

GEOLOGICAL
ASSESSMENT REPORT

LGE NO:	JUL 10 1992	RD.
ACTION:		
FILE NO:		

on the

KEY CLAIM GROUP
ASHCROFT AREA
KAMLOOPS MINING DIVISION

by

MURRAY MORRISON, B.Sc.

Claims: Key 1-18 (18 units)

Location: The Key Claim Group is situated on
the south side of the Thompson River,
9 km northeast of Ashcroft, B.C.
Lat. 50°45'; Long. 121°09';
N.T.S. 92-I-11&14E.

Owner: Murray Morrison

Operator: Murray Morrison

Date Started: April 3, 1992

Date Completed: April 8, 1992

Kelowna, B.C.

GEOLOGICAL BRANCH
ASSESSMENT REPORT June 5, 1992

22,412

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SUMMARY

The Key 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 writer, M. Morrison, of Kelowna, B.C., who staked the mineral claims in May, 1990.

The gossan zone is coincident with a regional fault, the Barnes Creek fault, which crosses the northern portion of the Guichon Creek batholith (McMillan, 1976).

The central portion of the Guichon Creek batholith hosts several very large porphyry copper-molybdenum deposits (Lornex, Bethlehem, Valley Copper) 32 km to the southeast of the Key property. The "Maggie" copper-molybdenum porphyry deposit at Bonaparte River lies 32 km to the northwest of the Key property. It is considered, therefore, that there is potential for copper-molybdenum mineralization at the Key property.

A quartz diorite hybrid phase of the Early Jurassic Guichon Creek batholith intrudes andesites of the Upper Triassic Nicola Group coincident with the Barnes Creek Fault on the northern portion of the Key property. However, the trace of the fault and associated mineralization (if any?) is concealed by a thin cover of Pleistocene drift and basalt flows of the Tertiary Kamloops Group on the southern portion of the property.

This year's geological mapping program discovered that the intense argillic alteration and pyritization associated with the Barnes Creek Fault postdates the Guichon Intrusive event. The hydrothermal solutions that brought about the alteration apparently originated from a late-cooling intrusion that lies at some depth below the fault structure.

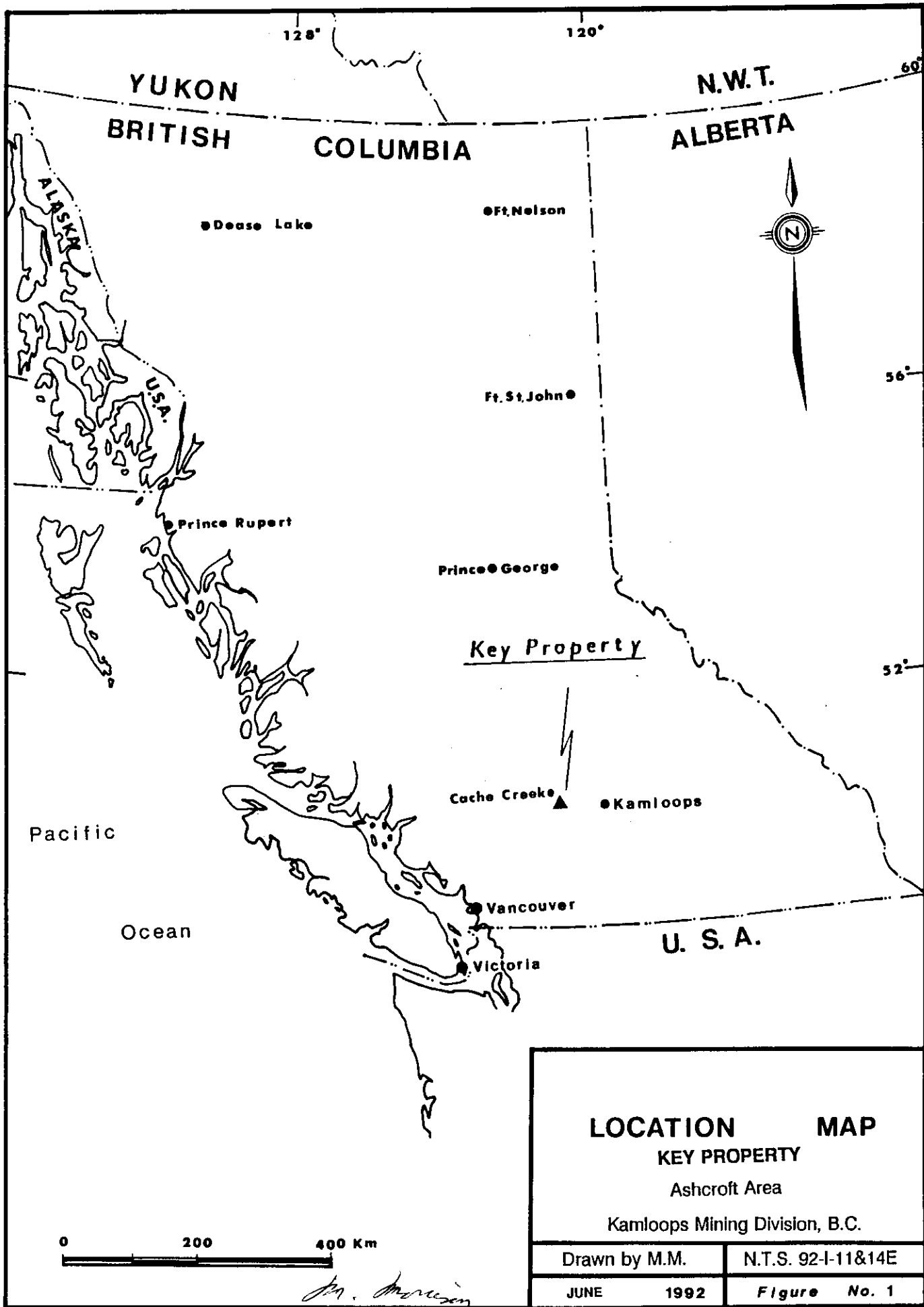
Continued . . .

SUMMARY - Continued

It is suggested that the hydrothermal solutions could have deposited copper minerals with (or without) pyrite at any point along the Barnes Creek Fault structure. It is also suggested that a zone of pre-Tertiary supergene copper mineralization could lie beneath the thin Tertiary Kamloops Group volcanic cover.

A recommendation is made to conduct an Induced Polarization survey along the projected strike of the Barnes Creek Fault across the Key 5 - 10 mineral claims in an effort to outline disseminated sulphide mineralization below the thin cover of drift and volcanics.

It is further suggested that a Reverse Circulation Percussion drill be used to test I.P. anomalies along the Barnes Creek Fault for copper mineralization.



LOCATION MAP

KEY PROPERTY

Ashcroft Area

Kamloops Mining Division, B.C.

Drawn by M.M.

N.T.S. 92-I-11&14E

JUNE 1992

Figure No. 1

M. Morrison

INTRODUCTION

This report, written for government assessment work requirements, discusses the results of a geological mapping program carried out on the Key 5-8 mineral claims by the writer during April, 1992.

The Key Claim Group, comprised of 18, 2-post, mineral claims, was staked by the writer in May 1990 to cover a spectacular gossan on the south side of the Thompson River, 9 km northeast of Ashcroft, B.C.

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 ravine that marks the northwesternmost extent 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 Upper Triassic Nicola Group rocks lying to the southwest on the Key property.

The Barnes Creek Fault is poorly exposed southeast of the ravine due to glacial drift and a thin cover of Tertiary Kamloops Group volcanics and in recent years VLF-EM and magnetometer surveys have been conducted southeast of the gossan zone in an attempt to trace the Barnes Creek Fault below this cover (Morrison, 1984, 1991).

This year a geological mapping program at a scale of 1:2500 was conducted over an area of 0.75 square kilometres southeast of the gossan. The mapping was carried out to assess the merits of conducting an Induced Polarization survey over this segment of the Barnes Creek Fault.

The results of this year's mapping program are illustrated on Figures 4 and 5 accompanying this report.

LOCATION AND ACCESS

The Key Claim Group is situated immediately south of the Thompson River, 9 km northeast of Ashcroft, B.C. (Lat. 50°45'; Long. 121° 09'; N.T.S. Maps 92-I-11&14E). The property is reached from Ashcroft via the Highland Valley Highway, the Barnes Lake road and gravel and dirt roads beyond (see Figure 2). A gravel road runs northeast of Barnes Lake to the YD Randh, and from there a dirt road continues 2.7 km northeast, and then through a gate, and north another 1 km to the property. The dirt road requires a four-wheel-drive vehicle during the wet spring and autumn seasons.

PHYSICAL FEATURES AND CLIMATE

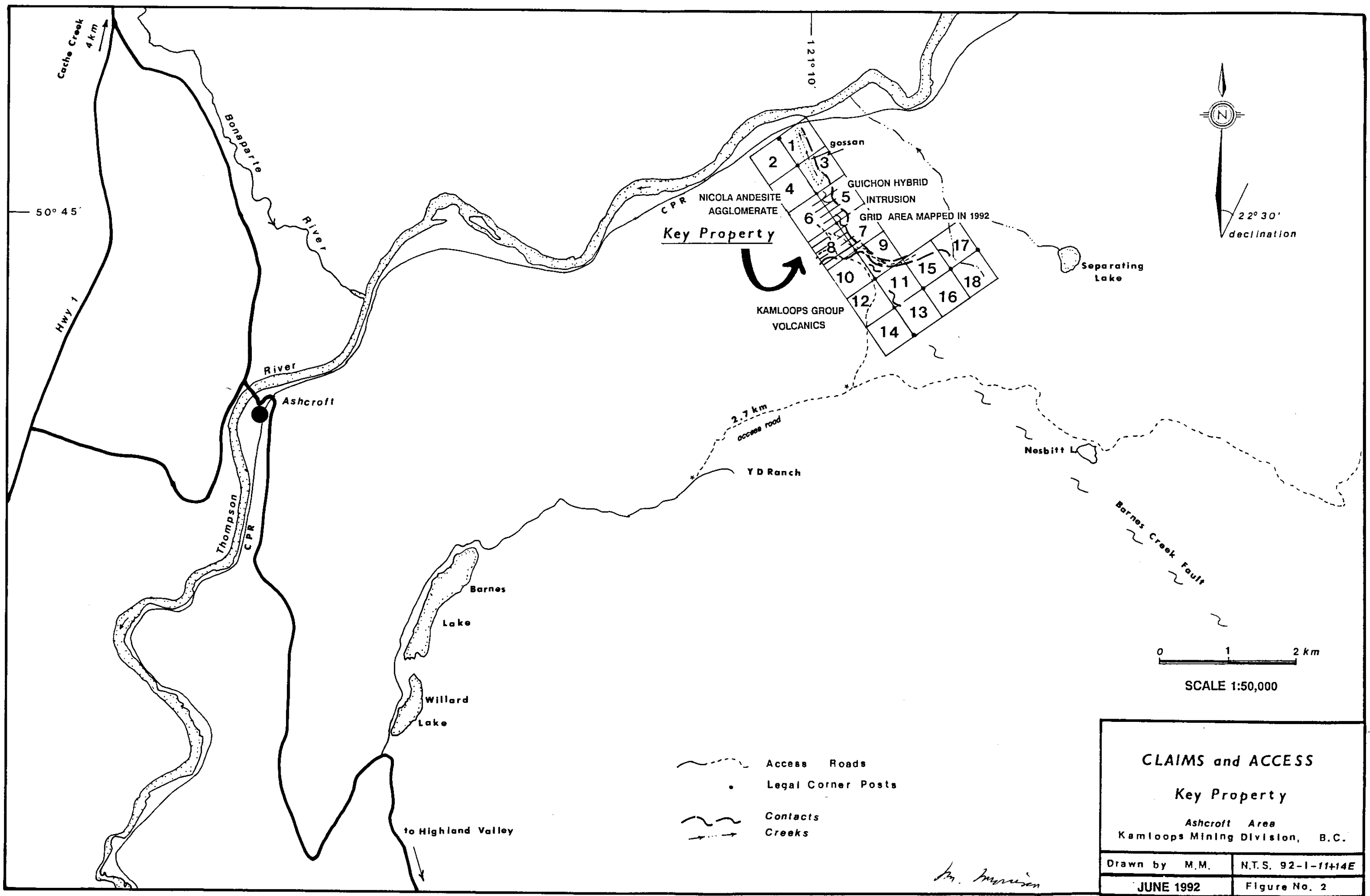
The first four Key mineral claims (Key 1-4) cover a steep, rocky slope immediately south of the Canadian Pacific Railway on the south side of the Thompson River. The slope rises from the 350 metre elevation at the railway grade to the 670 metre elevation over a distance of $\frac{1}{2}$ km. The slope continues at a more moderate grade to the 760 metre elevation across the Key 5-8 mineral claims, and then levels out over the southern half of the property (Key 9-18 mineral claims) with an average elevation of 820 metres above sea level.

Precipitous bluffs on the eastern sides of the Key 1&3 mineral claims are coincident with outcrop of intrusive rock.

A light, patchy forest of Ponderosa pine, Douglas fir, and juniper covers the northern slopes and 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 of the Key property have the same desert climate as Ashcroft, but there is a marked increase in precipitation and vegetation with each 100 metre

Continued . . .



CLAIMS and ACCESS
Key Property

Ashcroft Area
 Kamloops Mining Division, B.C.

Drawn by M.M.	N.T.S. 92-1-11+14E
JUNE 1992	Figure No. 2

PHYSICAL FEATURES AND CLIMATE - Continued

increase in elevation above the river. Much of the upland portion of the property receives enough precipitation to support summer range land and a creek on the eastern side of the property provides drinking water for cattle.

The winter snow pack seldom exceeds 30 cm on the Key property and lasts only from November to early March.

CLAIM STATUS

The mineral claims making up the Key Claim Group are 100% owned by the writer, Mr. M. Morrison of Kelowna, B.C. Particulars on the 18 mineral claims, located within the Kamloops Mining Division are given below:

<u>CLAIM NAME</u>	<u>UNITS</u>	<u>DATE OF RECORD</u>	<u>TENURE NO.</u>	<u>EXPIRY* DATE</u>
Key 1	1	May 2/90	219213	May 2/94
Key 2	1	May 2/90	219214	May 2/94
Key 3	1	May 2/90	219215	May 2/94
Key 4	1	May 2/90	219216	May 2/94
Key 5	1	May 2/90	219217	May 2/94
Key 6	1	May 2/90	219218	May 2/94
Key 7	1	May 2/90	219219	May 2/94
Key 8	1	May 2/90	219220	May 2/94
Key 9	1	May 3/90	219221	May 3/94
Key 10	1	May 3/90	219222	May 3/94
Key 11	1	May 3/90	219223	May 3/94
Key 12	1	May 3/90	219224	May 3/94
Key 13	1	May 3/90	219225	May 3/94
Key 14	1	May 3/90	219226	May 3/93
Key 15	1	May 3/90	219227	May 3/93
Key 16	1	May 3/90	219228	May 3/93
Key 17	1	May 3/90	219229	May 3/93
Key 18	1	May 3/90	219230	May 3/93

* (New Expiry Date based on the acceptance of this report for Assessment Work Credits).

HISTORY

The large gossan and surrounding territory now covered by the Key property was once known as the Burr property and was first described in the British Columbia Minister of Mines Annual Report for 1898, p.1107 as follows:

"The Burr group of eight claims is situated about 5½ 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."

Further references to work being conducted over the gossan zone are listed in the Minister of Mines Annual Reports for 1969, p. 263; 1970, p.348; and 1971, p.362. The property was called the Pyrite property during the late 60's and early 70's, at which time soil geochemical and Induced Polarization surveys were conducted. The I.P. survey was followed by the drilling of 3 diamond drill holes in 1970. The location of these drill holes is unknown to the writer, but it is believed that at least two of the drill holes may have been drilled well west of the gossan zone (an assumption based on the location of some scattered drill core).

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

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

Continued . . .

HISTORY - Continued

During April, 1991, a ground magnetometer survey was conducted over portions of the Key 3-10 mineral claims lying southeast of the gossan zone by the writer (Morrison, 1991).

REGIONAL GEOLOGY

Reference:

McMillan, W.J. Geology and Genesis of the Highland Valley Ore Deposits and the Guichon Creek Batholith. Porphyry Deposits of the Canadian Cordillera, C.I.M. Special Volume 15, pp.85-103, 1976.

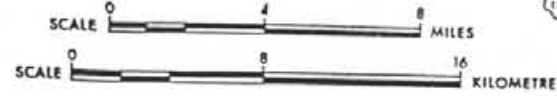
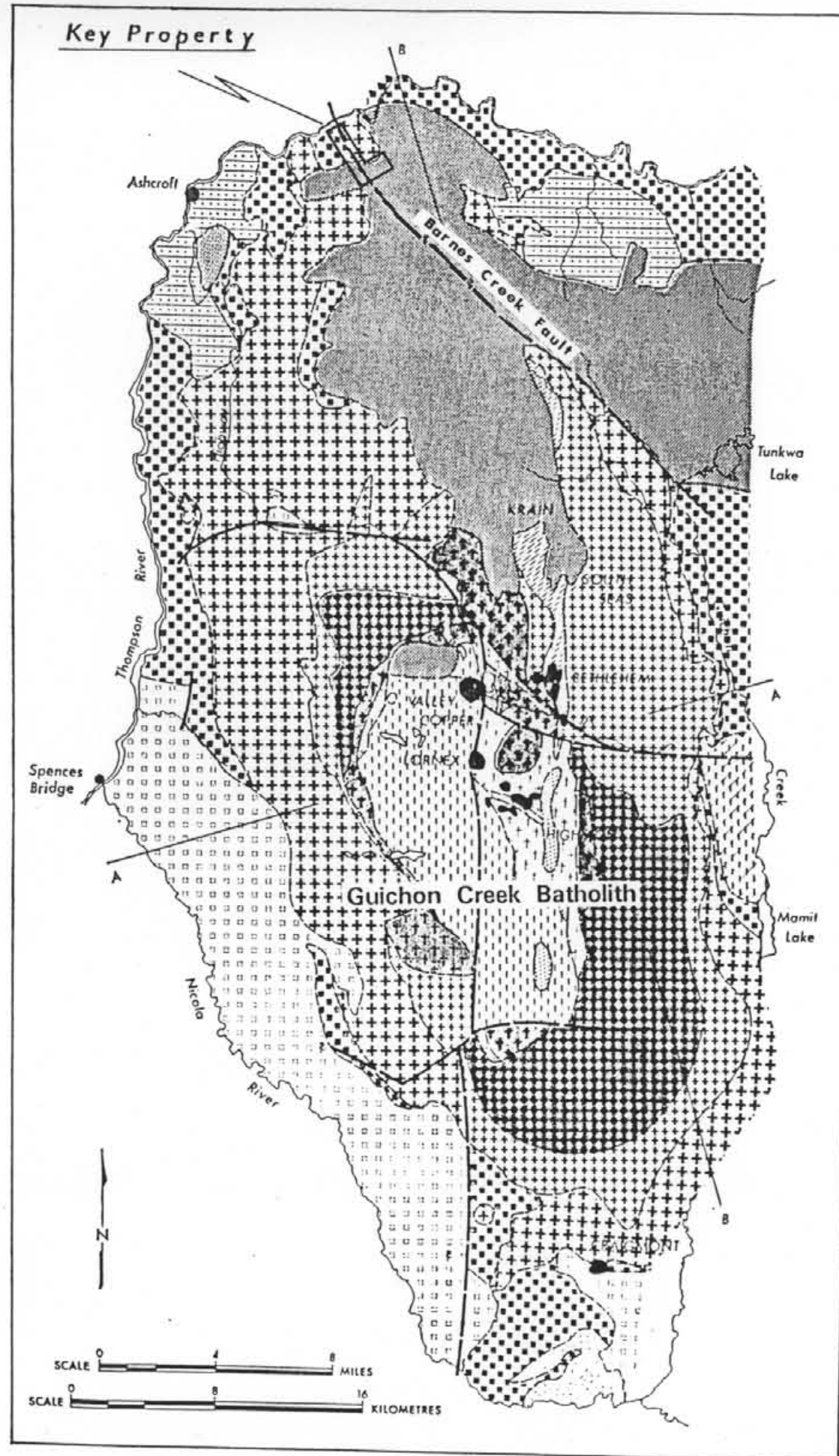
W.J. McMillan discusses the geology and metallogenesis of the Guichon Creek Batholith in detail in the very thorough reference cited above and there is no point in repeating McMillan's findings here. Figure 3, accompanying this report, has been reproduced from the W.J. McMillan paper, however, to illustrate the location of the Key property relative to important geological features such as: the Guichon Creek Batholith, the Barnes Creek Fault and the very large Highland Valley porphyry copper-molybdenum orebodies.

The detailed geology of Figure 3 indicates that the Barnes Creek Fault dissects the Key property and that a quartz diorite hybrid phase of the Guichon Creek Batholith lies to the northeast of the fault, while Upper Triassic Nicola Group volcanic rocks lie to the southwest. Movement on the fault is believed to be left-lateral.

Tertiary volcanics unconformably overlies pre-Tertiary rocks on the southern half of the Key property.

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

Continued . . .



- 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 AFFILIATION
 GUMP LAKE PHASE
 COYLE "GRANITE"
 UPPER TRIASSIC
 VOLCANIC AND SEDIMENTARY ROCKS
- SYMBOLS
 BRECCIA BODIES ▲▲ OR [Symbol]
 ORE DEPOSITS, IMPORTANT PROSPECTS [Symbol] X
 AREAS WITH SWARMS OF PORPHYRY DYKES [Symbol]
 FAULTS, MAPPED, INFERRED [Symbol]
 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



Regional Geology
Key Property
 Ashcroft Area
 Kamloops Mining Division, B.C.

JUNE 1992	N.T.S. 92-1-11+14E Figure No. 3
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M. Morrison

Geology of the Guichon Creek batholith.

REGIONAL GEOLOGY - Continued

The strong clay alteration and pyritization at the gossan zone on the Key property postdates the Guichon Intrusion (198⁺⁸ million years) and appears to have been brought about by late hydrothermal solutions ascending the Barnes Creek fault structure. Presumably a later intrusive lies at shallow depth below the present day erosion surface.

PROPERTY GEOLOGY

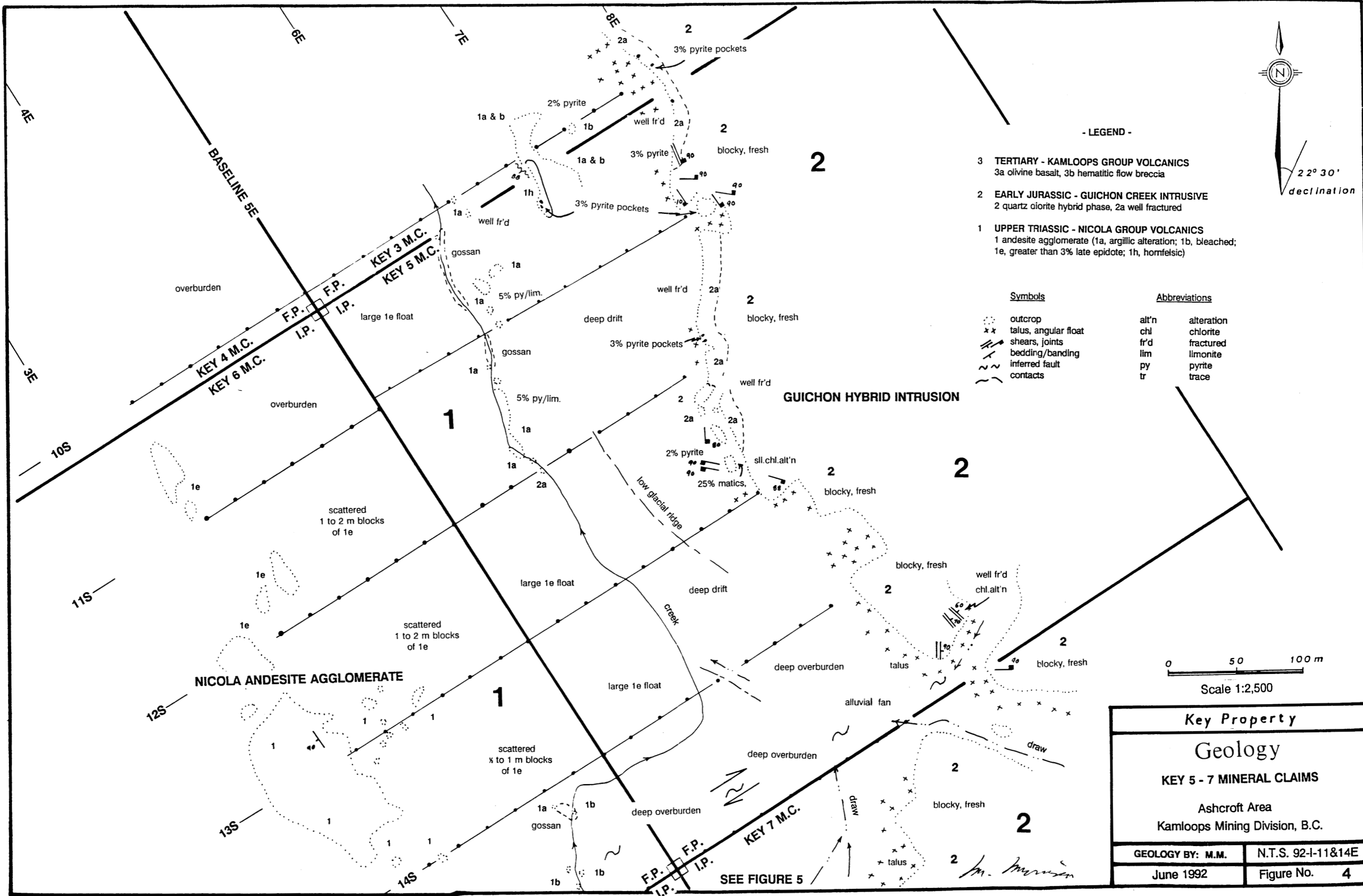
Introduction

This year's geological mapping, at a scale of 1:2500, was restricted to the Key 8 and portions of the Key 5-7 mineral claims. The region selected for mapping lies southeast of the spectacular gossan exposed on the Key 1&3 mineral claims and northwest of the general cover of Kamloops Group volcanics that overlies pre-Tertiary geology south of the Key 7&8 mineral claims. The area, believed to cover a segment of the Barnes Creek Fault, was recommended for an Induced Polarization Survey in last year's assessment report (Morrison, 1991), and this year's mapping program was conducted to collect further data to support the recommendation.

Summary

An understanding of the main elements of the geology on the property was not altered by this year's mapping program. The geology of the property is relatively simple. A wide fracture zone (Barnes Creek Fault) occurs at the intrusive contact of a quartz diorite hybrid phase of the Guichon Creek Batholith into Upper Triassic Nicola Group andesite agglomerate. The quartz diorite lies to the northeast of the fracture zone and the andesite agglomerate to the southwest. The fracture zone is variably pyritized, hydrothermally altered and bleached over a width of up to 200 metres. The fracturing, pyritization and clay alteration are particularly well

Continued . . .



- LEGEND -

- 3 TERTIARY - KAMLOOPS GROUP VOLCANICS
3a olivine basalt, 3b hematitic flow breccia
- 2 EARLY JURASSIC - GUICHON CREEK INTRUSIVE
2 quartz giorite hybrid phase, 2a well fractured
- 1 UPPER TRIASSIC - NICOLA GROUP VOLCANICS
1 andesite agglomerate (1a, argillic alteration; 1b, bleached; 1e, greater than 3% late epidote; 1h, hornfelsic)

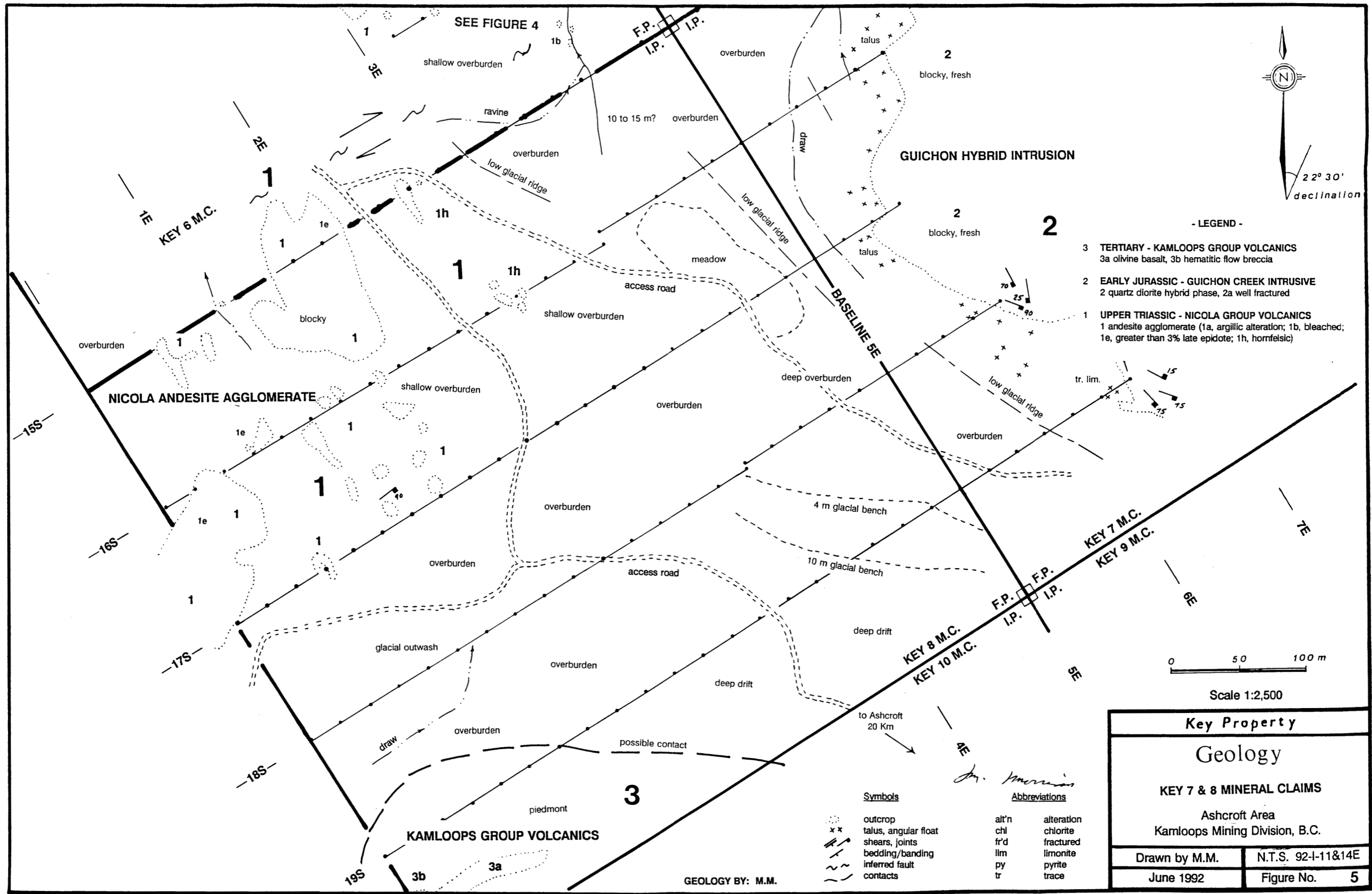
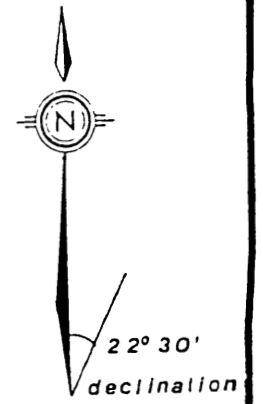
Symbols	Abbreviations
○	outcrop
xx	talus, angular float
///	shears, joints
	bedding/banding
~	inferred fault
—	contacts
	alt'n alteration
	chl chlorite
	fr'd fractured
	lim limonite
	py pyrite
	tr trace

0 50 100 m
Scale 1:2,500

Key Property	
Geology	
KEY 5 - 7 MINERAL CLAIMS	
Ashcroft Area Kamloops Mining Division, B.C.	
GEOLOGY BY: M.M.	N.T.S. 92-I-11&14E
June 1992	Figure No. 4

SEE FIGURE 5

M. Morrison



- LEGEND -

- 3 TERTIARY - KAMLOOPS GROUP VOLCANICS
3a olivine basalt, 3b hematitic flow breccia
- 2 EARLY JURASSIC - GUICHON CREEK INTRUSIVE
2 quartz diorite hybrid phase, 2a well fractured
- 1 UPPER TRIASSIC - NICOLA GROUP VOLCANICS
1 andesite agglomerate (1a, argillic alteration; 1b, bleached; 1e, greater than 3% late epidote; 1h, hornfelsic)

Symbols

- outcrop
- talus, angular float
- shears, joints
- bedding/banding
- inferred fault
- contacts

Abbreviations

- alt'n alteration
- chl chlorite
- fr'd fractured
- lim limonite
- py pyrite
- tr trace

GEOLOGY BY: M.M.

Key Property	
Geology	
KEY 7 & 8 MINERAL CLAIMS	
Ashcroft Area Kamloops Mining Division, B.C.	
Drawn by M.M.	N.T.S. 92-I-11&14E
June 1992	Figure No. 5

PROPERTY GEOLOGY - Continued

Summary - Continued

exposed where dissected by the main creek crossing the Key 1&3 mineral claims, but less exposed in the region of this year's mapping where the gradient of the creek is much less and the glacial cover has not yet eroded away. Further south, on the Key 9&10 mineral claims, the southeast projection of the Barnes Creek Fault is entirely concealed by a thin cover of Kamloops Group volcanics.

This year's mapping confirmed that the alteration and pyritization of the quartz diorite and andesite agglomerate postdates the Guichon Creek Intrusion. It is postulated, therefore, that hydrothermal solutions emanating from a late-cooling magma located at some uncertain depth below the Barnes Creek Fault were responsible for the alteration and mineralization. It is further suggested that at some point along the Barnes Creek Fault the hydrothermal solutions could have deposited economic copper minerals along with pyrite.

The Guichon Creek Intrusive, Nicola Group Andesite Agglomerates, Kamloops Group Volcanics, Pleistocene Deposits, Barnes Creek Fault and Mineralization will all be discussed in more detail in the paragraphs that follow.

Early Jurassic Guichon Creek Batholith

The intrusive (unit 2 on Figures 4&5) underlying the eastern portions of the Key 5&7 mineral claims is a quartz diorite hybrid phase of the Early Jurassic Guichon Creek Batholith.

The quartz diorite intrudes Upper Triassic Nicola Group andesitic agglomerates on the property. Near the centre of the Key 5 mineral claim a contact zone of mafic-rich quartz diorite grades

Continued . . .

PROPERTY GEOLOGY - Continued

Early Jurassic Guichon Creek Batholith - Continued

into hornfelsic andesite over a distance of 20 metres. A wide fracture zone (Barnes Creek Fault) is coincident with the intrusive contact. The fracture zone extends 10 to 20 metres into the intrusive (unit 2a on Figure 4) and up to 175 metres into the andesitic rocks. Northeast of the fracture zone the intrusive is massive to blocky and forms precipitous bluffs up to 60 metres high on the Key 5 mineral claim.

The quartz diorite is a fresh, white to grey, medium grained, equigranular rock comprised of 65% plagioclase, 15% quartz, 10% hornblende, 5% biotite and some orthoclase and augite. The mafic minerals vary from 10 to 25%, and sometimes occur in clusters. The rock is weakly chloritized near fractures.

Upper Triassic Nicola Group Andesite Agglomerate

A black andesite agglomerate of the Upper Triassic Nicola Group (unit 1 on Figures 4&5) underlies much of the Key 5,6&8 mineral claims. The agglomerate has been intruded by the Guichon Hybrid Intrusive as already mentioned.

The agglomerate is highly indurated and is massive to blocky in outcrop. Some banding suggests that the agglomerate may strike 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 (unit 1h on Figures 4&5) or contains up to 5% late epidote (unit 1e). Near the Barnes Creek Fault the rock has been well fractured and argillically altered (Unit 1a) or highly bleached

Continued . . .

PROPERTY GEOLOGY - Continued

Upper Triassic Nicola Group Andesite Agglomerate - Continued

to white (unit 1b) by hydrothermal solutions.

Tertiary Kamloops Group Volcanics

Olivine basalts of the Tertiary Kamloops Group are known to underlie much of the southern half of the Key property, but occur only on the southwest corner of the Key 8 mineral claim within this year's map area. The basalts are believed to be nearly flat-lying and they unconformably overlie the Guichon Hybrid Intrusive and Nicola Group agglomerates.

The basalts (unit 3a on Figure 5) are black to grey and blocky to platy in outcrop. Interflow horizons (unit 3b) are brick red (hematitic) and rubbly in outcrop.

The basalt is fine grained with black feldspars and mafic minerals. Olivine is scattered throughout the basalt as 2-10 mm green crystals that equal less than 2% of the rock. Open vesicles equal up to 5% of the rock.

The basalts are 30 to 40 metres thick near the southwest corner of the Key 8 mineral claim, but they are thought to be less thick on the Key 9-18 mineral claims southeast of this year's mapping.

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 passes through the Key property. A zone of well fractured rock extends for 20 metres into the intrusive and for up to 175 metres into the agglomerate. The shattered zone which is traceable from one scattered outcrop to the next on the Key 5&6 mineral claims is well exposed by deep

Continued . . .

PROPERTY GEOLOGY - Continued

Barnes Creek Fault - Continued

erosion on the Key 1&3 mineral claims north of this year's mapping.

The gossan zone on the Key 1 & 3 mineral claims is made up of intensely clay-altered and pyritized andesite and quartz diorite that has been flooded with hydrothermal solutions invading well fractured rock. The gossan extends 900 metres north-south by 200 metres east-west.

The shattered zone is made up of a complex series of fractures - none of which clearly define the strike of the Barnes Creek Fault. The Fault is thought to strike 150 degrees and dip nearly vertical.

Evidence of the Barnes Creek Fault is lost under Pleistocene deposits on the Key 8 mineral claims, and under a thin cover of Kamloops Group volcanics on all mineral claims to the south (i.e. Key 9-18).

Other Faults

It appears from the results of this year's mapping that a late right-lateral fault may have offset the Guichon Intrusive contact by as much as 160 metres to the northeast in the vicinity of grid line 15S (see Figures 4&5).

Pleistocene Sediments

Pleistocene drift is widespread throughout the central region of this year's mapping program on the Key 5-8 mineral claims. The drift ranges from 1-3 metres deep generally, but is estimated to be up to 15 metres deep on the northeast side of the Key 8 mineral claim where there are many low moraines and glacial benches.

Several moraines and roche moutonnée indicate that the last ice movement was in a southeasterly direction.

Continued . . .

PROPERTY GEOLOGY - Continued

Mineralization

No significant amounts of economic minerals have been found on the Key property to date, but pyrite (or limonite after pyrite) occurs within most of the hydrothermally altered rock associated with the Barnes Creek Fault on the Key 5&6 mineral claims. The pyrite occurs as disseminations within the altered rock, or as blebs and masses, up to 2 cm in size, filling fractures.

All of the pyrite on the property appears to have been introduced into fractures and shears associated with the Barnes Creek Fault, and the degree of pyritization and hydrothermal alteration drops off sharply in either direction away from the fault. The pyrite (or limonite after pyrite) equals 5% of the rock by volume at several localities.

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

DISCUSSION

This year's geological mapping on the property suggests that much of the movement (and fracturing) along the Barnes Creek Fault postdates the Early Jurassic intrusion of the Guichon Creek Batholith into the Upper Triassic Nicola Group andesite agglomerate and predates the Tertiary cover of Kamloops Group volcanics. The intrusive rocks and the andesites they intrude are fractured, while the Kamloops Group volcanics are undisrupted.

This year's mapping has also determined that the degree of hydrothermal alteration and pyritization associated with the Barnes Creek Fault is directly proportional to the degree of fracturing

Continued . . .

DISCUSSION - Continued

of the rocks. The fracturing of the andesitic rock is most intense, and, so too, is the alteration and pyritization of the andesites. The quartz diorites are well fractured, altered and pyritized also, but to a much lesser degree than the andesites.

There is a distinct reduction of alteration and pyritization away from the fault and it is clear that the fracturing associated with the Barnes Creek Fault has channelled the hydrothermal solutions that brought about the alteration and pyritization.

The source of the hydrothermal solutions is open to conjecture, but it would seem that they may have emanated from a late-cooling intrusive that lies at some uncertain depth below the Key property.

It is suggested that hydrothermal solutions could have also invaded the Barnes Creek Fault structure southeast of the gossan zone on regions of the Key property where the pre-Tertiary rocks are covered with Pleistocene deposits or with a thin cover of Tertiary volcanics. It is further suggested that at some point along the Barnes Creek Fault structure the hydrothermal solutions could have deposited copper minerals with (or without) pyrite. There is even the possibility that a supergene copper zone could have developed (along the Barnes Creek Fault) in pre-Tertiary time, and that it lies undisturbed below the Tertiary volcanic cover.

In this writer's opinion an exploration target for copper mineralization does exist along the strike of the Barnes Creek Fault on the Key property. The Barnes Creek Fault should be explored southeast of the gossan zone on the Key 1 & 3 mineral claims with an Induced Polarization Survey. The I.P. survey should be able to trace the argillic, pyrite-filled fracture system from the gossan zone southeast at least as far as the northern border of the Key

Continued . . .

DISCUSSION - Continued

11 & 12 mineral claims below the thin cover of drift and basalt flows (see Appendix A for details).

A follow-up program of Reverse Circulation Percussion drilling could be conducted to test I.P. anomalies for possible copper mineralization along the Barnes Creek Fault.

CONCLUSIONS AND RECOMMENDATIONS

Data obtained during this year's geological mapping program on portions of the Key 5 - 8 mineral claims supports last year's recommendation to conduct an Induced Polarization Survey along the projected southeast extension of the Barnes Creek Fault.

It is believed that the fracture zone associated with the fault could host copper mineralization at any point along the fault below the cover of Pleistocene sediments or thin Tertiary volcanic flows on the Key 5 - 10 mineral claims (see Discussion).

An Induced Polarization Survey is recommended to trace mineralization associated with the Barnes Creek Fault below the cover of sediments and volcanic flows. A program of Reverse Circulation Percussion Drilling could then be used to test I.P. anomalies for copper mineralization.

Much of the target area on the Key 5 - 10 mineral claims is very accessible.

June 5, 1992

Kelowna, B.C.


Murray Morrison

REFERENCES

Duffell, S. and McTaggart, K.C.

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APPENDIX A

An Induced Polarization Survey is recommended to trace disseminated sulphide mineralization associated with the Barnes Creek Fault system across the Key 5 - 10 mineral claims. The following is a list of the grid lines recommended for the survey:

L10S	4+50E to 8+00E	350m
L11S	4+50E to 7+50E	300m
L12S	4+50E to 7+00E	250m
L13S	4+50E to 7+00E	250m
L14S	4+00E to 7+00E	300m
L15S	3+50E to 7+00E	350m
L16S	3+50E to 6+00E	250m
L17S	3+50E to 5+50E	200m
L18S	3+50E to 6+00E	350m
L19S	3+50E to 6+50E	300m
L20S	3+50E to 7+00E	350m
L21S	3+50E to 7+25E	375m
L22S	3+50E to 7+50E	400m
L23S	3+50E to 8+50E	500m
L24S	3+50E to 10+00E	650m
L25S	3+50E to 10+00E	650m
	Total:	<u>5825m</u>

APPENDIX B

STATEMENT OF QUALIFICATIONS

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

1. I graduated from the University of British Columbia in 1969 with a B.Sc. Degree in Geology.
2. I have been working in all phases of mining exploration in Canada for the past twenty-two years.
3. During the past twenty-two 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-two years.
5. I conducted the geological survey outlined in this report.
6. I own a 100% interest in the KEY 1-18 Mineral Claims.

June 5, 1992.
Kelowna, B.C.



Murray Morrison - B.Sc.

APPENDIX C

STATEMENT OF EXPENDITURES - ON THE KEY CLAIM GROUP

Statement of Expenditures in connection with a Geological Mapping Program carried out on the Key Claim Group, located 9 km northeast of Ashcroft, B.C. (N.T.S. Maps 92-I-11&14E) for the year 1992.

GEOLOGICAL MAPPING PROGRAM (0.75 sq km)

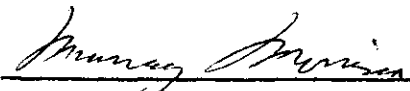
M. Morrison, geologist	5 days @ \$250.00/day	\$ 1250.
Truck, 4x4 (incl. gasoline and insurance)	5 days @ \$ 75.00/day	\$ 375.
Meals and Lodging	5 days @ \$ 60.00/day	\$ 300.
Flagging and belt chain thread		10.
	sub-total	\$ 1935.

REPORT PREPARATION COSTS

M. Morrison, geologist	1½ days @ \$250.00/day	\$ 375.
Drafting		22.
Typing		53.
Copying reports		15.
	sub-total	465.
	<u>GRAND TOTAL</u>	<u>\$ 2400.</u>

I hereby certify that the preceding statement is a true statement of monies expended in connection with the Geological Mapping Program carried out April 3-8, 1992.

June 5, 1992


Murray Morrison - Geologist