax: (604)-983-3318**

**Sample BM-96-006 Biotite-Hornblende Quartz Diorite:**  
**Moderate to Strong Sericite/Muscovite-Leucoxene-Limonite Alteration;**  
**Seams of Sericite-Limonite**

The sample is a medium grained quartz diorite dominated by plagioclase and quartz with much less abundant biotite and hornblende and minor apatite. Plagioclase was altered moderately to extremely fine to very fine grained sericite/muscovite. Biotite was replaced completely by muscovite-sericite-leucoxene, and hornblende was replaced completely by sericite-leucoxene-limonite. A few seams are of sericite-hematite/limonite.

|                            |        |          |       |
|----------------------------|--------|----------|-------|
| plagioclase                | 60-65% | apatite  | minor |
| quartz                     | 20-25  | limonite | 0.5   |
| biotite                    | 4- 5   | cavities | 3- 4  |
| hornblende                 | 3- 4   |          |       |
| <b>seams</b>               |        |          |       |
| sericite-hematite/limonite |        |          |       |

Plagioclase forms anhedral to subhedral, equant grains averaging 0.5-1 mm in size, and a few up to 2.5 mm long. Alteration is variable. Some grains are relatively fresh, with moderately abundant dusty hematite. Others are replaced strongly to completely by unoriented aggregates of sericite/muscovite averaging 0.02-0.05 mm in grain size. Some grains contain minor to moderately abundant patches up to 0.25 mm across of radiating to subradiating muscovite flakes. Some contain lenses of cryptocrystalline limonite/hematite parallel to the c-axis.

Quartz forms disseminated grains averaging 0.05-0.1 mm in size. It is concentrated in a few patches up to a few mm across as coarser grains up to 2 mm in size. Many coarser grains are strained moderately. A few patches up to 1.5 mm in size are of very fine grained aggregates of quartz and much less abundant sericite and limonite.

Biotite forms flakes averaging 1-2 mm in size, and one 2.5 mm across. It is replaced completely by pseudomorphic aggregates of muscovite and patches of cryptocrystalline, unoriented, sericite, with moderately abundant patches and lenses up to 0.2 mm long of leucoxene oriented moderately to strongly parallel to original biotite cleavage. A few equant grains averaging 0.015-0.02 mm in size occur in quartz patches, and were protected from alteration; these are pleochroic from light to medium brown or from light to medium brownish green.

Hornblende forms a few anhedral patches averaging 1-2 mm in length and one 3 mm across. It is replaced completely by unoriented, extremely fine grained to cryptocrystalline flakes of sericite and moderately abundant patches of leucoxene/limonite. Some grains contain minor to moderately abundant apatite grains averaging 0.01-0.05 mm in size; these represent inclusions in the original igneous rock.

Apatite forms subhedral to anhedral grains averaging 0.012-0.07 mm in size, mainly associated with hornblende; these grains were formed early in the magmatic history.

Limonite forms a few wispy veinlets up to 0.03 mm in width. It also forms a pale to medium yellow stain in some patches of sericite.

The rock contains moderately abundant cavities, mainly in altered plagioclase, where sericite and/or clay and limonite were removed from the rock, during weathering and sample preparation.

A few seams up to 0.15 mm wide are of cryptocrystalline sericite with patches and lenses of hematite/limonite.

**Sample BM-96-002 Leucocratic Granodiorite: Sericite-Muscovite-Quartz Alteration;  
Minor K-feldspar-(Quartz) Replacement**

The sample is a medium grained, leucocratic granodiorite in which plagioclase was altered strongly to sericite/muscovite and less abundant quartz, biotite was replaced completely by muscovite/sericite-rutile, and K-feldspar was replaced slightly to moderately by jarosite. A few replacement patches are of extremely fine grained K-feldspar-(quartz-sericite). Jarosite forms a few replacement patches, in part pseudomorphic after pyrite and in part representing transported iron.

|             |        |           |       |
|-------------|--------|-----------|-------|
| plagioclase | 50-55% | leucoxene | minor |
| quartz      | 20-25  | rutile    | minor |
| K-feldspar  | 10-12  | zircon    | trace |
| biotite     | 1      |           |       |

**replacement patches**

|                              |      |
|------------------------------|------|
| K-feldspar-(quartz-sericite) | 1- 2 |
| jarosite                     | 1- 2 |

Plagioclase forms anhedral grains averaging 0.3-1 mm in size, and a few from 2-3 mm across. Alteration is strong to complete. Many grains are replaced strongly to completely by extremely fine grained sericite/ muscovite. Some are replaced by extremely fine grained sericite and irregular patches of very fine to extremely fine grained quartz. A few contain patches up to 1 mm in size of cryptocrystalline to extremely fine grained kaolinite-(limonite). In others, much smaller patches of kaolinite-(limonite) are intergrown with patches of sericite. Some contain minor to moderately abundant patches of cryptocrystalline jarosite/limonite.

Quartz forms patches up to a few mm across of moderately strained grains averaging 0.3-1 mm in size, with a few grains up to 2 mm across. Several patches up to 1.2 mm in size are of submosaic quartz grains averaging 0.1-0.15 mm in size; these may have formed by metamorphic recrystallization of coarser quartz grains.

K-feldspar forms anhedral grains averaging 0.5-1 mm in size, and a few up to 1.3 mm across. It is concentrated strongly in one large patch (see stained offcut block). Alteration is slight to moderate to patches of cryptocrystalline jarosite. K-feldspar also forms a few patches up to 0.5 mm in size of very fine grained aggregates, in part intergrown with quartz and plagioclase.

Biotite forms a few patches up to 1.5 mm long. One grain is replaced completely by intergrowths of muscovite averaging 0.15-0.3 mm long and patches of cryptocrystalline to extremely fine grained sericite. Along borders of the patch are discontinuous bands up to 0.03 mm wide of cryptocrystalline Ti-oxide. A few other patches up to 1.2 mm across consist of very fine muscovite flakes containing abundant disseminated, euhedral prismatic grains up to 0.05 mm long of rutile and possibly zircon.

Ti-oxide forms disseminated patches up to 0.2 mm in size of cryptocrystalline aggregates, probably after original ilmenite.

Zircon forms subhedral prismatic grains averaging 0.03-0.05 mm in length.

A few replacement patches up to 2 mm across are dominated by equant K-feldspar grains averaging 0.01-0.02 mm in size, with minor patches of cryptocrystalline sericite and a few quartz grains averaging 0.03-0.05 mm across.

Jarosite forms a few patches up to 0.8 mm in size of bright orangish yellow, cryptocrystalline to extremely fine grains. Some of these may be pseudomorphic after pyrite and some probably represent transported iron.



# ***Vancouver Petrographics Ltd.***

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Report # 960782 for:

**Bill Morton,**  
**Mincord Exploration Consultants, Ltd.,**  
**110 - 325 Howe Street,**  
**Vancouver, B.C., V6C 1Z7**  
and  
**Leo Lindinger,**  
**Renaissance Geoscience Services,**  
**879 McQueen Drive,**  
**Kamloops, B.C., V2B 7X8**

**November 1996**

**Project:** Canadian Creek

**Samples:** 90-44-G,  
93-2b, 93-3,  
96 Series: 6, 8-E, 12-A, 15, 26, 28, 38, 43-A, 44-A, 44-I, 46, 59-C  
CL Series: 01364, 03182, 03187, 03188, 03191,  
Trench 25

## **Mineralogical Notes:**

Only minor samples contain carbonate, which was identified as calcite because of its quick effervescence with cold, dilute HCl.

In many samples, some or all of the mineral identified as sericite/illite and that identified as chlorite/smectite (in one sample) have a refractive index (R.I.) moderately lower than that of quartz. This suggests that the mica may be gradational between sericite/illite and montmorillonite, and the chlorite gradational between chlorite and smectite. However, recent studies of similar mica in two other projects have shown by X-ray and S.E.M. determinations that the mica in those projects is sericite. This feature (low R.I.) also was seen in the Casino deposit, where the mineral was identified petrographically as sericite/montmorillonite. Without further definitive work, the best assumption to make is that the mineral is sericite.

## **Summary:**

Samples are mainly of two main rock types, a medium to coarse grained quartz diorite to granodiorite and a fine to medium grained quartz monzonite. Alteration is variable, with most samples being in the phyllic zone or near the border of the phyllic-argillic zones. A few samples are in the propylitic zone. A few samples contain strong potassic (K-feldspar) alteration. Some of these and some others contain moderately abundant tourmaline and pyrite alteration.

**Sample 90-44-G** is a granodiorite/quartz monzonite dominated by coarse grained plagioclase and quartz with finer grained patches of plagioclase-K-feldspar. Alteration is strong phyllic/argillic. Plagioclase and biotite are replaced strongly by sericite/illite-jarosite and tourmaline. Tourmaline is concentrated in replacement patches as cryptocrystalline to extremely fine grains, in part intergrown with K-feldspar and jarosite. Jarosite forms disseminated patches, probably representing remobilized iron. A few veinlets are of jarosite.

**Sample 93-2b** is a metasomatic rock dominated by K-feldspar with abundant coarse to pegmatitic radiating suns of tourmaline and patches of pyrite, commonly overgrown on tourmaline aggregates. Minor patches are of quartz. Two extra thick sections were made but no gold minerals were identified.

**Sample 93-3** is a medium to coarse grained granodiorite dominated by plagioclase and quartz with much less abundant K-feldspar. Alteration is strong phyllic. Plagioclase is altered strongly to sericite, dusty semi-opaque, and minor tourmaline. Biotite is replaced by muscovite/sericite (in part pseudomorphic) and minor to abundant pyrite. Late veinlets are of hematite/limonite.

**Sample 96-6** is a fine to locally medium grained quartz monzonite composed of about equal amounts of K-feldspar, plagioclase, and quartz with minor biotite. Alteration is weak phyllic. Pyrite forms disseminated patches and grains. Minor chalcopyrite is replaced slightly by chalcocite. An inclusion is of very fine grained plagioclase-biotite. A veinlet is of limonite.

**Sample 96-8-E** is a strongly altered rock dominated by quartz with patches and lenses of sericite and sericite-pyrite-quartz (probably mainly after plagioclase) and of smectite/chlorite (commonly associated with pyrite). The original texture was destroyed.

**Sample 96-12a** is a quartz diorite dominated by medium to coarse grained plagioclase and quartz with much less abundant medium grained biotite and hornblende. Alteration is strong phyllic. Plagioclase is strongly to completely replaced by sericite. Biotite is replaced by pseudomorphic muscovite and Ti-oxide, and in part by quartz. Hornblende is replaced by a variety of intergrowths of plagioclase and quartz. Several patches are of limonite, probably formed from remobilized iron. Barite forms a few disseminated grains and clusters of a few grains. Trace sulfides are pyrite and chalcopyrite. A few veinlets are of limonite.

**Sample 96-15** is a quartz diorite dominated by medium to coarse grained plagioclase and less abundant quartz and biotite. Alteration is strong phyllic. Plagioclase is altered very strongly to completely to sericite and limonite. Biotite is altered completely to muscovite-(limonite). Hornblende is replaced by sericite-limonite. A few veins are of limonite.

**Sample 96-26** is a granodiorite dominated by plagioclase and quartz with less abundant K-feldspar, and much less abundant hornblende and biotite. Alteration is moderate propylitic as follows: plagioclase is altered moderately to sericite; hornblende is replaced completely by chlorite, and biotite is replaced completely by pseudomorphic chlorite and muscovite. Pyrite is replaced by limonite/hematite. A few interstitial patches are of sericite/illite. Late veinlets and patches are of limonite.

**Sample 96-28** is an altered fine breccia or rhyolite crystal-lithic tuff containing fragments of K-feldspar, quartz, and a few lithic fragments in a cryptocrystalline groundmass dominated by K-feldspar (probably secondary) with disseminated patches of tourmaline. Lithic fragments are of fine to medium grained quartz-K-feldspar and of very fine to fine grained K-feldspar-biotite. Pyrite and rutile form disseminated grains; pyrite is replaced strongly by hematite. Most replacement patches up to several mm across are of tourmaline with lesser biotite/muscovite and limonite. A few replacement patches are of quartz-tourmaline.

**Sample 96-38** is a medium to coarse grained quartz diorite dominated by plagioclase and quartz with lesser hornblende and biotite. Alteration is strong propylitic. Plagioclase is altered completely to sericite-chlorite. Biotite is altered completely to muscovite, chlorite, and quartz. Hornblende is replaced by variable assemblages of quartz, plagioclase, and chlorite. In some patches, the identity of the original grain is unknown between hornblende and plagioclase. A replacement patch of very fine grained quartz contains minor patches of chlorite. A veinlike replacement zone up to several mm wide and a few smaller patches are of K-feldspar and lesser biotite/chlorite, and pyrite. Late veinlets are of hematite.

**Sample 96-43-A** is a medium to coarse grained granodiorite dominated by plagioclase and quartz, with less abundant K-feldspar and biotite and minor disseminated pyrite. Alteration is weak to moderate propylitic. Plagioclase is altered slightly to sericite, and biotite and hornblende are replaced completely by pseudomorphic chlorite-(muscovite-Ti-oxide) and chlorite-(quartz-Ti-oxide), respectively. Minor bornite is replaced moderately by chalcocite and covellite.

**Sample 96-44-A** is a medium grained granodiorite dominated by plagioclase and quartz with lesser K-feldspar and minor biotite. Alteration is potassic-phyllitic, with alteration minerals being K-feldspar, tourmaline, pyrite (altered to limonite/jarosite), and sericite/illite (after plagioclase and biotite).

**Sample 96-44-I** is a quartz diorite dominated by plagioclase and quartz with much less abundant biotite. Alteration is moderate argillic/phyllitic. Plagioclase is altered variably. Some patches (possibly original coarser grains) are replaced completely by two cryptocrystalline phases, one kaolinite and the other of unknown composition, probably a clay mineral with dusty hematite inclusions. Other patches of finer very fine to fine grained plagioclase are relatively fresh. Biotite is replaced by muscovite-(epidote). Veinlike cavities and irregular patches are partly filled by jarosite.

**Sample 96-46** probably was originally a medium grained quartz diorite dominated by plagioclase and quartz. Alteration is strong potassic/phyllitic. Plagioclase was replaced completely by patches and disseminated grains of sericite and by pseudomorphic to extremely fine grained K-feldspar. A few patches of sericite/illite-(quartz-pyrite) may be secondary after biotite. Pyrite forms disseminated grains and clusters of grains. Tourmaline forms disseminated, commonly radiating replacement patches intergrown with sericite or quartz.

**Sample 96-59d** is a medium to coarse grained quartz diorite dominated by plagioclase and quartz, with much less abundant biotite and K-feldspar, and minor hornblende and pyrite. Alteration is moderate argillic/phyllitic. Plagioclase is replaced completely by sericite/illite and minor hematite. K-feldspar contains moderately abundant hematite and sericite, mainly on fractures. Biotite is replaced completely by pseudomorphic muscovite. Hornblende is replaced completely by extremely fine grained plagioclase-sericite-(quartz) with dusty patches of semi-opaque leucoxene(?). Pyrite is concentrated in a few patches and is altered strongly to hematite/limonite. One fragment of finer grained diorite dominated by plagioclase contains moderately abundant pyrite.

**Sample C-103164** is a medium to coarse grained quartz diorite dominated by plagioclase with lesser quartz and moderately abundant biotite, hornblende, and pyrite. Alteration is strong phyllic with carbonate. Plagioclase is replaced completely by sericite-calcite. Biotite is replaced completely by pseudomorphic muscovite and minor Ti-oxide and locally by quartz. Hornblende is replaced completely by calcite/dolomite or plagioclase-calcite-(sericite), and contains inclusions of euhedral apatite. Pyrite forms disseminated fresh grains, a few of which contain inclusions of galena. A discontinuous veinlet is of calcite.

**Sample C-103182** is a medium grained granodiorite dominated by plagioclase and quartz with lesser K-feldspar and minor biotite. Alteration is strong phyllic-(argillic). Plagioclase is replaced by sericite/muscovite and much less commonly by kaolinite(?). Probably these represent two separate stages of alteration, but it is impossible to determine their order. Biotite and hornblende are replaced by muscovite and quartz. In some patches, the original texture was destroyed and the rock replaced by quartz-sericite/muscovite. A few veinlets up to 0.3 mm wide are of limonite.

**Sample C-103187** is a medium grained quartz diorite dominated by plagioclase and quartz with minor biotite, K-feldspar, and hornblende. Alteration is weak to moderate phyllic-(argillic). Plagioclase is altered very variably from weakly to completely to sericite or sericite-quartz and minor limonite/jarosite, and locally by kaolinite-(limonite). Biotite is replaced completely by muscovite-(quartz), and hornblende is replaced completely by sericite-quartz. Veins and veinlets are of limonite.

**Sample C-103188** is a medium grained quartz monzonite dominated by K-feldspar with lesser plagioclase and quartz with minor biotite and pyrite. Alteration is weak-moderate phyllic-(argillic). Plagioclase is altered slightly to sericite/kaolinite. Biotite is replaced by muscovite-(limonite-Ti-oxide). Minor chalcopyrite is replaced mainly by covellite and locally by chalcocite. A vein is of very fine grained quartz and radiating muscovite with abundant patches of hematite.

**Sample C-103191** contains disseminated, medium to coarse quartz grains enclosed in patches of very fine grained quartz intergrown with patches of extremely fine grained sericite. A few later-formed patches are of medium grained quartz. The rock was brecciated coarsely, with late veinlets and interstitial patches of quartz-(limonite-sericite) and of kaolinite-(hematite) along brecciated zones.

**Sample Trench 25** is a medium to coarse grained quartz diorite dominated by plagioclase and quartz with much less abundant biotite. Alteration is strong phyllic. Plagioclase is replaced completely to sericite, and biotite is replaced completely by pseudomorphic muscovite. Much of the sericite is stained orange by limonite. Pyrite forms disseminated grains, largely replaced by limonite/hematite or leached from the section. The rock was brecciated slightly to moderately, and the matrix filled by quartz, limonite/hematite, and minor sericite and clay(?). Related, late veinlets are of limonite/hematite. Three extra thick sections were made but no gold minerals were identified.



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The rock is dominated by K-feldspar with abundant coarse to pegmatitic radiating suns of tourmaline and patches of pyrite, commonly overgrown on tourmaline aggregates. Minor patches are of quartz.

|              |       |
|--------------|-------|
| K-feldspar   | 60-65 |
| tourmaline   | 20-25 |
| pyrite       | 10-12 |
| quartz       | 2- 3  |
| Ti-oxide     | 0.5   |
| zircon       | trace |
| chalcopyrite | trace |

K-feldspar varies between cryptocrystalline to very fine grains in irregular patches, with a few coarser grains up to 1.5 mm long. It is possible that the finer grained material was formed by recrystallization of coarser grains. Most grains contain moderately abundant dusty inclusions, probably of hematite. A few patches of grains averaging 0.2-0.5 mm in size associated with tourmaline patches are relatively free of dusty inclusions.

Tourmaline forms disseminated, radiating clusters up to several mm across of elongate, prismatic grains averaging 0.5-2 mm long. Grains and clusters of grains commonly are zoned, with cores of grains with pleochroism from neutral to dark green (nearly opaque), and overgrowths (outer zones) of grains with pleochroism from neutral to light/medium green.

Pyrite forms patches up to 1.5 mm in size of grains averaging 0.1-0.5 mm in size, in part intergrown with (interstitial to) radiating tourmaline aggregates. It is altered slightly along grain borders and fractures to orange limonite.

Quartz forms patches up to 2 mm across of grains averaging 0.5-1.2 mm in size, concentrated mainly with or near patches of tourmaline or pyrite. A few smaller patches average 0.07-0.15 mm in grain size.

Ti-oxide forms disseminated patches averaging 0.1-0.15 mm in size and a few up to 0.4 mm across of extremely fine to cryptocrystalline grains.

Zircon forms a few euhedral grains averaging 0.05-0.1 mm long, mainly enclosed in patches of K-feldspar.

Chalcopyrite forms a few blebby inclusions up to 0.03 mm in size in pyrite grains. Two grains averaging 0.025-0.03 mm in size are interstitial to radiating tourmaline. One grain 0.08 mm long occupies a fracture between two pyrite grains.

Two extra polished thick sections were made of this sample in an attempt to locate the source of the high gold anomaly. No gold minerals were identified.

**Sample 93-3****Biotite Granodiorite; Strong Phyllic Alteration (+ Minor Tourmaline); Hematite/Limonite Veinlets**

The rock is a medium to coarse grained granodiorite dominated by plagioclase and quartz with much less abundant K-feldspar. Plagioclase is altered strongly to sericite, dusty semi-opaque, and minor tourmaline. Biotite is replaced by muscovite/sericite (in part pseudomorphic) and minor to abundant pyrite. Late veinlets are of hematite/limonite.

|                   |        |              |       |
|-------------------|--------|--------------|-------|
| plagioclase       | 45-50% | tourmaline   | 0.2%  |
| quartz            | 25-30  | Ti-oxide     | minor |
| K-feldspar        | 10-12  | apatite      | trace |
| biotite           | 7- 8   | zircon       | trace |
| pyrite            | 2- 3   | chalcopyrite | trace |
| <b>veinlets</b>   |        |              |       |
| hematite/limonite | 1- 2   |              |       |

Plagioclase forms anhedral grains averaging 1-2.5 mm in size. Alteration is strong to cryptocrystalline to locally extremely fine grained sericite and dusty semi-opaque.

Quartz forms patches up to a few mm across of anhedral grains averaging 0.5-1.5 mm in size. Grains are strained slightly.

K-feldspar forms anhedral grains averaging 0.5-1 mm in size and a few up to 2.5 mm across.

A few interstitial patches up to 1.3 mm across are of extremely fine to very fine grained quartz and K-feldspar. A few patches up to 1.7 mm across are of fine grained K-feldspar with moderately abundant intergrown patches of very fine to extremely fine grained quartz.

Biotite forms flakes averaging 1-2 mm in size and a few from 3-5 mm long. Alteration is complete to biotite/chlorite or muscovite, with minor to moderately abundant lenses of semi-opaque (leucoxene?) along cleavage planes. In smaller grains alteration minerals are pseudomorphic. In larger grains, secondary muscovite forms extremely fine to very fine grained aggregates and the original texture is obscured. Several altered biotite flakes contain abundant disseminated grains of pyrite averaging 0.1-0.15 mm in size. One of these also contains moderately abundant patches of red hematite adjacent to the pyrite grains.

Pyrite forms disseminated grains and clusters up to 0.5 mm in size of grains averaging 0.07-0.15 mm in size. Some grains are replaced moderately to completely by hematite/limonite. One pyrite grain contains a rounded bleb of chalcopyrite 0.02 mm across.

Tourmaline forms disseminated, prismatic grains averaging 0.1 mm long, and a few radiating clusters of similar grains mainly in altered plagioclase grains. One sub-radiating cluster contains one grain 0.4 mm long. Pleochroism is from pale to medium green.

Ti-oxide forms disseminated patches up to 0.03 mm in size of cryptocrystalline grains.

Apatite forms a few grains up to 0.17 mm long containing moderately abundant dusty hematite inclusions.

Zircon forms a subhedral, equant grain 0.05 mm in size in biotite.

A late braided vein zone up to 0.4 mm wide and a few smaller veinlets are of bright brownish red hematite/limonite. Some of these have a delicate banded structure. Similar hematite/limonite forms patches up to 1.5 mm in size. Near the veins and veinlets, pyrite is altered moderately along grain borders and fractures to hematite/limonite.

**Sample 96-6****Biotite Quartz Monzonite; Weak Phyllic Alteration**

The sample is a fine to locally medium grained quartz monzonite composed of about equal amounts of K-feldspar, plagioclase, and quartz with minor biotite. Pyrite forms disseminated patches and grains. Minor chalcopyrite is replaced slightly by chalcocite. An inclusion is of very fine grained plagioclase-biotite. A veinlet is of limonite.

|                     |        |              |       |
|---------------------|--------|--------------|-------|
| K-feldspar          | 35-40% | chlorite     | 0.2%  |
| quartz              | 25-30  | rutile       | 0.1   |
| plagioclase         | 20-25  | chalcopyrite | minor |
| biotite             | 3- 4   | zircon       | trace |
| pyrite              | 2- 3   | pyrrhotite   | trace |
| <b>inclusion</b>    |        |              |       |
| plagioclase-biotite | 1- 2   |              |       |
| <b>veinlet</b>      |        |              |       |
| limonite            | minor  |              |       |

K-feldspar forms anhedral grains averaging 0.5-1 mm in size and a few up to 1.5 mm in size. Some contain minor exsolution lenses of albite and all contain moderately abundant dusty hematite inclusions. Quartz forms anhedral grains averaging 0.5-1 mm in size and a few up to 2 mm across. Grains are strained slightly. A few patches up to 0.7 mm in size are of very fine grained intergrowths of K-feldspar and quartz; some of these have a poorly developed graphic texture. .

Plagioclase forms subhedral to anhedral grains averaging 1-2 mm in size, with a few up to 2.5 mm across. A few patches up to 1 mm across are of strongly interlocking grains averaging 0.1-0.3 mm in size, which were altered slightly to moderately to K-feldspar. Alteration of plagioclase is slight to moderate to cryptocrystalline to extremely fine grained sericite and kaolinite. A few grains also contain one to a few disseminated flakes of very fine grained muscovite, and a few patches up to 0.8 mm in size are of very fine grained, unoriented muscovite flakes. A few grains of plagioclase against K-feldspar contain minor myrmekitic inclusions of quartz.

Biotite forms ragged flakes averaging 0.5-1 mm long and a few from 1-1.5 mm long. Alteration is complete to pseudomorphic muscovite and/or chlorite, with minor disseminated patches of Ti-oxide. A few interstitial patches up to 0.5 mm across are of very fine grained, unoriented, interlocking flakes of chlorite.

Pyrite forms disseminated, anhedral grains averaging 0.05-0.2 mm in size and a few patches of similar grains up to 0.7 mm across. A few contain an inclusion of chalcopyrite up to 0.1 mm in size and a few contain an inclusion of pyrrhotite averaging 0.07-0.1 mm long. A few irregular grains are from 1-1.7 mm in size, one of these contains an inclusion of chalcopyrite 0.15 mm across. A few coarse pyrite grains contain inclusions up to 0.15 mm in size of biotite, muscovite, and quartz.

Chalcopyrite forms a few patches averaging 0.03-0.08 mm in size and one 0.28 mm long. A few are altered slightly to moderately along their margins to chalcocite.

Rutile forms disseminated grains and clusters up to 0.1 mm across of grains averaging 0.02-0.07 mm in size. Zircon forms a few prismatic to equant grains averaging 0.05-0.07 mm in size, in part associated with pyrite.

A fragment 2.5 mm across is of slightly interlocking plagioclase and biotite. Plagioclase grains average 0.03-0.05 mm in size. Alteration is slight to sericite. Biotite is replaced strongly by chlorite and/or muscovite.

A wispy veinlet is of limonite. Where it cuts pyrite grains, they are replaced strongly to completely by limonite.

## Sample 96-8-E      Quartz-Sericite-Pyrite-(Chlorite/Smectite) Alteration

The sample is dominated by quartz with patches and lenses of sericite and sericite-pyrite-quartz (probably mainly after plagioclase) and of chlorite/smectite (commonly associated with pyrite). The original texture was destroyed.

|                   |        |
|-------------------|--------|
| quartz            | 55-60% |
| sericite          | 25-30  |
| pyrite            | 12-15  |
| chlorite/smectite | 2- 3   |
| rutile            | minor  |
| apatite           | trace  |
| chalcopyrite      | trace  |
| galena            | trace  |
| zircon            | trace  |

Quartz forms anhedral grains averaging 1-1.5 mm in size and a few up to 2 mm across. Most grains are strained moderately. Interstitial to quartz grains are patches of extremely fine grained sericite averaging 0.1-0.5 mm in size. .

A few patches up to 2 mm in size are of quartz grains averaging 0.05-0.1 mm in size. Some of these grade into patches of very fine grained quartz-sericite or quartz-chlorite/smectite. Some of these patches may be secondary after hornblende.

Sericite is concentrated strongly in extremely fine grained patches averaging 0.3-1.5 mm in size. In some patches, the refractive index of sericite moderately less than that of quartz. Some patches up to a few mm across are of sericite intergrown with moderately abundant extremely fine grained quartz. A few patches contain a few muscovite flakes up to 0.2 mm in size. Sericite patches commonly contain moderately abundant dusty hematite inclusions.

Pyrite forms anhedral grains averaging 0.2-1 mm in size, and is concentrated moderately in irregular to lency clusters up to several mm along. Many grains contain moderately abundant, rounded to irregular silicate inclusions averaging 0.01-0.07 mm in size.

Chlorite/smectite forms patches up to 0.7 mm in size of extremely fine to very fine grains, in part intergrown with sericite, and commonly associated with pyrite. It has a R.I. moderately lower than that of quartz, is pale green in colour and has a very low birefringence.

Rutile forms disseminated grains averaging 0.01-0.02 mm in size and a few up to 0.1 mm across.

Apatite forms disseminated, rounded grains averaging 0.03-0.04 mm in size in quartz.

Chalcopyrite forms inclusions averaging 0.02-0.03 mm in size in several pyrite grains.

Galena(?) forms two irregular inclusions up to 0.04 mm in size in one pyrite grain. Galena is poorly polished, hence identification is not certain.

Zircon forms subhedral prismatic grains up to 0.05 mm long.

The sample is dominated by medium to coarse grained plagioclase and quartz with much less abundant medium grained biotite and hornblende. Plagioclase is strongly to completely replaced by sericite. Biotite is replaced by pseudomorphic muscovite and Ti-oxide, and in part by quartz. Hornblende is replaced by a variety of intergrowths of plagioclase and quartz. Several patches are of limonite, probably formed from remobilized iron. Barite forms a few disseminated grains and clusters of a few grains. Trace sulfides are pyrite and chalcopyrite. A few veinlets are of limonite.

|                 |        |
|-----------------|--------|
| plagioclase     | 45-50% |
| quartz          | 35-40  |
| biotite         | 7- 8   |
| hornblende      | 3- 4   |
| limonite        | 2      |
| barite          | minor  |
| pyrite          | trace  |
| chalcopyrite    | trace  |
| zircon          | trace  |
| <b>veinlets</b> |        |
| limonite        | 0.5    |

Plagioclase forms grains averaging 1-2 mm in size. Alteration is complete to extremely fine grained sericite or intergrowths of very fine grained sericite/muscovite and quartz.

Quartz forms grains averaging 1-2 mm in size. Grains are strained moderately.

Biotite forms flakes averaging 0.7-1.2 mm in size and a few up to 2 mm across. Alteration is complete to pseudomorphic muscovite and minor Ti-oxide. Some are replaced more strongly by patches of very fine grained quartz.

Hornblende forms grains averaging 1-2 mm in size. Alteration is complete to very fine grained, slightly interlocking plagioclase with much less abundant sericite and hematite.

Limonite forms irregular patches averaging 0.2-0.4 mm in size and a few up to 1 mm across. These probably are secondary after pyrite.

Barite is concentrated in a few patches as subhedral to euhedral, prismatic grains averaging 0.2-0.4 mm in size

Pyrite forms disseminated grains averaging 0.01-0.02 mm in size in quartz.

Chalcopyrite forms an oval-shaped grain 0.05 mm across.

Zircon forms a euhedral grain 0.06 mm long in a patch of sericite.

Several wispy veinlets up to 0.07 mm wide are of limonite.

**Sample 96-15****Quartz Diorite: Strong Phyllic Alteration; Limonite Veins**

The rock is dominated by medium to coarse grained plagioclase and less abundant quartz and biotite. Plagioclase is altered very strongly to completely to sericite and limonite. Biotite is altered completely to muscovite-(limonite). Hornblende is replaced by sericite-limonite. A few veins are of limonite.

|                        |        |
|------------------------|--------|
| plagioclase            | 70-75% |
| quartz                 | 15-17  |
| biotite                | 7- 8   |
| hornblende             | 1      |
| pyrite/limonite        | 0.5    |
| <b>veins, veinlets</b> |        |
| limonite               | 1- 2   |

Plagioclase forms anhedral grains averaging 1-3 mm in size. Alteration is very strong to complete to cryptocrystalline sericite and minor to moderately abundant limonite.

Quartz is concentrated in patches up to a few mm across as grains averaging 0.7-1.5 mm in size. Grains are fractured moderately and fractures partly filled by limonite.

Biotite forms flakes averaging 0.7-1.5 mm long and a few up to 1.8 mm long. Alteration is complete to muscovite and lenses and patches of limonite.

Hornblende(?) forms a few grains up to 1.5 mm in size. Alteration is complete to cryptocrystalline to extremely fine grained sericite and abundant patches of limonite/hematite.

Pyrite forms a few grains averaging 0.01-0.03 mm in size and one 0.05 mm across, mainly included in quartz. Limonite/hematite forms disseminated patches averaging 0.1-0.15 mm in size, which are pseudomorphic after pyrite.

Limonite forms a few veins up to 0.4 mm across. The main vein has a patchy, delicate internal structure.

The rock is dominated by plagioclase and quartz with less abundant K-feldspar, and much less abundant hornblende and biotite. Alteration is as follows: plagioclase is altered moderately to sericite; hornblende is replaced completely by chlorite, and biotite is replaced completely by pseudomorphic chlorite and muscovite. Pyrite is replaced by limonite/hematite. A few interstitial patches are of sericite/illite. Late veinlets and patches are of limonite.

|                                           |        |            |       |
|-------------------------------------------|--------|------------|-------|
| plagioclase                               | 45-50% | pyrite     | 0.1%  |
| quartz                                    | 25-30  | rutile     | minor |
| K-feldspar                                | 15-17  | tourmaline | trace |
| biotite                                   | 4- 5   | zircon     | trace |
| hornblende                                | 2- 3   |            |       |
| <b>interstitial patches</b>               |        |            |       |
| sericite/illite                           | 1- 2   |            |       |
| <b>late veinlets, replacement patches</b> |        |            |       |
| limonite                                  | 0.3    |            |       |

Plagioclase forms anhedral grains averaging 0.7-2 mm in size. Alteration is moderate to disseminated, cryptocrystalline sericite.

Quartz is concentrated moderately in quartz-rich patches averaging a few mm across as anhedral grains averaging 0.5-1.5 mm in size, with a few up to 3 mm across. Grains are strained slightly.

K-feldspar forms anhedral grains averaging 0.5-1.5 mm in size and a few up to 2 mm across. A few skeletal grains up to 5 mm across are interstitial to subhedral plagioclase grains. A few grains have a weakly perthitic texture with subparallel lenses of albite averaging 0.02-0.03 mm long.

Biotite forms anhedral flakes averaging 0.5-1.5 mm in size and a few up to 3 mm long. Alteration is complete to pseudomorphic chlorite and muscovite with minor to moderately abundant lenses parallel to cleavage of limonite and Ti-oxide.

Hornblende forms grains averaging 0.5-1.5 mm in size and one 2 mm long. Alteration is complete to patches of extremely fine to very fine grained chlorite and minor to moderately abundant limonite. A few grains are replaced completely by cryptocrystalline sericite and minor patches of limonite.

Pyrite forms disseminated grains averaging 0.07-0.15 mm in size, and a few up to 0.2 mm across, which commonly are associated with biotite. Many grains are altered moderately to completely to pseudomorphic limonite/hematite. A few grains up to 0.05 mm in size enclosed in quartz are fresh.

Rutile forms disseminated patches up to 0.15 mm in size of extremely fine grains, mainly intergrown with hornblende and biotite.

Tourmaline forms subhedral grains up to 0.15 mm long associated with hornblende grains. It is concentrate in a few patches up to 0.5 mm long as grains averaging 0.08-0.12 mm long intergrown with extremely fine grained sericite. Pleochroism of tourmaline is from pale to medium green.

Zircon forms a few equant grains averaging 0.1 mm in size.

A few interstitial patches up to 1.5 mm across are of cryptocrystalline to extremely fine grained sericite/illite. Extremely fine grained patches commonly occur in radiating aggregates. The R.I. of sericite/illite is moderately less than that of quartz.

Late patches and wispy veinlets up to 0.03 mm wide are of cryptocrystalline, orange limonite.

**Sample 96-28****Altered Fine Breccia or Rhyolite Crystal-Lithic Tuff:  
Replacement Patches of Tourmaline-Biotite/Muscovite-Limonite and  
Quartz-Tourmaline**

Fragments of K-feldspar, quartz, and a few lithic fragments are set in a cryptocrystalline groundmass dominated by K-feldspar with disseminated patches of tourmaline. Lithic fragments are of fine to medium grained quartz-K-feldspar and of very fine to fine grained K-feldspar-biotite. Pyrite and rutile form disseminated grains; pyrite is replaced strongly by hematite. Most replacement patches up to several mm across are of tourmaline with lesser biotite/muscovite and limonite. A few replacement patches are of quartz-tourmaline.

**fragments**

|                  |       |
|------------------|-------|
| K-feldspar       | 5- 7% |
| quartz           | 3- 4  |
| lithic fragments | 3- 4  |

**groundmass**

|            |       |              |       |
|------------|-------|--------------|-------|
| K-feldspar | 65-70 | rutile       | 0.3%  |
| tourmaline | 1- 2  | chalcopyrite | trace |
| pyrite     | 0.5   | zircon       | trace |
| hematite   | 0.5   |              |       |

**replacement patches**

|                   |      |          |      |
|-------------------|------|----------|------|
| tourmaline        | 8-10 | limonite | 1- 2 |
| biotite/muscovite | 1- 2 | quartz   | 1- 2 |

K-feldspar forms angular fragments averaging 0.3-0.6 mm in size and a few up to 0.1 mm across. Most contain moderately abundant disseminated inclusions of hematite.

Quartz forms fragments of single grains or aggregates of two or three grains averaging 0.1-0.4 mm in size and a few up to 0.9 mm across.

A few lithic fragments averaging 0.5-1 mm across are of very fine to fine grained K-feldspar and lesser biotite.

Two fragments from 1.8-2.5 mm across are of fine to medium grained quartz and K-feldspar. Quartz grains are strained slightly to moderately and have moderately sutured grain borders.

One patch (fragment?) 1.5 mm across is dominated by cryptocrystalline to extremely fine grained sericite with a few patches of tourmaline and a few of limonite/hematite, the latter mainly along the border of the patch.

The groundmass is dominated by cryptocrystalline to extremely fine grained K-feldspar with patches containing minor to moderately abundant cryptocrystalline to extremely fine grained tourmaline. Biotite/muscovite forms disseminated ragged flakes averaging 0.03-0.1 mm in size. Pleochroism is from pale to light brownish green. Some grains are stained moderately by limonite.

Pyrite forms disseminated grains averaging 0.03-0.1 mm in size and a few patches up to 0.7 mm long. Alteration is moderate to strong to reddish orange limonite/hematite with alteration extending from borders of grains towards their cores. A few patches up to 0.3 mm in size are of red-brown hematite.

Rutile forms disseminated patches averaging 0.05-0.15 mm in size and a few up to 0.3 mm long of extremely fine to locally very fine grains.

(continued)

Zircon forms a few subhedral to euhedral grains up to 0.05 mm long.  
Chalcopyrite forms two grains 0.03-0.05 mm in size in quartz.

Irregular replacement patches averaging 0.5-1 mm in size and one patch several mm across are of extremely fine to very fine grained tourmaline, and lesser biotite/muscovite, and cryptocrystalline limonite. A few patches from 0.2-1 mm in size are of very fine grained tourmaline. A few tourmaline grains show delicate growth zones with moderate colour variations. Pleochroism of tourmaline are from pale to dark green. Biotite/muscovite is concentrated along the borders of patches and is pale brown in colour with weak pleochroism. The unusual pleochroism probably is the result of alteration of primary biotite towards muscovite.

A few replacement patches up to 1.5 mm across contain zones of very fine grained quartz and others of cryptocrystalline to very fine grained tourmaline.

**Sample 96-38****Quartz Diorite; Strong Propylitic Alteration; Minor Quartz-Chlorite Replacement; Veinlike Zone of K-feldspar-Pyrite-Chlorite-Quartz**

The sample is a medium to coarse grained quartz diorite dominated by plagioclase and quartz with lesser hornblende and biotite. Plagioclase is altered completely to sericite-chlorite. Biotite is altered completely to muscovite, chlorite, and quartz. Hornblende is replaced by variable assemblages of quartz, plagioclase, and chlorite. In some patches, the identity of the original grain is unknown between hornblende and plagioclase. A replacement patch of very fine grained quartz contains minor patches of chlorite. A veinlike replacement zone up to several mm wide and a few smaller patches are of K-feldspar and lesser biotite/chlorite, and pyrite. Late veinlets are of hematite.

|               |        |              |       |
|---------------|--------|--------------|-------|
| plagioclase   | 55-60% | pyrite       | 1- 2% |
| quartz        | 17-20  | zircon       | trace |
| hornblende(?) | 5- 7   | chalcopryite | trace |
| biotite       | 2- 3   | tourmaline   | trace |

**replacement patches, veins**

|                                    |       |
|------------------------------------|-------|
| quartz-chlorite                    | 1     |
| K-feldspar-biotite/chlorite-pyrite | 12-15 |
| hematite                           | 0.7   |

Plagioclase forms grains averaging 1-3 mm in size. Alteration in many patches is complete to extremely fine grained sericite and chlorite in a variety of textures and mineral proportions. The alteration of plagioclase to chlorite is unusual. In some patches, alteration is to extremely fine grained sericite and minor to moderately abundant quartz.

Some patches up to 1.5 mm in size are dominated by very fine grained quartz with much less abundant chlorite and minor dusty hematite; these probably are secondary after hornblende. Some patches up to 1.5 mm in size of very fine grained plagioclase and minor to moderately abundant chlorite/biotite may also be after hornblende. As well, some of the sericite-chlorite intergrowths described above for altered plagioclase may be altered hornblende.

Quartz forms patches up to a few mm across of grains averaging 1-1.5 mm in size. Most are strained slightly.

Biotite forms flakes up to 2 mm long. Alteration is to extremely fine grained chlorite, muscovite and quartz, with disseminated patches of Ti-oxide.

Pyrite forms disseminated grains and clusters of irregular grains averaging 0.05-0.1 mm in size. Alteration is slight to moderate to orange limonite, and extends from grain borders towards the core.

Zircon forms a few subhedral to euhedral prismatic grains up to 0.1 mm in size.

Chalcopyrite forms a few grains from 0.03-0.05 mm in size in quartz and in chlorite.

Tourmaline forms stubby prismatic grains up to 0.1 mm in size. Pleochroism is from pale to medium, slightly bluish green.

An irregular patch/vein zone up to 2.5 mm long is dominated by interlocking quartz grains averaging 0.015-0.025 mm in size. It contains a few patches up to 0.5 mm in size of extremely fine grained, light green chlorite.

The main replacement/vein zone is patchy. K-feldspar forms anhedral grains averaging 0.07-0.1 mm in size in some patches and 0.2-0.7 mm in size in others. Pyrite forms clusters up to 2 mm across of grains averaging 0.3-1 mm in size. One coarse pyrite grain contains an inclusion of chalcopyrite 0.14 mm long. Biotite/chlorite forms clusters of subradiating flakes averaging 0.07-0.1 mm long.

Late veinlets up to 0.1 mm wide are of deep red hematite.

## Sample 96-43-A      Biotite Granodiorite: Moderate Propylitic Alteration

The sample is a medium to coarse grained granodiorite dominated by plagioclase and quartz, with less abundant K-feldspar and biotite and minor disseminated pyrite. Plagioclase is altered slightly to sericite, and biotite and hornblende are replaced completely by pseudomorphic chlorite-(muscovite-Ti-oxide) and chlorite-(quartz-Ti-oxide), respectively. Minor bornite is replaced moderately by chalcocite and covellite.

|             |        |            |       |
|-------------|--------|------------|-------|
| plagioclase | 55-60% | rutile     | minor |
| quartz      | 17-20  | tourmaline | minor |
| K-feldspar  | 10-12  | chalcocite | trace |
| biotite     | 8-10   | zircon     | trace |
| pyrite      | 2- 3   | bornite    | trace |
| hornblende  | 2- 3   | covellite  | trace |
| epidote     | 0.3    | galena     | trace |

Plagioclase forms subhedral to anhedral grains averaging 0.5-1.5 mm in size, with a few up to 2.5 mm long. Some grains show slight to moderately compositional growth zoning near their margins. Alteration is slight to disseminated flakes of sericite and minor patches of very fine grained calcite.

Quartz is concentrated in patches up to a few mm across of grains averaging 0.5-1.2 mm in size. Grains are strained moderately.

K-feldspar forms anhedral grains averaging 0.5-0.8 mm in size and a few up to 2 mm long. It commonly contains moderately abundant dusty hematite inclusions.

Biotite forms flakes averaging 1-3 mm in size and a few up to 5 mm in size. Alteration is complete to pseudomorphic chlorite and minor muscovite with moderately abundant lenses of Ti-oxide. Some grains also contain a few lenses of calcite and of quartz. Some grains contain patches up to 0.8 mm in size of very fine grained epidote and minor calcite.

Hornblende forms anhedral, prismatic grains averaging 1.5-2 mm long. Alteration is complete to extremely fine to very fine grained chlorite and quartz with moderately abundant patches of Ti-oxide.

Pyrite forms clusters of grains averaging 0.07-0.2 mm in size and a few ragged patches and single grains up to 1.7 mm long. Some pyrite grains contain moderately abundant irregular silicate inclusions up to 0.07 mm in size. One pyrite grain contains two galena inclusions up to 0.05 mm in size. A few pyrite grains are altered slightly to moderately along grain borders to hematite and some are rimmed by limonite. Interstitial to pyrite in some patches are grains averaging 0.04-0.1 mm in size of bornite, which is replaced moderately by extremely fine grained bright blue covellite and grey chalcocite.

Epidote forms disseminated grains averaging 0.05-0.1 mm in size and a few patches up to 1.5 mm in size. Associated with some patches of pyrite are anhedral grains of epidote averaging 0.05-0.1 mm in size.

Rutile is concentrated in patches up to 0.5 mm in size as grains averaging 0.01-0.02 mm in size. It forms disseminated, subhedral grains averaging 0.05-0.08 mm in size.

Tourmaline forms prismatic grains averaging 0.07-0.15 mm long, mainly associated with mafic minerals and pyrite. One grain 0.4 mm long is associated with a patch of epidote. Pleochroism is from pale to medium green.

Zircon forms a euhedral prismatic grain 0.15 mm long in plagioclase and a few equant grains up to 0.06 mm across. In biotite it forms a few prismatic grains up to 0.03 mm long.

**Sample 96-44A      Granodiorite: K-feldspar-Tourmaline-Sericite/Illite -  
Pyrite/Limonite Replacement**

The original rock is a medium grained granodiorite dominated by plagioclase and quartz with lesser K-feldspar and minor biotite. Alteration minerals are K-feldspar, tourmaline, pyrite (altered to limonite/jarosite), and sericite/illite (after plagioclase and biotite).

|                   |        |                   |       |
|-------------------|--------|-------------------|-------|
| quartz            | 20-25% | rutile            | minor |
| plagioclase       | 10-12  | zircon            | trace |
| K-feldspar        | 10-12  | pyrite            | trace |
| biotite           | 1- 2   |                   |       |
| <b>alteration</b> |        |                   |       |
| K-feldspar        | 25-30  | hematite/limonite | 2- 3  |
| tourmaline        | 10-12  | sericite/illite   | 7- 8  |
| limonite/jarosite | 5- 7   |                   |       |
| <b>veinlets</b>   |        |                   |       |
| limonite/jarosite | 0.5    |                   |       |

Plagioclase forms anhedral grains averaging 0.5-0.8 mm in size and a few up to 12.5 mm across. Alteration is slight to sericite.

Quartz forms anhedral grains averaging 0.5-1 mm in size. Most are strained moderately. Some quartz patches are intergrown with tourmaline, and may be part of the alteration assemblage.

K-feldspar forms anhedral grains averaging 0.7-1.5 mm in size. Alteration is slight to dusty hematite. Some of the coarse grained K-feldspar may be secondary in origin.

Biotite forms a few, ragged flakes up to 2 mm long. Alteration is complete to sericite/illite with an anomalous R.I. much less than that of quartz.

Rutile forms a few clusters of subhedral to euhedral grains averaging 0.02-0.03 mm in size, which are concentrated moderately in a few patches, commonly with tourmaline.

Zircon forms a subhedral, prismatic grain 0.1 mm long intergrown with tourmaline and one 0.06 mm long in K-feldspar.

In the replacement patches, K-feldspar forms very fine grained patches up to a few mm across.

Tourmaline forms clusters averaging 0.2-0.7 mm in size and several patches up to a few mm across of prismatic grains averaging 0.15-0.4 mm long. A few larger, radiating patches are up to 0.9 mm across and contain elongate grains up to 0.5 mm long. A few prismatic grains are up to 0.8 mm long. Grains commonly are colour zoned, with cores which are pleochroic from neutral to medium green and rims which are colourless.

Pyrite forms disseminated grains and clusters of grains averaging 0.2-0.5 mm in size. Alteration is complete to cryptocrystalline jarosite/limonite. A few fresh grains up to 0.02 mm in size are enclosed in quartz.

Several patches up to 3 mm across of cryptocrystalline sericite/illite are bordered by zones of cryptocrystalline limonite. These may be secondary after plagioclase. A few patches commonly interstitial to tourmaline are of cryptocrystalline hematite/limonite, possibly secondary after ankerite.

A few veinlets up to 0.05 mm wide are of cryptocrystalline limonite/jarosite.

**Sample 96-44-I      Biotite Quartz Diorite: Moderate Argillic/Phyllic Alteration;  
Jarosite Veinlets, Patches**

The rock is dominated by plagioclase and quartz with much less abundant biotite. Plagioclase is altered variably. Some patches (possibly original coarser grains) are replaced completely by two cryptocrystalline phases, one kaolinite and the other of unknown composition, probably a clay mineral with dusty hematite inclusions. Other patches of finer very fine to fine grained plagioclase are relatively fresh. Biotite is replaced by muscovite-(epidote). Veinlike cavities and irregular patches are partly filled by jarosite.

|             |        |
|-------------|--------|
| plagioclase |        |
| altered     | 40-45% |
| fresh       | 17-20  |
| quartz      | 25-30  |
| jarosite    | 4- 5   |
| biotite     | 3- 4   |
| rutile      | 0.1    |
| zircon      | minor  |
| pyrite      | trace  |

Plagioclase is altered strongly and original textures are obscured. It probably formed grains averaging 1-2 mm in size. Alteration is variable. In some patches it is complete to two cryptocrystalline to extremely fine grained phases which are intergrown coarsely to intimately. One is probably kaolinite(?) which is free of inclusions. The other has much higher relief and contains dusty hematite(?) inclusions. Other patches are of intergrown, relatively fresh plagioclase grains averaging 0.03-0.3 mm in size and a few grains up to 0.7 mm in size.

Quartz forms patches up to a few mm across of grains averaging 1-1.5 mm in size. Grains are strained moderately.

Biotite forms flakes averaging 0.5-1.5 mm in size. Alteration is complete to pseudomorphic muscovite and lenses of cryptocrystalline to extremely fine grained epidote.

Rutile forms disseminated patches averaging 0.02-0.07 mm in size and a few up to 0.1 mm across.

Zircon forms disseminated, subhedral to euhedral, equant grains averaging 0.03-0.1 mm in size.

Pyrite forms a few disseminated grains averaging 0.01-0.03 mm in size in quartz.

Jarosite forms disseminated patches averaging 0.3-0.7 mm in size of extremely fine grains. Some of these patches are cavities lined and partly filled with jarosite. Near one end of the section, a few veinlike cavities up to 0.5 mm wide are partly lined by extremely fine grained jarosite.

**Sample 90-44-G      Granodiorite/Quartz Monzonite;  
Strong Phyllic/Argillic Alteration + Abundant Tourmaline;  
Jarosite Replacement Patches and Veinlets**

The sample is dominated by coarse grained plagioclase and quartz with finer grained patches of plagioclase-K-feldspar. Plagioclase and biotite are replaced strongly by sericite/illite, jarosite, and tourmaline. Tourmaline is concentrated in replacement patches as cryptocrystalline to extremely fine grains, in part intergrown with K-feldspar and jarosite. Jarosite forms disseminated patches, probably representing remobilized iron. A few veinlets are of jarosite.

|                 |        |         |       |
|-----------------|--------|---------|-------|
| plagioclase     | 30-35% | biotite | 1- 2% |
| quartz          | 30-35  | pyrite  | 0.1   |
| tourmaline      | 17-20  | rutile  | 0.3   |
| K-feldspar      | 5- 7   | apatite | trace |
| jarosite        | 4- 5   | zircon  | trace |
| <b>veinlets</b> |        |         |       |
| jarosite        | 0.5    |         |       |

Plagioclase forms anhedral grains averaging 0.5-1 mm in size. A few finer grained patches averaging 0.3-1 mm in size are dominated by plagioclase and K-feldspar. In some patches, alteration of plagioclase is slight. In others, it is complete to cryptocrystalline sericite/illite and patches of cryptocrystalline jarosite/limonite. Some patches also contain minor to abundant patches up to 0.6 mm in size of very fine grained tourmaline. The R.I. of sericite/illite is much less than that of quartz.

Quartz forms anhedral grains averaging 0.5-1.5 mm in size and a few up to 2 mm across. A few patches up to 1 mm across are of very fine grained quartz.

Irregular replacement patches averaging 1-2.5 mm across are of cryptocrystalline, semi-opaque to extremely fine grained tourmaline. Some patches consist of intergrowths of similar tourmaline intergrown with cryptocrystalline jarosite. Some contain moderately abundant very fine grained K-feldspar. These patches may be replacements of feldspars (mainly plagioclase).

Tourmaline also forms a few, disseminated, radiating aggregates of elongate prismatic grains averaging 0.07-0.1 mm long, mainly in quartz and mainly near one end of the section. Pleochroism is from colourless to pale green.

Biotite forms anhedral grains up to 1 mm long. Alteration is complete to cryptocrystalline to extremely fine grained sericite/montmorillonite stained light brown, probably by limonite. Alteration of plagioclase and biotite commonly is similar, and in places the parent mineral cannot be determined.

Pyrite forms a few grains up to 0.15 mm in size. Alteration is moderate to complete to cryptocrystalline jarosite. A few patches from 0.5-1.5 mm across of cryptocrystalline to extremely fine grained jarosite probably represent remobilized iron formed by solution of pyrite elsewhere in the system. A few fresh pyrite grains averaging 0.01-0.03 mm occur in quartz grains.

Rutile forms a few clusters up to 0.3 mm in size of subhedral, prismatic grains averaging 0.03-0.07 mm in size and a few up to 0.2 mm across.

Apatite forms a few subhedral grains averaging 0.05-0.15 mm in size.

Zircon forms a few subhedral grains up to 0.06 mm long.

A few irregular veinlets averaging 0.02-0.03 mm wide are of cryptocrystalline jarosite.

**Sample 96-46****Biotite(?) Quartz Diorite:****Strong K-feldspar-(Pyrite-Sericite/Illite-Tourmaline) Alteration**

The sample probably was originally a medium grained quartz diorite dominated by plagioclase and quartz. Plagioclase was replaced completely by patches and disseminated grains of sericite and by pseudomorphic to extremely fine grained K-feldspar. A few patches of sericite/illite-(quartz-pyrite) may be secondary after biotite. Pyrite forms disseminated grains and clusters of grains. Tourmaline forms disseminated, commonly radiating replacement patches intergrown with sericite or quartz.

|                       |                               |
|-----------------------|-------------------------------|
| plagioclase           |                               |
| altered to sericite   | 10-15%                        |
| altered to K-feldspar | 55-60                         |
| quartz                | 17-20                         |
| sericite/illite       | 4- 5                          |
| pyrite                | 3- 4                          |
| tourmaline            | 2- 3                          |
| K-feldspar            | 1- 2 (intergrown with quartz) |
| rutile                | minor                         |
| chalcopryite          | trace                         |
| zircon                | trace                         |

Plagioclase was altered slightly to strongly to patches up to a few mm across of extremely fine grained sericite and locally very fine grained muscovite. Sericite commonly contains moderately abundant limonite. Some patches of sericite contain radiating patches up to 0.3 mm across of tourmaline. Probably later alteration of plagioclase (which had not been altered to sericite) was complete to mainly pseudomorphic K-feldspar. A few patches up to 0.8 mm across are of extremely fine grained K-feldspar. Finer grained K-feldspar commonly contains moderately abundant dusty hematite.

Quartz forms patches up to several mm across of anhedral grains up to 2 mm in size; most grains are strained moderately. Some interstitial patches are of very fine grained quartz and K-feldspar. Along borders of some quartz-rich patches are subhedral K-feldspar grains averaging 0.1-0.2 mm long.

A few patches from 1.5-4 mm across are of extremely fine to fine grained sericite/illite which has an anomalously R.I. moderately lower than that of quartz. Most patches contain minor to moderately abundant grains of quartz averaging 0.15-0.4 mm in size and pyrite grains averaging 90.07-0.1 mm in size. These may be secondary after biotite.

Pyrite forms disseminated, anhedral grains and clusters of a few grains averaging 0.05-0.2 mm in size and a few grains up to 1.2 mm across. A few large grains contain an inclusion of chalcopryite 0.02-0.03 mm in size.

Tourmaline forms radiating to irregular patches of prismatic grains averaging 0.1-0.2 mm long. One patch 1.2 mm across contains radiating clusters of tourmaline intergrown with quartz, and some unoriented, prismatic tourmaline grains intergrown with quartz. These are mainly colourless, but are pleochroic from colourless to pale or light green in the cores of some patches and grains.

Rutile forms disseminated grains averaging 0.02-0.05 mm in size and a few up to 0.08 mm long, and a few clusters up to 0.2 mm across.

Zircon forms a few euhedral grains averaging 0.05 mm in size.

**Sample 96-59d****Biotite Potassic Quartz Diorite; Fragment of Very Fine Diorite(?);  
Phyllic/Argillic Alteration (Sericite/Illite/Muscovite-Pyrite)**

The sample is a medium to coarse grained quartz diorite dominated by plagioclase and quartz, with much less abundant biotite and K-feldspar, and minor hornblende and pyrite. {Plagioclase is replaced completely by sericite/illite and minor hematite. K-feldspar contains moderately abundant hematite and sericite, mainly on fractures. Biotite is replaced completely by pseudomorph muscovite. Hornblende is replaced completely by extremely fine grained plagioclase-sericite-(quartz) with dusty patches of semi-opaque leucoxene(?). Pyrite is concentrated in a few patches and is altered strongly to hematite/limonite. One fragment of finer grained diorite dominated by plagioclase contains moderately abundant pyrite.

|                 |        |            |       |
|-----------------|--------|------------|-------|
| plagioclase     | 60-65% | pyrite     | 0.5%  |
| quartz          | 25-30  | hornblende | 0.3   |
| biotite         | 4- 5   | rutile     | minor |
| K-feldspar      | 3- 4   | zircon     | trace |
| <b>fragment</b> |        |            |       |
| diorite         | 2- 3   |            |       |

Plagioclase forms anhedral grains averaging 1-2 mm in size. Alteration is complete to cryptocrystalline to extremely fine grained sericite/illite with minor to moderately abundant dusty to extremely fine grained hematite.

Quartz is concentrated in patches up to a few mm across as grains averaging 0.7-2 mm in size and a few up to 4 mm across. Grains are strained slightly to moderately.

K-feldspar forms anhedral grains averaging 0.5-1.3 mm in size. Grains are fractured slightly to moderately, and contain sericite/illite and hematite on fractures.

Biotite forms ragged flakes averaging 0.5-1.5 mm in size and a few up to 3 mm across. Alteration is complete to pseudomorph muscovite with patches and lenses of rutile, in part elongate along biotite cleavage. Some grains are recrystallized more strongly to aggregates of extremely fine grained sericite/illite. Some grains contain 4-5% patches and lenses of limonite, in part after equant pyrite grains averaging 0.07-0.2 mm in size.

Pyrite forms disseminated grains averaging 0.01-0.02 mm in size. Pyrite is concentrated strongly in a few patches up to 0.8 mm across at one end of the section as grains averaging 0.07-0.25 mm in size. Pyrite is replaced very strongly by reddish orange hematite/limonite, with relic fresh pyrite patches from 0.02-0.03 mm in size occupying minor cores of some grains.

Hornblende forms one prismatic grain 2 mm long. It was replaced completely by an extremely fine grained intergrowth of plagioclase and sericite/illite with much less abundant quartz and disseminated patches of dusty leucoxene(?). Sericite/illite has a R.I. much lower than that of quartz.

Rutile forms disseminated grains averaging 0.02-0.03 mm in size.

Zircon forms equant, subhedral grains averaging 0.05-0.07 mm in size.

One patch (= fragment) 5 mm long is dominated by slightly interlocking, very fine grained plagioclase (replaced moderately by sericite). Pyrite is concentrated moderately to strongly in a few patches up to 0.8 mm across of grains averaging 0.07-0.25 mm in size. In these, pyrite is replaced very strongly by reddish orange hematite/limonite, with relic fresh pyrite patches from 0.02-0.1 mm in size occupying minor cores of some grains. Quartz forms minor grains averaging 0.05-0.15 mm in size. Zircon forms equant, subhedral grains averaging 0.07-0.12 mm in size.

**Sample C-103164    Biotite Quartz Diorite:**  
**Phyllic Alteration: Muscovite-Sericite-Calcite-Pyrite**

The sample is a medium to coarse grained quartz diorite dominated by plagioclase with lesser quartz and moderately abundant biotite, hornblende, and pyrite. Plagioclase is replaced completely by sericite-calcite. Biotite is replaced completely by pseudomorphic muscovite and minor Ti-oxide and locally by quartz. Hornblende is replaced completely by calcite/dolomite or plagioclase-calcite-sericite, and contains inclusions of euhedral apatite. Pyrite forms disseminated fresh grains, a few of which contain inclusions of galena. A discontinuous veinlet is of calcite.

|                |        |                 |       |
|----------------|--------|-----------------|-------|
| plagioclase    | 60-65% | apatite         | 0.1   |
| quartz         | 17-20  | galena          | trace |
| biotite        | 8-10   | zircon          | trace |
| hornblende     | 7- 8   | chalcopryite    | trace |
| pyrite         | 3- 4   | tetrahedrite(?) | trace |
| <b>veinlet</b> |        |                 |       |
| calcite        | minor  |                 |       |

Plagioclase forms anhedral to subhedral grains averaging 1-2.5 mm in size. Alteration is complete to extremely fine to locally very fine grained sericite and patches of extremely fine to very fine grained calcite.

Quartz forms anhedral grains averaging 0.5-2 mm in size and a few up to 3 mm across. Grains are strained slightly to moderately.

Biotite forms subhedral to anhedral flakes averaging 0.7-2 mm in length. Alteration is complete to pseudomorphic muscovite and minor to locally very abundant lenses of calcite along biotite cleavage planes. One grain contains a few delicate, lensy patches of pyrite up to 1 mm long oriented parallel to biotite cleavage. In one grain 0.6 mm long, muscovite was replaced by very fine grained quartz.

Hornblende forms one elongate patch 8 mm long, possibly after a single grain or cluster of a few grains. It is dominated by extremely fine grained calcite/dolomite. Several other grains from 1-3.5 mm across were replaced by extremely fine grained plagioclase with minor to moderately abundant calcite and minor sericite. Commonly these minerals have a preferred orientation parallel to the original c-axis of the hornblende grain. These grains are identified as hornblende partly because they contain moderately abundant inclusions averaging 0.05-0.12 mm in size of euhedral, prismatic apatite (a common feature of hornblende in igneous rocks).

Pyrite forms disseminated, subhedral grains averaging 0.2-0.8 mm in size, concentrated slightly to moderately with biotite and hornblende. It is concentrated in a few skeletal clusters up to 2 mm across. Grains commonly contain moderately abundant, irregular silicate inclusions ranging from dusty to up to 0.1 mm in size. One grain contains numerous irregular inclusions averaging 0.01-0.04 mm in size of galena. The largest inclusion also contains a patch of a second reflective mineral, possibly tetrahedrite. Identity of these grains could be confirmed by S.E.M. analysis. A few other grains contain a few similar galena inclusions up to 0.03 mm in size.

Apatite forms a few prismatic grains up to 0.2 mm long in quartz and biotite.

Zircon forms a few equant to stubby prismatic grains averaging 0.05-0.08 mm in size.

Chalcopryite forms one grain 0.025 mm in size in quartz.

A slightly irregular, discontinuous veinlet 0.03 mm wide is of extremely fine grained calcite.

**Sample C-103182      Biotite-(Hornblende) Granodiorite: Strong Phyllic-(Argillic) Alteration;  
Some Strong Quartz-Muscovite Alteration Patches; Limonite Veinlet**

The rock is a medium grained granodiorite dominated by plagioclase and quartz with lesser K-feldspar and minor biotite. Plagioclase is replaced by sericite/muscovite and much less commonly by kaolinite(?). Probably these represent two separate stages of alteration, but it is impossible to determine their order. Biotite and hornblende are replaced by muscovite and quartz. In some patches, the original texture was destroyed and the rock replaced by quartz-sericite/muscovite. A few veinlets up to 0.3 mm wide are of limonite.

|                               |        |            |       |
|-------------------------------|--------|------------|-------|
| plagioclase                   | 30-35% | hornblende | 1- 2% |
| quartz                        | 20-25  | rutile     | 0.1   |
| K-feldspar                    | 12-15  | zircon     | trace |
| biotite                       | 2- 3   | pyrite     | trace |
| <b>interstitial patches</b>   |        |            |       |
| muscovite                     | 1- 2   |            |       |
| <b>recrystallized patches</b> |        |            |       |
| quartz                        | 12-15  |            |       |
| sericite                      | 4- 5   |            |       |
| <b>veinlets</b>               |        |            |       |
| limonite                      | 1      |            |       |

Plagioclase forms anhedral grains averaging 0.7-1.5 mm in size. A few large grains are altered moderately to cryptocrystalline to extremely fine grained sericite/illite. Alteration in most grains is complete to extremely fine to very fine grained sericite/muscovite. In many patches, the R.I. of sericite/muscovite is moderately less than that of quartz. A few patches up to 2 mm in size (after plagioclase) are of cryptocrystalline kaolinite(?) with minor to moderately abundant disseminated limonite.

Quartz forms anhedral grains averaging 0.5-1.5 mm in size and a few up to 2 mm across. Grains are strained moderately.

K-feldspar forms anhedral grains averaging 0.5-1.2 mm in size. Grains contain moderately abundant dusty hematite. It is impossible to determine if some of these are secondary or if all are primary.

Biotite forms ragged flakes averaging 0.7-1.5 mm long and a few up to 2 mm long. Alteration is complete to pseudomorphic muscovite or aggregates of extremely fine grained sericite/muscovite. Some grains also contain minor to moderately abundant patches of very fine grained quartz. Some are stained orange by minor to moderately abundant limonite.

Hornblende forms prismatic grains up to 1.7 mm long. Alteration is complete to aggregates of very fine grained quartz and muscovite.

Rutile forms grains averaging 0.02-0.08 mm in size, mainly concentrated with biotite.

Pyrite forms disseminated grains averaging 0.02-0.03 mm in size mainly included in quartz.

Zircon forms equant, subhedral grains averaging 0.05-0.1 mm in size.

A few patches up to 1 mm in size interstitial to euhedrally terminated quartz are of very fine to fine grained, radiating clusters of muscovite.

A few patches in the rock up to a few mm across were replaced completely to aggregates of quartz grains averaging 0.15-0.3 mm in size intergrown with patches of extremely fine grained sericite. A few interstitial patches up to 1 mm in size are of radiating sericite stained orange by limonite.

A few veinlets from 0.05-0.15 mm wide are of cryptocrystalline, medium brown limonite.

**Sample C-103187     Quartz Diorite: Weak to Moderate Phyllic-(Argillic) Alteration:  
Sericite/Muscovite-Quartz-Jarosite-(Kaolinite) Alteration;  
Limonite-Jarosite Veins**

The sample is a medium grained quartz diorite dominated by plagioclase and quartz with minor biotite, K-feldspar, and hornblende. Plagioclase is altered very variably from weakly to completely to sericite or sericite-quartz and minor limonite/jarosite, and locally by kaolinite-(limonite). Biotite is replaced completely by muscovite-(quartz), and hornblende is replaced completely by sericite-quartz. Veins and veinlets are of limonite.

|                                  |        |              |       |
|----------------------------------|--------|--------------|-------|
| plagioclase                      |        | biotite      | 1- 2  |
| alteration                       |        | K-feldspar   | 1     |
| weak-moderate                    | 55-60% | hornblende   | 0.2   |
| strong to sericite-(quartz)      | 10-15  | pyrite       | minor |
| complete to kaolinite-(limonite) | 1- 2   | rutile       | minor |
| quartz                           | 20-25  | zircon       | trace |
| jarosite                         | 3- 4   | chalcopyrite | trace |
| <b>veinlets</b>                  |        |              |       |
| limonite-jarosite                | 1- 2   |              |       |

Plagioclase forms anhedral grains averaging 0.7-1.5 mm in size and a few up to 3 mm across. Some grains are warped slightly. Alteration is very variable. In some grains it is slight to locally moderate to sericite with minor dusty hematite, which commonly is concentrated in a few veinlets and patches. In a few grains alteration is moderate to very fine grained sericite; these are gradational to more strongly replaced patches of extremely fine grained sericite with or with out minor to moderately abundant very fine grained quartz. A few patches up to 1 mm in size are altered to cryptocrystalline kaolinite(?) and minor to moderately abundant limonite.

Quartz is concentrated in patches up to a few mm across as anhedral grains averaging 0.7-2 mm in size. Grains are strained slightly to moderately. Some grains are recrystallized moderately along diffuse seams up to 0.1 mm wide to extremely fine grained quartz and lesser cryptocrystalline sericite. The seams probably were formed by recrystallization during weak cataclastic deformation.

Biotite forms ragged flakes averaging 0.7-1.5 mm long. Some are replaced completely by pseudomorphic muscovite with lenses of limonite parallel to cleavage. A few grains are altered more strongly to ragged patches of pseudomorphic muscovite intergrown with very fine grained quartz.

K-feldspar is concentrated in a few patches as anhedral; grains averaging 0.5-0.8 mm in size.

Hornblende forms a few prismatic grains up to 2 mm long. Alteration is to extremely fine grained sericite/muscovite and lesser extremely fine grained quartz and patches of limonite/jarosite. Sericite/muscovite is oriented parallel to the c-axis of the original grain.

Jarosite forms irregular patches averaging 0.1-0.8 mm in size of cryptocrystalline grains. Some are after very fine grained pyrite.

Pyrite forms disseminated grains averaging 0.01-0.025 mm in size and one 0.06 mm across enclosed in quartz grains.

Rutile forms disseminated grains averaging 0.02-0.05 mm in size.

Zircon forms a few subhedral prismatic grains from 0.05-1 mm long.

Chalcopyrite forms a few grains up to 0.015 mm in size in quartz.

Two veins from 0.3-0.7 mm wide are of cryptocrystalline limonite and jarosite in a poorly banded texture parallel to the length of the vein. A few veinlets up to 0.05 mm wide are of similar limonite. One veinlet contains a lens of pyrite 0.1 x 0.01 mm in size.

**Sample C-103188      Quartz Monzonite: Weak Phyllic/(Argillic) Alteration;  
Vein: Quartz-Hematite-Muscovite**

The sample is a medium grained quartz monzonite dominated by K-feldspar with lesser plagioclase and quartz with minor biotite and pyrite. Plagioclase is altered slightly to sericite/kaolinite. Biotite is replaced by muscovite-(limonite-Ti-oxide). Minor chalcopyrite is replaced mainly by covellite and locally by chalcocite. A vein is of very fine grained quartz and radiating muscovite with abundant patches of hematite.

|                           |        |
|---------------------------|--------|
| K-feldspar                | 35-40% |
| plagioclase               | 25-30  |
| quartz                    | 25-30  |
| biotite                   | 2- 3   |
| pyrite                    | 1      |
| chalcopyrite              | minor  |
| covellite                 | 0.1    |
| chalcocite                | trace  |
| <b>vein</b>               |        |
| quartz-hematite-muscovite | 3- 4   |

K-feldspar forms anhedral grains averaging 0.5-1 mm in size and a few up to 2.5 mm across. Some show Carlsbad twins and most contain moderately abundant dusty hematite.

Plagioclase forms mainly anhedral grains averaging 0.5-0.8 mm in size and a few anhedral to subhedral grains up to a few mm across. A few patches of plagioclase are of very fine, slightly to moderately interlocking grains. A few patches contain minor myrmekitic inclusions of quartz. Alteration is slight to moderate to cryptocrystalline sericite/kaolinite and minor dusty hematite. Some plagioclase grains are replaced moderately from grain borders towards cores by pseudomorph K-feldspar. A few patches up to 0.5 mm in size are of unoriented flakes of sericite averaging 0.02-0.05 mm in size.

Quartz forms anhedral grains averaging 0.5-2 mm in size. Most are strained slightly to moderately. A very few patches up to 0.8 mm across are of intimate intergrowths of quartz and K-feldspar in poorly developed graphic textures.

Biotite forms flakes averaging 0.3-0.6 mm in size and a few up to 1.5 mm long. Alteration of some grains is complete to pseudomorph muscovite with minor to moderately abundant lenses of limonite and minor ones of rutile.

Pyrite forms anhedral disseminated grains averaging 0.1-0.2 mm in size and a few up to 0.5 mm long.

Covellite forms a few patches averaging 0.05-0.08 mm in size and one 0.15 mm across of cryptocrystalline grains, in part enclosed in quartz and in part associated with sericite/chlorite. One patch 0.25 mm across of covellite contains a relic core 0.1 mm in size of chalcopyrite. Chalcopyrite forms a few inclusions up to 0.05 mm in size in pyrite. One patch 0.07 mm across has a tiny core of chalcopyrite rimmed by secondary chalcocite, which in turn is rimmed by covellite.

A vein up to 0.8 mm wide is dominated by very fine grained quartz. Extremely fine grained, semi-opaque deep red hematite forms irregular patches averaging 0.5-1 mm in size intergrown coarsely with quartz and muscovite. Muscovite forms radiating patches up to 0.15 mm long. Rutile forms one grain 0.15 mm across.

**Sample C-103191 Brecciated Quartz-(Sericite) Multi-stage Replacement;  
Late Quartz-(Limonite/Hematite)**

The rock contains disseminated, medium to coarse quartz grains enclosed in patches of very fine grained quartz intergrown with patches of extremely fine grained sericite. A few later-formed patches are of medium grained quartz. The rock was brecciated coarsely, with late veinlets and interstitial patches of quartz-(limonite-sericite) and of kaolinite-(hematite) along brecciated zones.

| quartz                    |       | veinlet, interstitial patch |      |
|---------------------------|-------|-----------------------------|------|
| medium to coarse (early?) | 7- 8% | kaolinite-(limonite)        | 1- 2 |
| extremely fine/very fine  | 30-35 | quartz-(limonite-sericite)  | 4- 5 |
| medium/coarse (late)      | 20-25 |                             |      |
| sericite                  | 10-12 |                             |      |
| limonite/jarosite         | 0.5   |                             |      |

Quartz occurs in a variety of textures. It forms a few disseminated, subhedral grains averaging 1-1.5 mm in size enclosed in finer grained quartz-rich aggregates. These may represent original coarser grains or may be associated with later quartz replacement patches.

Some quartz-rich patches up to a few mm across are dominated by equant grains averaging 0.01-0.03 mm in size. These grade into coarser grained patches of quartz averaging 0.05-0.1 mm in size. Some contain minor to moderately abundant, disseminated, extremely fine grained sericite.

Sericite forms irregular patches averaging 0.2-0.7 mm in size and a few up to 2 mm across of unoriented, extremely fine grains. These patches probably are secondary after plagioclase.

Limonite/jarosite forms a few patches up to 0.15 mm in size of cryptocrystalline grains.

Disseminated, coarser quartz grains averaging 1-2 mm across are enclosed in a groundmass of earlier-formed extremely fine grained quartz-(sericite). Quartz also occurs in patches up to a few mm across of grains averaging 1-2 mm in size, which probably formed by replacement of the finer grained quartz.

The rock was brecciated moderately along a few bands up to a few mm across. In these zones, a few coarser grained patches of quartz have subhedral to euhedral outlines against cavities which were partly filled later by extremely fine grained quartz intergrown with minor to abundant cryptocrystalline limonite and minor sericite. The brecciated zones were healed by a matrix of quartz grains averaging 0.2-0.4 mm wide with minor to moderately abundant sericite and limonite/ hematite.

One elongate interstitial patch a few mm long among subhedral to euhedral quartz grains is of cryptocrystalline to extremely fine grained kaolinite. A late veinlet averaging 0.05-0.1 mm wide is of cryptocrystalline kaolinite and minor limonite; it probably is related genetically to the interstitial patch of similar composition.

**Sample Trench 25 Brecciated Biotite Quartz Diorite: Phyllic Alteration;  
Matrix of Quartz, Limonite/Hematite and minor Sericite and Clay(?)**

The sample is a medium to coarse grained quartz diorite dominated by plagioclase and quartz with much less abundant biotite. Plagioclase is replaced completely to sericite, and biotite is replaced completely by pseudomorphic muscovite. Much of the sericite is stained orange by limonite. Pyrite forms disseminated grains, largely replaced by limonite/hematite or leached from the section. The rock was brecciated slightly to moderately, and the matrix filled by quartz, limonite/hematite, and minor sericite and clay(?). Related, late veinlets are of limonite/hematite.

|                          |        |                                 |      |
|--------------------------|--------|---------------------------------|------|
| plagioclase/sericite     | 60-65% | <b>breccia matrix, veinlets</b> |      |
| quartz                   | 17-20  | quartz                          | 3- 4 |
| biotite                  | 3- 4   | limonite/hematite               | 3- 4 |
| pyrite/limonite/hematite | 3- 4   | sericite                        | 0.5  |
| rutile                   | 0.1    | clay                            | 0.3  |
| chalcopryite             | trace  |                                 |      |
| pyrrhotite               | trace  |                                 |      |

Plagioclase forms patches up to several few mm across which are replaced variably. Some are replaced completely by extremely fine grained sericite flakes in parallel orientation, and others are replaced by unoriented, cryptocrystalline to extremely fine grained sericite flakes and minor to moderately abundant, extremely fine to very fine grained quartz. Sericite has an R.I. moderately less than that of quartz. In much of the section, sericite is variable stained pale to light orange by limonite.

Quartz forms anhedral grains averaging 0.5-1.7 mm in size. Grains are strained slightly to moderately.

Biotite forms flakes averaging 0.5-1 mm in length. Alteration is complete to pseudomorphic muscovite with minor lenses of Ti-oxide along cleavage planes. Some patches up to 1.5 mm in size of fine to medium grained muscovite are contorted strongly.

Pyrite forms disseminated subhedral to euhedral grains averaging 0.05-0.15 mm in size and a few up to 0.3 mm across. Most were altered to limonite or leached from the sample. A few fresh grains from 0.02-0.05 mm in size are included in quartz. Chalcopryite forms a few grains 0.01-0.015 mm in size included in quartz. Pyrrhotite forms a rounded bleb 0.02 mm across in quartz.

Rutile forms disseminated grains and clusters up to 0.08 mm across of grains averaging 0.02-0.05 mm in size.

Quartz forms a few veinlets averaging 0.3-0.4 mm in width of grains averaging 0.1-0.15 mm in size. A few patches in the matrix of the breccia related to the quartz veinlets contain euhedral quartz grains averaging 0.3-0.7 mm in size and subhedral grains up to 1.2 mm long.

Some patches in the breccia matrix contain minor angular quartz grains and patches up to 0.1 mm in size of sericite in a matrix of cryptocrystalline clay(?) and limonite.

Moderately abundant, braided veinlets averaging 0.03-0.1 mm wide and a few wider lenses and veins up to 0.4 mm wide are dominated by cryptocrystalline limonite/hematite.

A few patches up to 0.15 mm in size are of cryptocrystalline quartz.

Three extra polished thick sections were made of this sample to attempt to find the source of the anomalous gold values. Two contain 1-2% subhedral to euhedral pyrite grains averaging 0.05-0.1 mm in size. One contains a patch 1.7 mm long of very fine grained pyrite. Grains which are not enclosed in quartz are altered moderately to strongly from margins towards cores by limonite/hematite. Chalcopryite forms a few grains from 0.01-0.05 mm in size in quartz.

## APPENDIX 3



## GEOCHEMICAL ANALYSIS CERTIFICATE



Mincord Exploration Consultants Ltd. File # 96-4431 Page 1

110 - 325 Howe St., Vancouver, BC V6C 1Z7

| 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 |
|------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|---------|--------|-----------|-----------|---------|-----------|---------|----------|---------|---------|--------|----------|------------|
| TRENCH 12A       | 36        | 136       | 205       | 50        | .5        | 4         | <1        | 58        | 7.72    | 97        | <5       | <2        | 16        | 44        | <.2       | 4         | 2         | 14       | .05     | .074   | 27        | 9         | .04     | 354       | <.01    | <3       | .79     | .02     | .28    | 3        | 120        |
| TRENCH 13        | 3         | 60        | 10        | 76        | <.3       | 9         | 12        | 937       | 4.84    | 3         | <5       | <2        | 33        | 26        | .3        | <2        | <2        | 125      | .78     | .092   | 84        | 22        | 1.65    | 355       | .11     | <3       | 2.77    | .07     | .30    | <2       | 4          |
| TRENCH 14A       | 3         | 67        | 6         | 35        | <.3       | 9         | 5         | 313       | 5.13    | <2        | <5       | <2        | 8         | 52        | <.2       | <2        | <2        | 134      | .58     | .045   | 12        | 26        | 2.08    | 684       | .20     | <3       | 4.19    | .05     | .61    | <2       | 7          |
| TRENCH 14B       | 7         | 105       | 10        | 51        | <.3       | 12        | 13        | 448       | 5.81    | 6         | <5       | <2        | 10        | 61        | <.2       | <2        | <2        | 75       | .39     | .046   | 23        | 25        | .88     | 287       | .10     | <3       | 2.19    | .13     | .28    | 3        | 8          |
| TRENCH 15        | 2         | 45        | 7         | 43        | <.3       | 5         | 5         | 217       | 2.73    | 2         | <5       | <2        | 32        | 16        | <.2       | 3         | <2        | 37       | .28     | .050   | 35        | 13        | .60     | 185       | .01     | <3       | 1.55    | .03     | .18    | 2        | 49         |
| TRENCH 16        | 3         | 27        | 18        | 143       | <.3       | 7         | 9         | 1057      | 3.33    | 387       | 5        | <2        | 16        | 44        | .7        | <2        | <2        | 82       | .83     | .069   | 33        | 18        | 1.19    | 295       | .14     | <3       | 2.73    | .03     | .29    | <2       | 5          |
| TRENCH 18A       | 1         | 68        | 6         | 85        | .3        | 7         | 8         | 577       | 2.74    | 6         | <5       | <2        | 16        | 33        | <.2       | <2        | <2        | 37       | .75     | .071   | 65        | 6         | 1.32    | 1607      | <.01    | <3       | 2.11    | .03     | .29    | <2       | 16         |
| TRENCH 18B       | 7         | 52        | 48        | 55        | <.3       | 3         | 7         | 374       | 4.21    | 3         | <5       | <2        | 20        | 31        | .3        | <2        | <2        | 36       | .84     | .045   | 53        | 6         | 1.34    | 193       | <.01    | <3       | 2.95    | .01     | .12    | <2       | 8          |
| TRENCH 19        | 2         | 15        | 9         | 92        | <.3       | 6         | 9         | 297       | 2.55    | 32        | <5       | <2        | 20        | 22        | .6        | <2        | <2        | 49       | .30     | .044   | 25        | 14        | .48     | 258       | .02     | <3       | 1.67    | .03     | .18    | <2       | 6          |
| RE TRENCH 19     | 2         | 15        | 9         | 92        | <.3       | 6         | 9         | 292       | 2.50    | 34        | <5       | <2        | 18        | 21        | .5        | <2        | <2        | 48       | .29     | .043   | 25        | 14        | .47     | 255       | .02     | <3       | 1.64    | .03     | .18    | 2        | 6          |
| TRENCH 20        | 7         | 34        | 12        | 38        | <.3       | 6         | 13        | 372       | 3.46    | 21        | <5       | <2        | 19        | 35        | <.2       | <2        | <2        | 64       | .67     | .054   | 25        | 13        | 1.32    | 160       | .03     | <3       | 3.36    | .11     | .33    | <2       | 9          |
| TRENCH 21        | 21        | 15        | 9         | 33        | <.3       | 7         | 5         | 58        | 5.78    | 28        | 8        | <2        | 17        | 9         | .2        | <2        | <2        | 14       | .12     | .067   | 23        | 11        | .06     | 88        | <.01    | <3       | .71     | .01     | .22    | 3        | 15         |
| TRENCH 22        | 3         | 23        | 7         | 78        | .3        | 6         | 10        | 295       | 2.87    | 5         | <5       | <2        | 21        | 32        | .2        | <2        | 2         | 65       | .34     | .045   | 29        | 15        | .76     | 371       | .07     | <3       | 1.98    | .04     | .28    | 3        | 10         |
| TRENCH 24        | 2         | 101       | 9         | 23        | <.3       | 5         | 2         | 99        | 4.89    | 134       | <5       | <2        | 14        | 10        | <.2       | <2        | 11        | 60       | .10     | .051   | 17        | 19        | .73     | 223       | .01     | <3       | 1.83    | .02     | .19    | 2        | 57         |
| TRENCH 25        | 9         | 353       | 319       | 137       | 17.4      | 5         | 5         | 100       | 8.06    | 2303      | 17       | <2        | 20        | 11        | 1.7       | 21        | 46        | 12       | .09     | .061   | 35        | 12        | .06     | 246       | <.01    | <3       | .64     | .01     | .25    | 2        | 1397       |
| TRENCH 26        | 2         | 111       | 16        | 25        | <.3       | 6         | 2         | 108       | 3.22    | 72        | <5       | <2        | 33        | 18        | <.2       | <2        | 3         | 36       | .13     | .047   | 20        | 16        | .59     | 254       | <.01    | <3       | 1.38    | .02     | .13    | 42       | 189        |
| TRENCH 27A       | 6         | 114       | 19        | 18        | .4        | 5         | 2         | 29        | 3.55    | 13        | <5       | <2        | 6         | 27        | <.2       | <2        | <2        | 7        | .06     | .027   | 20        | 11        | .04     | 1546      | <.01    | 4        | .41     | .01     | .19    | 4        | 59         |
| TRENCH 27B       | 4         | 86        | 14        | 25        | <.3       | 5         | 2         | 54        | 2.42    | 3         | <5       | <2        | 7         | 15        | <.2       | <2        | <2        | 29       | .12     | .027   | 27        | 11        | .28     | 195       | <.01    | <3       | .99     | .02     | .16    | 3        | 95         |
| TRENCH 28        | 8         | 310       | 13        | 75        | 1.4       | 10        | 24        | 507       | 5.00    | 14        | <5       | <2        | 12        | 14        | <.2       | <2        | <2        | 48       | .26     | .059   | 59        | 25        | .84     | 185       | .01     | 7        | 1.44    | .02     | .15    | 2        | 142        |
| TRENCH 30        | 2         | 30        | 11        | 44        | <.3       | 4         | 4         | 248       | 2.84    | 43        | <5       | <2        | 20        | 23        | <.2       | 2         | <2        | 61       | .30     | .053   | 11        | 15        | 1.23    | 273       | <.01    | <3       | 1.77    | .04     | .07    | <2       | 9          |
| TRENCH 31A       | 2         | 35        | 14        | 72        | .3        | 6         | 12        | 621       | 2.42    | 6         | <5       | <2        | 54        | 11        | .2        | 3         | <2        | 9        | .17     | .056   | 34        | 11        | .09     | 130       | <.01    | 3        | .58     | .02     | .16    | 3        | 5          |
| TRENCH 31B       | 2         | 29        | 8         | 120       | <.3       | 7         | 13        | 1710      | 1.63    | 2         | <5       | <2        | 22        | 15        | 1.0       | 2         | <2        | 4        | .18     | .055   | 54        | 10        | .07     | 430       | <.01    | 5        | .52     | .02     | .17    | 3        | 4          |
| TRENCH 31C       | 2         | 21        | 13        | 19        | .3        | 3         | 1         | 53        | 1.50    | 7         | <5       | <2        | 16        | 25        | <.2       | <2        | <2        | 7        | .15     | .029   | 26        | 10        | .10     | 450       | <.01    | 7        | .61     | .03     | .20    | 3        | 8          |
| TRENCH 33        | 3         | 9         | 18        | 17        | .4        | 6         | 1         | 33        | 1.75    | 25        | <5       | <2        | 5         | 10        | <.2       | 2         | 3         | 3        | .03     | .010   | 19        | 14        | .03     | 671       | <.01    | 14       | .31     | .01     | .23    | 5        | 8          |
| TRENCH 34        | 2         | 11        | 19        | 32        | .4        | 3         | 2         | 138       | 1.65    | 25        | <5       | <2        | 4         | 8         | <.2       | 4         | 2         | 3        | .04     | .012   | 6         | 8         | .03     | 286       | <.01    | 5        | .28     | .01     | .23    | 3        | 8          |
| TRENCH 36        | 1         | 11        | 8         | 165       | <.3       | 9         | 8         | 608       | 2.98    | 37        | <5       | <2        | 16        | 19        | .7        | <2        | <2        | 55       | .33     | .052   | 20        | 14        | .77     | 300       | .03     | <3       | 1.85    | .04     | .14    | 2        | 1          |
| TRENCH 37        | 2         | 19        | 219       | 450       | 1.1       | 7         | 9         | 2360      | 2.90    | 451       | <5       | <2        | 18        | 14        | 3.6       | 4         | <2        | 17       | .24     | .048   | 29        | 9         | .14     | 391       | <.01    | 3        | .84     | .01     | .24    | <2       | 2          |
| TRENCH 37A       | 2         | 13        | 18        | 232       | .3        | 8         | 8         | 1088      | 2.72    | 93        | <5       | <2        | 18        | 11        | 1.3       | 2         | <2        | 23       | .22     | .053   | 26        | 13        | .14     | 250       | <.01    | 3        | .79     | .02     | .23    | 2        | 1          |
| TRENCH 40        | 2         | 22        | 5         | 67        | <.3       | 7         | 5         | 209       | 3.11    | 21        | <5       | <2        | 20        | 19        | .2        | 4         | <2        | 29       | .17     | .047   | 14        | 16        | .67     | 166       | <.01    | 3        | 1.05    | .03     | .14    | 3        | 15         |
| TRENCH 42A       | 4         | 29        | 17        | 28        | .3        | 4         | 1         | 67        | 1.92    | 3         | <5       | <2        | 13        | 10        | <.2       | <2        | 2         | 5        | .08     | .030   | 23        | 10        | .04     | 113       | <.01    | 6        | .34     | .01     | .19    | 4        | 16         |
| TRENCH 42B       | 3         | 44        | 24        | 49        | .4        | 4         | 4         | 131       | 3.02    | 8         | <5       | <2        | 13        | 13        | <.2       | <2        | 2         | 9        | .08     | .028   | 19        | 11        | .05     | 353       | <.01    | 9        | .47     | .02     | .13    | 3        | 18         |
| TRENCH 42C       | 2         | 22        | 33        | 30        | .3        | 6         | 2         | 61        | 3.60    | 55        | <5       | <2        | 17        | 11        | <.2       | 3         | <2        | 11       | .06     | .031   | 19        | 12        | .05     | 237       | <.01    | 5        | .35     | .02     | .14    | 3        | 8          |
| TRENCH 43A       | 2         | 34        | 17        | 62        | <.3       | 8         | 16        | 746       | 2.56    | 13        | <5       | <2        | 20        | 20        | .2        | <2        | 2         | 26       | .14     | .032   | 23        | 14        | .16     | 743       | .02     | 5        | .63     | .04     | .16    | 4        | 10         |
| TRENCH 43B       | 3         | 39        | 14        | 44        | <.3       | 6         | 3         | 92        | 2.78    | 21        | <5       | <2        | 15        | 12        | <.2       | <2        | <2        | 18       | .11     | .039   | 26        | 13        | .09     | 106       | <.01    | 5        | .62     | .02     | .19    | 4        | 74         |
| TRENCH 43C       | 3         | 21        | 10        | 33        | .3        | 4         | 4         | 63        | 1.69    | 6         | <5       | <2        | 14        | 11        | <.2       | 2         | <2        | 4        | .05     | .018   | 15        | 10        | .03     | 350       | <.01    | 5        | .33     | .01     | .22    | 3        | 8          |
| STANDARD C2/AU-R | 22        | 62        | 43        | 145       | 7.0       | 76        | 36        | 1196      | 3.91    | 38        | 16       | 8         | 39        | 52        | 20.0      | 15        | 17        | 76       | .57     | .108   | 44        | 68        | 1.04    | 197       | .09     | 28       | 2.07    | .06     | .15    | 10       | 473        |

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: ROCK AU\* - IGNITED, AQUA-REGIA/MIBK EXTRACT, GF/AA FINISHED.

Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: SEP 11 1996 DATE REPORT MAILED: *Sep 24/96* SIGNED BY: *[Signature]* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

| 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 |
|------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|---------|--------|-----------|-----------|---------|-----------|---------|----------|---------|---------|--------|----------|------------|
| TRENCH 64        | <1        | 132       | 15        | 58        | .6        | 4         | 9         | 456       | 4.61    | 42        | <5       | <2        | 10        | 22        | .3        | 2         | 28        | 81       | .62     | .061   | 18        | 17        | 1.48    | 87        | .10     | 3        | 1.98    | .05     | .43    | <2       | 118        |
| TRENCH 66        | 1         | 45        | 138       | 32        | <.3       | 2         | 1         | 71        | 1.64    | 2         | <5       | <2        | 19        | 51        | <.2       | <2        | <2        | 3        | .32     | .030   | 22        | 5         | .40     | 199       | <.01    | <3       | 3.00    | .02     | .10    | 3        | 9          |
| TRENCH 67        | 1         | 22        | 7         | 6         | <.3       | 3         | <1        | 31        | 1.64    | 2         | <5       | <2        | 22        | 15        | <.2       | 4         | <2        | 3        | .07     | .023   | 33        | 11        | .12     | 122       | .01     | <3       | .53     | .04     | .29    | 3        | 39         |
| TRENCH 70A       | 15        | 97        | 7         | 18        | <.3       | 9         | 1         | 50        | 1.93    | 5         | <5       | <2        | 9         | 26        | <.2       | 2         | <2        | 28       | .06     | .032   | 13        | 29        | .22     | 240       | .04     | <3       | .81     | .03     | .37    | 4        | 34         |
| TRENCH 70B       | 14        | 231       | 3         | 47        | <.3       | 24        | 9         | 274       | 6.23    | <2        | <5       | <2        | 5         | 99        | .4        | <2        | <2        | 132      | .23     | .086   | 13        | 32        | 2.16    | 1266      | .30     | <3       | 4.72    | .09     | 1.54   | 5        | 21         |
| TRENCH 71        | 4         | 35        | 7         | 17        | <.3       | 9         | 4         | 88        | 2.35    | 14        | <5       | <2        | 14        | 25        | <.2       | <2        | <2        | 20       | .16     | .041   | 31        | 17        | .26     | 135       | .03     | <3       | .93     | .03     | .20    | 3        | 17         |
| TRENCH 72        | 3         | 10        | 5         | 4         | .3        | 5         | 2         | 70        | 1.47    | 3         | <5       | <2        | 10        | 7         | <.2       | 5         | <2        | 2        | .02     | .009   | 26        | 11        | .04     | 134       | <.01    | <3       | .38     | .01     | .22    | 3        | 5          |
| TRENCH 74        | 25        | 254       | 7         | 23        | <.3       | 6         | 2         | 100       | 2.61    | 5         | <5       | <2        | 14        | 23        | <.2       | <2        | <2        | 32       | .20     | .033   | 12        | 11        | .54     | 163       | .03     | <3       | 1.93    | .03     | .16    | 3        | 34         |
| TRENCH 76        | 2         | 14        | 3         | 5         | <.3       | 3         | <1        | 25        | .84     | 2         | <5       | <2        | 12        | 7         | .2        | <2        | <2        | 2        | .01     | .011   | 27        | 13        | .03     | 96        | <.01    | <3       | .32     | .01     | .24    | 4        | 19         |
| TRENCH 93-3      | 2         | 110       | 6         | 29        | <.3       | 3         | 14        | 144       | 4.75    | 101       | <5       | <2        | 15        | 17        | .3        | <2        | 2         | 49       | .19     | .051   | 17        | 11        | .84     | 57        | .01     | <3       | 1.74    | .02     | .20    | 3        | 135        |
| RE TRENCH 93-3   | 1         | 112       | 3         | 27        | <.3       | 3         | 14        | 146       | 4.81    | 102       | <5       | <2        | 15        | 16        | .2        | <2        | 3         | 50       | .20     | .052   | 17        | 11        | .86     | 49        | .01     | <3       | 1.77    | .02     | .20    | 2        | 97         |
| TRENCH 96-24     | 2         | 64        | 5         | 22        | <.3       | 3         | 1         | 106       | 4.98    | 138       | <5       | <2        | 14        | 11        | <.2       | <2        | 17        | 61       | .11     | .051   | 18        | 14        | .80     | 160       | <.01    | <3       | 1.81    | .02     | .16    | 3        | 118        |
| TRENCH 96-52     | 1         | 58        | 5         | 54        | <.3       | 3         | 3         | 277       | 3.15    | 84        | <5       | <2        | 14        | 10        | <.2       | <2        | 3         | 21       | .04     | .034   | 24        | 10        | .52     | 114       | <.01    | <3       | 1.38    | .02     | .22    | 3        | 85         |
| TRENCH 96-67     | 2         | 27        | 4         | 4         | <.3       | 5         | 1         | 31        | 1.04    | 2         | <5       | <2        | 15        | 12        | <.2       | <2        | <2        | 3        | .06     | .010   | 33        | 13        | .11     | 140       | .01     | <3       | .53     | .04     | .26    | 4        | 19         |
| TRENCH 96-70A    | 33        | 48        | 4         | 7         | <.3       | 5         | <1        | 40        | 1.71    | 15        | <5       | <2        | 4         | 32        | <.2       | <2        | 2         | 12       | .03     | .026   | 9         | 20        | .06     | 122       | .01     | <3       | .27     | .02     | .26    | 7        | 25         |
| TRENCH 96-70B    | 8         | 184       | <3        | 40        | <.3       | 31        | 9         | 268       | 8.37    | <2        | <5       | <2        | 16        | 119       | 1.3       | <2        | <2        | 235      | .43     | .133   | 16        | 47        | 3.50    | 2199      | .54     | 3        | 6.18    | .10     | 2.71   | 7        | 21         |
| TRENCH 96-72     | 11        | 11        | <3        | 2         | <.3       | 7         | 3         | 86        | 1.93    | 4         | <5       | <2        | 14        | 5         | <.2       | <2        | 2         | 3        | .02     | .010   | 28        | 12        | .04     | 84        | <.01    | <3       | .43     | .01     | .25    | 4        | 6          |
| TRENCH 96-75     | 3         | 143       | <3        | 26        | <.3       | 20        | 7         | 165       | 3.34    | <2        | <5       | <2        | 8         | 32        | <.2       | <2        | <2        | 63       | .39     | .091   | 22        | 36        | 1.55    | 461       | .13     | <3       | 1.90    | .05     | .43    | <2       | 5          |
| TRENCH 96-76     | 3         | 12        | 3         | 3         | <.3       | 5         | <1        | 37        | .99     | 3         | <5       | <2        | 12        | 7         | <.2       | <2        | <2        | 2        | .01     | .012   | 29        | 16        | .03     | 104       | <.01    | 3        | .34     | .01     | .26    | 7        | 12         |
| TP 96-6          | 3         | 42        | 28        | 14        | .4        | 4         | 3         | 173       | 3.13    | 46        | <5       | <2        | 6         | 20        | <.2       | 5         | 4         | 7        | .03     | .031   | 23        | 11        | .03     | 161       | <.01    | <3       | .42     | .01     | .22    | 4        | 99         |
| TP 7             | 5         | 53        | 10        | 7         | <.3       | 3         | 1         | 37        | 1.92    | 8         | <5       | <2        | 10        | 14        | <.2       | <2        | 2         | 6        | .02     | .018   | 20        | 12        | .08     | 1160      | <.01    | <3       | .55     | .01     | .26    | 3        | 18         |
| TR 13A           | 47        | 36        | 3         | 5         | <.3       | 3         | 1         | 26        | 1.40    | <2        | <5       | <2        | 8         | 14        | <.2       | 2         | <2        | 3        | .02     | .006   | 23        | 9         | .04     | 1034      | <.01    | <3       | .43     | .01     | .25    | 3        | 19         |
| TR 13B           | 19        | 95        | 6         | 27        | <.3       | 5         | 2         | 66        | 2.89    | 3         | <5       | <2        | 24        | 41        | <.2       | 3         | <2        | 27       | .09     | .029   | 20        | 10        | .26     | 668       | .04     | <3       | 1.58    | .03     | .26    | 3        | 33         |
| TR 13C           | 176       | 191       | 41        | 30        | <.3       | 4         | <1        | 59        | 9.69    | 354       | 7        | <2        | 39        | 219       | 1.4       | 4         | <2        | 21       | .07     | .137   | 34        | 10        | .05     | 232       | <.01    | <3       | .59     | .03     | .52    | 3        | 42         |
| TR 13D           | 17        | 34        | 14        | 7         | <.3       | 4         | <1        | 34        | 1.90    | 9         | <5       | <2        | 10        | 24        | <.2       | <2        | 2         | 6        | .03     | .016   | 27        | 10        | .06     | 142       | <.01    | <3       | .50     | .01     | .33    | 3        | 26         |
| 93-2-A           | 2         | 127       | 7         | 36        | <.3       | 5         | 2         | 211       | 3.73    | 17        | <5       | <2        | 16        | 19        | <.2       | <2        | <2        | 69       | .44     | .057   | 33        | 16        | 1.19    | 107       | .07     | <3       | 1.51    | .05     | .17    | 2        | 57         |
| 93-2-B           | 3         | 121       | 10        | 21        | .3        | 4         | 5         | 106       | 4.99    | 62        | <5       | <2        | 7         | 21        | .2        | <2        | 6         | 37       | .27     | .032   | 11        | 13        | .85     | 47        | .02     | 9        | .97     | .07     | .15    | 2        | 340        |
| 93-2-C           | 3         | 187       | 22        | 19        | .8        | 3         | 34        | 92        | 8.13    | 381       | <5       | <2        | 5         | 20        | .4        | <2        | 10        | 24       | .10     | .026   | 6         | 8         | .79     | 18        | .01     | 10       | .98     | .07     | .20    | 2        | 1837       |
| 93-2-D           | 1         | 210       | 8         | 40        | <.3       | 5         | 9         | 247       | 3.97    | 23        | <5       | <2        | 13        | 17        | .3        | <2        | 2         | 72       | .46     | .058   | 20        | 16        | 1.43    | 70        | .03     | <3       | 1.74    | .05     | .12    | 2        | 95         |
| C 103194         | 4         | 45        | 9         | 8         | <.3       | 2         | 1         | 99        | 2.58    | 30        | <5       | <2        | 20        | 47        | <.2       | 3         | <2        | 6        | .06     | .034   | 20        | 5         | .14     | 544       | <.01    | <3       | 1.01    | .01     | .32    | 2        | 354        |
| C 103195         | 1         | 45        | 3         | 48        | <.3       | 8         | 16        | 467       | 3.68    | <2        | <5       | <2        | 4         | 205       | .6        | <2        | <2        | 126      | 3.34    | .101   | 9         | 20        | 1.18    | 928       | .28     | <3       | 5.81    | .43     | .65    | <2       | 13         |
| C 103196         | 2         | 17        | 11        | 10        | <.3       | 2         | 1         | 37        | 1.37    | 7         | <5       | <2        | 6         | 19        | <.2       | <2        | 2         | 6        | .04     | .018   | 26        | 6         | .04     | 998       | <.01    | <3       | .44     | .01     | .21    | 2        | 296        |
| C 103197         | 5         | 14        | 84        | 69        | .8        | 3         | 1         | 148       | 1.32    | 78        | <5       | <2        | 9         | 13        | .8        | 2         | 7         | 7        | .10     | .010   | 16        | 8         | .07     | 140       | .01     | <3       | .49     | .02     | .23    | 3        | 44         |
| C 103198         | 7         | 6         | 29        | 124       | <.3       | 4         | 2         | 277       | 1.69    | 42        | 5        | <2        | 13        | 14        | 1.0       | 2         | <2        | 9        | .09     | .017   | 24        | 7         | .04     | 93        | <.01    | 4        | .50     | .01     | .21    | 2        | 7          |
| STANDARD C2/AU-R | 20        | 59        | 39        | 141       | 7.1       | 72        | 35        | 1230      | 3.98    | 40        | 17       | 8         | 36        | 52        | 19.7      | 16        | 17        | 74       | .59     | .109   | 42        | 65        | 1.06    | 199       | .08     | 27       | 2.10    | .06     | .14    | 12       | 452        |

Sample type: ROCK. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

| 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 |
|------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|---------|--------|-----------|-----------|---------|-----------|---------|----------|---------|---------|--------|----------|------------|
| TRENCH 44A       | 3         | 17        | 51        | 8         | 2.2       | 3         | <1        | 39        | 1.67    | 29        | <5       | <2        | 5         | 14        | <2        | 3         | 56        | 4        | .01     | .011   | 18        | 8         | .03     | 183       | <.01    | 14       | .31     | .01     | .32    | 10       | 181        |
| TRENCH 44B       | 3         | 8         | 14        | 3         | .3        | 4         | 2         | 30        | 3.13    | 37        | <5       | <2        | 12        | 10        | <2        | <2        | 5         | 4        | .01     | .021   | 24        | 11        | .02     | 96        | <.01    | 7        | .24     | .02     | .58    | 4        | 22         |
| TRENCH 44C       | 3         | 22        | 12        | 27        | <.3       | 4         | 3         | 134       | 3.27    | 16        | <5       | <2        | 19        | 13        | <2        | <2        | 4         | 7        | .01     | .038   | 28        | 10        | .05     | 257       | <.01    | 3        | .43     | .03     | .47    | 3        | 10         |
| TRENCH 44D       | 2         | 20        | 18        | 19        | .3        | 3         | 2         | 53        | 3.42    | 24        | <5       | <2        | 13        | 18        | <2        | <2        | 2         | 10       | .01     | .023   | 17        | 9         | .05     | 132       | <.01    | <3       | .47     | .07     | .48    | 3        | 27         |
| TRENCH 44E       | 3         | 22        | 11        | 6         | <.3       | 5         | 1         | 26        | 1.91    | 12        | <5       | <2        | 16        | 16        | <2        | <2        | 2         | 10       | .03     | .029   | 29        | 11        | .12     | 227       | <.01    | <3       | .75     | .03     | .37    | 3        | 48         |
| TRENCH 44F       | 2         | 40        | 9         | 14        | <.3       | 5         | 3         | 66        | 3.37    | 21        | <5       | <2        | 17        | 20        | <2        | <2        | 3         | 9        | .02     | .033   | 20        | 10        | .06     | 182       | <.01    | 6        | .48     | .07     | .43    | 3        | 46         |
| TRENCH 44G       | 3         | 25        | 8         | 6         | <.3       | 4         | <1        | 33        | 2.82    | 25        | <5       | <2        | 13        | 16        | <2        | <2        | 2         | 6        | .02     | .027   | 13        | 11        | .03     | 120       | <.01    | 10       | .36     | .08     | .46    | 3        | 203        |
| TRENCH 44H       | 1         | 88        | 10        | 47        | <.3       | 6         | 1         | 267       | 3.84    | 8         | <5       | <2        | 15        | 33        | <2        | <2        | <2        | 94       | .16     | .042   | 14        | 17        | 1.37    | 418       | .12     | <3       | 2.52    | .09     | .45    | 2        | 28         |
| TRENCH 44I       | 4         | 15        | 8         | 4         | .3        | 4         | <1        | 25        | 3.71    | 7         | <5       | <2        | 8         | 12        | <2        | <2        | 3         | 5        | .01     | .010   | 5         | 12        | .03     | 77        | <.01    | 7        | .28     | .09     | .63    | 4        | 200        |
| TRENCH 45        | 2         | 17        | 15        | 69        | .5        | 6         | 6         | 257       | 3.31    | 32        | <5       | <2        | 12        | 63        | <2        | <2        | 2         | 57       | .14     | .056   | 11        | 15        | 1.05    | 53        | .01     | <3       | 1.46    | .04     | .14    | <2       | 21         |
| TRENCH 46        | 3         | 13        | 8         | 8         | .4        | 5         | 2         | 30        | 2.52    | 58        | <5       | <2        | 4         | 5         | <2        | <2        | 2         | 7        | .01     | .006   | 16        | 12        | .04     | 189       | <.01    | 3        | .38     | .01     | .30    | 4        | 103        |
| TRENCH 47        | 4         | 9         | 15        | 5         | .3        | 6         | 4         | 33        | 4.02    | 18        | <5       | <2        | 4         | 5         | <2        | <2        | <2        | 3        | .02     | .009   | 2         | 17        | .03     | 35        | <.01    | 37       | .24     | .02     | .17    | 5        | 23         |
| TRENCH 48        | 8         | 12        | 11        | 5         | .8        | 6         | <1        | 37        | 2.51    | 63        | <5       | <2        | 4         | 10        | <2        | <2        | 6         | 4        | .04     | .022   | 3         | 15        | .03     | 101       | <.01    | 7        | .34     | .05     | .33    | 4        | 149        |
| TRENCH 49        | 2         | 11        | 16        | 4         | .3        | 3         | 1         | 28        | 1.90    | 3         | <5       | <2        | 9         | 9         | <2        | <2        | <2        | 11       | .03     | .013   | 13        | 11        | .06     | 227       | <.01    | 3        | .44     | .03     | .30    | 3        | 18         |
| TRENCH 50        | 3         | 116       | 10        | 38        | <.3       | 6         | 4         | 212       | 3.03    | 16        | <5       | <2        | 20        | 31        | <2        | <2        | 3         | 30       | .09     | .042   | 13        | 12        | .58     | 521       | <.01    | 4        | 1.33    | .02     | .15    | 2        | 48         |
| TRENCH 50A       | 2         | 33        | 22        | 74        | <.3       | 5         | 4         | 432       | 4.36    | 19        | <5       | <2        | 21        | 36        | .3        | <2        | <2        | 87       | .34     | .054   | 19        | 15        | 1.20    | 469       | .19     | <3       | 2.07    | .07     | .48    | 2        | 26         |
| RE TRENCH 50A    | 2         | 34        | 25        | 75        | <.3       | 7         | 4         | 444       | 4.46    | 21        | <5       | <2        | 22        | 37        | .3        | <2        | <2        | 90       | .35     | .055   | 20        | 16        | 1.24    | 476       | .19     | <3       | 2.13    | .08     | .49    | 2        | 21         |
| TRENCH 51        | 2         | 17        | 25        | 5         | 1.4       | 4         | <1        | 29        | 1.41    | 16        | <5       | <2        | 9         | 7         | <2        | 2         | 9         | 7        | .01     | .010   | 24        | 10        | .03     | 170       | <.01    | 4        | .43     | .01     | .38    | 4        | 152        |
| TRENCH 52        | 1         | 52        | 9         | 70        | <.3       | 3         | 1         | 348       | 3.08    | 39        | <5       | <2        | 14        | 10        | <2        | <2        | <2        | 40       | .04     | .033   | 25        | 10        | .89     | 72        | <.01    | <3       | 1.93    | .02     | .19    | 2        | 97         |
| TRENCH 53        | 2         | 12        | 13        | 5         | .9        | 4         | <1        | 30        | 1.45    | 13        | <5       | <2        | 11        | 36        | <2        | 3         | 4         | 4        | .02     | .017   | 27        | 12        | .03     | 127       | <.01    | 27       | .27     | .02     | .33    | 4        | 20         |
| TRENCH 54        | 4         | 15        | 17        | 6         | .3        | 4         | <1        | 46        | 2.41    | 58        | <5       | <2        | 8         | 14        | <2        | 3         | 5         | 11       | .05     | .015   | 13        | 10        | .11     | 220       | .01     | 3        | .61     | .04     | .49    | 3        | 85         |
| TRENCH 55        | 2         | 11        | 8         | 4         | <.3       | 4         | <1        | 29        | .91     | 10        | <5       | <2        | 5         | 5         | <2        | 2         | <2        | 2        | .02     | .003   | 6         | 10        | .05     | 90        | <.01    | 3        | .29     | .04     | .15    | 4        | 20         |
| TRENCH 56        | 1         | 40        | 7         | 59        | <.3       | 5         | 5         | 372       | 3.58    | 5         | <5       | <2        | 13        | 35        | <2        | <2        | <2        | 92       | .20     | .032   | 14        | 15        | 1.45    | 287       | .10     | <3       | 2.53    | .08     | .36    | <2       | 30         |
| TRENCH 57A       | 2         | 57        | 54        | 24        | 2.0       | 6         | 2         | 138       | 4.40    | 194       | <5       | <2        | 15        | 31        | <2        | <2        | 15        | 35       | .09     | .035   | 23        | 13        | .36     | 195       | .02     | 3        | .97     | .09     | .34    | 2        | 269        |
| TRENCH 57B       | 2         | 53        | 11        | 64        | .4        | 6         | 7         | 389       | 4.20    | 20        | <5       | <2        | 20        | 30        | <2        | <2        | <2        | 90       | .30     | .056   | 31        | 17        | 1.25    | 367       | .13     | <3       | 2.11    | .09     | .46    | <2       | 32         |
| TRENCH 59A       | 1         | 99        | 19        | 60        | .5        | 4         | 3         | 208       | 3.61    | 11        | 6        | <2        | 25        | 14        | <2        | 4         | <2        | 48       | .27     | .048   | 26        | 10        | .56     | 42        | <.01    | <3       | 1.57    | .02     | .09    | <2       | 28         |
| TRENCH 59B       | 2         | 69        | 87        | 59        | .9        | 3         | 3         | 71        | 2.50    | 70        | 5        | <2        | 12        | 19        | <2        | 3         | 4         | 16       | .13     | .031   | 36        | 9         | .11     | 93        | <.01    | 3        | .64     | .03     | .21    | 3        | 119        |
| TRENCH 59C       | 1         | 87        | 23        | 79        | .9        | 4         | 4         | 247       | 3.26    | 62        | <5       | <2        | 19        | 59        | <2        | <2        | 4         | 21       | .21     | .043   | 34        | 9         | .21     | 148       | <.01    | 5        | 1.01    | .02     | .25    | 9        | 1340       |
| TRENCH 59D       | 1         | 91        | 24        | 27        | 1.8       | 4         | 1         | 67        | 2.77    | 50        | <5       | <2        | 16        | 47        | <2        | 2         | 7         | 15       | .10     | .033   | 30        | 9         | .13     | 169       | <.01    | <3       | .79     | .01     | .28    | 3        | 332        |
| TRENCH 61        | 1         | 46        | 17        | 67        | .3        | 4         | 5         | 358       | 3.13    | 2         | <5       | <2        | 14        | 15        | <2        | <2        | 2         | 59       | .19     | .051   | 16        | 12        | 1.13    | 40        | <.01    | <3       | 1.64    | .06     | .11    | <2       | 44         |
| TRENCH 62        | 1         | 92        | 10        | 53        | .5        | 6         | 5         | 441       | 3.27    | 8         | <5       | <2        | 12        | 18        | <2        | <2        | 3         | 71       | .52     | .049   | 22        | 14        | 1.28    | 101       | .06     | <3       | 1.53    | .05     | .27    | <2       | 27         |
| TRENCH 63A       | 2         | 104       | 9         | 72        | .5        | 5         | 8         | 535       | 4.09    | 42        | <5       | <2        | 19        | 25        | <2        | 3         | 3         | 68       | .29     | .055   | 26        | 14        | 1.17    | 160       | .02     | <3       | 2.07    | .04     | .18    | <2       | 16         |
| TRENCH 63B       | 1         | 83        | 12        | 46        | .3        | 3         | 1         | 305       | 4.15    | 64        | <5       | <2        | 16        | 20        | <2        | 2         | 4         | 59       | .15     | .047   | 20        | 12        | 1.12    | 78        | .01     | <3       | 2.32    | .07     | .16    | <2       | 46         |
| TRENCH 63C       | 3         | 62        | 15        | 58        | .4        | 6         | 14        | 912       | 4.49    | 67        | <5       | <2        | 18        | 21        | <2        | <2        | 4         | 56       | .16     | .050   | 32        | 12        | .75     | 180       | .02     | <3       | 2.29    | .02     | .35    | <2       | 48         |
| TRENCH 63D       | 2         | 47        | 12        | 57        | .3        | 8         | 4         | 474       | 3.45    | 11        | <5       | <2        | 14        | 40        | .2        | <2        | <2        | 76       | .79     | .053   | 28        | 18        | 1.26    | 196       | .11     | <3       | 2.14    | .09     | .68    | <2       | 15         |
| STANDARD C2/AU-R | 22        | 63        | 44        | 148       | 7.2       | 76        | 37        | 1238      | 4.12    | 39        | 18       | 7         | 39        | 54        | 20.2      | 15        | 20        | 78       | .59     | .105   | 44        | 68        | 1.09    | 198       | .09     | 29       | 2.15    | .06     | .14    | 11       | 470        |

Sample type: ROCK. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.



| SAMPLE#                    | Mo  | Cu  | Pb  | Zn  | Ag  | Ni  | Co  | Mn  | Fe    | As  | U   | Au  | Th  | Sr  | Cd  | Sb  | Bi  | V   | Ca  | P    | La  | Cr  | Mg   | Ba  | Ti   | B   | Al   | Na  | K   | W   | Au* |
|----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|------|-----|------|-----|------|-----|-----|-----|-----|
|                            | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | %     | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | %   | %    | ppm | ppm | %    | ppm | %    | ppm | %    | %   | %   | ppm | ppb |
| CC DRILL ROAD 7200W 11950N | 4   | 89  | 24  | 33  | 3.0 | 9   | 15  | 406 | 10.75 | 152 | <5  | <2  | 8   | 6   | <.2 | 45  | <2  | 9   | .03 | .038 | 13  | 14  | <.01 | 51  | .01  | 7   | .38  | .01 | .09 | 3   | 376 |
| CC DRILL ROAD 7200W 12100N | 1   | 5   | 5   | 78  | <.3 | 5   | 4   | 217 | 1.58  | 2   | <5  | <2  | 14  | 99  | <.2 | <2  | <2  | 24  | .97 | .028 | 28  | 9   | .38  | 674 | .15  | <3  | 2.15 | .31 | .32 | <2  | 6   |
| NO NAME A                  | 1   | 132 | 10  | 32  | <.3 | 5   | 4   | 138 | 4.61  | 23  | <5  | <2  | 13  | 19  | <.2 | 2   | 9   | 36  | .15 | .046 | 21  | 11  | 1.14 | 251 | .03  | <3  | 2.48 | .02 | .37 | <2  | 18  |
| NO NAME B                  | 63  | 309 | 23  | 69  | <.3 | 5   | 6   | 122 | 14.54 | 149 | 6   | <2  | 15  | 12  | <.2 | 4   | 2   | 10  | .04 | .108 | 33  | 11  | <.01 | 380 | <.01 | <3  | .87  | .01 | .17 | 4   | 121 |

Sample type: ROCK.

## GEOCHEMICAL ANALYSIS CERTIFICATE

Mincord Exploration Consultants Ltd. File # 96-4432 Page 1

110 - 325 Howe St., Vancouver BC V6C 1Z7

| 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 |
|------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|---------|--------|-----------|-----------|---------|-----------|---------|----------|---------|---------|--------|----------|------------|
| C 103159         | 2         | 22        | 31        | 46        | <.3       | 5         | 2         | 174       | 1.43    | 225       | 5        | <2        | <2        | 8         | <.2       | 26        | <2        | 4        | .08     | .004   | 3         | 16        | .02     | 183       | <.01    | <3       | .14     | .01     | .10    | 5        | 9          |
| C 103160         | 117       | 2156      | 21        | 104       | .4        | 8         | 11        | 855       | 19.77   | 5         | 17       | <2        | 14        | 13        | <.2       | <2        | <2        | 36       | .10     | .032   | 9         | 10        | .21     | 172       | .04     | <3       | 1.32    | .02     | .14    | <2       | 59         |
| C 103161         | 2         | 126       | 65        | 210       | 1.0       | 6         | 10        | 1509      | 3.55    | 282       | <5       | <2        | 10        | 29        | 1.3       | <2        | <2        | 11       | 1.30    | .058   | 7         | 9         | .41     | 107       | <.01    | 4        | .51     | <.01    | .27    | <2       | 37         |
| C 103162         | 4         | 89        | 225       | 432       | 1.9       | 5         | 8         | 1615      | 3.65    | 1136      | <5       | <2        | 2         | 21        | 3.9       | 7         | <2        | 5        | 1.73    | .008   | 2         | 16        | .78     | 30        | <.01    | 3        | .16     | .01     | .04    | 2        | 409        |
| C 103163         | 2         | 13        | 11        | 73        | <.3       | 7         | 7         | 558       | 2.82    | 18        | 6        | <2        | 19        | 33        | <.2       | <2        | <2        | 74       | .59     | .049   | 28        | 18        | .95     | 578       | .24     | <3       | 1.61    | .14     | .66    | 3        | 5          |
| C 103164         | 2         | 35        | 79        | 232       | .9        | 7         | 10        | 2577      | 2.82    | 173       | <5       | <2        | 10        | 36        | 2.0       | 2         | <2        | 20       | 2.17    | .059   | 11        | 14        | .60     | 118       | <.01    | 4        | .56     | .01     | .27    | <2       | 44         |
| C 103165         | 6         | 13        | 286       | 36        | 3.9       | 5         | <1        | 82        | 3.75    | 1716      | <5       | <2        | 15        | 72        | <.2       | 6         | 13        | 6        | .15     | .045   | 15        | 12        | .04     | 152       | <.01    | 4        | .29     | .02     | .50    | 4        | 61         |
| C 103166         | 1         | 72        | 21        | 206       | .5        | 8         | 13        | 2457      | 3.43    | 41        | <5       | <2        | 14        | 46        | 1.7       | <2        | <2        | 48       | 1.65    | .054   | 21        | 12        | .97     | 325       | <.01    | <3       | 1.66    | .03     | .20    | <2       | 15         |
| C 103167         | 2         | 63        | 777       | 85        | 17.1      | 5         | 1         | 136       | 7.31    | 343       | 7        | <2        | 13        | 44        | .5        | 501       | 31        | 23       | .21     | .042   | 13        | 11        | .13     | 75        | .01     | 6        | .55     | .03     | 1.00   | <2       | 375        |
| C 103168         | 1         | 42        | 24        | 268       | .7        | 6         | 14        | 2387      | 3.36    | 36        | <5       | <2        | 15        | 29        | 2.4       | 2         | 2         | 44       | 1.24    | .057   | 22        | 12        | .74     | 207       | .02     | 3        | 1.17    | .03     | .22    | <2       | 19         |
| C 103169         | 1         | 39        | 115       | 125       | 3.7       | 4         | 6         | 1356      | 4.72    | 293       | <5       | <2        | 22        | 54        | 1.6       | 6         | 11        | 11       | 1.01    | .045   | 20        | 9         | .34     | 75        | <.01    | 5        | .52     | .01     | .65    | <2       | 82         |
| C 103170         | 2         | 14        | 216       | 36        | 8.2       | 4         | <1        | 149       | 4.71    | 547       | <5       | <2        | 11        | 43        | <.2       | 2         | 20        | 6        | .19     | .034   | 7         | 10        | .06     | 67        | <.01    | 5        | .43     | .01     | .84    | 3        | 257        |
| C 103171         | 2         | 90        | 12        | 44        | .6        | 4         | 1         | 115       | 5.52    | 43        | <5       | <2        | 14        | 41        | <.2       | 3         | 3         | 42       | .27     | .054   | 31        | 11        | .13     | 126       | <.01    | <3       | .82     | .01     | .59    | 3        | 38         |
| C 103172         | 1         | 102       | 9         | 70        | .6        | 6         | 10        | 872       | 3.25    | 4         | <5       | <2        | 17        | 42        | .4        | <2        | 2         | 70       | .71     | .048   | 30        | 16        | 1.12    | 600       | .07     | <3       | 1.56    | .07     | .24    | <2       | 106        |
| C 103173         | 3         | 56        | 37        | 22        | .8        | 7         | 7         | 96        | 1.87    | 32        | 5        | <2        | 5         | 15        | <.2       | 5         | 5         | 8        | .06     | .010   | 11        | 15        | .04     | 146       | <.01    | <3       | .39     | .01     | .31    | 5        | 219        |
| C 103173 A       | 2         | 110       | 9         | 52        | .6        | 5         | 8         | 566       | 2.46    | 3         | <5       | <2        | 18        | 44        | .2        | <2        | 3         | 49       | .59     | .049   | 30        | 14        | 1.00    | 812       | .07     | <3       | 1.48    | .03     | .22    | 2        | 23         |
| C 103174         | 1         | 20        | 8         | 61        | <.3       | 6         | 8         | 547       | 3.16    | 5         | <5       | <2        | 17        | 43        | <.2       | <2        | <2        | 74       | .54     | .052   | 21        | 17        | 1.13    | 599       | .14     | <3       | 1.72    | .09     | .42    | 2        | 32         |
| C 103175         | 34        | 68        | 27        | 29        | .6        | 4         | 3         | 268       | 6.21    | 116       | 5        | <2        | 34        | 106       | <.2       | 8         | 4         | 52       | .29     | .084   | 34        | 12        | .23     | 87        | .01     | 4        | .96     | .04     | .80    | 2        | 69         |
| C 103176         | 2         | 17        | 23        | 7         | 1.0       | 5         | 1         | 69        | 1.57    | 20        | 9        | <2        | 6         | 15        | <.2       | 5         | 4         | 5        | .04     | .008   | 9         | 15        | .04     | 197       | <.01    | 3        | .31     | .01     | .32    | 5        | 98         |
| C 103177         | 3         | 22        | 21        | 6         | .4        | 4         | 1         | 24        | 2.29    | 14        | <5       | <2        | 12        | 20        | <.2       | 3         | 2         | 4        | .04     | .013   | 20        | 11        | .05     | 234       | <.01    | <3       | .43     | .01     | .28    | 3        | 40         |
| C 103178         | 26        | 23        | 12        | 12        | <.3       | 4         | 1         | 34        | 2.44    | 6         | <5       | <2        | 20        | 21        | <.2       | 2         | <2        | 16       | .07     | .023   | 17        | 13        | .14     | 605       | .01     | <3       | .79     | .02     | .24    | 3        | 16         |
| C 103180         | 4         | 23        | 11        | 8         | .3        | 3         | <1        | 21        | 2.24    | 12        | <5       | <2        | 8         | 11        | <.2       | <2        | <2        | 4        | .05     | .010   | 23        | 9         | .09     | 326       | <.01    | <3       | .60     | .01     | .29    | 2        | 49         |
| C 103181         | 2         | 18        | 11        | 5         | <.3       | 3         | <1        | 18        | 2.14    | <2        | <5       | <2        | 10        | 6         | <.2       | <2        | <2        | 3        | .04     | .014   | 27        | 9         | .07     | 171       | <.01    | <3       | .53     | .01     | .22    | 3        | 6          |
| C 103182         | 3         | 33        | 18        | 9         | <.3       | 3         | 1         | 25        | 2.53    | 4         | <5       | <2        | 22        | 10        | <.2       | 2         | <2        | 12       | .06     | .032   | 21        | 10        | .11     | 415       | <.01    | <3       | .67     | .01     | .20    | 2        | 10         |
| C 103183         | 2         | 42        | 6         | 16        | <.3       | 3         | 1         | 31        | 2.63    | 6         | <5       | <2        | 15        | 29        | <.2       | 3         | 2         | 9        | .05     | .022   | 17        | 10        | .07     | 607       | <.01    | <3       | .54     | .04     | .21    | 2        | 49         |
| C 103184         | 2         | 75        | 8         | 28        | <.3       | 3         | 1         | 44        | 2.56    | <2        | <5       | <2        | 22        | 60        | <.2       | <2        | 2         | 23       | .13     | .027   | 28        | 9         | .15     | 268       | .01     | <3       | 1.12    | .07     | .19    | <2       | 7          |
| RE C 103184      | 2         | 77        | 9         | 29        | <.3       | 4         | 1         | 42        | 2.62    | <2        | <5       | <2        | 23        | 61        | <.2       | <2        | <2        | 23       | .13     | .028   | 29        | 9         | .15     | 274       | .02     | <3       | 1.14    | .07     | .19    | <2       | 6          |
| C 103185         | 2         | 60        | 10        | 28        | <.3       | 4         | 1         | 62        | 2.14    | 5         | <5       | <2        | 21        | 47        | <.2       | <2        | <2        | 27       | .11     | .024   | 27        | 8         | .20     | 726       | .02     | <3       | 1.71    | .04     | .19    | <2       | 9          |
| C 103186         | 5         | 32        | 32        | 7         | .3        | 5         | 1         | 66        | 1.31    | 82        | 8        | <2        | 8         | 55        | <.2       | 4         | 3         | 5        | .04     | .018   | 23        | 13        | .03     | 413       | <.01    | <3       | .37     | .02     | .26    | 4        | 47         |
| C 103187         | 200       | 34        | 7         | 21        | <.3       | 4         | 4         | 45        | 3.90    | 5         | 6        | <2        | 18        | 68        | .2        | <2        | 2         | 10       | .05     | .037   | 39        | 9         | .05     | 124       | .01     | <3       | .50     | .14     | .43    | 2        | 33         |
| C 103188         | 21        | 276       | 12        | 18        | <.3       | 4         | 3         | 49        | 1.87    | 3         | 6        | <2        | 26        | 20        | <.2       | <2        | <2        | 10       | .07     | .014   | 26        | 11        | .19     | 130       | <.01    | <3       | .84     | .03     | .21    | 2        | 13         |
| C 103189         | 50        | 158       | 11        | 26        | <.3       | 3         | 2         | 85        | 1.66    | <2        | 7        | <2        | 26        | 13        | <.2       | <2        | <2        | 11       | .07     | .017   | 26        | 10        | .21     | 120       | <.01    | <3       | .83     | .03     | .18    | 2        | 12         |
| C 103190         | 116       | 53        | 38        | 5         | <.3       | 3         | <1        | 26        | 3.20    | 56        | <5       | <2        | 21        | 90        | <.2       | 15        | <2        | 4        | .02     | .030   | 22        | 12        | .03     | 153       | <.01    | <3       | .35     | .02     | .30    | 3        | 6          |
| C 103191         | 2144      | 35        | 23        | 3         | .3        | 4         | 2         | 27        | 1.80    | 23        | 15       | <2        | 8         | 45        | <.2       | 7         | <2        | 2        | .01     | .012   | 9         | 17        | .02     | 102       | <.01    | <3       | .21     | .01     | .19    | 6        | 32         |
| STANDARD C2/AU-R | 22        | 64        | 44        | 153       | 7.6       | 75        | 38        | 1259      | 4.02    | 44        | 17       | 8         | 39        | 56        | 20.7      | 16        | 18        | 77       | .57     | .108   | 43        | 65        | 1.08    | 217       | .09     | 30       | 2.16    | .06     | .14    | 10       | 443        |

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: P1 TO P2 ROCK P3 TO P4 SOIL AU\* - IGNITED, AQUA-REGIA/MIBK EXTRACT, GF/AA FINISHED.

Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: SEP 11 1996 DATE REPORT MAILED: Sep 24/96 SIGNED BY: [Signature] D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS



## GEOCHEMICAL ANALYSIS CERTIFICATE

Mincord Exploration Consultants Ltd. File # 96-4432R

110 - 325 Howe St., Vancouver BC V6C 1Z7



| SAMPLE#     | Mo  | Cu  | Pb  | Zn  | Ag   | Ni  | Co  | Mn  | Fe   | As  | U   | Au  | Th  | Sr  | Cd  | Sb  | Bi  | V   | Ca  | P    | La  | Cr  | Mg  | Ba   | Ti  | Al    | Na   | K    | W   | Zr  | Sn  | Y   | Nb  | Be  | Sc  |     |
|-------------|-----|-----|-----|-----|------|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|------|-----|-------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|
|             | ppm | ppm | ppm | ppm | ppm  | ppm | ppm | ppm | %    | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | %   | %    | ppm | ppm | %   | ppm  | %   | %     | %    | %    | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| C 103167    | <2  | 64  | 740 | 90  | 15.9 | 4   | <2  | 179 | 7.57 | 382 | <10 | <4  | 14  | 83  | <.4 | 496 | 31  | 81  | .43 | .049 | 25  | 16  | .35 | 317  | .23 | 6.29  | .26  | 2.74 | 4   | 9   | 6   | 6   | 4   | <1  | 12  |     |
| C 103188    | 20  | 245 | 20  | 24  | <.5  | 3   | 3   | 55  | 1.75 | 9   | <10 | <4  | 24  | 154 | <.4 | <5  | <5  | 22  | .37 | .023 | 34  | 12  | .24 | 2225 | .04 | 6.87  | 1.43 | 3.92 | 4   | 31  | 3   | 8   | 2   | 1   | 5   |     |
| C 103190    | 113 | 52  | 35  | 8   | <.5  | 3   | <2  | 39  | 3.36 | 53  | <10 | <4  | 22  | 93  | <.4 | 18  | <5  | 25  | .04 | .036 | 38  | 12  | .26 | 825  | .07 | 6.29  | .14  | 2.86 | 6   | 36  | 3   | 5   | 3   | 2   | 4   |     |
| C 103193    | 22  | 122 | 26  | 29  | 1.1  | 4   | <2  | 109 | 2.12 | 5   | <10 | <4  | 21  | 114 | <.4 | 6   | <5  | 44  | .15 | .025 | 39  | 7   | .26 | 2184 | .06 | 7.51  | 1.33 | 3.93 | <4  | 29  | <2  | 7   | 2   | 2   | 8   |     |
| TRENCH 8D   | 4   | 17  | 8   | 36  | <.5  | 8   | 4   | 140 | 2.37 | 95  | <10 | <4  | 6   | 17  | <.4 | 12  | <5  | 42  | .05 | .017 | 22  | 12  | .56 | 1033 | .10 | 10.11 | .13  | 4.39 | 6   | 4   | 6   | 9   | 2   | 3   | 8   |     |
| TRENCH 98   | 21  | 198 | 26  | 74  | .5   | 7   | 4   | 234 | 1.67 | 74  | <10 | <4  | 17  | 167 | <.4 | <5  | <5  | 41  | .43 | .026 | 29  | 10  | .30 | 2413 | .09 | 6.95  | 1.29 | 3.22 | <4  | 20  | <2  | 12  | 3   | 2   | 7   |     |
| TRENCH 93-2 | 10  | 536 | 24  | 33  | <.5  | 4   | 3   | 164 | 1.68 | <5  | <10 | <4  | 18  | 157 | <.4 | <5  | <5  | 40  | .73 | .020 | 22  | 7   | .33 | 1310 | .14 | 6.70  | 1.62 | 3.26 | <4  | 16  | <2  | 13  | 5   | 1   | 7   |     |

ICP - .250 GRAM SAMPLE IS DIGESTED WITH 10ML HClO<sub>4</sub>-HNO<sub>3</sub>-HCL-HF AT 200 DEG. C TO FUMING AND IS DILUTED TO 10 ML WITH DILUTED AQUA REGIA. THIS LEACH IS PARTIAL FOR MAGNETITE, CHROMITE, BARITE, OXIDES OF AL, ZR & MN AND MASSIVE SULFIDE SAMPLES. AS, CR, SB, AU SUBJECT TO LOSS BY VOLATILIZATION DURING HClO<sub>4</sub> FUMING.

- SAMPLE TYPE: ROCK PULP

DATE RECEIVED: NOV 4 1996

DATE REPORT MAILED: Nov 8/96

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



## GEOCHEMICAL ANALYSIS CERTIFICATE



Eastfield Resources Ltd. PROJECT CANADIAN CREEK File # 96-3807 Page 1

110 - 325 Howe St., Vancouver BC V6C 1Z7

| 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 |
|------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|---------|--------|-----------|-----------|---------|-----------|---------|----------|---------|---------|--------|----------|-------------|
| CC-LL-96-001     | 1         | 13        | 694       | 1175      | 5.4       | 4         | 6         | 1887      | 7.34    | 8195      | <5       | <2        | 7         | 8         | 11.3      | 94        | <2        | 7        | .12     | .052   | 10        | 11        | .02     | 10        | <.01    | <3       | .29     | <.01    | .23    | <2       | 125         |
| CC-LL-96-002     | 2         | 28        | 10407     | 1000      | 33.8      | 5         | 7         | 57        | 8.43    | 1194      | <5       | <2        | <2        | 4         | 21.0      | 2769      | 4         | 1        | .02     | .002   | 1         | 19        | .01     | 6         | <.01    | <3       | .09     | .01     | .10    | <2       | 490         |
| CC-LL-96-003     | 2         | 7         | 3230      | 983       | 12.6      | 4         | 1         | 4715      | 1.69    | 6058      | <5       | <2        | 16        | 7         | 22.8      | 41        | <2        | 1        | .05     | .021   | 20        | 11        | .01     | 142       | <.01    | <3       | .28     | <.01    | .22    | 2        | 95          |
| CC-LL-96-004     | 2         | 17        | 3453      | 927       | 12.5      | 4         | 2         | 4661      | 1.57    | 1839      | <5       | <2        | 21        | 5         | 9.7       | 58        | 3         | 1        | .04     | .010   | 17        | 13        | .02     | 171       | <.01    | 3        | .30     | <.01    | .20    | 2        | 31          |
| CC-LL-96-005     | 5         | 6         | 25        | 23        | .3        | 3         | 1         | 164       | 1.38    | 64        | <5       | <2        | <2        | 3         | <.2       | <2        | <2        | 5        | .02     | .005   | 3         | 14        | .02     | 58        | <.01    | 38       | .14     | .01     | .06    | 3        | 23          |
| CC-LL-96-006     | 3         | 7         | 18        | 19        | .4        | 5         | 1         | 110       | 2.24    | 48        | <5       | <2        | 2         | 3         | <.2       | 2         | <2        | 5        | .02     | .005   | 3         | 16        | .03     | 25        | <.01    | 43       | .13     | .01     | .04    | 4        | 115         |
| CC-LL-96-007     | 1         | 14        | 9         | 29        | <.3       | 3         | 3         | 622       | 2.58    | 12        | <5       | <2        | 20        | 13        | <.2       | <2        | <2        | 40       | .27     | .031   | 31        | 15        | .75     | 119       | .01     | 3        | 1.12    | .04     | .07    | 3        | <2          |
| CC-LL-96-008     | 6         | 8         | 22        | 68        | <.3       | 6         | 5         | 808       | 2.06    | 5         | <5       | <2        | 22        | 7         | .4        | <2        | 2         | 15       | .18     | .034   | 43        | 13        | .16     | 214       | <.01    | 4        | .57     | .01     | .20    | 3        | 46          |
| RE CC-LL-96-008  | 6         | 7         | 21        | 67        | <.3       | 5         | 4         | 803       | 2.05    | 7         | <5       | <2        | 22        | 7         | <.2       | <2        | <2        | 15       | .18     | .033   | 42        | 12        | .16     | 212       | <.01    | 3        | .57     | .01     | .20    | 3        | 4           |
| CC-BM-96-001     | 2         | 37        | <3        | 42        | <.3       | 5         | 15        | 302       | 4.09    | <2        | <5       | <2        | 2         | 48        | <.2       | <2        | <2        | 100      | 1.20    | .071   | 7         | 10        | 1.14    | 81        | .21     | 3        | 2.40    | .24     | .13    | 3        | 5           |
| CC-BM-96-002     | 9         | 30        | 13        | 13        | <.3       | 3         | 2         | 67        | 1.57    | 18        | <5       | <2        | 16        | 16        | <.2       | <2        | 3         | 4        | .05     | .008   | 23        | 11        | .06     | 425       | <.01    | <3       | .41     | .02     | .26    | 3        | 105         |
| CC-BM-96-003     | 3         | 19        | 19        | 15        | <.3       | 3         | 1         | 53        | 1.34    | 20        | <5       | <2        | 14        | 9         | <.2       | 4         | <2        | 2        | .06     | .006   | 21        | 10        | .06     | 278       | <.01    | <3       | .40     | .02     | .25    | 2        | 15          |
| CC-BM-96-004     | 40        | 45        | 28        | 16        | .4        | 2         | 2         | 85        | 1.90    | 17        | <5       | <2        | 16        | 14        | <.2       | <2        | 2         | 3        | .04     | .010   | 18        | 9         | .04     | 410       | <.01    | <3       | .38     | .02     | .25    | 2        | 125         |
| CC-BM-96-005     | 25        | 46        | 11        | 9         | <.3       | 4         | 2         | 39        | 1.71    | 3         | <5       | <2        | 13        | 21        | <.2       | <2        | <2        | 6        | .04     | .010   | 21        | 12        | .13     | 1408      | <.01    | 3        | .63     | .02     | .31    | 3        | 29          |
| STANDARD C2/AU-R | 21        | 57        | 39        | 146       | 6.2       | 72        | 33        | 1202      | 4.00    | 42        | 20       | 7         | 35        | 50        | 20.8      | 16        | 18        | 72       | .53     | .096   | 42        | 67        | 1.02    | 201       | .08     | 30       | 2.04    | .06     | .14    | 11       | 493         |

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: P1 ROCK P2 CORE AU\*\* ANALYSIS BY FA/ICP FROM 30 GM SAMPLE.

Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: AUG 19 1996 DATE REPORT MAILED: *Aug 28/96* SIGNED BY: *[Signature]* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS



## GEOCHEMICAL ANALYSIS CERTIFICATE



Mincord Exploration Consultants Ltd. File # 96-4431R

110 - 325 Howe St., Vancouver BC V6C 1Z7

| SAMPLE#      | Mo  | Cu  | Pb  | Zn  | Ag   | Ni  | Co  | Mn   | Fe   | As   | U   | Au  | Th  | Sr  | Cd   | Sb  | Bi  | V   | Ca   | P    | La  | Cr  | Mg   | Ba   | Ti  | Al    | Na   | K    | W   | Zr  | Sn  | Y   | Nb  | Be  | Sc  |     |
|--------------|-----|-----|-----|-----|------|-----|-----|------|------|------|-----|-----|-----|-----|------|-----|-----|-----|------|------|-----|-----|------|------|-----|-------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|
|              | ppm | ppm | ppm | ppm | ppm  | ppm | ppm | ppm  | %    | ppm  | ppm | ppm | ppm | ppm | ppm  | ppm | ppm | ppm | %    | %    | ppm | ppm | %    | ppm  | %   | %     | %    | %    | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| TRENCH 12A   | 31  | 135 | 187 | 51  | <.5  | 2   | <2  | 55   | 7.39 | 103  | <10 | <4  | 13  | 51  | <.4  | 6   | <5  | 69  | .08  | .076 | 26  | 12  | .29  | 1257 | .09 | 7.17  | .11  | 2.55 | 5   | 10  | <2  | 9   | <2  | 1   | 11  |     |
| TRENCH 13    | 2   | 56  | 17  | 102 | <.5  | 9   | 16  | 1321 | 5.92 | 7    | <10 | <4  | 26  | 168 | <.4  | <5  | <5  | 187 | 2.02 | .094 | 68  | 24  | 2.20 | 980  | .42 | 7.13  | 1.10 | 1.44 | <4  | 14  | <2  | 50  | 8   | 1   | 40  |     |
| TRENCH 15    | 2   | 67  | 15  | 51  | <.5  | 3   | 6   | 226  | 2.77 | 6    | <10 | <4  | 28  | 181 | <.4  | <5  | <5  | 90  | .53  | .052 | 33  | 17  | .75  | 2073 | .24 | 7.62  | 1.34 | 2.95 | <4  | 9   | 2   | 17  | 5   | 2   | 15  |     |
| TRENCH 25    | 6   | 327 | 286 | 132 | 15.4 | 4   | 5   | 128  | 7.78 | 2274 | 23  | <4  | 18  | 19  | .6   | 41  | 44  | 96  | .09  | .061 | 36  | 20  | .30  | 1332 | .15 | 6.94  | .08  | 2.93 | 17  | 10  | 5   | 20  | <2  | <1  | 18  |     |
| TRENCH 28    | 7   | 284 | 35  | 91  | .8   | 8   | 23  | 464  | 4.65 | 13   | <10 | <4  | 10  | 155 | <.4  | <5  | <5  | 69  | .27  | .067 | 52  | 24  | .87  | 4486 | .14 | 7.37  | .66  | 5.64 | 5   | 38  | <2  | 20  | 2   | 1   | 10  |     |
| TRENCH 44A   | 3   | 17  | 52  | 19  | 2.4  | 3   | <2  | 94   | 2.27 | 36   | <10 | <4  | 5   | 27  | <.4  | 6   | 51  | 62  | .07  | .018 | 19  | 13  | .61  | 682  | .11 | 5.68  | .17  | 1.99 | 33  | 12  | 10  | 6   | 2   | 1   | 10  |     |
| TRENCH 44E   | 3   | 18  | 16  | 10  | <.5  | 3   | <2  | 36   | 1.92 | 9    | <10 | <4  | 15  | 86  | <.4  | <5  | <5  | 62  | .05  | .048 | 26  | 10  | .41  | 2167 | .10 | 7.58  | .55  | 4.59 | 11  | 11  | 2   | 4   | 2   | <1  | 12  |     |
| TRENCH 44G   | 2   | 23  | 13  | 15  | <.5  | 2   | <2  | 52   | 2.99 | 39   | <10 | <4  | 12  | 80  | <.4  | 8   | <5  | 110 | .11  | .039 | 12  | 13  | .55  | 1387 | .12 | 6.70  | .92  | 2.79 | 10  | 10  | 6   | 4   | 2   | 2   | 18  |     |
| TRENCH 44I   | 3   | 12  | 13  | 11  | <.5  | <2  | <2  | 34   | 3.65 | 11   | <10 | <4  | 8   | 72  | <.4  | <5  | <5  | 78  | .11  | .020 | 5   | 14  | .40  | 966  | .09 | 6.18  | 1.42 | 2.57 | 10  | 10  | 4   | 2   | 2   | 2   | 13  |     |
| TRENCH 63D   | <2  | 41  | 17  | 60  | <.5  | 5   | 5   | 523  | 3.60 | <5   | <10 | <4  | 12  | 337 | <.4  | <5  | <5  | 96  | 2.09 | .058 | 29  | 12  | 1.10 | 2138 | .29 | 7.82  | 2.05 | 2.37 | <4  | 8   | 2   | 19  | 4   | 2   | 15  |     |
| TRENCH 64    | <2  | 117 | 22  | 59  | .7   | 6   | 8   | 452  | 4.62 | 25   | <10 | <4  | 9   | 279 | <.4  | <5  | 31  | 101 | 1.47 | .059 | 24  | 15  | 1.25 | 2280 | .29 | 7.33  | 1.84 | 2.70 | <4  | 3   | 3   | 17  | 4   | 1   | 16  |     |
| TRENCH 70B   | 12  | 219 | 14  | 46  | <.5  | 24  | 9   | 243  | 5.12 | <5   | <10 | <4  | 4   | 213 | <.4  | <5  | <5  | 138 | .75  | .086 | 17  | 27  | 1.78 | 2781 | .36 | 7.07  | .56  | 2.18 | 4   | 2   | 3   | 10  | 9   | 1   | 23  |     |
| TRENCH 74    | 25  | 263 | 20  | 29  | <.5  | 5   | 3   | 102  | 2.52 | <5   | <10 | <4  | 14  | 230 | <.4  | <5  | <5  | 41  | .73  | .036 | 15  | 13  | .58  | 3702 | .13 | 8.22  | 1.18 | 3.48 | 4   | 8   | 4   | 9   | 2   | 1   | 6   |     |
| C 103195     | <2  | 45  | 9   | 86  | <.5  | 9   | 23  | 1271 | 6.07 | <5   | <10 | <4  | 4   | 474 | <.4  | <5  | <5  | 225 | 6.16 | .105 | 14  | 27  | 2.27 | 1269 | .59 | 10.13 | 1.79 | 1.04 | <4  | 22  | 3   | 27  | <2  | <1  | 29  |     |
| STANDARD CT2 | 19  | 59  | 47  | 150 | 6.4  | 78  | 33  | 1264 | 4.06 | 26   | 19  | 6   | 41  | 230 | 17.5 | 21  | 15  | 129 | 1.14 | .113 | 43  | 105 | 1.25 | 770  | .32 | 6.77  | 1.56 | 1.72 | 16  | 46  | 20  | 14  | 9   | 2   | 15  |     |

ICP - .250 GRAM SAMPLE IS DIGESTED WITH 10ML HClO<sub>4</sub>-HNO<sub>3</sub>-HCL-HF AT 200 DEG. C TO FUMING AND IS DILUTED TO 10 ML WITH DILUTED AQUA REGIA. THIS LEACH IS PARTIAL FOR MAGNETITE, CHROMITE, BARITE, OXIDES OF AL, ZR & MN AND MASSIVE SULFIDE SAMPLES. AS, CR, SB, AU SUBJECT TO LOSS BY VOLATILIZATION DURING HClO<sub>4</sub> FUMING.

- SAMPLE TYPE: ROCK PULP

DATE RECEIVED: NOV 4 1996

DATE REPORT MAILED:

Nov 8/96

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



| 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 |
|--------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|---------|--------|-----------|-----------|---------|-----------|---------|----------|---------|---------|--------|----------|------------|
| C 103192     | 27        | 29        | 12        | 3         | <.3       | 5         | <1        | 21        | 4.23    | 6         | <5       | <2        | 18        | 28        | <.2       | 2         | <2        | 2        | .03     | .018   | 13        | 14        | .06     | 71        | <.01    | <3       | .43     | .03     | .65    | 4        | 5          |
| C 103193     | 21        | 117       | 19        | 15        | 1.3       | 3         | 2         | 70        | 1.94    | 5         | <5       | <2        | 19        | 12        | <.2       | 3         | <2        | 12       | .06     | .016   | 27        | 9         | .13     | 379       | <.01    | 3        | .67     | .02     | .30    | 2        | 50         |
| TRENCH 8A    | 9         | 90        | 6         | 160       | <.3       | 17        | 2         | 586       | 5.04    | 1014      | 9        | <2        | 13        | 9         | <.2       | 6         | <2        | 10       | .11     | .043   | 24        | 18        | .07     | 143       | <.01    | 3        | .58     | <.01    | .17    | 5        | 132        |
| TRENCH 8B    | 5         | 57        | 9         | 143       | <.3       | 16        | 3         | 978       | 2.62    | 421       | 9        | <2        | 13        | 17        | <.2       | 2         | <2        | 4        | .19     | .027   | 25        | 8         | .09     | 188       | <.01    | <3       | .69     | <.01    | .16    | <2       | 47         |
| TRENCH 8C    | 6         | 34        | 10        | 100       | <.3       | 11        | 6         | 561       | 3.16    | 375       | <5       | <2        | 12        | 15        | <.2       | 5         | <2        | 4        | .13     | .039   | 25        | 7         | .07     | 165       | <.01    | <3       | .56     | <.01    | .18    | <2       | 24         |
| TRENCH 8D    | 4         | 17        | 7         | 34        | <.3       | 8         | 5         | 118       | 2.38    | 102       | <5       | <2        | 7         | 6         | <.2       | <2        | 2         | 2        | .04     | .012   | 15        | 7         | .04     | 70        | <.01    | <3       | .37     | .01     | .23    | 2        | 22         |
| RE TRENCH 8D | 4         | 16        | 6         | 32        | <.3       | 9         | 5         | 118       | 2.31    | 100       | 7        | <2        | 6         | 6         | <.2       | <2        | 2         | 2        | .04     | .012   | 14        | 7         | .04     | 68        | <.01    | <3       | .37     | <.01    | .23    | 2        | 14         |
| TRENCH 9A    | 9         | 100       | 9         | 43        | .3        | 5         | 3         | 84        | 1.46    | 44        | 7        | <2        | 17        | 25        | <.2       | 8         | <2        | 7        | .05     | .019   | 28        | 11        | .08     | 220       | <.01    | 4        | .58     | .02     | .37    | 3        | 21         |
| TRENCH 9B    | 24        | 215       | 13        | 77        | .4        | 7         | 7         | 237       | 1.79    | 70        | 5        | <2        | 22        | 41        | .3        | 2         | <2        | 23       | .09     | .023   | 29        | 12        | .26     | 1144      | .01     | <3       | 1.25    | .02     | .22    | 3        | 9          |
| TRENCH 10    | 32        | 105       | 16        | 22        | .3        | 4         | 3         | 72        | 1.88    | 12        | 6        | <2        | 15        | 8         | <.2       | <2        | <2        | 5        | .05     | .013   | 18        | 9         | .11     | 266       | <.01    | <3       | .70     | .01     | .33    | 3        | 11         |
| TRENCH 93-2  | 11        | 584       | 16        | 29        | <.3       | 4         | 4         | 153       | 1.92    | <2        | <5       | <2        | 21        | 10        | .2        | <2        | <2        | 35       | .12     | .014   | 21        | 8         | .36     | 185       | .07     | <3       | 1.04    | .04     | .27    | <2       | 23         |

Sample type: ROCK. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.



| SAMPLE# | Mo  | Cu  | Pb  | Zn  | Ag  | Ni  | Co  | Mn  | Fe | As  | U   | Au  | Th  | Sr  | Cd  | Sb  | Bi  | V   | Ca | P | La  | Cr  | Mg | Ba  | Ti | B   | Al | Na | K | W   | Au* |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|---|-----|-----|----|-----|----|-----|----|----|---|-----|-----|
|         | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | %  | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | %  | % | ppm | ppm | %  | ppm | %  | ppm | %  | %  | % | ppm | ppb |

|                  |    |    |    |     |     |    |    |      |      |    |    |    |    |    |      |    |    |     |     |      |    |    |      |     |     |    |      |     |     |    |     |
|------------------|----|----|----|-----|-----|----|----|------|------|----|----|----|----|----|------|----|----|-----|-----|------|----|----|------|-----|-----|----|------|-----|-----|----|-----|
| C 103196 SOIL    | 1  | 33 | 14 | 82  | .4  | 10 | 24 | 845  | 6.15 | 21 | <5 | <2 | 16 | 41 | <.2  | <2 | <2 | 113 | .43 | .074 | 24 | 21 | 1.07 | 383 | .16 | <3 | 2.59 | .02 | .46 | <2 | 307 |
| STANDARD C2/AU-S | 20 | 58 | 39 | 140 | 7.1 | 76 | 37 | 1181 | 4.01 | 44 | 17 | 9  | 36 | 53 | 20.8 | 16 | 23 | 75  | .57 | .107 | 41 | 66 | 1.01 | 196 | .08 | 26 | 2.06 | .06 | .15 | 15 | 44  |

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.



## GEOCHEMICAL ANALYSIS CERTIFICATE



Eastfield Resources Ltd. File # 96-3954 Page 1

110 - 325 Howe St., Vancouver BC V6C 1Z7

| 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 |
|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|---------|--------|-----------|-----------|---------|-----------|---------|----------|---------|---------|--------|----------|-------------|
| C 103151    | 2         | 10        | 63        | 25        | .3        | 7         | 3         | 122       | 1.59    | 60        | <5       | <2        | 2         | 12        | <.2       | <2        | 2         | 4        | .03     | .005   | 11        | 17        | .03     | 728       | <.01    | 7        | .25     | .01     | .14    | 5        | 12          |
| C 103152    | 7         | 11        | 5         | 11        | <.3       | 5         | 3         | 167       | 1.49    | 8         | <5       | <2        | <2        | 4         | <.2       | <2        | <2        | 4        | .03     | .003   | 2         | 15        | .03     | 220       | <.01    | 8        | .26     | .01     | .17    | 4        | 12          |
| C 103153    | 3         | 7         | 12        | 13        | .4        | 6         | 5         | 188       | .99     | 22        | <5       | <2        | 3         | 19        | <.2       | <2        | 5         | 4        | .02     | .008   | 3         | 17        | .02     | 78        | <.01    | 36       | .19     | .01     | .08    | 5        | 36          |
| C 103154    | 4         | 20        | 8         | 26        | <.3       | 7         | 3         | 116       | 2.68    | 62        | <5       | <2        | 7         | 6         | <.2       | <2        | 3         | 4        | .02     | .019   | 3         | 18        | .01     | 211       | <.01    | 35       | .18     | .01     | .09    | 6        | 9           |
| C 103155    | 2         | 59        | 16        | 108       | <.3       | 16        | 7         | 402       | 3.87    | 7         | <5       | <2        | 2         | 51        | <.2       | <2        | 2         | 68       | .84     | .096   | 49        | 33        | 2.20    | 193       | .01     | <3       | 2.49    | .05     | .10    | <2       | 46          |
| C 103156    | 1         | 32        | 20        | 76        | .4        | 6         | 40        | 461       | 5.43    | 95        | <5       | <2        | 7         | 31        | .4        | <2        | 13        | 106      | 1.15    | .029   | 29        | 11        | 1.53    | 73        | .01     | <3       | 2.27    | .05     | .12    | 2        | 62          |
| RE C 103156 | 1         | 32        | 21        | 76        | .3        | 6         | 40        | 457       | 5.42    | 93        | <5       | <2        | 8         | 31        | .2        | 2         | 11        | 105      | 1.15    | .029   | 29        | 11        | 1.53    | 78        | .01     | <3       | 2.28    | .05     | .11    | 2        | 64          |
| C 103157    | 1         | 17        | 15        | 53        | <.3       | 5         | 7         | 340       | 2.10    | 17        | <5       | <2        | 12        | 67        | <.2       | <2        | <2        | 30       | .83     | .033   | 12        | 12        | .66     | 264       | .05     | <3       | 2.08    | .22     | .06    | 3        | 6           |
| C 103158    | 3         | 89        | 7         | 32        | <.3       | 9         | 8         | 342       | 2.40    | 21        | <5       | <2        | 12        | 9         | <.2       | <2        | 2         | 31       | .19     | .052   | 18        | 17        | .75     | 88        | <.01    | 3        | 1.43    | .04     | .16    | 2        | 67          |

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: P1 ROCK P2 SOIL AU\*\* ANALYSIS BY FA/ICP FROM 30 GM SAMPLE.

Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: AUG 26 1996

DATE REPORT MAILED: Sept 4/96

SIGNED BY: C. Leong, J. Wang; CERTIFIED B.C. ASSAYERS

15-Nov-96

ECO-TECH LABORATORIES LTD.  
10041 East Trans Canada Highway  
KAMLOOPS, B.C.  
V2C 6T4

ICP CERTIFICATE OF ANALYSIS AK 96-1283

MINCORD EXPLORATION CONSULTANTS  
829 MCQUEEN DR  
KAMLOOPS, BC

ATTENTION: LEO LINDINGER

No. of samples received: 2  
Sample type: ROCK  
PROJECT #: CANADIAN CK  
SHIPMENT #: 1  
Samples submitted by: LEO LINDINGER

Phone: 604-573-5700  
Fax : 604-573-4557

Values in ppm unless otherwise reported

| Et #. | Tag #    | Au(ppb) | Ag   | Al % | As | Ba  | Bi | Ca % | Cd | Co | Cr  | Cu  | Fe % | K%   | La  | Mg % | Mn | Mo | Na % | Ni | P   | Pb | Sb | Sn  | Sr | Ti %  | U   | V  | W   | Y | Zn |
|-------|----------|---------|------|------|----|-----|----|------|----|----|-----|-----|------|------|-----|------|----|----|------|----|-----|----|----|-----|----|-------|-----|----|-----|---|----|
| 1     | TRENCH 6 | 10      | <0.2 | 0.90 | <5 | 80  | <5 | 0.10 | <1 | 5  | 166 | 304 | 1.61 | 1.80 | <10 | 0.26 | 69 | 9  | 1.60 | 3  | 160 | 8  | <5 | <20 | 11 | <0.01 | <10 | 13 | <10 | 3 | 15 |
| 2     | C103188  | 15      | <0.2 | 0.96 | <5 | 100 | <5 | 0.08 | <1 | 2  | 139 | 106 | 1.21 | 1.90 | 20  | 0.19 | 48 | 10 | 1.45 | 3  | 120 | 10 | <5 | <20 | 8  | <0.01 | <10 | 10 | <10 | 4 | 13 |

QC DATA:

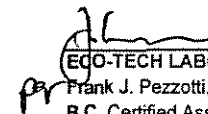
Repeat:

|   |          |    |      |      |    |    |    |      |    |   |     |     |      |      |     |      |    |   |      |   |     |   |    |     |    |       |     |    |     |   |    |
|---|----------|----|------|------|----|----|----|------|----|---|-----|-----|------|------|-----|------|----|---|------|---|-----|---|----|-----|----|-------|-----|----|-----|---|----|
| 1 | TRENCH 6 | 10 | <0.2 | 0.91 | <5 | 80 | <5 | 0.09 | <1 | 5 | 169 | 306 | 1.61 | 1.70 | <10 | 0.26 | 68 | 9 | 1.55 | 3 | 160 | 6 | <5 | <20 | 10 | <0.01 | <10 | 13 | <10 | 3 | 15 |
|---|----------|----|------|------|----|----|----|------|----|---|-----|-----|------|------|-----|------|----|---|------|---|-----|---|----|-----|----|-------|-----|----|-----|---|----|

Standard:

|        |  |     |     |      |    |     |   |      |    |    |    |    |      |   |     |      |     |   |      |    |     |    |    |     |    |      |     |    |     |    |    |
|--------|--|-----|-----|------|----|-----|---|------|----|----|----|----|------|---|-----|------|-----|---|------|----|-----|----|----|-----|----|------|-----|----|-----|----|----|
| GEO'96 |  | 145 | 1.0 | 1.90 | 65 | 165 | 5 | 1.74 | <1 | 19 | 63 | 74 | 4.00 | - | <10 | 1.11 | 681 | 1 | 0.02 | 24 | 690 | 16 | 10 | <20 | 62 | 0.13 | <10 | 81 | <10 | 11 | 70 |
|--------|--|-----|-----|------|----|-----|---|------|----|----|----|----|------|---|-----|------|-----|---|------|----|-----|----|----|-----|----|------|-----|----|-----|----|----|

df/1284  
XLS/96KMSIC#11

  
ECO-TECH LABORATORIES LTD.  
Frank J. Pezzotti, A.Sc.T.  
B.C. Certified Assayer

## **APPENDIX 4**

# LANDMARK MANAGEMENT

P.O. BOX 5773  
WHITEHORSE, YUKON  
Y1A 5L5

## INVOICE

BILL TO: EASTFIELD RESOURCES LTD.  
110-325 HOWE ST.  
VANCOUVER, BC  
V6C 1D7

INVOICE No: 001  
DATE: 96.09.05

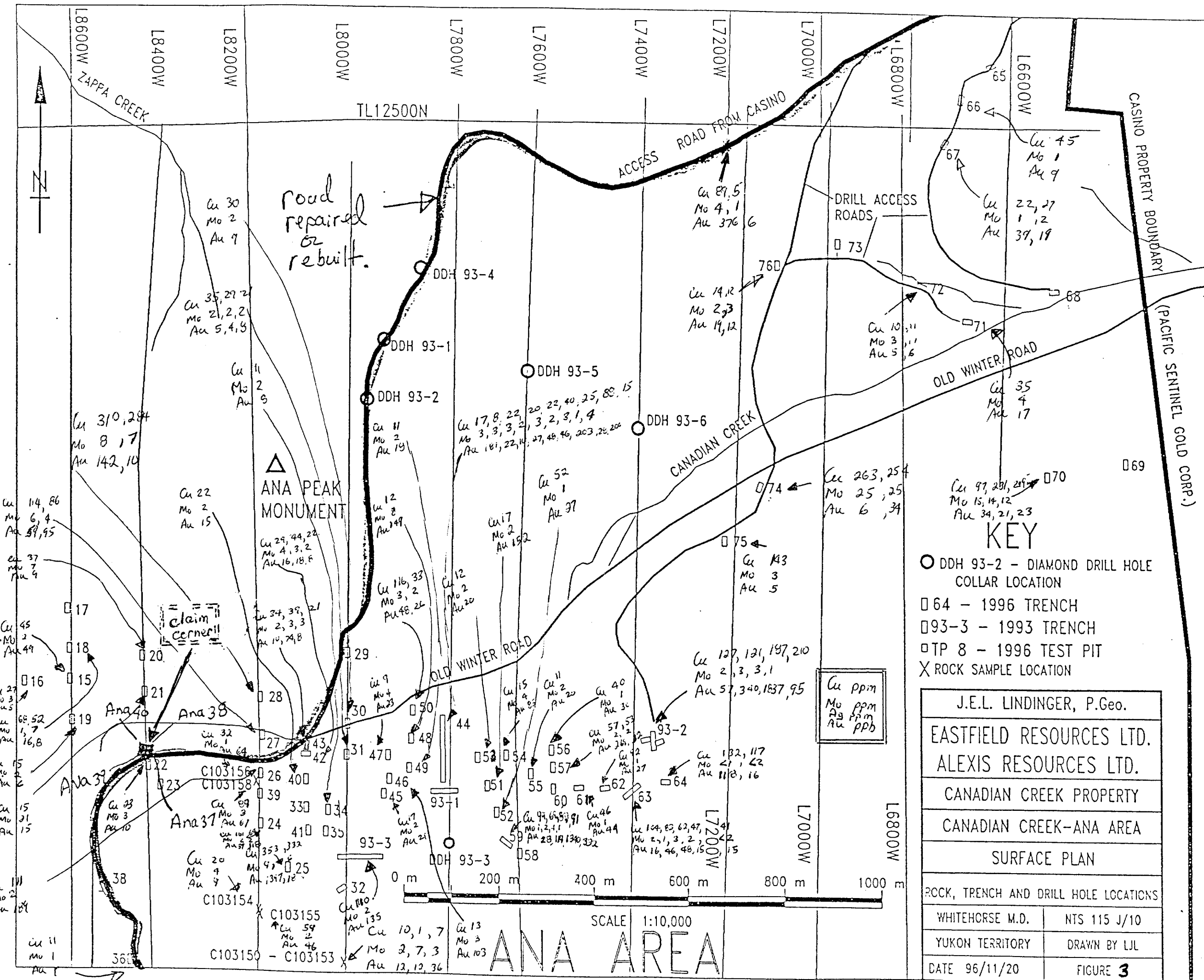
| DATE                  | DESCRIPTION                                                                                     | AMOUNT   |
|-----------------------|-------------------------------------------------------------------------------------------------|----------|
|                       | CANADIAN CREEK PROJECT                                                                          |          |
| AUG 05 -<br>AUG 29/96 | EXPLORATION TRENCHING + ROAD BUILDING -<br>SUPPLY EXCAVATOR WITH OPERATOR<br>213 HRS @ \$150.00 | 31950.00 |
|                       | - RENTAL OF 6X6 + RELATED EQUIP.                                                                | 4000.00  |
|                       | INVOICES PAID ON BEHALF OF EASTFIELD:                                                           |          |
|                       | - AUG 05/96 MOHAWK 100# PROPANE                                                                 | 49.00 ✓  |
|                       | - TERRITORIAL AUTO PARTS 16 SPARK PLUGS                                                         | 21.50 ✓  |
|                       | - FOR QUAD 4X4s (5)                                                                             | 32.12 ✓  |
|                       | (11)                                                                                            |          |
|                       | Chg # 2578                                                                                      |          |
|                       | FILE - Pd Invs.                                                                                 |          |
|                       | PAID (Sept 5/96)                                                                                |          |
|                       | 121196                                                                                          | 36052.62 |

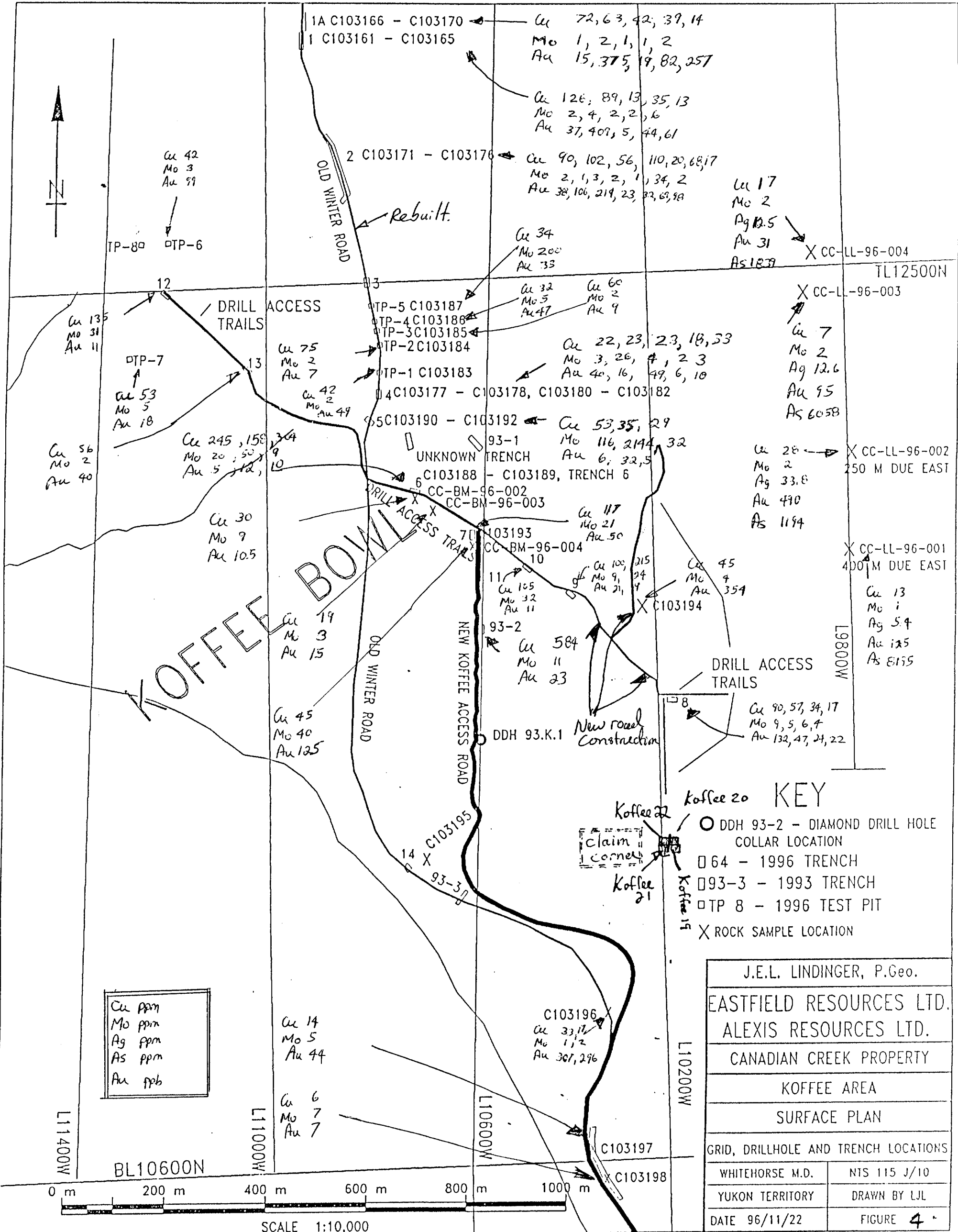
GST No: 897273694 2523.68

TOTAL AMOUNT \$ 38576.30

LESS \$10,000 ADVANCE 10,000.00

TOTAL AMOUNT DUE \$ 28,576.30





Cu ppm  
Mo ppm  
Ag ppm  
As ppm  
Au ppb

|                                      |                 |
|--------------------------------------|-----------------|
| J.E.L. LINDINGER, P.Geo.             |                 |
| EASTFIELD RESOURCES LTD.             |                 |
| ALEXIS RESOURCES LTD.                |                 |
| CANADIAN CREEK PROPERTY              |                 |
| KOFFEE AREA                          |                 |
| SURFACE PLAN                         |                 |
| GRID, DRILLHOLE AND TRENCH LOCATIONS |                 |
| WHITEHORSE M.D.                      | NTS 115 J/10    |
| YUKON TERRITORY                      | DRAWN BY L.J.L. |
| DATE 96/11/22                        | FIGURE 4        |