BIOGEOCHEMICAL
ASSESSMENT REPORT

on the

COPPER KEG CLAIM GROUP
ASHCROFT AREA
KAMLOOPS MINING DIVISION

by

MURRAY S. MORRISON, B. Sc

CLAIMS:	*Copper Keg 1-14 and Copper Kettle 1-4 (18 units)*
LOCATION:	The Copper Keg Claim Group is situated on the south side of the Thompson River Valley, 9 km northeast of Ashcroft, B.C. Lat. 50°45'; Long. 121°10'; N.T.S: 92-I-11 & 14E
OWNER:	M. S. Morrison
OPERATOR:	M. S. Morrison
DATE STARTED:	May 3, 1998
DATE COMPLETED:	May 5, 1998

Kelowna, B.C.

August 1, 1998

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ILLUSTRATIONS

SUMMARY

The Copper Keg Claim Group, comprised of 18, 2-post mineral claims, covers a spectacular gossan on the southern side of the Thompson River Valley 9 km northeast of Ashcroft, B.C. The property is owned by the write, M. Morrison of Kelowna, B.C., who staked the mineral claims in May, 1995 and 1996.

The property is located at the northern edge of the Early Jurassic Guichon Creek Batholith and it is dissected by a northwest-striking regional fault, the Barnes Creek Fault, which crosses the northern portion of the batholith. The fault separates andesitic rocks of the Upper Triassic Nicola Group on the southwest from a quartz diorite intrusive on the northeast. The intrusive is believed to be a hybrid phase of the Guichon Creek Batholith.

The gossan, comprised of pyritic, limonitic and clay-altered decomposed rock, overlies the quartz diorite-andesite contact zone. The bright-coloured altered zone is well exposed in a steep-sided ravine at the northern end of the property, but the southern extent of the zone is unknown. Deep Pleistocene drift and thin flows of the Kamloops Group volcanics cover the southern portion of the property.

It is thought that the intense alteration and pyritization on the Copper Keg property postdates the intrusion of the Guichon Creek Batholith and that the hydrothermal solutions that brought about the alteration and mineralization have emanated from a later cooling intrusive of possible Early Tertiary Age that is associated with the Barnes Creek Fault.

It is suggested that the spectacular gossan on the property could mark just the edge (i.e. halo) of a very large hydrothermal system that could have deposited concentrations of copper, molybdenum, or precious metals at any point along the Barnes Creek Fault. It is believed that there is potential for finding both primary and supergene ore along the Barnes Creek Fault.

SUMMARY (continued)

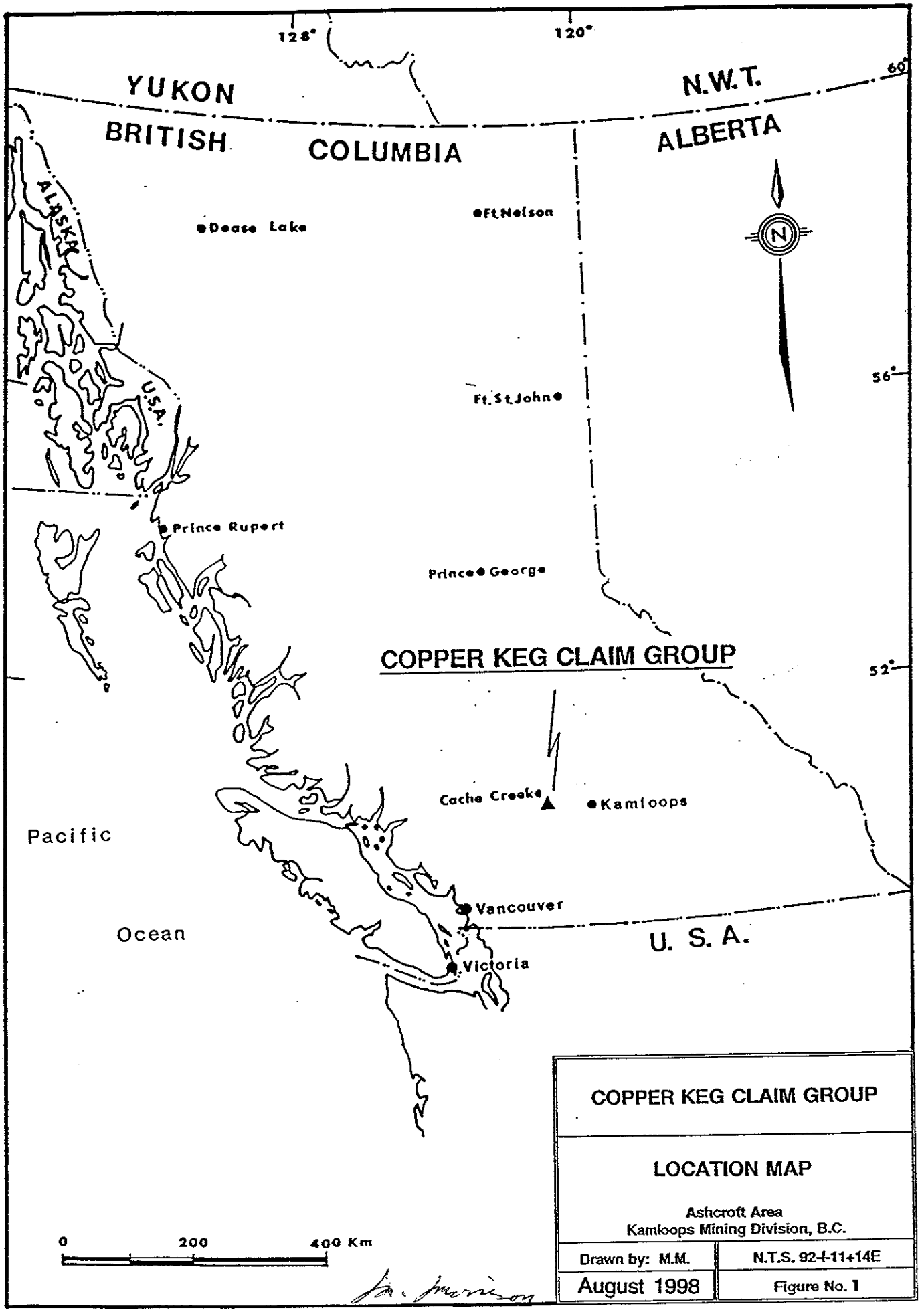
An east-west valley which runs obliquely towards the Barnes Creek Fault from the east was the focus of a 1997 geological mapping program on the Copper Keg 9-11 and Coper Kettle 1 Mineral claims. The valley may represent another zone of faulting with associated clay-alteration and pyritization at the southern contact of the quartz diorite plug in a situation similar to that occurring at the Barnes Creek Fault on the southwest edge of the intrusive.

A strong east-west VLF-EM conductor identified during a 1996 survey aligns with a portion of the east-west valley and lends support to the fault hypothesis.

An experimental biogeochemical survey (using sagebrush as a sample medium) was conducted over the east-west valley and VLF-EM conductor centred on the Copper Kettle 1 mineral claim this year. Elevated potassium and molybdenum values were obtained in the area and they strengthen the hypothesis that an altered and mineralized fault zone occurs below the overburden at the southern contact of the quartz diorite intrusive.

Additional biogeochemical sampling is recommended on the southwest side of the Copper Kettle 7 mineral claim where the Barnes Creek Fault is expected to underlie the thin cover of Pleistocene drift.

A follow-up program of Percussion Drilling is recommended to test both the Barnes Creek Fault and east-west inferred fault for economic copper and molybdenum mineralization, if the second biogeochemical survey yields results similar to the initial survey.



COPPER KEG CLAIM GROUP	
LOCATION MAP Ashcroft Area Kamloops Mining Division, B.C.	
Drawn by: M.M.	N.T.S. 92-I-11+14E
August 1998	Figure No. 1

INTRODUCTION

This report, written for government assessment work requirements, discusses the results of a biogeochemical survey carried out over portions of the Copper Keg 9 & 11 and Copper Kettle 1 mineral claims by the writer during early May, 1998.

The Copper Keg Group, comprised of 18 contiguous 2-post mineral claims, was staked by the writer in May, 1995 and 1996, to cover a spectacular gossan located on the southern side of the Thompson River, 9 km northeast of Ashcroft, B.C. The writer has, for several years, thought that the pyritic gossan could represent the outer limits of a large mineralized system associated with the Barnes Creek Fault which could host sizeable deposits of copper, molybdenum or precious metals.

The gossan, located immediately south of the Canadian Pacific Railway tracks, is coincident with a zone of highly fractured, altered and pyritized rock that is well exposed in a steep-sided ravine. The ravine marks the northwestern end of the Barnes Creek Fault - a late fault that cuts diagonally across the northeast corner of the Guichon Creek Batholith (McMillan, 1976). The fault separates a quartz diorite hybrid phase of the Early Jurassic Guichon Creek Batholith on the northeast from the Upper Triassic Nicola Group rocks that lie to the southwest on the Copper Keg property.

The Barnes Creek Fault is very well exposed in the ravine on the northern half of the Copper Keg Claim Group, but is hidden beneath a thin cover of Pleistocene drift and Tertiary basalt on the southern half of the property. Over a period of years, the writer has conducted several surveys (geological, magnetometer and VLF-EM) in an attempt to trace the fault from the ravine to the southern half of the property (Morrison, 1984, 91, 92 & 96).

A secondary fault may cross the centre of the property from east to west at the southern edge of the quartz diorite plug, and it is thought that fracturing, alteration and pyritization may all

INTRODUCTION (continued)

occur along the southern border of the intrusive plug in a manner similar to that seen at the southwestern contact. This second fault (inferred) may intercept the Barnes Creek Fault in the vicinity of the Copper Keg 9 mineral claim.

A valley which crosses the centre of the property (coincident with the inferred fault) has been the focus of exploration for the past three years. In 1996, a VLF-EM survey outlined a strong conductor underlying the eastern half of the valley (Morrison, 1996). In 1997, the geology was mapped at a scale of 1: 2500, and it was determined that the VLF-EM conductor could represent a faulted contact between the quartz diorite intrusive and the Nicola Group andesites (Morrison, 1997). This year, 1998, an experimental biogeochemical survey was carried out over the area of the VLF-EM conductor in an effort to discover copper or other economic minerals on a region of the property where the glacial drift ranges from 1 to 7 metres deep.

The results of this year's survey which used sagebrush as the principle sample medium are presented on Figures 5 & 6 which accompany this report.

The geology map which accompanied the 1997 Assessment Report has been reproduced for this report (see Figure 4) along with most of the geological description of the 1997 report.

LOCATION and ACCESS

The Copper Keg Claim group is situated immediately south of the Thompson River, 9 km northeast of Ashcroft, B.C. (Lat. 50°45′; Long. 121°10′; N.T.S. Maps 92-I-11 & 14E). The property is reached from Ashcroft via the Highland Valley Highway (#97C) and the Barnes Lake Road (which is also known as logging road #44). A powerline road branches north from logging road #44 at 10.4 km, and this road gives access to the central portion of the property as illustrated on Figure 2.

The dirt road requires a four-wheel-drive vehicle during the wet Spring and Autumn seasons.

PHYSICAL FEATURES AND CLIMATE

The first four Copper Keg mineral claims (Copper Keg 1-4) cover a steep, rocky slope immediately south of the Canadian Pacific Railway tracks on the south side of the Thompson River. The slope rises from the 350 metre elevation at the tracks to the 670 metre elevation over a distance of just 0.5 km. The slope continues at a more moderate grade to the 760 metre elevation across the Copper Keg 5-8 mineral claims, and then levels out over the southern half of the property (Copper Keg 9-14 mineral claims) with an average elevation of 820 metres above sea level.

Precipitous bluffs on the eastern side of the Copper Keg 1 & 3 mineral claims are coincident with outcrop of intrusive rock.

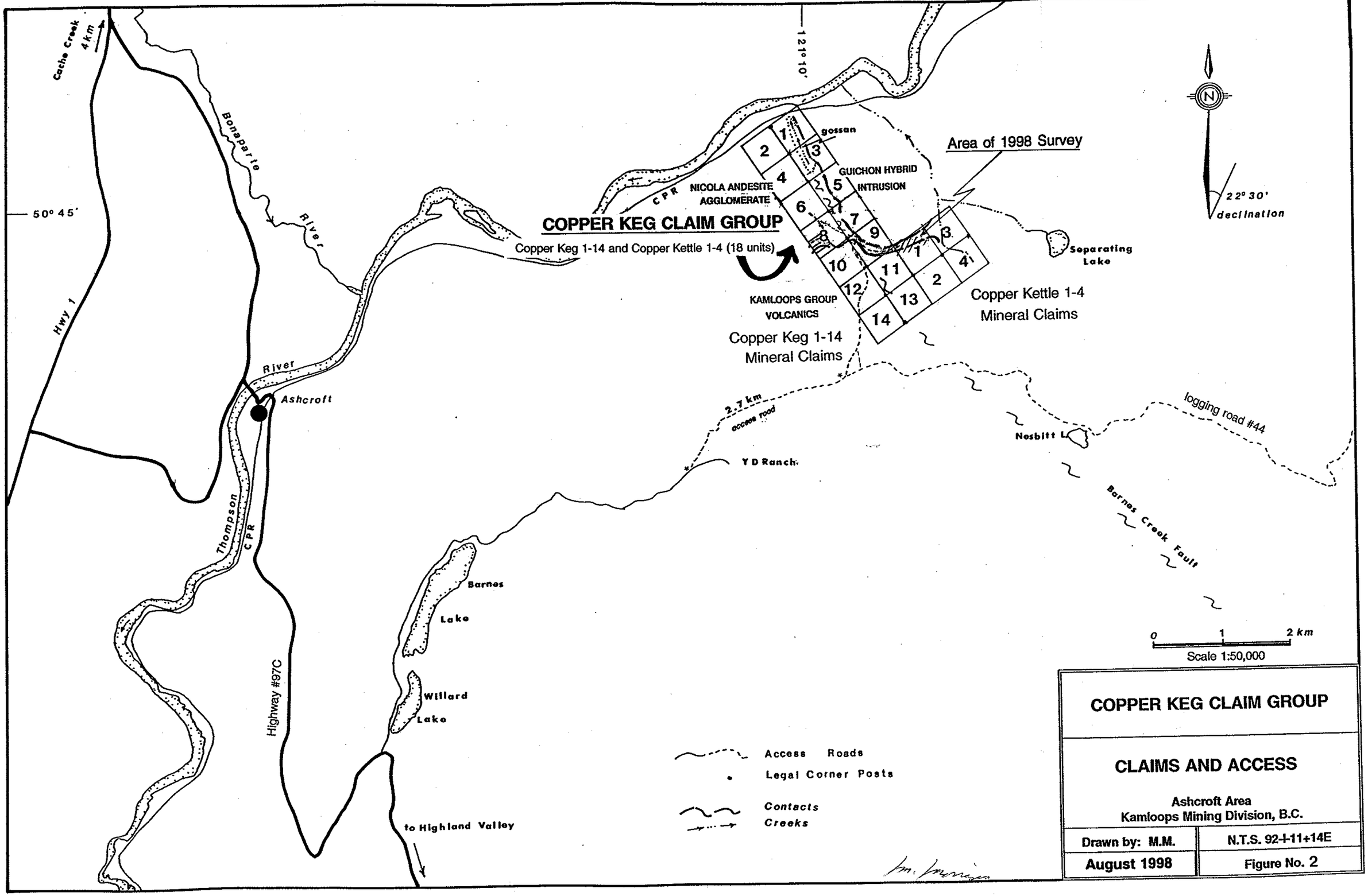
A light, patchy forest of Ponderosa Pine, Douglas Fir, and juniper occurs on northern slopes and in ravines. Elsewhere, sagebrush is widespread across the property.

The Thompson River Valley at Ashcroft has a desert climate with less than 25 cm of precipitation annually and summer temperatures often greater than 30°C. The lower slopes on the Copper Keg property have the same desert climate as Ashcroft, but there is a marked

PHYSICAL FEATURES AND CLIMATE (continued)

increase in precipitation and vegetation with each 100 metre increase in elevation above the river. Much of the upland portion of the property receives enough precipitation to support summer range land for cattle. A creek lying just to the east of the property provides drinking water for the livestock.

The winter snow pack seldom exceeds 30 cm on the Copper Keg property and the snow lasts only from November until early March.



COPPER KEG CLAIM GROUP

CLAIMS AND ACCESS

Ashcroft Area
Kamloops Mining Division, B.C.

Drawn by: M.M.	N.T.S. 92-I-11+14E
August 1998	Figure No. 2

CLAIM STATUS

The mineral claims, making up the Copper Keg Group are 100% owned by the writer, M. Morrison of Kelowna, B.C. Specifics related to the 18, 2-post mineral claims located within the Kamloops Mining Division are given below:

CLAIM NAME	UNITS	DATE OF RECORD	TENURE NUMBER	EXPIRY* DATE
Copper Keg 1	1	May 15, 1995	336345	May 15, 1999
Copper Keg 2	1	May 15, 1995	336346	May 15, 1999
Copper Keg 3	1	May 15, 1995	336347	May 15, 1999
Copper Keg 4	1	May 15, 1995	336348	May 15, 1999
Copper Keg 5	1	May 14, 1995	336349	May 14, 1999
Copper Keg 6	1	May 14, 1995	336350	May 14, 1999
Copper Keg 7	1	May 14, 1995	336351	May 14, 1999
Copper Keg 8	1	May 14, 1995	336352	May 14, 1999
Copper Keg 9	1	May 14, 1995	336353	May 14, 2000
Copper Keg 10	1	May 14, 1995	336354	May 14, 2000
Copper Keg 11	1	May 14, 1995	336355	May 14, 1999
Copper Keg 12	1	May 14, 1995	336356	May 14, 1999
Copper Keg 13	1	May 14, 1995	336357	May 14, 1999
Copper Keg 14	1	May 14, 1995	336358	May 14, 1999
Copper Kettle 1	1	May 15, 1996	345861	May 15, 1999
Copper Kettle 2	1	May 15, 1996	345862	May 15, 1999
Copper Kettle 3	1	May 15, 1996	345863	May 15, 1999
Copper Kettle 4	1	May 15, 1996	345864	May 15, 1999

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

HISTORY

The large gossan located immediately south of the Canadian Pacific Railway Tracks, and now covered by the Copper Keg Claim Group, was one of British Columbia's early prospects. It was known as the Burr property and it was first described in the Minister of Mines Annual Report for 1898, p. 1107 as follows:

> "The Burr group of eight claims is situated about 5.5 miles east of Ashcroft on the C.P. Railway, which runs through the property. It has a large body of ore, carrying gold and silver, but principally copper, and lies between diorite and granite. The country rock is diorite.
>
> About 80 feet of tunnelling has been run in on the claims which are most favourably situated for working, as the ore can be dumped into the cars without extra handling."

It wasn't until the late 1960's that the prospect was recorded again in the Minister of Mines Annual Reports (1969, p. 263; 1970, p. 348; and 1971, p. 362). It was called the Pyrite property. Soil geochemical and Induced Polarization surveys were conducted on the Pyrite property and this work was followed-up with the drilling of three diamond drill holes in 1970.

The exact locations of the three drill holes are unknown to the writer, but drill core lying on the ground at two sites, well to the west of the gossan zone, suggests that at least two of the drill holes were drilled to test targets other than the gossan zone.

The Burr 1 mineral claim was staked by the writer in 1982 to cover the main gossan zone. The gossan and surrounding region were prospected late in 1982 (Morrison, 1983). In 1984, the Burr 2 mineral claim of 20 units was added to the south side of the Burr 1 mineral claim and a ground VLF-EM survey was conducted over ground lying to the southeast of the gossan zone (Morrison, 1984).

HISTORY (continued)

The Burr property was allowed to lapse, but in May, 1990, the writer staked the Key 1-18, 2-post mineral claims to cover the gossan and territory lying to the southeast.

During April 1991, a ground magnetometer survey was conducted over portions of the Key 3-10 mineral claims (Morrison, 1991) and in 1992 a geological mapping program was carried out on the Key 5-8 mineral claims (Morrison, 1992).

The property was restaked for a second party as the Copper Key 1-18 mineral claims in 1994 and then restaked again by the writer in 1995 and 1996 as the Copper Keg 1-14 and Copper Kettle 1-4 mineral claims that now make up the Copper Keg Claim Group.

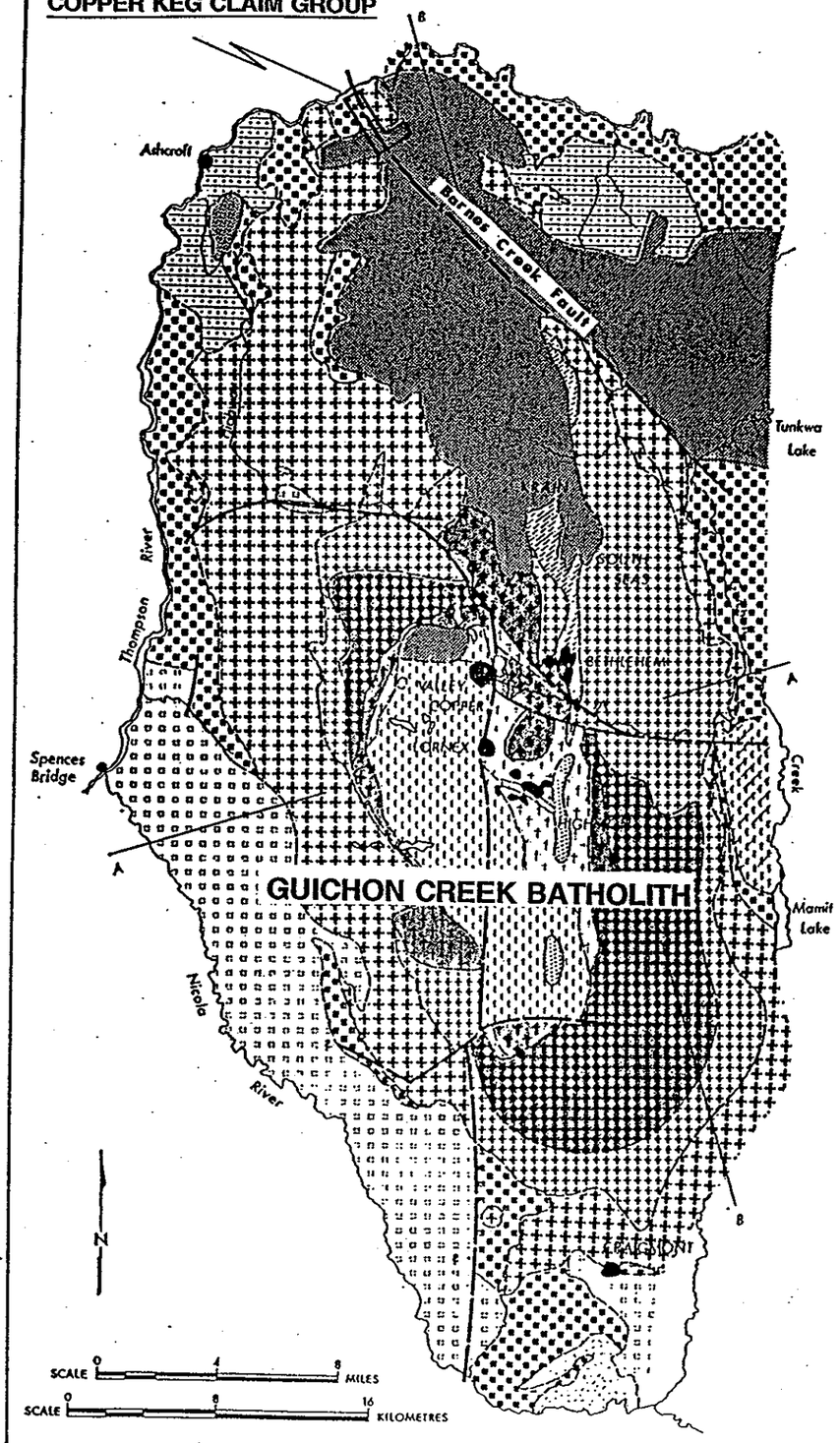
In 1996, a VLF-EM ground survey was conducted over portions of the Copper Keg 9 & 11 mineral claims, and in 1997 geological mapping at a scale of 1: 2500 was conducted on portions of the Copper Keg 9-11 and Copper Kettle 1 mineral claims (Morrison, 1996-97).

REGIONAL GEOLOGY

The regional geology of the Highland Valley Copper-Molybdenum District which extends from Ashcroft on the northwest to the old Craigmont Mine (near Merritt) on the southeast is illustrated on Figure 3 accompanying this report. The map which is centred over the Guichon Creek Batholith has been reproduced from a map appearing in C.I.M. Special Volume 15 titled "Porphyry Deposits of the Canadian Cordillera". The map by W.J. McMillan accompanies a paper in Volume 15 entitled "Geology and Genesis of the Highland Valley Ore Deposits and the Guichon Creek Batholith".

The outline of the Copper Keg property, situated northeast of Ashcroft, has been added to the regional map to illustrate the location of the property with respect to: the Barnes Creek Fault; the hybrid phase of the Guichon Creek Batholith; and the world class copper-molybdenum mines (Valley Copper, Lornex and Bethlehem) that lie 30 to 35 km to the southeast.

COPPER KEG CLAIM GROUP



Geology of the Guichon Greek batholith.

TERTIARY
- VOLCANIC AND SEDIMENTARY ROCKS

CRETACEOUS (?)
- VOLCANIC AND SEDIMENTARY ROCKS

JURASSIC
- SEDIMENTARY ROCKS

INTRUSIVE ROCKS OF THE BATHOLITH
- POST-BETHSAIDA DYKES
- BETHSAIDA PHASE
- POST-SKEENA DYKES AND PLUGS
- SKEENA VARIETY
- POST-BETHLEHEM DYKES AND PLUGS
- BETHLEHEM PHASE *
  - HIGHLAND VALLEY PHASE
- CHATAWAY VARIETY
- GUICHON VARIETY
- HYBRID PHASE

INTRUSIVE ROCKS OF UNCERTAIN AFILIATION
- GUMP LAKE PHASE
- COYLE "GRANITE"

UPPER TRIASSIC
- VOLCANIC AND SEDIMENTARY ROCKS

SYMBOLS
- BRECCIA BODIES ..... AA OR
- ORE DEPOSITS, IMPORTANT PROSPECTS x
- AREAS WITH SWARMS OF PORPHYRY DYKES .....
- FAULTS, MAPPED, INFERRED .....
- SECTION LINES FOR GRAVITY PROFILES ..... A A

* DESIGNATION OF GRANITIC UNITS AS PHASES OR VARIETIES FOLLOWS THE USAGE OF NORTHCOTE, 1969.

from CIM Special Volume No. 15

COPPER KEG CLAIM GROUP	
REGIONAL GEOLOGY GUICHON CREEK BATHOLITH Ashcroft Area Kamloops Mining Division, B.C.	
	N.T.S. 92-I-11+14E
August 1998	Figure No. 3

REGIONAL GEOLOGY (continued)

Several excellent geological papers have been written about the Guichon Creek Batholith and the large mines located near the centre of the batholith and the reader is referred to the paper cited above for further details.

In the vicinity of the Copper Keg Claim Group, Figure 3 shows that the Barnes Creek Fault dissects the property, separating a hybrid phase of the Guichon Creek Batholith on the northeast side of the property from Upper Triassic Nicola Group rocks on the southwest. Movement on the fault is believed to be left-lateral.

Tertiary volcanics unconformably overlie pre-Tertiary rocks on the southern half of the Copper Keg property.

A mantle of Pleistocene drift covers three-fourths of the property.

PROPERTY GEOLOGY

Summary from 1992 Geological Report

The geology of the Copper Keg property is relatively simple. A wide fracture zone (Barnes Creek Fault) is coincident with the contact of a quartz diorite plug that is intrusive into an andesite agglomerate. The quartz diorite lying to the northeast of the fracture zone is a medium grained hybrid phase of the Guichon Creek Batholith, while the andesite lying to the southwest is part of the Upper Triassic Nicola Group.

The fracture zone is pyritized, hydrothermally altered and bleached over a width of up to 200 metres. The fracturing, pyritization and clay alteration are particularly well exposed in the steep sided ravine on the Copper Keg 1 & 3 mineral claims, but less well exposed to the

PROPERTY GEOLOGY (continued)

Summary from 1992 Geological Report (continued)

southeast where a creek has just begun to cut through the deep drift to bedrock. Further south, on the Copper Keg 9-14 mineral claims, the southeast projection of the Barnes Creek Fault is entirely concealed by Tertiary Kamloops Group volcanics up to 35 metres thick.

Geological mapping in 1992 confirmed that the alteration and pyritization of the quartz diorite and andesite agglomerate postdates the Guichon Creek Intrusion. Both the quartz diorite and andesite have been altered by late hydrothermal solutions that have percolated through the Barnes Creek Fault Zone. It is thought that the hydrothermal solutions have emanated from a late-cooling magma that lies at some shallow depth below surface. Although the mineralization exposed in the ravine is pyrite, it is thought that copper, molybdenum, or precious metals may have been deposited by these same hydrothermal solutions at some point along the Barnes Creek Fault.

An east-west valley that is coincident with the southern edge of the quartz diorite intrusive may represent another fault that could be mineralize with pyrite and/or copper and molybdenum. This fault (inferred) which runs into the Barnes Creek Fault at an oblique angle from the east has been the focus of exploration for the past three years.

Summary of 1997 Mapping Program

The three major geological units that are described in the foregoing summary (i.e. Upper Triassic Nicola Group andesite, Early Jurassic Guichon Creek Intrusive, and Tertiary Kamloops Group Volcanics) underlie portions of the Copper Keg 9-11 and Copper Kettle 1 mineral claims mapped in 1997. The specifics related to these major lithological units will be described in the paragraphs that follow.

PROPERTY GEOLOGY (continued)

Upper Triassic Nicola Group Andesite Agglomerate (Unit 1)

A black andesite agglomerate of the Upper Triassic Nicola Group (Unit 1) underlies much of the Copper Keg 5, 6 and 8 mineral claims that were mapped in 1992. The agglomerate has been intruded by the Guichon Hybrid plug on the Copper Keg 5 mineral claim in the vicinity of the Barnes Creek Fault.

Although the andesite does not outcrop in the area covered by Figure 4, it is thought to occur below overburden as a narrow band just north and beyond the Tertiary volcanic contact at the northwest corner of the Copper Keg 9 mineral claim. Some angular float of andesite was found at this location.

A second broad area of Nicola Group andesite is thought to lie beneath relatively shallow overburden at the eastern end of the east-west valley on the central portion of the Copper Kettle 1 mineral claim (see Figure 4).

The profile diagrams of Figure 4 show the relationship between the Nicola Group andesite, the intruding Early Jurassic plug, and the Tertiary basalt cover rock.

The 1992 mapping found that the andesite agglomerate is highly indurated and often massive to blocky in outcrop. Some banding suggests that the agglomerate may strike at 150 degrees and dip vertically.

The agglomerate is made up of amorphous and porphyritic andesite lapilli and bombs of 1 to 15 cm, set in a matrix of tuff (20%). The andesite clasts (or bombs?) contain either white feldspar or black augite phenocrysts. The agglomerate is sometimes hornfelsic, or it can contain up to 5% epidote. Near the Barnes Creek Fault the rock has been well fractured and argillicallly altered or highly bleached to a white clay by hydrothermal solutions.

PROPERTY GEOLOGY (continued)

Upper Triassic Nicola Group Andesite Agglomerate (Unit 1) (continued)

The highly altered andesite weathers easily and this fact may account for the lack of outcrop of andesite in the area covered by Figure 4.

Early Jurassic Guichon Creek Intrusive (Unit 2)

The intrusive plug (Unit 2 on Figure 4) is a quartz diorite hybrid phase of the Early Jurassic Guichon Creek Batholith. It was mapped on the Copper Keg 5 and 7 mineral claims in 1992 and it occurs mostly to the north of Baseline 10N in this year's survey area on the northeastern halves of the Copper Keg 9 and Copper Kettle 1 mineral claims.

The quartz diorite intrudes the Upper Triassic Nicola Group andesite agglomerate on the property. In 1992, it was found that a contact zone of mafic-rich quartz diorite grades into hornfelsic andesite over a distance of 20 metres near the centre of the Copper Keg 5 mineral claim. At this location a wide fracture zone (Barnes Creek Fault) is coincident with the intrusive contact. The fracture zone extends only 10 to 20 metres into the intrusive, but up to 175 metres southwest into the andesitic rocks. Northeast of the fracture zone the intrusive is blocky to massive and it forms precipitous bluffs up to 60 metres high on the Copper Keg 5 mineral claim.

The same blocky to massive quartz diorite occurs along the northern edge of this year's survey area. Towards the southwest, however, the quartz diorite become finer grained and more mafic, and some aplite dykes cut the rock. It would seem that the hornfelsic andesite country rock is near at hand on this part of the property, but if so, it is concealed by overburden and the Tertiary volcanics.

PROPERTY GEOLOGY (continued)

Early Jurassic Guichon Creek Intrusive (Unit 2) (continued)

The quartz diorite a short distance away from the contact zone is a fresh, white to grey, medium grained, eguigranular rock comprised of 65% plagioclase, 15% quartz, 10% hornblende, 5% biotite and minor orthoclase and augite. The mafic minerals vary from 10 to 25% locally and are noted to increase towards the perimeter of the intrusive. The rock is weakly chloritized near fractures.

Tertiary Kamloops Group Volcanics (Unit 3)

Tertiary Kamloops Group basalts underlie the southern half of the Copper Keg Claim Group and occur for the most part to the south of Baseline 10N in this year's map area.

The basalts are thought to be up to 35 metres in thickness and flat-lying as they form a plateau immediately to the south of this year's map area. They cover the pre-Tertiary rocks as illustrated on the cross-sections of Figure 4, and they may thin to the east as demonstrated by the profiles of L 7+50W and L 10+50W.

The basalts are generally black to grey, fine grained, and comprised of black feldspars and mafic minerals. Olivine equals less than 2% of the visible minerals, while vesicles equal up to 5% of the rock.

The basalt weathers blocky (Unit 3) to platy (Unit 3a) and some flows are less than 1 metre thick. Interflow horizons are occasionally rubbly and hematitic.

One unit near the base of the Kamloops Group at grid 9+95N, 9+50W is brecciated, hematitic and mended with up to 5% chalcedony veinlets.

PROPERTY GEOLOGY (continued)

Tertiary Kamloops Group Volcanics (Unit 3) (continued)

Weak clay alteration, pyrite mineralization, and zones of chalcedony veinlets were noted at a few sites within the basalt (e.g. at 10+00N, 10+50W; at 9+15N 13+50W; at 8+95N, 13+75W; and at 9+25N 16+30W).

Pleistocene Sediments

Overburden comprised of Pleistocene drift, 1-3 metres deep, is common on much of the property. The drift deepens to a possible 15 metres on the northeast side of the Copper Keg 8 mineral claim where there are low moraines and glacial benches. The drift also fills the eastern side of the east-west valley on the Copper Kettle 1 mineral claim to depths estimated to be 5 to 10 metres.

Several low morainal ridges indicate that the last ice cover moved towards the southeast.

Faulting

Barnes Creek Fault

The Barnes Creek Fault occurs as a wide shattered zone of rock that coincides with the Guichon Hybrid Intrusive - Nicola Group Andesite Agglomerate contact which is exposed on the Copper Keg 1-6 mineral claims. It was found, during the 1992 mapping program, that the well fractured rock extends for 20 metres into the intrusive and for up to 175 metres into the agglomerate on the Copper Keg 5 mineral claim. The zone is well exposed by the deep erosion of a ravine on the Copper Keg 1 & 3 mineral claims where the spectacular gossan occurs. The gossan extends 900 metres north-south and 200 metres east-west on this portion of the property. The gossan is

PROPERTY GEOLOGY (continued)

Faulting (continued

Barnes Creek Fault (continued)

comprised of intensely clay-altered and pyritized andesite and quartz diorite that has been flooded with hydrothermal solutions that have invaded the well fractured rock.

The shattered zone is made up of a complex series of fractures - none of which clearly define the strike of the Barnes Creek Fault that is thought to strike 150 degrees and dip nearly vertical. Evidence of the Barnes Creek Fault is lost under Pleistocene deposits on the Copper Keg 7 & 8 mineral claims, and under the thin cover of Kamloops Group basalt on all mineral claims to the southeast (i.e. Copper Keg 9-13).

The East-West Inferred Fault

The east-west valley crossing the Copper Keg 9 and Copper Kettle 1 mineral claims is thought to be coincident with a fault which defines the southern contact of the quartz diorite intrusive with Nicola Group andesites. It is thought that the intensity of fracturing, clay-alternation and pyritization on this fault could match that of the Barnes Creek Fault.

A strong east-west VLF-EM conductor identified during the 1996 survey occurs in the middle of the valley on the eastern side of the survey area and it is thought that this conductor could represent the fault with associated clay-alteration and pyritization.

Very little evidence of the fault could be found in the region covered by Figure 4 due to glacial drift and/or Kamloops Group Basalts. Some of the basalts near the valley are tectonically fractured and mended with late Chalcedony, but the fracture zones are

PROPERTY GEOLOGY (continued)

Faulting (continued

The East-West Inferred Fault (continued)

poorly exposed. The fracture zones do, however, suggest relatively recent tectonic activity and the possible reactivation of an old fault.

The quartz diorite lying north of the inferred fault is generally blocky to massive and fresh, but this is the same situation that occurs immediately to the northeast of the Barnes Creek Fault where the quartz diorite is also intact and fresh just metres away from the fault. Therefore, the lack of fracturing of the quartz diorite lying north of Baseline 10N does not rule out the possibility that a strong fault could cross the property just tens of metres to the south.

Alteration and Mineralization

The spectacular gossan on the Copper Keg 1-6 mineral claims represents an area of intense hydrothermal alteration that is associated with highly fractured rock related to the Barnes Creek Fault. The rock is entirely altered to white clay minerals over areas measuring up to tens of metres in diameter. The altered rock contains 2% pyrite (or limonite after pyrite) generally and up to 5% pyrite locally. The pyrite is usually disseminated throughout the rock, but occasionally forms blebs and masses up to 2 cm in size filling the fractures. Chalcopyrite is sometimes present in small amounts.

The degree of alteration is directly proportional to the degree of fracturing, and it decreases sharply in either direction away from the fault. Both the Nicola Group andesite and the Guichon quartz diorite are altered, but the fracturing (and therefore, the alteration) extends much further into the andesite towards the southwest then towards the quartz diorite to the

PROPERTY GEOLOGY (continued)

Alteration and Mineralization (continued)

northeast. The quartz diorite forms massive cliffs just a few tens of metres northeast of the Barnes Creek Fault.

The hydrothermal alteration and pyritization clearly postdates the Guichon Intrusive event as the pyrite fills late fractures in both the quartz diorite and andesite agglomerate.

Weak clay alteration and pyritization of the Tertiary basalt was observed at a few scattered locations across the map area. Some of the alteration zones are cut by chalcedony veinlets and some vesicles are filled with chalcedony. Although the alteration of the basalt is nowhere intense, the alteration does point out that relatively recent hydrothermal solutions have invaded regions of the property.

BIOGEOCHEMICAL SURVEY - 1998

Grid

Stations on the 1997 geology grid (see Figure 4) were used for this year's limited experimental biogeochemical survey. Some stations had to be remeasured and reflagged due to weathering.

Sampling

Sagebrush is widespread in the survey area and it was used as a sample medium wherever possible. The juniper bush was used as a second choice medium and pine or fir trees were used only when sagebrush or juniper were not available. (Samples which were not sagebrush have been noted on Figure 5). A total of 30 samples were collected during the survey.

In all cases, deadwood twigs of ½ to 1 cm diameter were removed from three to five sagebrush (or other mediums) near the site. Bushes of equal size and age were selected where possible and the average bush was 1 metre tall. The twigs were cut into 10 cm lengths and placed in plastic "kitchen catcher" garbage bags with identification tags for shipment to the laboratory. Approximately 250 g of sample was collected at each site.

The deadwood twigs were used in place of "live" wood, or bark, because the writer has had some success in using this medium on several other properties in Southern British Columbia.

The samples were shipped to Acme Laboratories in Vancouver for standard ICP analyses of 30 elements. The lab procedures are listed in Appendix C along with the results.

BIOGEOCHEMICAL SURVEY - 1998 (continued)

Results

The analytical results of this year's biogeochemical samples are listed in Appendix C and six of the listed elements (copper, zinc, arsenic, molybdenum, potassium and silver) have been selected for plotting on Figures 5 & 6.

There are some notable features on the Certificate of Analysis and these can be quickly explained in terms of the sample medium used. The first three and last three samples on the list stand out from the rest in that the values for several of the elements are higher than the rest. This is particularly true for silver which equals as high as 8.6 parts per million (ppm). The first three samples were deadwood twigs of Douglas Fir and the last three samples were deadwood twigs of Ponderosa Pine. Clearly, these species retain higher concentrations of several elements compared with the regular sagebrush samples that comprised most of the survey medium.

Anther sample on the list, L5+50W, 10+50N, stands out for having much lower values for many of the elements than the average sample. The sample at this survey station was comprised of "live" wood juniper twigs.

The examples just described illustrate the importance of using a common medium for biogeochemical sampling.

The small number of samples involved in the survey also affected the statistical analysis of the survey. Proper threshold and anomalous values could not be determined. Although the values for copper, zinc, arsenic, molybdenum, potassium and silver have been plotted on Figures 5 & 6, only the values of molybdenum and potassium have been contoured. The other four elements are too erratic in distribution to properly contour, and of course, the

BIOGEOCHEMICAL SURVEY - 1998 (continued)

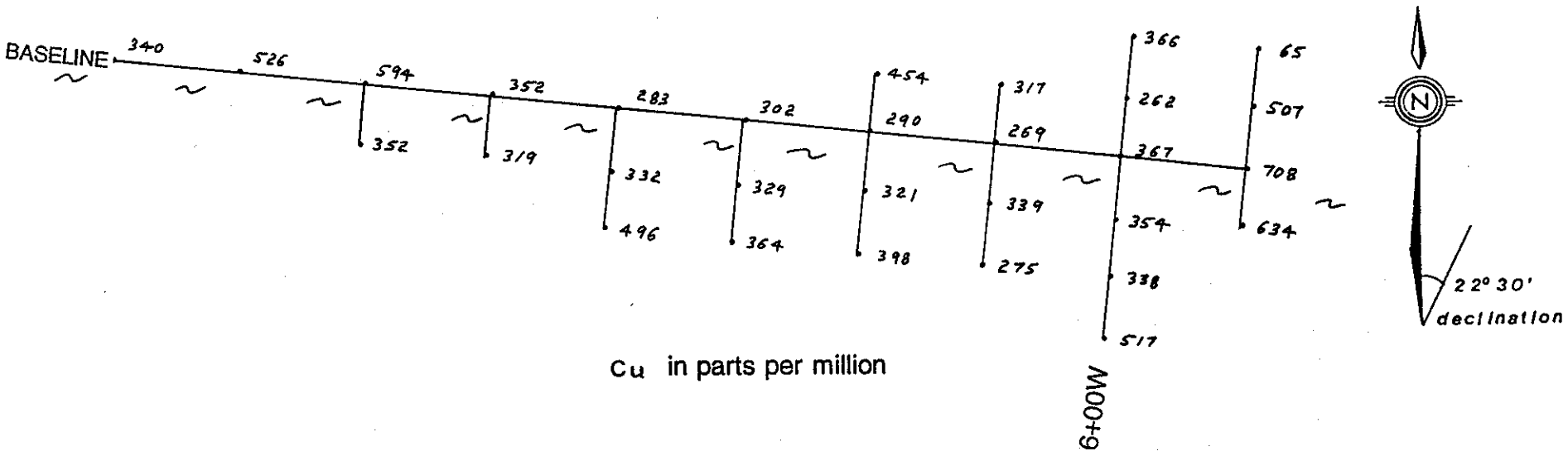
Results (continued

mixing of sample mediums does not help the situation. The arsenic values are particularly erratic across the survey area.

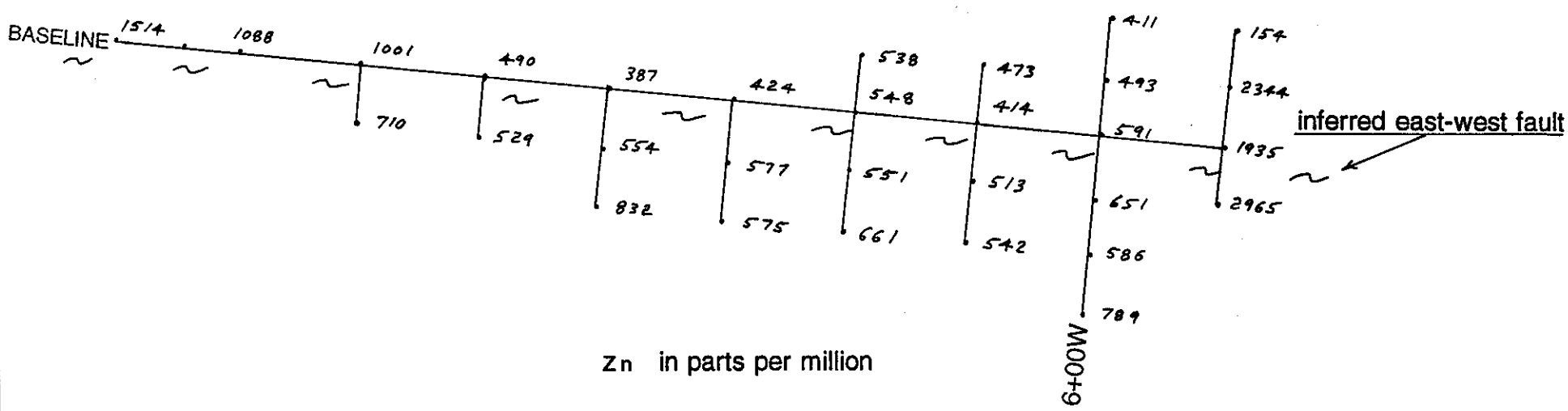
The writer has conducted one other survey in the region using sagebrush as a medium (Morrison, 1990) and the results from the 1990 survey have been added to Appendix C for comparative purposes. With respect to the 1990 survey, the sagebrush of this year's survey yielded higher potassium, molybdenum and arsenic values. The potassium values are about 5% higher on average, while the molybdenum values range from 5 to 40 ppm higher. The arsenic values for this year's survey are 20 to 200 times greater than those of the 1990 survey.

A value of 17% potassium has been chosen for contouring on Figure 6. Although there is very little variation in the potassium content from one sample site to the next, the 17% contour correlates fairly well with the inferred fault and VLF-EM conductor on Figure 4.

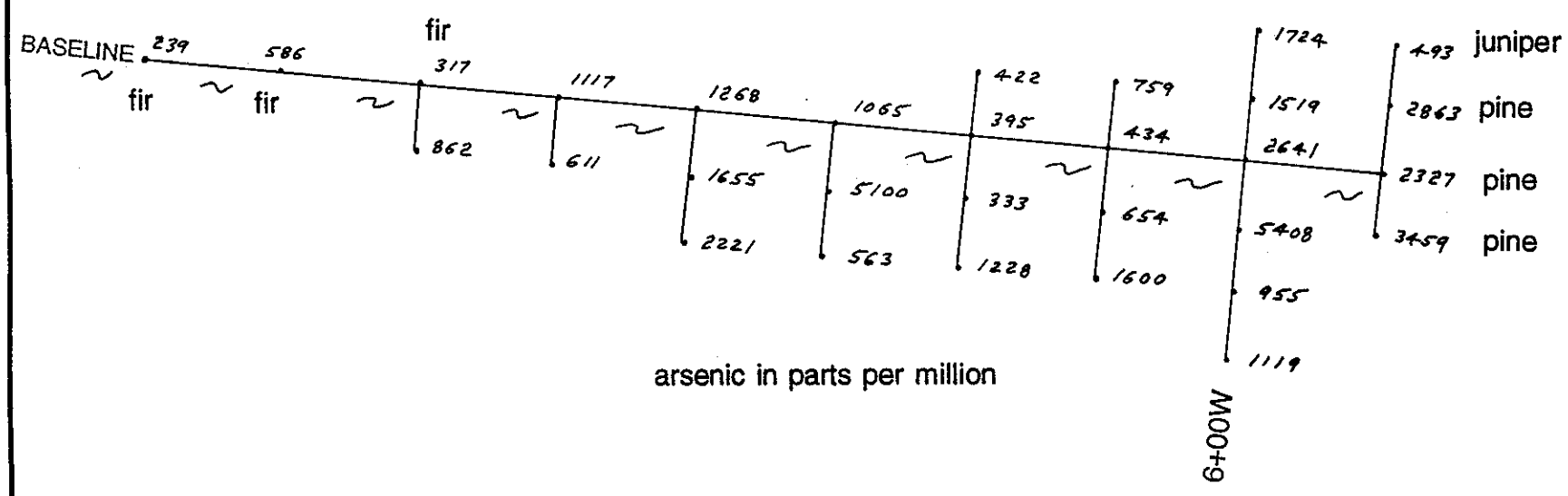
There is not a wide range in molybdenum values in this year's survey area (6 to 58 ppm). The 18 ppm has been selected for contouring on Figure 6 as several of the molybdenum values above 18 ppm are coincident with the trace of the inferred fault and VLF-EM conductor on Figure 4.



Cu in parts per million



Zn in parts per million



arsenic in parts per million

sample medium is sagebrush unless notated otherwise

Please see Figure 4 for geology, topography and mineral claims

0m 50m 100 metres

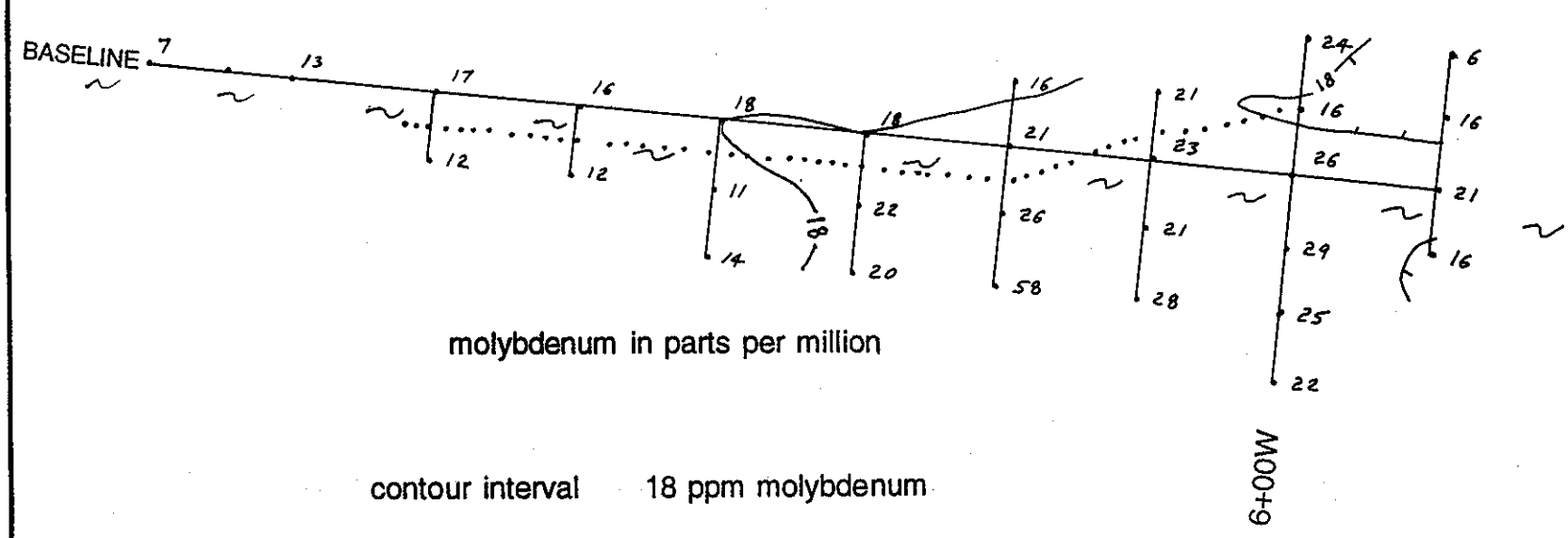
Scale 1:2500

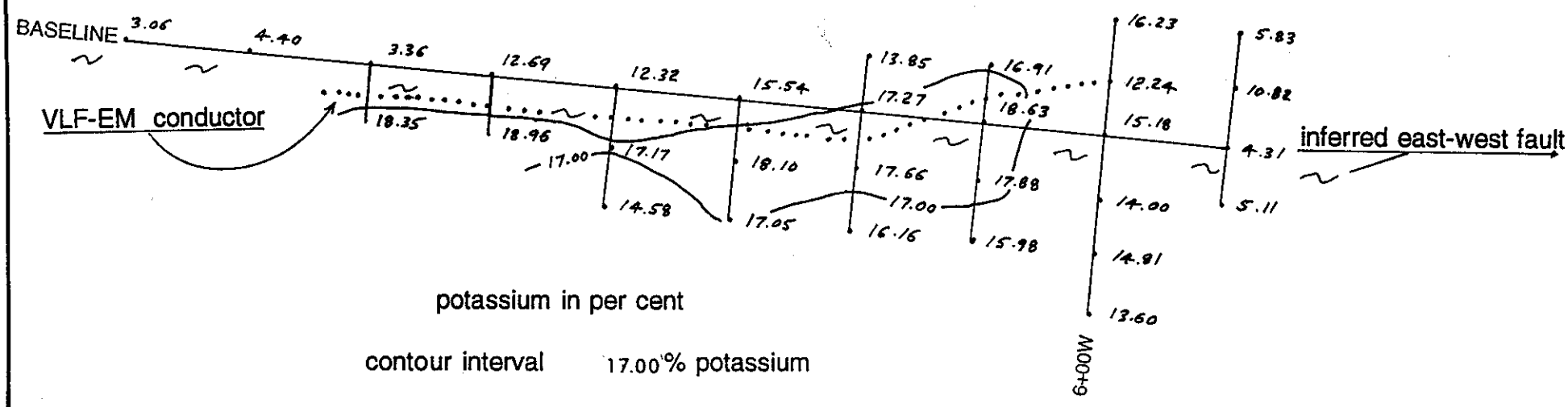
COPPER KEG CLAIM GROUP

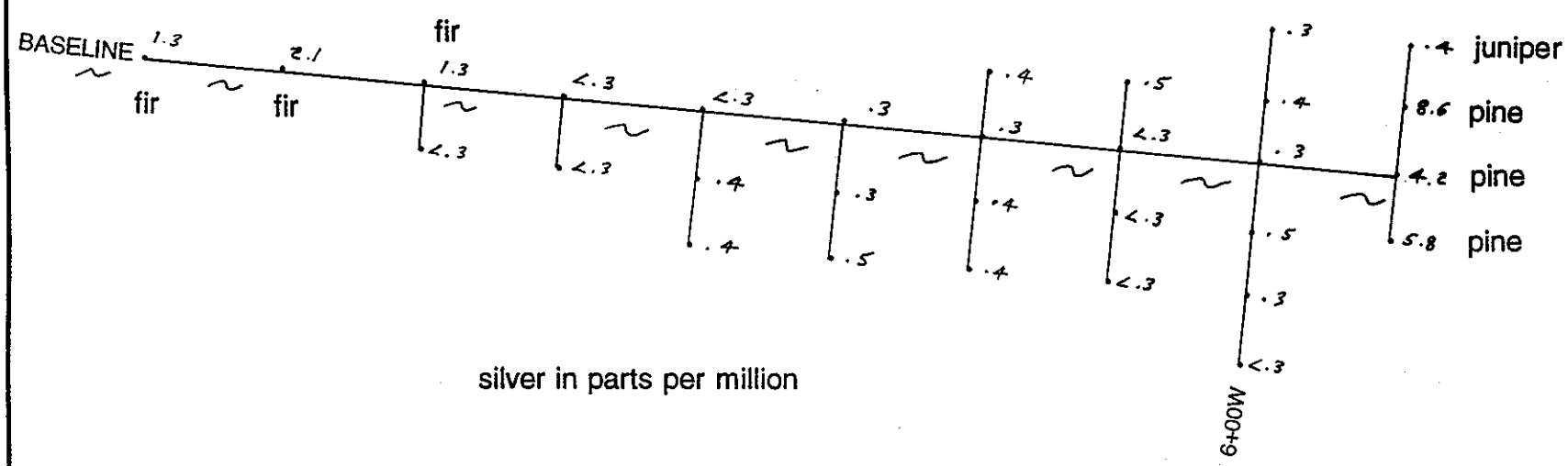
Biogeochemical Survey - Cu, Zn & As
Copper Keg 9-11 & Copper Kettle 1
Mineral Claims
Ashcroft Area
Kamloops Mining Division, B.C.

Drawn by: M.M.	N.T.S. 92-I-11+14E
August 1998	Figure No. 5

M. Morrison







sample medium is sagebrush unless notated otherwise

Please see Figure 4 for geology, topography and mineral claims

0m 50m 100 metres

Scale 1:2500

COPPER KEG CLAIM GROUP

Biogeochemical Survey - Mo, K & Ag
Copper Keg 9-11 & Copper Kettle 1
Mineral Claims
Ashcroft Area
Kamloops Mining Division, B.C.

Drawn by: M.M.	N.T.S. 92-I-11+14E
August 1998	Figure No. 6

DISCUSSION

As mentioned under the previous title, the potassium, molybdenum and arsenic values obtained from the sagebrush biogeochemical samples of this year's survey are all elevated compared with the values of another sagebrush survey conducted by the writer in the region.

The high potassium values may reflect potassium alteration of the bedrock by hydrothermal solutions, while the high molybdenum and arsenic values may represent concentrations of these elements that have been introduced into the bedrock by the same hydrothermal solutions.

The fact that the highest potassium and molybdenum values are more or less coincident with the inferred fault and VLF-EM conductor on the Copper Kettle 1 mineral claim lends support to the hypothesis that a highly altered, and mineralized fracture zone may occur at the southern contact of the quartz diorite plug.

Before drill testing of the east-west contact zone is considered, another biogeochemical survey is recommended for the southwestern side of the Copper Keg 7 mineral claim where the Barnes Creek Fault occurs. If a similar pattern of elevated potassium and molybdenum values (in sagebrush) occurs over the Barnes Creek Fault, then a drilling program to test both the inferred east-west fault and Barnes Creek Fault for economic concentrations of copper and molybdenum is recommended.

Although the prime exploration target occurs on the Copper Keg 9 mineral claim where the two faults intersect, drill testing of the faults in the easily accessible sagebrush country should be conducted first. If the results are positive, then the drill can be moved to the more difficult set-ups on the Copper Keg 9 mineral claim.

CONCLUSIONS and RECOMMENDATIONS

This year's experimental biogeochemical survey, conducted on portions of the Copper Keg 9 & 11 and Copper Kettle 1 mineral claims, yielded elevated values for potassium and molybdenum coincident with an east-west inferred fault and a VLF-EM conductor which cross the centre of the Copper Kettle 1 mineral claim.

It is thought that the VLF-EM conductor may represent alteration, pyritization and fracturing on the southern contact of the quartz diorite intrusive located on the northeastern side of the Copper Keg Claim Group.

The elevated potassium values in this year's samples may indicate that potassic alteration is associated with the fracturing, and the elevated molybdenum values within the same samples may indicate that molybdenum has also been deposited by hydrothermal solutions passing through the fracture zone.

Highly anomalous arsenic values also occur in this year's samples, but they are erratically distributed across the survey area.

This year's survey also yielded data that demonstrates that a single sample medium should be used (if at all possible) during a survey. The few Douglas Fir, Ponderosa Pine and juniper samples, collected this year, yielded values that varied substantially from the sagebrush samples that were used for most of the survey.

It is recommended that the biogeochemical survey be expanded to include a portion of the Copper Keg 7 mineral claim underlain by the Barnes Creek Fault. If a similar pattern of elevated potassium and molybdenum occurs over the Barnes Creek Fault, then both the Barnes Creek Fault and the east-west inferred fault should be tested at depth for economic copper and molybdenum mineralization with a Percussion Drilling program.

CONCLUSIONS and RECOMMENDATIONS (continued)

The zone of intersection of the two faults (believed to underlie the Copper Keg 9 mineral claim) is a prime drill target, but the testing of this target would involve drilling through more cover (drift and basalt) and should await positive results from the first phase of drilling.

August 1, 1998
Kelowna, B.C.

Murray Morrison, B.Sc.

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* Assessment Reports filed with the Ministry of Employment and Investment of British Columbia.

APPENDIX A

STATEMENT OF QUALIFICATIONS

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

1. I graduated from the University of British Columbia in 1969 with a B.Sc. Degree in Geology.

2. I have been working in all phases of mining exploration in Canada for the past twenty-nine years.

3. During the past twenty-nine years, I have intermittently held responsible positions as a geologist with various mineral exploration companies in Canada.

4. I have conducted several geological, geochemical, and geophysical surveys on mineral properties in Southern British Columbia during the past twenty-nine years.

5. I conducted the Biogeochemical Survey outlined in this report.

6. I own a 100% interest in the Copper Keg 1-14 and Copper Kettle 1-4 mineral claims.

August 1, 1998
Kelowna, B.C.

Murray Morrison - B.Sc.

APPENDIX B

STATEMENT OF EXPENDITURES - ON THE COPPER KEG CLAIM GROUP

Statement of Expenditures in connection with a Biogeochemical Survey carried out on the Copper Keg Claim Group, located 9 km northeast of Ashcroft, B.C. (N.T.S. Maps 92-I-11 & 14E) for the year 1998.

BIOGEOCHEMICAL SURVEY (750 metres)

M. Morrison, geologist	2 days @ $300.00/day	$ 600.
Truck, 4 x 4 (including gasoline and insurance)	2 days @ $75.00/day	150.
Meals and Lodging	2 days @ $63.00/day	126.
Flagging, belt chain thread, and sample bags		10.
	Sub-total	$ 886.

ASSAYING COSTS

30 biogeochemical samples analyzed for 30 elements by ICP	30 @ $11.29 each	$ 339.
Bus express samples to lab		12.
	Sub-total	$ 351.

REPORT PREPARATION COSTS

M. Morrison, geologist	1½ days @ $300.00/day	$ 450.
Drafting		18.
Typing		87.
Copying Reports		20.
	Sub-total	$ 575.
	Grand Total	**$1,812.**

I hereby certify that the preceding statement is a true statement of monies expended in connection with the Biogeochemical Survey carried out May 3 - 5, 1998.

August 1, 1998
Kelowna, B.C.

Murray Morrison, - Geologist

APPENDIX C

Certificate of Analysis

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716
(ISO 9002 Accredited Co.)

GEOCHEMICAL ANALYSIS CERTIFICATE

Morrison, M.S. File # 9802860

684 Balsam Road, Kelowna BC V1W 1B9 Submitted by: M.S. Morrison

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Ash gm	SAMPLE gm
L10+50W 10+00N	7	340	73	1514	1.3	24	8	5247	1.04	239	<8	<2	<2	1046	6.5	<3	<3	19	21.41	.949	3	20	1.98	73	.02	271	.69	.16	3.06	<2	3.3	197
L10+00W 10+00N	13	526	123	1088	2.1	47	12	3940	1.87	586	<8	<2	2	960	10.3	3	<3	37	15.97	1.258	6	33	2.06	90	.03	294	1.21	.30	4.40	<2	1.7	210
L9+50W 10+00N	17	594	174	1001	1.3	45	12	1775	2.13	317	<8	<2	<2	1260	4.8	4	<3	44	15.55	1.435	8	35	1.45	71	.04	226	1.36	.20	3.36	<2	2.5	178
L9+00W 9+75N	12	352	20	710	<.3	27	6	1058	.74	862	<8	<2	<2	1181	12.8	<3	<3	15	9.22	1.111	3	9	3.75	180	.02	295	.48	.14	18.35	<2	2.4	118
L8+50W 10+00N	16	352	19	490	<.3	28	10	1656	1.37	1117	<8	<2	<2	1386	8.4	<3	<3	29	8.93	1.083	6	19	3.82	272	.04	271	.90	.14	12.69	<2	3.0	133
L8+50W 9+75N	12	319	29	529	<.3	20	5	816	.74	611	<8	<2	<2	1160	9.5	<3	<3	14	7.85	.961	3	12	3.26	180	.02	290	.48	.13	18.96	<2	3.4	160
L8+00W 10+00N	18	283	19	387	<.3	28	12	1417	1.59	1268	<8	<2	<2	1152	5.1	<3	<3	36	8.32	.820	7	19	2.49	176	.04	222	1.01	.13	12.32	<2	3.8	152
L8+00W 9+75N	11	332	16	554	.4	16	5	1109	.62	1655	<8	<2	2	1671	6.8	<3	<3	11	11.56	1.091	2	10	3.23	83	.02	390	.40	.14	17.17	<2	3.2	175
L8+00W 9+50N	14	496	26	832	.4	24	6	1331	.80	2221	<8	<2	<2	1328	12.2	<3	<3	14	13.91	1.292	3	14	3.39	146	.02	416	.49	.10	14.58	<2	2.2	173
L7+50W 10+00N	18	302	26	424	.3	26	8	1065	1.18	1097	<8	<2	<2	1154	8.4	<3	<3	22	8.07	1.042	5	17	2.83	170	.03	249	.84	.09	15.54	<2	3.5	143
L7+50W 9+75N	22	329	26	577	.3	16	4	1040	.56	510	<8	<2	<2	1390	10.8	<3	<3	10	10.41	1.050	2	9	3.03	103	.01	315	.36	.07	18.10	<2	3.3	160
L7+50W 9+50N	20	364	19	575	.5	22	5	823	.71	563	<8	<2	<2	1383	9.2	<3	<3	13	10.15	1.021	3	14	2.83	144	.02	338	.47	.07	17.05	<2	2.6	140
RE L7+50W 9+50N	20	369	22	585	.3	24	6	839	.74	589	<8	<2	<2	1412	9.2	<3	<3	14	10.34	1.043	3	12	2.92	145	.02	344	.49	.07	17.04	<2	-	-
L7+00W 10+25N	16	454	61	538	.4	30	10	1183	1.32	422	<8	<2	<2	1183	7.6	<3	<3	26	10.03	.996	5	21	2.99	303	.03	370	.85	.08	13.85	<2	2.5	146
L7+00W 10+00N	21	290	22	548	.3	15	5	793	.68	395	<8	<2	<2	1136	5.2	<3	<3	12	9.41	1.077	2	11	3.31	96	.02	304	.46	.09	17.27	<2	3.1	135
L7+00W 9+75N	26	321	22	551	.4	14	4	984	.54	333	<8	<2	<2	1339	6.5	<3	<3	9	10.11	1.332	2	8	3.72	94	.01	351	.34	.18	17.66	<2	3.1	154
L7+00W 9+50N	58	398	23	661	.4	18	5	900	.67	1228	<8	<2	<2	1630	9.5	<3	<3	12	11.69	1.191	2	11	2.97	126	.02	352	.43	.09	16.16	<2	2.7	152
L6+50W 10+25N	21	317	37	473	.5	19	6	670	.90	759	<8	<2	<2	1078	5.1	<3	<3	18	8.17	.969	4	13	3.15	105	.02	334	.58	.11	16.91	<2	3.5	166
L6+50W 10+00N	23	269	9	414	<.3	12	3	610	.47	434	<8	<2	<2	1242	2.6	<3	<3	8	8.97	1.087	2	8	3.41	78	.01	347	.31	.06	18.63	<2	3.4	150
L6+50W 9+75N	21	339	20	513	<.3	13	4	689	.58	654	<8	<2	<2	1649	3.3	<3	<3	11	9.63	1.042	2	7	3.28	90	.02	366	.39	.11	17.88	<2	3.4	202
L6+50W 9+50N	28	275	11	542	<.3	19	5	991	.72	1600	<8	<2	<2	1602	6.2	<3	<3	15	8.56	1.004	3	11	3.25	111	.02	290	.50	.07	15.98	<2	2.4	113
L6+00W 10+50N	24	366	31	411	.3	21	7	866	1.01	1724	<8	<2	<2	1032	3.2	<3	<3	22	8.98	.847	4	17	2.89	188	.03	295	.65	.09	16.23	<2	3.1	164
L6+00W 10+25N	16	262	14	493	.4	26	9	967	1.41	1519	<8	<2	2	1233	5.9	<3	<3	32	7.92	.914	6	24	3.92	187	.04	252	.97	.11	12.24	<2	3.3	129
L6+00W 10+00N	26	367	15	591	.3	23	7	1029	.91	2641	<8	<2	<2	1441	10.6	<3	<3	18	10.01	.991	4	15	3.71	180	.02	340	.61	.08	15.18	<2	2.9	158
L6+00W 9+75N	29	354	21	651	.5	21	6	1002	.85	5408	<8	<2	<2	1201	10.4	<3	<3	16	11.11	1.037	3	13	3.39	127	.02	314	.57	.06	14.00	<2	2.2	130
L6+00W 9+50N	25	338	21	586	.3	23	6	908	.83	955	<8	<2	<2	1085	11.4	<3	<3	15	10.42	1.073	3	14	3.05	144	.02	327	.51	.04	14.81	<2	3.4	170
L6+00W 9+25N	22	517	27	789	<.3	20	6	852	.78	1119	<8	<2	<2	1433	8.9	<3	<3	13	13.99	1.183	3	14	3.58	124	.02	421	.46	.07	13.60	<2	2.1	192
L5+50W 10+50N	6	65	<3	154	.4	4	1	326	.20	493	<8	<2	<2	1150	<.2	4	<3	1	28.43	.857	<1	6	1.27	88	<.01	154	.08	.02	5.83	<2	4.4	205
L5+50W 10+25N	16	507	157	2344	8.6	57	18	2863	1.60	1260	<8	<2	<2	924	10.0	<3	<3	35	13.70	1.726	8	29	3.46	174	.03	571	1.19	.21	10.82	<2	1.3	170
L5+50W 10+00N	21	708	175	1935	4.2	67	18	2327	2.38	1018	<8	<2	<2	884	14.8	3	<3	48	13.13	1.501	9	42	2.64	128	.04	366	1.58	.13	4.31	<2	1.5	180
L5+50W 9+75N	16	634	136	2965	5.8	64	19	3459	1.77	3406	<8	<2	2	1161	16.3	<3	<3	37	16.02	1.474	8	31	2.77	115	.03	443	1.37	.14	5.11	<2	1.1	174
STANDARD C3	24	66	35	172	5.6	37	13	814	3.62	55	27	<2	23	30	24.7	12	17	81	.56	.090	19	172	.61	124	.07	22	1.98	.04	.18	15	-	-
STANDARD G-2	2	3	3	41	<.3	8	5	551	2.17	25	<8	<2	4	37	<.2	<3	<3	38	.54	.097	6	54	.58	177	.11	<3	.83	.04	.49	3	-	-

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 2-2-2 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 MASSIVE SULFIDE AND LIMTED FOR NA K AND AL.
- SAMPLE TYPE: BIOGEOCHEMICAL Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: JUL 15 1998 DATE REPORT MAILED: July 27/98 SIGNED BY. C. Leong D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

 Data h FA ____

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684 Balsam Road
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Date: Jul 27 1998

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30	ASHING UP TO 1 lb WET VEGETATION AT 475 DEG. C. @	3.95	118.50
	GST Taxable		316.50
	7.00% GST		22.16
	CAD $		**338.66**

Samples submitted by M.S. Morrison

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GEOCHEMICAL ANALYSIS CERTIFICATE

M.S. Morrison File # 90-1143 Page 1

684 Balsam Road, Kelowna BC V1W 1B9

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb	ASH wt. gm	TOTAL wt. gm
L15S 8+50W	12	442	28	465	.4	8	2	926	.71	10	5	ND	2	1984	1.9	2	2	16	9.01	1.498	3	10	3.54	195	.04	592	.64	.17	12.73	1	3	2.9	160
L15S 8+25W	18	717	55	375	.4	12	4	893	1.29	14	5	ND	2	392	2.8	2	2	32	12.96	1.296	4	15	2.57	361	.06	523	1.14	.18	9.54	2	10	2.5	110
L15S 8+00W	12	586	51	626	.4	14	3	1035	.89	13	5	ND	1	1192	1.2	2	2	19	10.50	1.452	4	14	4.24	447	.05	520	.74	.17	11.00	1	4	2.6	150
L15S 7+75W	17	700	58	540	.4	12	2	1037	1.04	13	5	ND	2	1038	2.7	3	2	22	10.81	1.438	4	16	3.26	449	.05	568	.86	.20	11.24	1	5	3.0	160
L15S 7+50W	11	614	41	389	.3	10	3	953	.96	19	5	ND	2	639	1.0	3	2	22	11.32	1.600	4	13	3.02	448	.05	474	.81	.17	11.48	1	1	3.4	170
L15S 7+25W	8	487	39	461	.2	10	4	970	1.10	16	5	ND	2	747	3.1	2	2	27	11.11	1.385	4	15	3.69	432	.05	478	.92	.15	10.45	1	1	3.1	160
L15S 7+00W	7	479	29	500	.4	10	2	764	.56	21	5	ND	2	1721	1.2	2	2	11	8.57	1.643	2	9	4.23	278	.03	592	.49	.11	13.23	1	1	3.0	160
L15S 6+75W	14	677	49	500	.4	11	2	814	.95	16	5	ND	2	1917	2.3	2	2	20	9.18	1.678	4	15	4.75	402	.05	527	.80	.17	11.29	1	2	2.9	160
L15+50S 8+50W	15	616	50	491	.4	12	4	1028	.91	14	5	ND	2	1794	2.1	2	2	20	10.51	1.385	4	13	3.98	372	.05	641	.80	.19	11.31	1	4	3.2	170
L15+50S 8+25W	15	728	50	514	.2	12	2	964	.99	19	5	ND	1	666	2.1	2	4	22	11.55	1.308	4	14	2.54	418	.05	524	.85	.18	10.49	1	8	2.3	140
L15+50S 8+00W	12	578	43	489	.3	10	2	1038	.63	15	5	ND	1	942	1.8	2	3	13	10.24	1.636	3	9	3.00	437	.03	576	.55	.16	11.93	1	1	2.5	130
L15+50S 7+75W	16	721	46	634	.4	12	3	1122	.92	21	5	ND	2	1074	2.3	2	5	19	11.51	1.634	3	14	3.58	416	.04	630	.77	.17	10.52	1	8	2.3	130
L15+50S 7+50W	15	685	64	660	.5	14	3	1063	.99	22	5	ND	2	512	9.3	2	2	20	13.43	1.516	4	14	2.70	425	.05	671	.80	.18	10.16	1	7	2.5	140
L15+50S 7+25W	10	534	28	396	.3	7	2	855	.68	26	5	ND	1	2745	1.7	2	3	14	8.39	1.660	3	10	5.07	380	.03	692	.57	.16	12.10	1	3	2.8	150
L15+50S 7+00W	6	500	32	375	.3	9	2	685	.60	26	5	ND	1	2068	.7	2	2	13	7.15	1.619	2	9	4.14	290	.03	788	.52	.12	13.81	1	1	2.9	160
L16S 8+50W	9	527	34	471	.4	10	3	690	.79	32	5	ND	2	1303	1.0	2	2	17	10.73	1.642	3	11	3.08	364	.04	736	.70	.17	12.04	1	3	2.8	160
L16S 8+25W	8	597	26	582	.2	9	1	1287	.48	19	5	ND	1	1163	.5	2	2	9	9.87	1.724	2	7	3.23	304	.02	925	.40	.14	13.40	1	12	2.7	190
L16S 8+00W	9	670	22	525	.1	7	1	902	.53	24	5	ND	1	1944	.8	2	2	11	8.39	1.781	2	7	3.93	203	.03	882	.46	.17	13.13	1	3	2.5	160
L16S 7+75W	8	490	26	410	.1	9	1	753	.61	25	5	ND	1	2737	1.4	2	5	13	7.88	1.537	2	9	4.09	220	.03	946	.54	.15	12.96	1	9	2.6	140
L16S 7+50W	17	781	58	576	.1	12	3	1050	.93	18	5	ND	1	1169	3.7	2	2	18	11.64	1.625	4	14	3.69	388	.04	782	.72	.19	11.26	1	9	2.6	150
STANDARD C/AU-S	18	58	38	133	7.0	67	31	1066	4.02	44	22	7	37	48	18.3	16	16	58	.51	.085	38	57	.94	176	.08	39	1.92	.06	.13	12	47	10.0	-

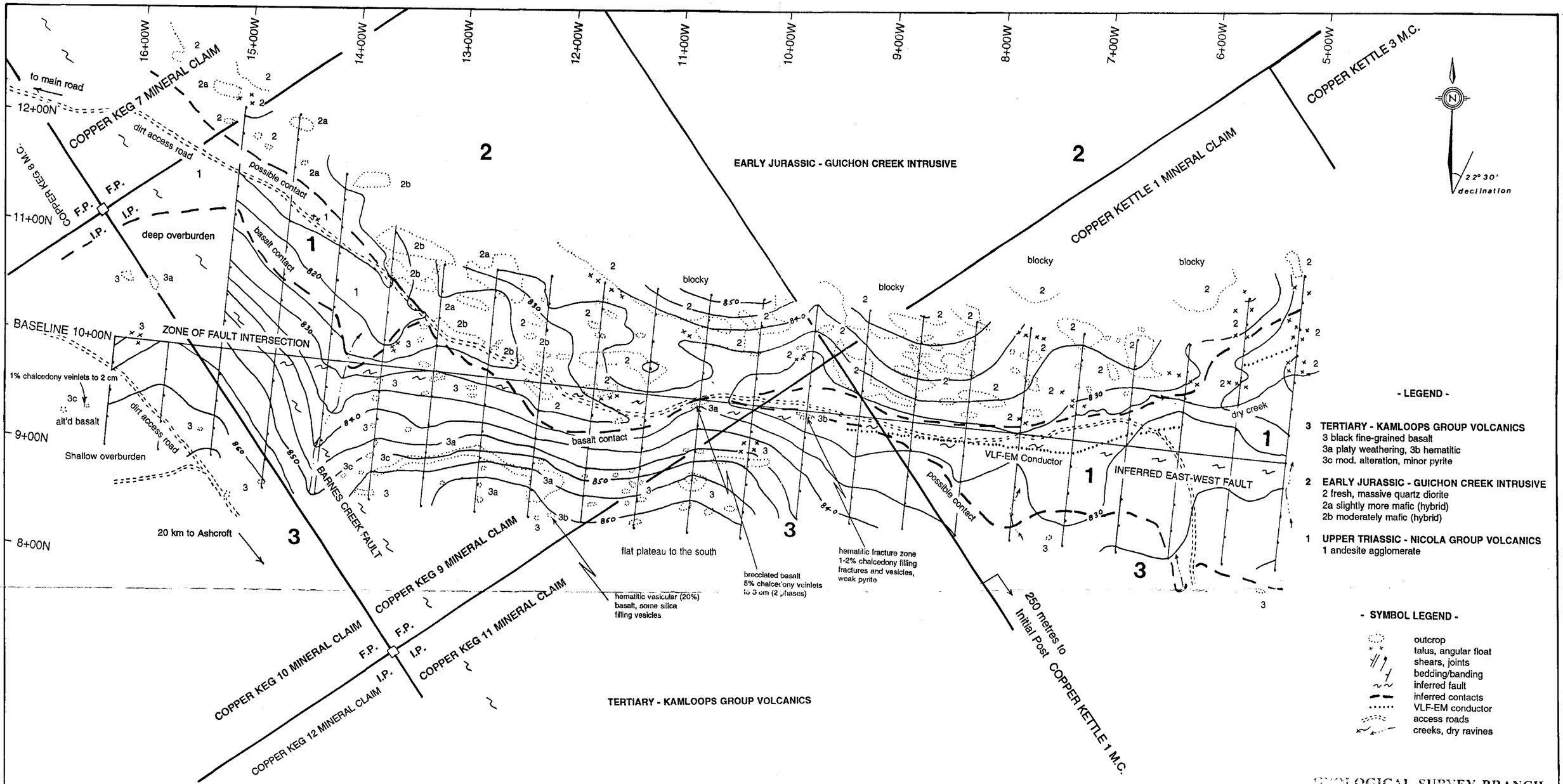
ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: P1 Sagerbush P2 Douglas Fir AU* ANALYSIS BY ACID LEACH/AA FROM TOTAL SAMPLE.

DATE RECEIVED: MAY 1 1990 DATE REPORT MAILED: May 10/90. SIGNED BY. C. Leong .D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

1990 Survery

To accompany a 1998 biogeochemical report by M.S. Morrison for comparative purposes.

Biogeochem-Sagebrush Project



- LEGEND -

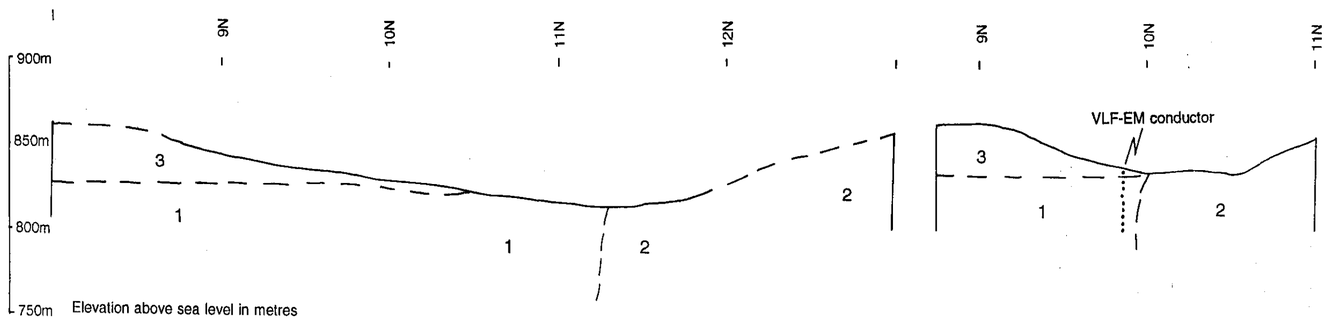
3 TERTIARY - KAMLOOPS GROUP VOLCANICS
3 black fine-grained basalt
3a platy weathering, 3b hematitic
3c mod. alteration, minor pyrite

2 EARLY JURASSIC - GUICHON CREEK INTRUSIVE
2 fresh, massive quartz diorite
2a slightly more mafic (hybrid)
2b moderately mafic (hybrid)

1 UPPER TRIASSIC - NICOLA GROUP VOLCANICS
1 andesite agglomerate

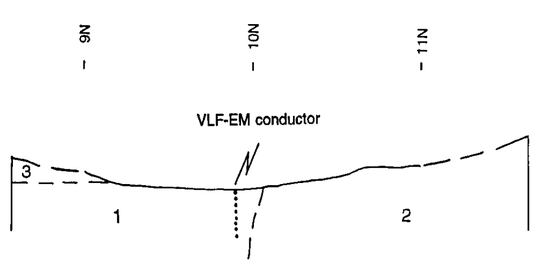
- SYMBOL LEGEND -

outcrop
talus, angular float
shears, joints
bedding/banding
inferred fault
inferred contacts
VLF-EM conductor
access roads
creeks, dry ravines



Profile of L14+00W
(looking west)

Profile of L10+50W
(looking west)



Profile of L7+50W
(looking west)

Elevations obtained from altimeter survey. Contour interval is 5 metres.

Claim posts tied-in to grid with a compass and belt chain.

To accompany a geological report by M. Morrison

To accompany a 1998 biogeochemical report by M.S. Morrison as a Base map.

M.S. Morrison

0m 50m 100 metres

Scale 1:2500

COPPER KEG CLAIM GROUP

GEOLOGY
Copper Keg 9 - 11 and Copper Kettle 1 Mineral Claims
Ashcroft Area
Kamloops Mining Division, B.C.

Drawn by: M.M.	N.T.S. 92-I-11+14E
AUGUST 1997	Figure No. 4