

Gold Boulder Property

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Geological, Prospecting, and Geochemical Report  
on the

**Gold Boulder Property**  
GOLD BOULDER 1 and 2 Claims  
Skeena Mining Division  
N.T.S. 104-B/7E  
Latitude 56°20' North  
Longitude 130°42' West  
British Columbia

November 6, 1989

**SUB-RECORDER  
RECEIVED**  
FEB 19 1990  
M.R. # \_\_\_\_\_ \$ \_\_\_\_\_  
VANCOUVER, B.C.

**FILMED**

on behalf of  
**CANADIAN CARIBOO RESOURCES LTD.**  
Vancouver, B.C.

by

C. H. Aussant, B.Sc., P.Geol., F.GAC  
- and -  
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**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**19,702**

**ABSTRACT**

The Gold Boulder property consists of two contiguous modified-grid claims totalling 20 units located approximately 80 km northwest of Stewart, British Columbia. Access to the property is by fixed-wing aircraft from Terrace, Stewart, or Smithers to various airstrips in the area and then via helicopter to the property.

The property lies within the Intermontaine Tectono-Stratigraphic Belt and occurs near the contact between the Stikine Terrane and the unmetamorphosed sediments of the Bowser Basin. Granodiorite of the Coast Plutonic Complex underlies the southern third of the property area, the rest being underlain by the Lower Jurassic Unuk River Formation, consisting of andesitic volcanics with lesser sediments.

The area has an exploration history dating back to the turn of the century when prospectors passed through the region on their way to the interior. In the 1970's, the porphyry copper boom again brought prospectors and companies into the area. The current gold exploration rush began in 1980 with the option of the Sulphurets property by Esso Minerals Canada and the acquisition of the Johnny Mountain claims by Skyline Exploration Ltd. which was brought into production in mid-1988. The adjacent SNIP property is slated for production in 1990.

At this time, the Eskay Creek prospect, located 40 km northeast of the Gold Boulder property and currently being explored by Calpine and Consolidated Stikine, is the most significant showing in the area. The prospect comprises at least eight mineralized zones occurring over a strike length of 1800 m within a sequence of felsic volcanics. The mineralization is associated with disseminated sulphides in felsic volcanic breccias and graphitic argillites in contact with overlying intermediate volcanic rocks.

A review of all available information indicates that the entire Unuk River area was subjected to reconnaissance geological mapping and prospecting by Newmont Mines Ltd. in 1959-1962 which led to the discovery of the Boulder

Cu/Au/Ag/Pb occurrence reportedly located adjacent to the southwestern property boundary. The accuracy of the location of this showing is questionable.

In 1987, a very limited silt sampling survey was conducted on the property, but did not yield any significant results.

The 1989 exploration program consisted of helicopter-supported reconnaissance prospecting, geological mapping, and geochemical sampling with the objective of evaluating the property's potential for hosting economic precious metals deposits and for the purpose of fulfilling the assessment requirements.

Due to budget constraints, a limited amount of exploration was conducted. Reconnaissance prospecting and stream silt sampling along a creek cutting across the southwest corner of the property were completed. This area was found to be underlain primarily by quartz-biotite gneiss containing frequent quartz veinlets, with the southern edge of the property underlain by granodiorite.

A grab sample of coarse-grained granodiorite, containing bands up to 5 cm wide with 3-5% disseminated pyrite, yielded 0.110 oz/ton Au and 4888 ppm Cu. A grab sample of quartz-biotite gneiss, with disseminated Py/Po/Cpy and containing numerous 2-3 cm quartz veinlets, yielded 181 ppb Au, 1.6 oz/ton Ag, and 1.42% Pb. One stream silt sample yielded an elevated gold value. Two heavy mineral samples collected from creeks draining the southeast portion of the property yielded elevated gold values.

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## INTRODUCTION

Canadian Cariboo Resources Ltd. of Vancouver, commissioned Keewatin Engineering Inc. to conduct a field exploration program to be completed on the Gold Boulder property located in the Unuk River area of northern British Columbia. Exploration was directed by Keewatin Engineering Inc. with geological support and field supervision provided by Taiga Consultants Ltd. as a sub-contractor to augment the Keewatin crew.

The objective of this program was to evaluate the property's potential for hosting economic precious metals deposits, and for the purpose of fulfilling the assessment requirements. Exploration consisted of prospecting, geological mapping, and geochemical sampling. Geochemistry included litho-geochemical, stream silt, and heavy mineral sampling.

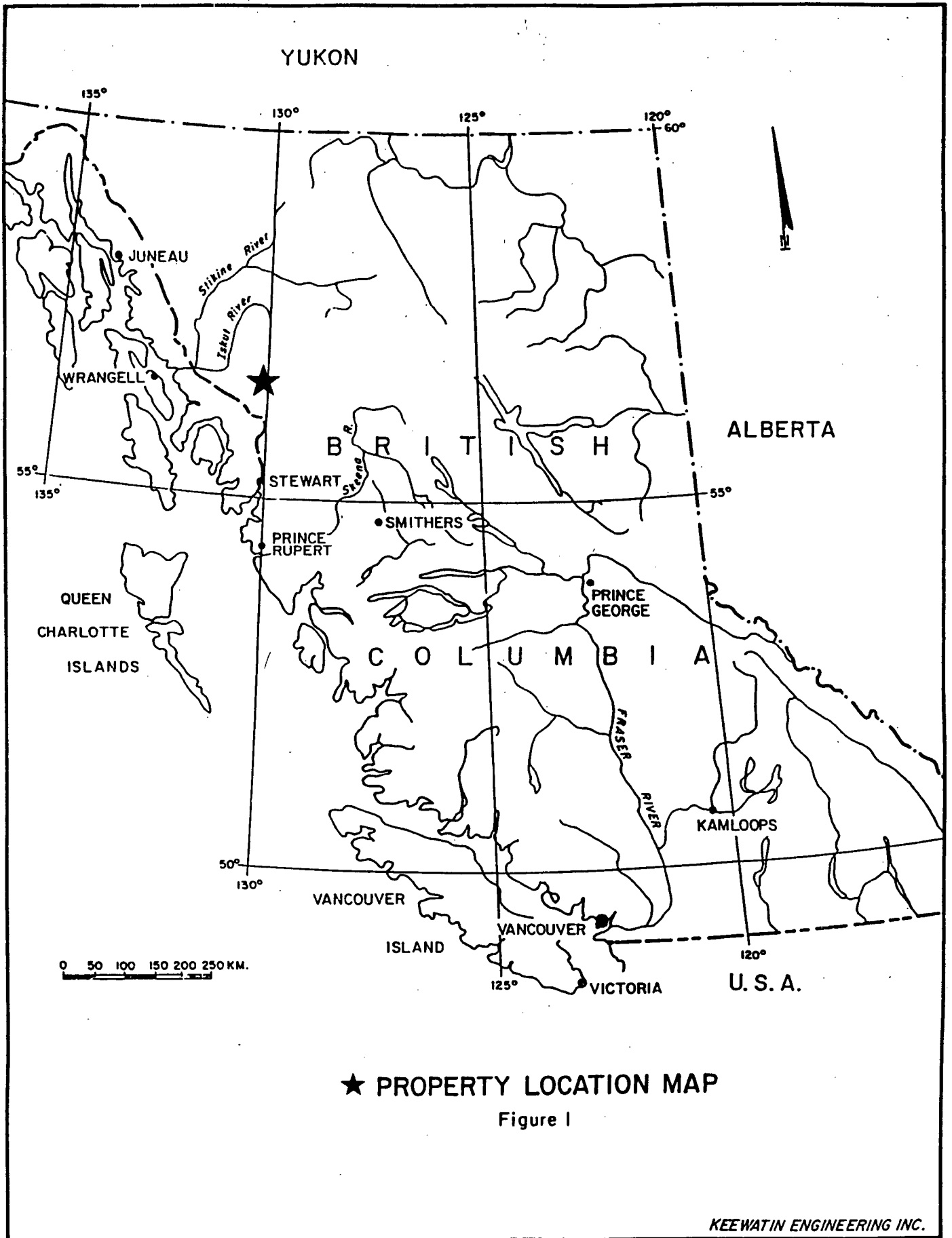
### Location and Access

The Gold Boulder property is located in northwestern British Columbia, approximately 80 km northwest of Stewart (Figure 1). The claims are situated within N.T.S. map-sheet 104-B/7E and centered about 56°20' North latitude and 130°42' West longitude. Access to the property is by fixed-wing aircraft from Terrace, Stewart, or Smithers to various airstrips in the area and then via helicopter to the property. The claims can also be directly accessed by helicopter from Stewart.

At some future date, road access to the area from the Stewart-Cassiar Highway could be obtained via the Upper Unuk River and Tiegen Creek valleys.

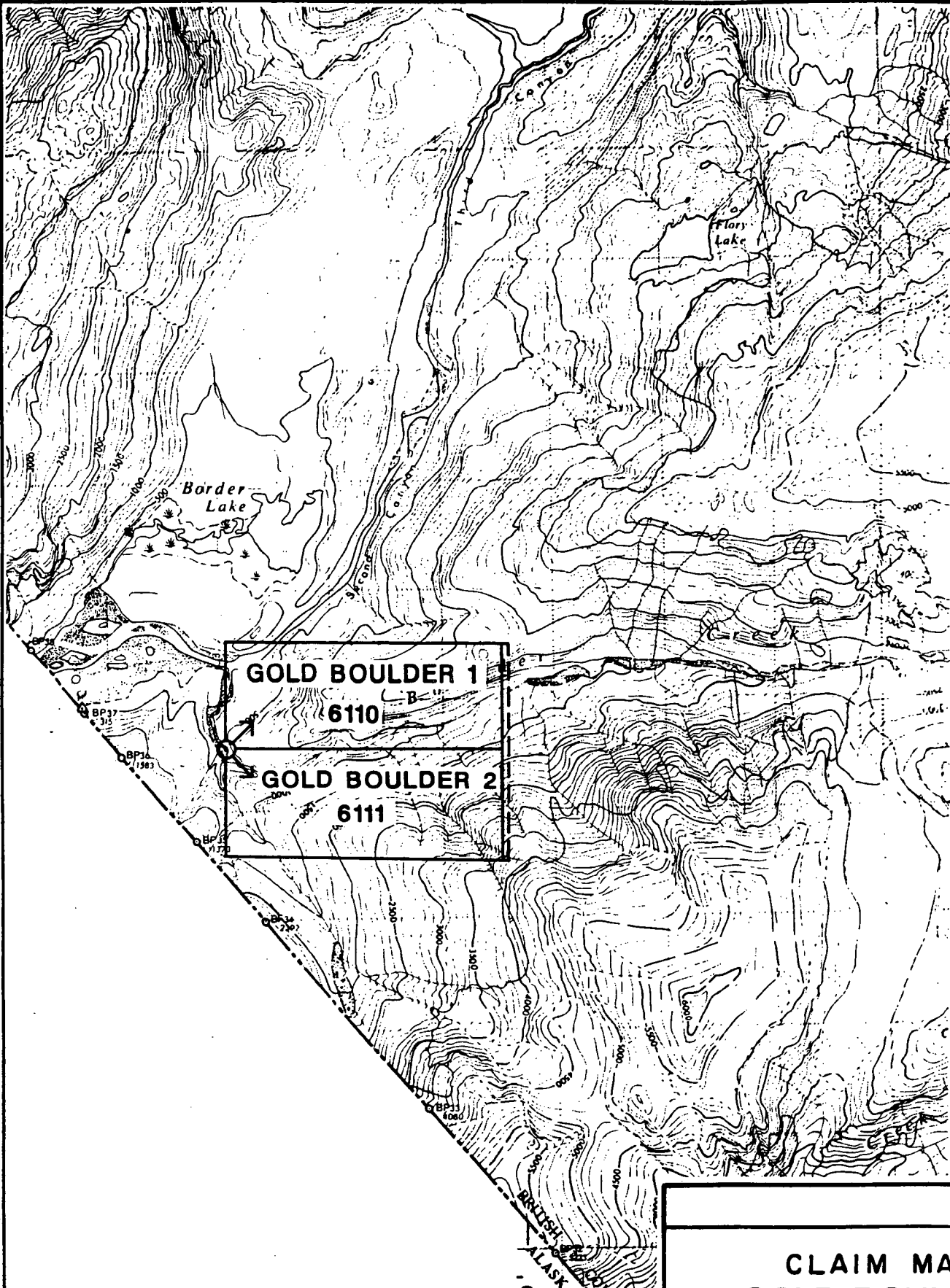
### Property Status and Ownership

The Gold Boulder property (Figure 2) consists of two modified-grid claims totalling 20 units, located within the Skeena Mining Division. Relevant claims data are tabulated below:



★ PROPERTY LOCATION MAP

Figure 1

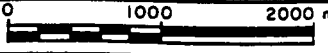


**GOLD BOULDER 1**  
6110

**GOLD BOULDER 2**  
6111

56° 20'

150° 4' 03"E  
BRITISH COLUMBIA  
ALASKA

<b>CLAIM MAP</b>	
<b>GOLD BOULDER</b>	
DATE NOV., 1989	NTS 104 B/7
PROJECT BC-89-4	MAPPED/ DRAWN BY
SCALE 1:50,000	
KEEWATIN ENGINEERING INC. FIG. 2	

<u>Claim Name</u>	<u>Record Number</u>	<u>No. of Units</u>	<u>Date of Record</u>	<u>Expiry Date</u>
GOLD BOULDER 1	6110	10	Apr.28/87	1990
GOLD BOULDER 2	6111	10	Apr.28/87	1990

These claims are apparently the subject of an agreement between the claim holder (C. Pepperdine) and Ross Resources Ltd. which has recently optioned the property to Canadian Cariboo Resources Ltd.

### Physiography and Climate

The Gold Boulder property is situated within the Coast Range Physiographic Division and is characterized by northern rain forests and sub-alpine plateaux. Valleys are steep sided and U- to V-shaped. Elevations (see Figure 2) range from 120 m in the valley of the Unuk River to 1065 m.

A transitional treeline, characterized by dense sub-alpine scrub occurs at approximately the 915 m elevation. Terrain above treeline is typified by intermontane alpine flora. Permanent glacial ice is found intermittently above the 1065 to 1370 m elevations. Conifers up to 30 m tall are common below treeline, especially in stream valleys. Water for camp and drilling purposes is generally in good supply from the numerous creeks draining the claim area.

Precipitation is heavy, exceeding 200 cm per annum, with short mild summers but very wet spring and fall periods. Thick accumulations of snow are common during winter. It is seldom possible to begin surface geological work before July and difficult to continue past September.



### PREVIOUS EXPLORATION

The area drained by the upper reaches of the Stikine, Iskut, Unuk, Craig, and Bell-Irving Rivers has been explored for gold since the late 1800's when prospectors passed through the region on their way to the interior. In the 1970's, the porphyry copper boom again brought prospectors and companies into the area. The current gold exploration rush began in 1980 with the option of the Sulphurets property by Esso Minerals Canada and the acquisition of the Johnny Mountain claims by Skyline Explorations Ltd. The Johnny Mountain deposit was brought into production in mid-1988, and the adjacent SNIP property is slated for production in 1990.

The mineralization at Eskay Creek was discovered in 1932, and active prospecting has continued sporadically since then. Two adits are the result of limited mining activity on this prospect. In 1988, Calpine Resources Incorporated discovered high-grade gold and silver mineralization on the '21 Zone' (*Northern Miner* - November 7, 1988). A number of excellent diamond drill intersections have been obtained to date, including drill hole CA-88-06 which encountered 96 feet of 0.752 oz/ton gold and 1.13 oz/ton silver. Based on the results of 70 drill holes completed to June 1, 1989, a preliminary geological ore reserve of 2.8 million tons grading 0.23 oz/ton gold and 3.3 oz/ton silver has been calculated for the '21 Zone' (Consolidated Stikine Silver Ltd. - 1989 Annual Report).

The Unuk River area was covered by regional geological mapping in 1988 as part of the Iskut-Sulphurets project carried out by B.C. Ministry of Energy, Mines and Petroleum Resources (Britton, et al., 1989). The whole of N.T.S. 104-B is currently being mapped by R. G. Anderson of the Geological Survey of Canada (Anderson, 1989).

The results of a regional stream sediment sampling program conducted over this area were released in July 1988 (National Geochemical Reconnaissance, 1988). Britton (et al.) report that almost every known precious metal prospect in the Unuk River area is associated with high stream sediment gold values. Known gold deposits are also associated with high but variable values for such

pathfinder elements as silver, arsenic, antimony, and barium. One stream sediment sample was collected from a stream draining the southwestern edge of the property, originating beyond the property boundary, but did not yield any elevated values.

During September 1987, a very limited stream silt sampling survey was conducted on the property. There were five samples collected from north flowing tributaries of Boulder Creek. These creek drain Coast Plutonic intrusions and small portions of the Unuk River Formation. Sample results (Au and thirty-element ICP) were disappointing.

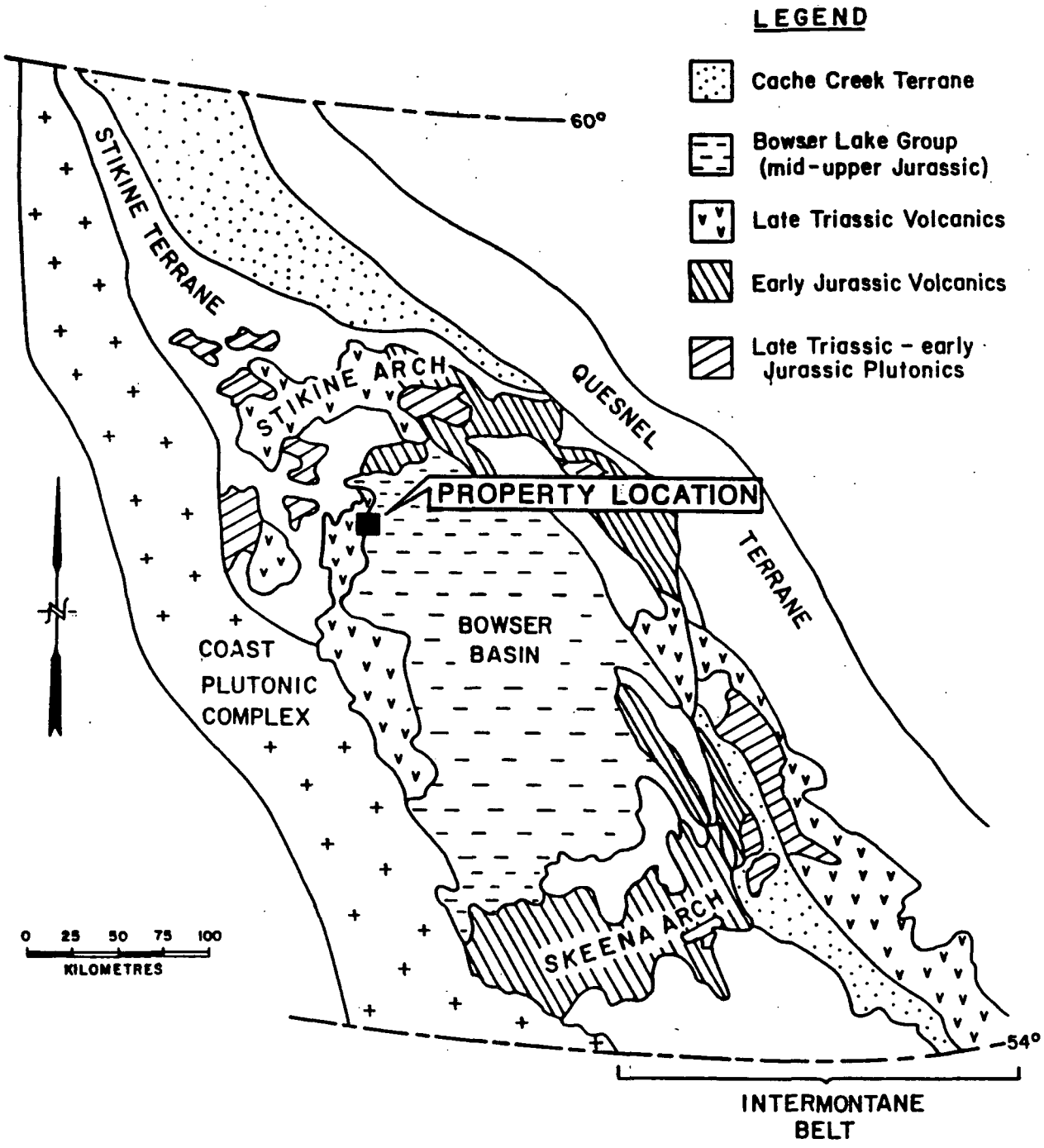
A review of the material in the B.C. Ministry of Energy, Mines and Petroleum Resources assessment report archives indicates that no other work has been filed for the specific area now covered by the Gold Boulder property. However, these files do show that the entire Unuk River area was subjected to reconnaissance geological mapping and prospecting by Newmont Mines Ltd. during the period 1959 to 1962. The assessment records (Korenic, 1982) indicate that Duval Corp. undertook a regional heavy mineral survey in the Unuk River area in 1981.

### REGIONAL GEOLOGY

The property lies within the Intermontane Tectono-Stratigraphic Belt, one of five parallel northwest-southeast trending belts which comprise the Canadian Cordillera (Figure 3). The Gold Boulder property occurs near the contact between the Stikine Terrane, which makes up most of the western part of the Intermontane Belt, and the unmetamorphosed sediments of the Bowser Basin.

The Unuk River area (Figure 4) is underlain by a thick succession of Upper Triassic to Lower Jurassic volcano-sedimentary arc complex lithologies capped by Middle Jurassic marine basin lithologies. This package has been intruded by a variety of plutons representing at least four intrusive episodes spanning late Triassic to Tertiary time. These include synvolcanic plugs, small stocks, dyke swarms, isolated dykes and sills, as well as batholiths belonging to the Coast Plutonic Complex.

The stratigraphic sequence has been folded, faulted, and weakly metamorphosed during Cretaceous time, but some Triassic strata are polydeformed and may record an earlier deformational event. Remnants of Pleistocene to Recent basaltic flows and tephra are preserved locally.






**REGIONAL GEOLOGY  
BOWSER BASIN  
NW BRITISH COLUMBIA**


(Outline of terrane boundaries and major rock groups of the Jurassic and Triassic - modified from Thomson, 1985).


Figure 3


**LEGEND**

**INTRUSIVE ROCKS**


Eocene {  King Creek Dyke Swarm  
 Coast Plutonic Complex  
 Lee Brant Stock

Jurassic {  Lehto Porphyry

L Jurassic to U Triassic {  Diorite and Gabbro:  
 Nickel Mountain (nm)  
 John Peaks (jp)  
 Melville (mv)  
 Max (mx)

U Triassic {  Meta-quartz-diorite

**STRATIFIED ROCKS**

Recent to Pleistocene {  Basalt Flows and Tephra

M Jurassic { 

4
3

 Marine-basin Turbidites  
 Felsic Pyroclastics

L Jurassic { 

D
2 V
S


 D = Dacite Marker  
 V = Andesitic Volcanics (with <40% sediments)  
 S = Sideronites (with <40% volcanics)


U Triassic { 


1 V
S


 D = Dacite Marker  
 V = Andesitic Volcanics (with <40% sediments)  
 S = Sideronites (with <40% volcanics)


**SYMBOLS**


Compositional layering (bedding; isolation)..... 


Contact..... 


Anticline; syn-cline..... 


Harrymet-Scuth Unuk shear..... 


Pillow lavas..... 


Recent volcanic vent..... 

Gossan..... 

Adit..... 

Stream sediment gold values >90th percentile..... 

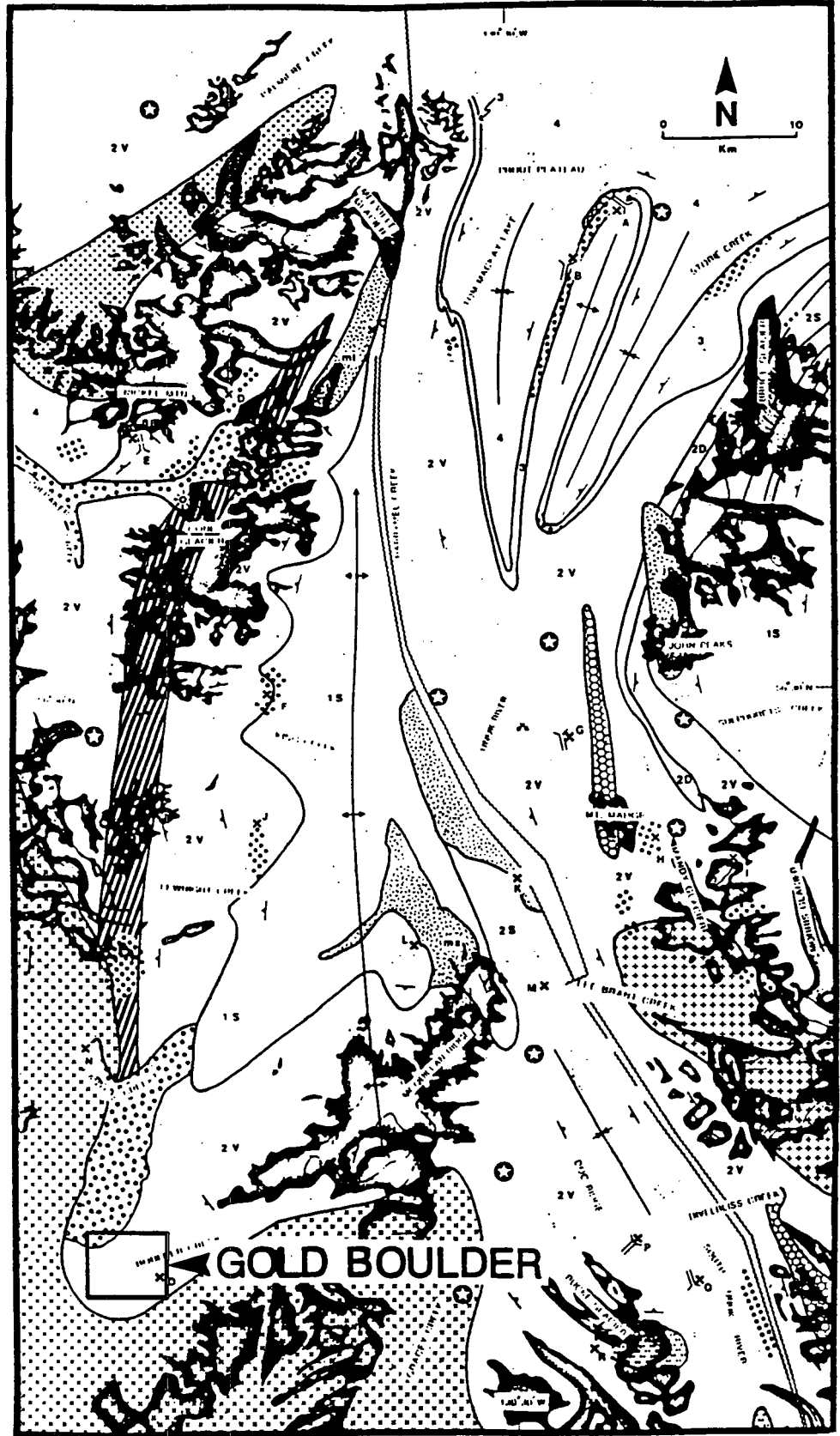
Mineral occurrence..... 

Placer occurrence..... 

**MINERAL OCCURENCES**

NAME	COMMODITY
A Emma	Au, Ag, Pb, Zn, Cu
B MacKay	Au, Ag, Pb, Zn, Cu
C Copper King	Cu, Fe
D Colagh	Cu
E E&L Nickel	Ni, Cu
F Cole	Cu, Au, Ag
G Cumberland/Daly	Au, Ag
H Mt. Madge (C-10)	Au, Ag, Zn
I Mt. Madge (GFJ)	Au, Ag, Cu, Zn
J VV	Cu, Mo, Au, Ag
K Chris & Anno	Cu, Fe
L Max	Fe, Cu
M Unuk Jumbo	Fe, Cu
N Black Bear	Au, Pb, Zn
O Boulder Creek	Pb, Zn, Au, Cu
P Doc	Au, Ag, Pb, Cu
Q Globo	Au, Ag, Pb, Cu
R Alf	Au, Ag

NOTE: Not to scale



Geology and mineral deposits, Unuk map area.  
 Modified after Britton et. al. (1989)

**PROPERTY GEOLOGY**

Figure 4

### PROPERTY GEOLOGY

Regional geological mapping by Britton et al.(1989) shows that the claims are underlain in the southeast by the Coast Plutonic Complex, and the remainder by the Lower Jurassic Unuk River Formation (Figure 5).

#### Upper Triassic to Lower Jurassic Unuk River Formation (Unit 2)

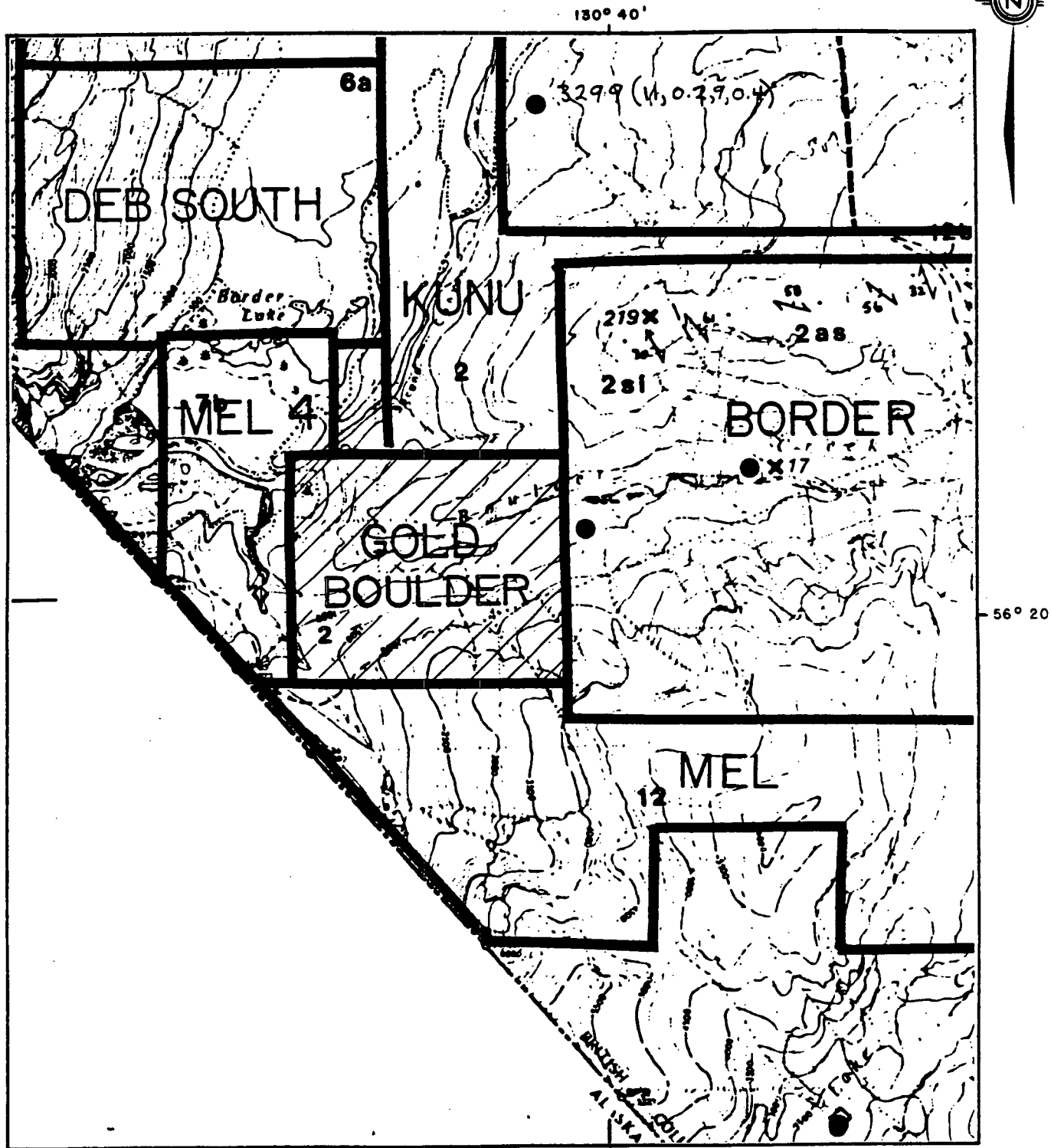
Britton et al.(1989) described this sequence as green and grey intermediate to mafic volcanoclastics and flows with locally thick interbeds of fine-grained immature sediments. The volcanics are reported to be dominantly massive to poorly bedded plagioclase ( $\pm$  hornblende) porphyritic andesite. The sediments are predominantly grey, brown, and green thinly bedded tuffaceous siltstone and fine-grained wacke. These Norian to Sinemurian age rocks of the Unuk River Formation constitute the lowermost unit of the Hazelton Group. The basal contact with Triassic strata appears to lie near the top of a thick sequence of clastic sedimentary rocks. Neither an angular unconformity nor a widespread conglomerate marks the lower contact.

#### Eocene and possibly Jurassic Coast Plutonic Complex (Unit 12)

Britton et al.(1989) described the intrusions as ranging in composition from biotite granite to biotite-hornblende quartz diorite. Numerous discrete stocks are probably present. The country rock contacts are reported to be sharp, discordant, and thermally metamorphosed. The age of these intrusives is Eocene, but the complex may include remnants of Jurassic granitoids.

#### Structure

Actual fault surfaces or zones are rarely seen in the Unuk River area, but they are probably quite common and may have developed concurrently with regional folding. Britton et al.(1989) mapped several assumed faults to the north and east of the property boundaries. These are assumed to be normal faults and are described as megascopic structures with relatively little offset.



SCALE 1:50,000

Modified after Britton et al (1989)  
NTS 104 B/10

# GOLD BOULDER PROPERTY GEOLOGY

Figure 5

LEGEND

INTRUSIVE ROCKS

TERTIARY

13

POSTTECTONIC DYKES

- 13a Lamprophyre, andesite, diabase (flowed not altered)
- 13b Ring Crack Dyke Suite: feldspar porphyry dykes, andesite, diabase, quartz dykes
- 13c Hornfels massive fine-grained iron-manganese

12

COAST PLUTONIC COMPLEX

- 12a Siltite granite
- 12b Hornfelsite-biotite quartz dykes
- 12c Leo Creek Suite: feldspar porphyry, hornfelsite-biotite quartz monzonite

JURASSIC

11

NICKEL MOUNTAIN GABRO: monzonitic orthopyroxene gabbro

10

STY TO POST-VOLCANIC INTRUSIONS: Porphyry to phenocryst bearing; possibly hypocrystic evolution of extrusive rocks

- 10a Late Porphyry: feldspar-phyloclastic-hornfelsite porphyry granodiorite to quartz
- 10b Leo Creek Dyke: fine- to medium-grained hornfelsite dykes
- 10c Andean-Clara Complex: monzonitic, fine- to medium-grained dykes with abundant inclusions of dark green iron-manganese (possibly Tintina)

9

LEWIS RIVER DIORITE SUITE: medium- to coarse-grained, mafic to intermediate dykes

- 9a John Peak monzonitic hornfelsite dykes
- 9b Leo Creek monzonitic dykes: quartz dykes
- 9c Middle hornfelsite-biotite dykes to quartz dykes
- 9d Leo Ridge siltite monzonite

TRIASSIC

8

BUCKLE GLACIER STOCK: light grey, porphyro to foliated, medium-grained hornfelsite-biotite quartz dykes

METAMORPHIC ROCKS

A-F

METAMORPHIC EQUIVALENTS OF UNITS 1, 2 OR 3

- A Metapelite: dark grey, carbonaceous quartz-feldspar-carbonate phyllite
- B Pelite meta-schists: light green, quartz-calcite-calcite-calcite phyllite; locally with deformed lignite
- C Mafic to intermediate meta-schists: dark green, phylloclastic-biotite phyllite
- D Hornfelsite-phyloclastic mylonite; mylonitic mafic-buff
- E Hornfelsite-phyloclastic gneiss; argillite argillite
- F Strongly sheared rocks within the Lewis-Hartford fault zone

GOSSANOUS ALTERATION ZONES



Pyrite ± quartz ± calcite ± calcosite ± stibnite; locally foliated to schistose

Chamosite pyrite in felsic volcanics

VOLCANIC AND SEDIMENTARY ROCKS

(Show the stratigraphic order to implied with sequence.)

QUATERNARY

RECENT

17 UNCONSOLIDATED SEDIMENTS

- 7a Alluvium, glacial/fluviol deposits, lacustrine deposits, marl
- 7b Alluvium overlain by Pleistocene to Recent basal

PLEISTOCENE TO RECENT

6 BASAL FLUVE AND TERRACE

- 6a Dark grey to black, basalt flows and tephra; minor yellow loess
- 6b Basal tephra

TRIASSIC TO JURASSIC

HAZELTON GROUP

MIDDLE JURASSIC (TOARCICAN TO BAJOCIAN)

5 SILTSTONE SEQUENCE (Selkirk River Formation): Dark grey, well-bedded siltstone with minor sandstone and conglomerate.

- 5a Clay pebbles conglomerate and arenite
- 5b Rhythmically bedded siltstone and shale (bedding)
- 5c Thinly bedded waste
- 5d Argillite yellow loess and yellow breccias with minor siltstone interbeds

LOWER JURASSIC (TOARCICAN)

4 FELSIC VOLCANIC SEQUENCE (Selkirk District Formation): Light weathering, intermediate to felsic pyroclastic rocks, including tuff, ash, crystal and siltite tuff, lapilli tuff, Locally pyroclastic (3 to 15%) and greenstone, minor chamosite quartz veins locally.

- 4a Vertically bedded siltite tuff
- 4b Lapilli siltite tuff
- 4c Black and white, carbonaceous felsic volcanics; locally fine bedded and interbedded

LOWER JURASSIC (PLEINSBACHIAN TO TOARCICAN)

3 PROCLASTIC-EPICLASTIC SEQUENCE (Selkirk River Formation): Metagranite, grey, green, locally purple or maroon, massive to bedded pyroclastic and sedimentary rocks; yellow loess

- 3a Green and grey, massive to poorly bedded andesite
- 3b Grey, green and purple dykes tuff, lapilli tuff, crystal and siltite tuff; massive to well bedded; feldspar phyllite
- 3c White weathering, siltite tuff and breccias with quartz sandstone
- 3d Andesite lapilli tuff with pink siliceous clasts
- 3e Argillite yellow loess and yellow breccias with minor siltstone interbeds
- 3f Black, thinly bedded siltstone, shale and argillite (bedding)

UPPER TRIASSIC TO LOWER JURASSIC (NORIAN TO SINEMURIAN)

2 ANDESITE SEQUENCE (Lewis River Formation): Green and grey, intermediate to mafic volcanics and flows with locally thin laminae of fine-grained igneous sediment; minor conglomerate and breccias

- 2a Grey and green, phylloclastic hornfelsite porphyry andesite; massive to poorly bedded
- 2b Grey and green, hornfelsite-phyloclastic porphyry andesite lapilli and ash tuff
- 2c Grey, brown and green, siltite bedded, talusaceous siltstone and fine grained waste
- 2d Black, thinly bedded siltstone (bedding); shale; argillite
- 2e Dark grey, mafic-saturated conglomerate with granite nodules
- 2f Grey, vertically bedded breccias (completely recrystallized along South Lewis valley)

TRIASSIC

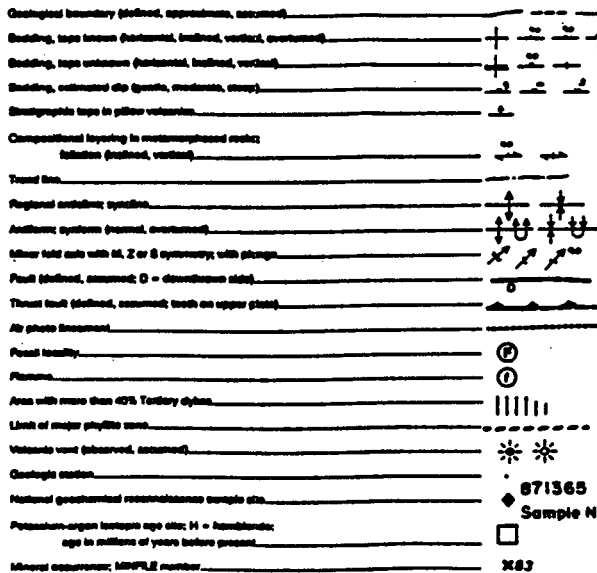
STUMMI GROUP

UPPER TRIASSIC (CARNIAN TO NORIAN)

1 LOWER VOLCANOSSEDIMENTARY SEQUENCE: Brown, black and grey, mixed sedimentary rocks interbedded with mafic to dark green, mafic to intermediate volcanic and volcanoclastic rocks

- 1a Grey to black, thinly bedded siltstone, shale, argillite (bedding)
- 1b Brown and grey, fine grained talusaceous waste; minor siltstone or conglomerate
- 1c Grey, brown, silt, sandy breccias
- 1d Green, fine-grained, argillite ash tuff; feldspar and hornfelsite phyllite
- 1e Dark green basalt
- 1f Grey and green, andesite breccias with mafic-hornfelsite-phyloclastic clasts and argillite matrix

SYMBOLS



871365 (0.8, 48, 3.8, 11)  
Sample No. (Ag ppm, As ppm, Sb ppm, Au ppb)



AGE	GROUPS	FORMATIONS	MEMBERS	LITHOLOGIES
Bathonian	Bowser Lake	Ashman	Main Sequence Basal Conglomerate	Turbidites, wackes, intraformational conglomerates Chert pebble conglomerates
Bajocian to Toarcian	Spatsizi(?)	Salmon River	Pyjama Beds Basal Limestone	Thin bedded, alternating siltstones and mudstones Gritty, fossiliferous limestone
Toarcian	Hazelton	Mount Dilworth	Upper Lapilli Tuff Middle Welded Tuff Lower Dust Tuff	Dacitic lapilli tuff with flow-banded clasts Dacitic welded ash flow and lapilli tuff Dacitic dust tuff
Pliensbachian		Betty Creek	Sedimentary Members Volcanic Members	Hematitic volcanoclastic sediments, and turbidites Andesitic to dacitic tuffs and flows
Sinemurian to Hettangian(?)		Unuk River	Premier Porphyry Upper Andesite Upper Siltstone Middle Andesite Lower Siltstone Lower Andesite	Two feldspar + hornblende porphyritic tuffs Massive tuffs with local volcanoclastic sediments Turbidites, minor limestones Massive tuffs and minor volcanoclastic sediments Turbidites Massive to bedded ash tuffs
Norian to Carnian	Stuhini		Volcanic Members Sedimentary Members	Pyroxene porphyry flows and tuffs Turbidites, limestones, conglomerates

TABLE 1. Table of Formations Unuk River Area

### ECONOMIC GEOLOGY

Britton et al.(1989) list 55 mineral occurrences in the Unuk map-sheet. These showings are predominantly gold/silver occurrences and are hosted by a number of various lithologies. Most can be classified into one of four categories: stratabound, vein, skarn, and disseminations. Grove (1986) has determined that the age of the mineralizing events is variable and, notably, can be post-Triassic.

Stratabound mineralization consists almost exclusively of pyritic zones and lenses contained within a particular stratum or a restricted set of strata. The best example is the Eskay Creek prospect, currently being explored by Calpine Resources Incorporated and Consolidated Stikine Silver Ltd. Intrusive-contact (skarn) deposits show a close spatial and temporal relationship with igneous intrusions. Three deposits in this category are the E & L nickel/copper deposit (Minfile #006), the Max copper/iron skarn (Minfile #013), and the Chris-Anne copper/iron skarn (Minfile #125). Britton et al.(1989) stated:

Mineralization at the E & L occurs within two medium- to coarse-grained, olivine-pyroxene gabbro bodies. These roughly triangular plugs are each approximately 1300 square metres in area and are probably connected. They intruded a sequence of argillites, tuffaceous siltstones, and grey dacitic ash tuffs that strike northwest with moderate to steep southwesterly dips. Mineralization consists of pyrrhotite, pentlandite, and chalcopyrite, with lesser amounts of pyrite and magnetite. In the northwestern gabbro, mineralization extends up to the contact with the sediments, whereas in the southeastern gabbro, mineralization is confined to the pluton. Diamond drilling has delineated pipelike pods and disseminations of sulphides to a depth of 120 metres. Drill-indicated reserves are 2.8 million tonnes of 0.7% Ni and 0.6% Cu (Sharp, 1965).

The Max prospect lies on the northwest side of McQuillan Ridge, between the Unuk and South Unuk Rivers, at elevations between 455 and 1500 metres. Massive magnetite with lesser pyrrhotite and chalcopyrite occur in skarn-altered sedimentary rocks adjacent to a diorite stock. Garnet, epidote, actinolite, and diopside characterize the skarn assemblage. Drilling has indicated a reserve of 11 million tonnes at 45% iron (Canadian Mines Handbook 1973-1974, page 432).

The Chris-Anne prospect lies approximately 3 kilometres east of the Max. Skarn mineralization is reported in limestone beds which are up to 10 metres thick and that are interbedded with volcanoclastics. Magnetite and pyrrhotite-rich layers, from 0.5 to 7 metres

thick, with minor chalcopyrite, extend over a distance of 1 km. There are minor intrusive bodies reported on the property. Grades range from 0.1% to 0.4% copper (Allan and MacQuarrie, 1981).

The gold potential of these skarn deposits does not appear to have been tested. Based on recent skarn studies (Ettlinger and Ray, 1988), this area has many features that are associated with gold-enriched skarns elsewhere in the province: sequences of calcareous and tuffaceous host rocks; structural deformation; intrusion by dioritic I-type granitoids; and contact metamorphism and recrystallization. Some auriferous skarns are enriched in cobalt, an element that may be a useful pathfinder.

High-grade precious metal quartz veins are the target of exploration programs at Mount Madge (Minfile #240 and #233) by Bighorn Development Corporation, and at the Doc prospect (Minfile #014) by Echo Bay Mines Limited. Britton et al. (1989) reported:

The Mount Madge prospects are located south of Sulphurets Creek near its confluence with Unuk River, on the east and west sides of Mandy Glacier. Two different targets are being evaluated (Kruckowski and Sinden, 1988). On the west, the C-10 prospect (Minfile #240) is a stockwork of thin quartz veinlets, locally with thicker quartz lenses, in intensely altered, fine-grained tuffaceous andesite or dacite. Quartz veinlets locally form up to 30% of the rock. The alteration assemblage consists of quartz and sericite with up to 10% pyrite. Chalcopyrite and traces of sphalerite are also present. The rocks are strongly foliated to schistose and are very similar to the broad alteration zones seen at Brucejack Plateau 12 kilometres to the northeast (Britton and Alldrick, 1988). Soil samples locally return analyses in excess of 1 ppm gold.

Two kilometres to the east, Ken Konkin discovered a massive pyrite-siderite float boulder with visible gold. Prospecting uphill led to the discovery of the GFJ veins (Minfile #233), apparently flat-lying, zoned siderite-quartz-sulphide veins that returned assays up to 121 grams per tonne gold (Kruckowski and Sinden, 1988). The veins are poorly exposed. Float blocks seen this year display symmetrical zoning from margin to core across vein widths of 10 to 15 centimetres. Vein margins are 1 to 2 centimetres of thin white quartz layers separated by hairline accumulations of very fine-grained tin-white sulphide, probably arsenopyrite. The core is a very coarse-grained intergrowth of siderite, milky quartz, and cubes and clusters of pyrite, with lesser amounts of sphalerite and chalcopyrite as crystals and irregular masses. Rare tetrahedrite and visible gold have been observed (K. Konkin, personal communication, 1988). The veins cut variably foliated andesitic ash tuffs with thin interbeds of foliated to schistose siltstones.

The Doc prospect (Minfile #014) is located at treeline on a ridge overlooking the South Unuk River, opposite the mouth of Divilbliss Creek. The prospect consists of several west-northwest trending quartz veins up to 2 metres wide that have surface strike lengths of up to 275 metres (Gewargis, 1986). The main veins (Q17, Q22) are massive white quartz with sparse sulphide mineralization (5% to 10%) consisting of galena, pyrite, chalcopyrite, and sphalerite, with associated specular hematite and magnetite. Precious metal values are mostly confined to the sheared edges of veins and immediately adjacent wallrock. Shear zones with very little quartz may also return good values. Seraphim (1948) observed that gold was associated with either specular hematite or with galena and pyrite, but not with chalcopyrite and pyrite assemblages. The veins are a true fissure type, crosscutting folded and metamorphosed andesitic tuffs and thin-bedded sediments, including marble, that have been intruded by irregular dioritic dykes or sills and small monzodioritic plugs. The veins are different from any others seen in the Sulphurets or Unuk map areas. They have very restricted wallrock alteration aureoles, no apparent zoning, and appear to be limited to a few large fluid pathways. In this, they display characteristics of mesothermal veins. Structural control of the vein sets has not been determined but may be due to fractures related to folds in the host rocks. Total mineral inventory of the Q17 and other veins is given as 426,000 tonnes with 9.26 grams per tonne gold and 44.91 grams per tonne silver (*Northern Miner*, November 7, 1988).

Porphyry-type disseminated pyrite, chalcopyrite, and molybdenite mineralization occurs immediately north and south of King Creek, west of Harrymel Creek. Two properties have been worked: the VV to the south and the Cole to the north.

The VV property (Minfile #079) is the site of a heavily weathered monzonitic intrusive body in fault contact, on the east and west, with layered andesitic lapilli tuffs and tuff breccias with minor siltstone and calcareous sandstone interbeds. The stock is 250 metres wide, at least 6 kilometres long, strikes northerly, and dips steeply to the west, parallel to the country rocks. Chalcopyrite occurs in quartz stockworks and as fine disseminations within the monzonite. Molybdenite, sphalerite, malachite, and azurite have also been reported (Winter and McInnis, 1975; Mawer et al., 1977). Representative assays give 0.34% copper, 0.003% molybdenum, 2.1 grams per tonne silver, and 0.8 gram per tonne gold. Maximum gold and silver values obtained were 8.65 grams per tonne gold and 19.54 grams per tonne silver (Mawer et al., 1977).

The Cole prospect (Minfile #209) is situated approximately 4 kilometres north of the VV claims; it appears to be on strike with the same fault system and has similar intrusive and country rocks. Mineralization consists of up to 10% pyrite as disseminations and fracture fillings. Minor chalcopyrite and malachite have been reported but the bedrock source of the gold/silver soil anomalies has not been located (Korenic, 1982; Gareau, 1983). Reported assays range up to 0.43% copper, 7.12 grams per tonne gold, and 13.03 grams

per tonne silver. Gold and copper values show a positive correlation on both properties.

At this time, the Eskay Creek prospect, located 40 km northeast of the Gold Boulder property, is the most significant showing in the area. This prospect comprises at least eight mineralized zones occurring over a strike length of 1800 m within a sequence of felsic volcanics (Mount Dilworth Formation). This property is currently being explored by Calpine and Consolidated Stikine Silver. Preliminary drilling on the '21 Zone' intersected 96 feet assaying 0.752 oz/ton gold and 1.13 oz/ton silver including 52.5 feet grading 1.330 oz/ton gold and 1.99 oz/ton silver (*Northern Miner*, November 7, 1988).

The drilling results obtained to date indicate that the '21 Zone' extends over 335 m and is open along strike and at depth. Based on the results of 70 drill holes completed to June 1, 1989, a preliminary geological reserve of 2.8 million tons grading 0.23 oz/ton gold and 3.3 oz/ton silver was calculated for the '21 Zone' (Consolidated Stikine Silver, 1989 Annual Report). These deposits have been variously described as silicified shear zones (Harris, 1985) or as volcanogenic deposits (Donnelly, 1976). The mineralization is associated with disseminated sulphides in felsic volcanic breccias and graphitic argillites in contact with overlying intermediate volcanic rocks.

A review of all the available information (Minfile, assessment reports, geological maps, reports, etc.) indicates that no mineralized occurrences are known within the area currently covered by the Gold Boulder property.

The Boulder occurrence (Minfile #102) apparently occurs near or on the southwest edge of the property. Sketchy descriptions of this Cu/Au/Ag/Pb prospect report "...a large body of low-grade Cu, Au, Ag, and Pb approximately 8 km north of the Alaska border." A hornfelsed pyritic sedimentary host (slates, argillites, quartzites, and minor limestone and breccia) is reported to be cross-cut by dykes near the contact with the Coast Plutonic Complex. The accuracy of the location of this showing is questionable.

### 1989 EXPLORATION PROGRAM

The 1989 property exploration program, completed between September 9 and October 16, consisted of helicopter-supported reconnaissance prospecting, geological mapping, and geochemistry (lithogeochemical, stream silt, and heavy mineral sampling). Areas of known mineralization and gossans noted within the area were investigated and sampled.

A total of 4 rock, 3 stream silt, and 4 heavy mineral samples were forwarded to Bondar-Clegg & Company in Vancouver for multi-element analyses; Au by fire assay-AA and the remaining 29 elements by I.C.P. (results are presented in the Appendix, along with rock sample descriptions).

The accompanying map depicts the property geology (modified after Britton et al., 1989), with 1989 prospecting traverses, sample locations, and Au/Ag/As/Sb analytical results. Descriptions of the exploration completed and the results follow.

### ROCK GEOCHEMICAL SAMPLING

A limited amount of reconnaissance prospecting and geochemical sampling (the amount of coverage hindered by the rugged topography and thick forest growth) were completed across the southwest corner of the GOLD BOULDER 2 mineral claim. This work was concentrated along a sharp draw which cuts across this portion of the property, where rock exposures were most abundant.

The area was found to be underlain primarily by quartz-biotite gneiss (metamorphosed sediment belonging to the Unuk River Formation) containing frequent quartz veinlets generally parallel to foliation; with the southern edge of the property underlain by granodiorite of the Coast Plutonic Complex.

A grab sample (KZR-058) of coarse-grained granodiorite containing bands up to 5 cm wide with 3-5% disseminated pyrite, adjacent to the granodiorite/

gneiss contact, yielded anomalous gold (0.110 oz/ton) and elevated copper (4888 ppm) values.

In addition to this sample, a grab sample (KVR-044) of quartz-biotite gneiss with disseminated Py/Po/Cpy and containing numerous 2-3 cm quartz veinlets, yielded elevated Au (191 ppb), and anomalous Ag (1.6 oz/ton) and Pb (1.42%) values.

Additional exploration is required in these areas to determine the extent of this mineralization.

#### STREAM SILT SAMPLING

Stream silt geochemical sampling was conducted on the property as part of the current exploration program. Stream silt samples were collected at regular intervals along the drainage cutting across the southwest corner of the property. The designation of anomalous values is based on regional G.S.C. survey results in Open File 1645 combined with a visual observation of data obtained during the 1989 exploration on a number of claim groups in the Unuk River area.

Based on these criteria, one sample (KVL-04) yielded an elevated gold value of 105 ppb. This sample was collected adjacent to the area from which a lithochemical sample yielded anomalous Au, Ag, and Pb values.

#### HEAVY MINERAL SAMPLING

A heavy mineral stream sediment sampling survey was conducted on the property as part of the current exploration program. Heavy mineral samples were collected in parts of a creek where there is a sudden transition from

high to low energy, if present, moss mat was used. Samples were sieved to -20 mesh and a 3 to 5 kg sample of sieved material was collected.

The samples were forwarded to Bondar-Clegg and Company in Vancouver for multi-element analyses: Au by fire assay-AA and the remaining 29 elements by I.C.P. The heavy mineral separation consists of floating off the light (<3.3) minerals using methylene-iodine followed by magnetic separation. A sample weight of 0.5 grams is taken for the I.C.P. and the remainder used for fire assay.

The heavy mineral sampling survey was conducted by Mr. M. Waskett-Myers of Keewatin Engineering Inc. which company has done a considerable amount of work in the Unuk River area, and in the process, has assembled a fairly substantial data base. These data were used to assess the values obtained on the property.

Heavy mineral sampling is a good first-pass tool and should be considered as a micro-prospecting approach to evaluating an area. A total of four heavy mineral samples were collected from creeks draining the property area.

Samples KWH-2 and KWH-3 were collected adjacent to the western claim boundary: sample KWH-2 from the stream cutting across the southwest corner of the property, and sample KWH-3 from Boulder Creek, both of which originate beyond the property boundary. Both samples yielded background values for all the elements.

Samples KWH-14 and KWH-15 were collected from creeks draining the southeastern portion of the property and yielded elevated gold values (163 and 280 ppb respectively), the remaining elements reflecting background values.



### SUMMARY AND RECOMMENDATIONS

Due to budget constraints, only a limited amount of exploration was completed on the Gold Boulder property. Exploration consisted of helicopter-supported reconnaissance prospecting, geological mapping, and geochemical sampling, with the objective of evaluating the property's potential for hosting economic precious metals deposits and for the purpose of fulfilling the assessment requirements.

Reconnaissance prospecting along with stream silt sampling were completed along a creek cutting across the southwest corner of the property. The area was found to be underlain primarily by quartz-biotite gneiss containing frequent quartz veinlets, with the southern edge of the property underlain by granodiorite.

A grab sample of coarse-grained granodiorite, containing bands up to 5 cm wide with 3-5% disseminated pyrite, yielded 0.110 oz/ton Au and 4888 ppm Cu. A grab sample of quartz-biotite gneiss, with disseminated Py/Po/Cpy and containing numerous 2-3 cm quartz veinlets, yielded 181 ppb Au, 1.6 oz/ton Ag, and 1.42% Pb.

Stream silt samples were collected at regular intervals along this creek. One sample yielded an elevated gold value of 105 ppb. A heavy mineral sampling program was completed over the property. Two samples from creeks draining the southeast part of the property yielded elevated gold values of 163 and 280 ppb.

Considering the limited amount of exploration completed on the claims and the results obtained, additional work is required in order to fully evaluate the property's mineral potential. This work should consist of extensive reconnaissance prospecting combined with geological mapping, litho-geochemical sampling, and stream silt sampling. Additional exploration is required in the southeast corner of the property, to determine the extent and significance of the mineralization located. Stream silt samples should be collected at regular intervals along all the creeks draining the claims.

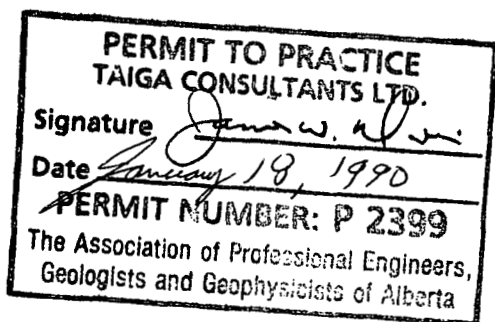
**CERTIFICATE - C. H. Aussant**

I, Claude Henry Aussant, of 31 Templebow Way N.E. in the City of Calgary in the Province of Alberta, do hereby certify that:

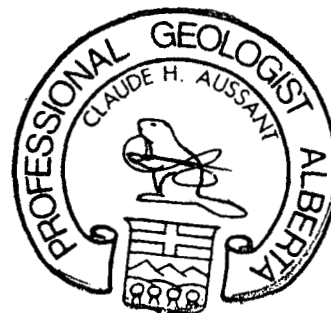
1. I am a Consulting Geologist with the firm of Taiga Consultants Ltd. with offices at Suite 400, 534 - 17th Avenue S.W., Calgary, Alberta.
2. I am a graduate of the University of Calgary, B.Sc.Geology (1976), and I have practised my profession continuously since graduation.
3. I am a member in good standing of the Association of Professional Engineers, Geologists and Geophysicists of Alberta; and I am a Fellow of the Geological Association of Canada.
4. I am co-author of the report entitled "Geological, Prospecting, and Geochemical Report on the Gold Boulder Property, GOLD BOULDER 1 and 2 Claims, Skeena Mining Division, British Columbia", dated November 6, 1989. I personally worked on the property during the program described herein.
5. I do not own or expect to receive any interest (direct, indirect, or contingent) in the property described herein nor in the securities of Canadian Cariboo Resources Ltd., in respect of services rendered in the preparation of this report.

DATED at Calgary, Alberta, this 6th day of November, A.D. 1989.

Respectfully submitted,



*C. H. Aussant*  
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 C. H. Aussant, B.Sc., P.Geol., F.GAC



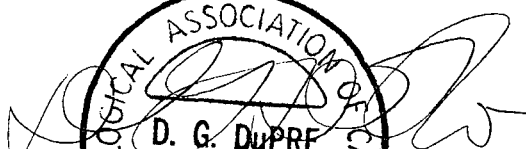
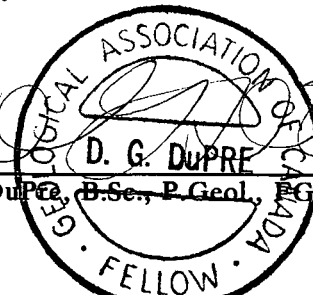
**CERTIFICATE**

I, DAVID GEORGE DuPRE, of 56 Parkgrove Crescent in the Municipality of Delta in the Province of British Columbia, do hereby certify that:

- 1) I am a graduate of the University of Calgary, B.Sc. Geology (1969), and have practised my profession continuously since graduation.
- 2) I am a member in good standing of the Association of Professional Engineers, Geologists and Geophysicists of Alberta; and I am a Fellow of the Geological Association of Canada.
- 3) I am a consulting geologist with the firm of Keewatin Engineering Inc. with offices at Suite 800 - 900 West Hastings Street, Vancouver, British Columbia.
- 4) I am the co-author of the report entitled "Geological, Prospecting, and Geochemical Report on the **Gold Boulder Property**, GOLD BOULDER 1 and 2 Claims, Skeena Mining Division, British Columbia", dated November 6, 1989. I personally supervised the work on the property and visited the site on two occasions between September 6 and October 15, 1989.
- 5) I do not own or expect to receive any interest (direct, indirect or contingent) in the property described herein nor in the securities of **Canadian Cariboo Resources Ltd.**, in respect of services rendered in the preparation of this report.

Dated at Vancouver, British Columbia this 6th day of November, A.D. 1989.

Respectfully submitted,

  
D. G. Dupre  
David G. Dupre, B.Sc., P.Geol., FGAC  


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A P P E N D I X

Summary of Personnel  
 Rock Sample Descriptions  
 Certificates of Analysis  
 Analytical Techniques

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SUMMARY OF PERSONNEL

<u>Name / Address</u>	<u>Position</u>	<u>Dates</u>	<u>Man Days</u>
C. H. Aussant Calgary, Alberta	Project Geologist	Sep.9-Oct.16	0.50
B. C. Beattie Calgary, Alberta	Assistant Geologist	Sep.9-Oct.16	0.50
M. Waskett-Myers Vancouver, B.C.	Geochemist	Sep.9-Oct.16	0.50
B. McIntyre Vancouver, B.C.	Senior Prospector	Sep.9-Oct.16	0.50
C. Oevermann Smithers, B.C.	Cook	Sep.9-Oct.16	0.50
		TOTAL	<u>2.50</u>

ROCK SAMPLE DESCRIPTIONS

	<u>Au ppb</u>	
KVR-043	11	grab o/c; 10 cm quartz-albite vein, minor pyrrhotite
KVR-044	181	1.6 oz/ton Ag, 1.42% Pb; numerous 2-3 cm quartz veinlets in a quartz-biotite gneiss, disseminated Py, Po, Cpy
KZR-057	<5	subcrop; mafic-rich inclusion in granodiorite, pyrite-rich pockets, extensive disseminated magnetite
KZR-058	3762	4888 ppm Cu; grab o/c; coarse-grained granodiorite, bands up to 5 cm wide with 3-5% diss pyrite, pyrite stringers, minor chalcopyrite

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# Certificate of Analysis

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REPORT: 089-06264.6

PROJECT: UNUK

PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	AG	PH
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089-06264-0044		1.60	1.42	Gold Boulder
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# Geochemical Lab Report

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REPORT: V89-06964.D

PROJECT: UNUK

PAGE 1A

SAMPLE NUMBER	ELEMENT UNITS	Au PPB	Ag PPM	As PPM	Ba PPM	Be PPM	Bi PPM	Cd PPM	Ce PPM	Co PPM	Cr PPM	Cu PPM
R2 89KV-R043	<i>Gold Boulder</i>	11	0.2	<5	18	<0.5	<2	<1	14	1	140	54
R2 89KV-R044	<i>Gold Boulder</i>	181	>50.0	14	54	<0.5	89	4	13	16	146	355



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PROJECT: UNUK

PAGE 1B

SAMPLE NUMBER	ELEMENT UNITS	Ga PPM	Ia PPM	Li PPM	Mo PPM	Nb PPM	Ni PPM	Pb PPM	Rb PPM	Sb PPM	Sc PPM	Sn PPM
---------------	---------------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------

R2 89KV-R043		<2	7	3	<1	<1	3	<2	<20	<5	1	<20
R2 89KV-R044		10	4	13	4	3	10	10000	<20	5	6	<20

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REPORT: V89-06964.0

PROJCT: UNUK

PAGE 1C

SAMPLE NUMBER	ELEMENT UNITS	Sr PPM	Ta PPM	Te PPM	U PPM	W PPM	Y PPM	Zn PPM	Zr PPM
R2 89KV-R043		3	<10	<10	2	<10	2	7	<1
R2 89KV-R044		57	<10	<10	39	<10	5	57	<1

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REPORT: V89-06968.0

PROJECT: FLORY

PAGE 1A

SAMPLE NUMBER	ELEMENT UNITS	Au PPB	Ag PPM	As PPM	Ba PPM	Be PPM	Bi PPM	Cd PPM	Ce PPM	Co PPM	Cr PPM	Cu PPM
---------------	---------------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------

89KZ-R057	↑	<5	0.5	10	44	<0.5	3	<1	26	46	70	156
89KZ-R058	MEL	<del>3762</del>	8.5	35	7	<0.5	6	2	<5	44	153	<u>4888</u>

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REPORT: V89-06968.0

PROJECT: FLORY

PAGE 1B

SAMPLE NUMBER	ELEMENT UNITS	Ga PPM	La PPM	Li PPM	Mo PPM	Nb PPM	Ni PPM	Pb PPM	Rb PPM	Sb PPM	Sc PPM	Sn PPM
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R2 89KZ-R057		6	7	4	2	5	31	6	95	7	2	<20
R2 89KZ-R058		8	<1	14	9	2	51	44	100	19	4	<20

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DATE PRINTED: 23-OCT-89

REPORT: V89-06968.0

PROJECT: FLORY PAGE 1C

SAMPLE NUMBER	ELEMENT UNITS	Sr PPM	Ta PPM	Te PPM	V PPM	W PPM	Y PPM	Zn PPM	Zr PPM
R2 89KZ-R057		18	<10	<10	23	<10	9	17	2
R2 89KZ-R058		2	<10	<10	38	<10	3	62	<1

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# Geochemical Lab Report

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REPORT: V89-06960.0

PROJECT: UNUK

PAGE 2A

SAMPLE NUMBER	ELEMENT UNITS	Au PPB	Ag PPM	As PPM	Ba PPM	Be PPM	Bi PPM	Cd PPM	Ce PPM	Co PPM	Cr PPM	Cu PPM
T1 89KVL004	<i>Gold Boulder</i>	105	<0.2	<5	88	<0.5	3	<1	14	6	17	11

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A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

DATE PRINTED: 20-OCT-89

REPORT: V89-06960.0

PROJECT: UNUK

PAGE 2B

SAMPLE NUMBER	ELEMENT UNITS	Ga PPM	La PPM	Li PPM	Mo PPM	Nb PPM	Ni PPM	Pb PPM	Rb PPM	Sb PPM	Sc PPM	Sn PPM
T1 89KVL004		7	8	7	1	4	6	<2	<20	5	2	<20

**SUMMARY OF EXPENDITURES****Gold Boulder 1 & 2**

Personnel and Crew	\$ 1,664.76
Transportation	
- helicopter/fixed wing/fuel	1,286.33
Camp	
- food/accommodation	185.82
Assay/Report/Drafting/Secretarial	<u>425.26</u>
<b>TOTAL EXPENDITURES:</b>	<b><u>\$ 3,562.17</u></b>



Bondar-Clegg & Company Ltd.  
130 Pemberton Ave.  
North Vancouver, B.C.  
V7P 2R5  
(604) 985-0681 Telex 04-352667



# Geochemical Lab Report

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

DATE PRINTED: 20-OCT-89

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PROJECT: UNUK

PAGE 2C

SAMPLE NUMBER	ELEMENT UNITS	Sr PPM	Ta PPM	Te PPM	V PPM	W PPM	Y PPM	Zn PPM	Zr PPM
T1 89KVL004		42	<10	<10	63	<10	3	37	1

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Geochemical  
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A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

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PROJECT: UNUK

PAGE 1A

SAMPLE NUMBER	ELEMENT UNITS	Au PPR	Ag PPM	As PPM	Ba PPM	Be PPM	Bi PPM	Cd PPM	Ce PPM	Co PPM	Cr PPM	Cu PPM
---------------	---------------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------

11 89K0L051	<del>Gold</del> Gold 27	0.2	5	73	3.7	5	<1	17	5	18	10
11 89K0L052	<del>Gold</del> Gold 29	<0.2	<5	85	<0.5	3	<1	13	6	17	11

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Geochemical  
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A DIVISION OF INDIAN AFFAIRS INSPECTION & TESTING SERVICES

DATE PRINTED: 20-OCT-89

REPORT: V89-06960.0

PROJECT: UNUK

PAGE 1B

SAMPLE NUMBER	ELEMENT UNITS	Ga PPM	La PPM	Li PPM	Mo PPM	Nb PPM	Ni PPM	Pb PPM	Rb PPM	Sb PPM	Sc PPM	Sn PPM
------------------	------------------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------

T1 89K0L051		8	8	6	1	4	4	3	<20	7	1	<20
T1 89K0L052		7	8	6	<1	4	5	4	<20	7	2	<20

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Geochemical  
 Lab Report

A DIVISION OF INTCAPE INSPECTION & TESTING SERVICES

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PROJECT: UNUK

PAGE 1C

SAMPLE NUMBER	ELEMENT UNITS	Sr PPM	Ta PPM	Te PPM	V PPM	W PPM	Y PPM	Zn PPM	Zr PPM
------------------	------------------	-----------	-----------	-----------	----------	----------	----------	-----------	-----------

T1 89KOL051		36	<10	<10	70	<10	3	32	1
T1 89KOL052		38	<10	<10	71	<10	3	37	1

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# Geochemical Lab Report

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

REPORT: V89-06781.0 ( COMPLETE )

REFERENCE INFO:

CLIENT: KEEWATIN ENGINEERING INC.  
 PROJECT: PARADIGM

SUBMITTED BY: TERRAMIN RES. LAB  
 DATE PRINTED: 4-OCT-89

ORDER	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	As	93	5 PPB	FIRE-ASSAY	Fire Assay AA
2	Ag	93	0.2 PPM	HN03-HCL HOT EXTR	Ind. Coupled Plasma
3	As	93	5 PPM	HN03-HCL HOT EXTR	Ind. Coupled Plasma
4	Ba	93	1 PPM	HN03-HCL HOT EXTR	Ind. Coupled Plasma
5	Be	93	0.5 PPM	HN03-HCL HOT EXTR	Ind. Coupled Plasma
6	Bi	93	2 PPM	HN03-HCL HOT EXTR	Ind. Coupled Plasma
7	Cd	93	1 PPM	HN03-HCL HOT EXTR	Ind. Coupled Plasma
8	Ce	93	5 PPM	HN03-HCL HOT EXTR	Ind. Coupled Plasma
9	Co	93	1 PPM	HN03-HCL HOT EXTR	Ind. Coupled Plasma
10	Cr	93	1 PPM	HN03-HCL HOT EXTR	Ind. Coupled Plasma
11	Cu	93	1 PPM	HN03-HCL HOT EXTR	Ind. Coupled Plasma
12	Ga	93	2 PPM	HN03-HCL HOT EXTR	Ind. Coupled Plasma
13	La	93	1 PPM	HN03-HCL HOT EXTR	Ind. Coupled Plasma
14	Li	93	1 PPM	HN03-HCL HOT EXTR	Ind. Coupled Plasma
15	Mo	93	1 PPM	HN03-HCL HOT EXTR	Ind. Coupled Plasma
16	Nb	93	1 PPM	HN03-HCL HOT EXTR	Ind. Coupled Plasma
17	Ni	93	1 PPM	HN03-HCL HOT EXTR	Ind. Coupled Plasma
18	Pb	93	2 PPM	HN03-HCL HOT EXTR	Ind. Coupled Plasma
19	Rb	93	20 PPM	HN03-HCL HOT EXTR	Ind. Coupled Plasma
20	Sb	93	5 PPM	HN03-HCL HOT EXTR	Ind. Coupled Plasma
21	Sc	93	1 PPM	HN03-HCL HOT EXTR	Ind. Coupled Plasma
22	Sn	93	20 PPM	HN03-HCL HOT EXTR	Ind. Coupled Plasma
23	Sr	93	1 PPM	HN03-HCL HOT EXTR	Ind. Coupled Plasma
24	Ta	93	10 PPM	HN03-HCL HOT EXTR	Ind. Coupled Plasma
25	Te	93	10 PPM	HN03-HCL HOT EXTR	Ind. Coupled Plasma
26	V	93	1 PPM	HN03-HCL HOT EXTR	Ind. Coupled Plasma
27	W	93	10 PPM	HN03-HCL HOT EXTR	Ind. Coupled Plasma
28	Y	93	1 PPM	HN03-HCL HOT EXTR	Ind. Coupled Plasma
29	Zn	93	1 PPM	HN03-HCL HOT EXTR	Ind. Coupled Plasma
30	Zr	93	1 PPM	HN03-HCL HOT EXTR	Ind. Coupled Plasma

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# Geochemical Lab Report

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

REPORT: V89-06781.D ( COMPLETE )

REFERENCE INFO:

CLIENT: KEEWATIN ENGINEERING INC.  
PROJECT: PARADIGM

SUBMITTED BY: TERRAMIN RES. LAB  
DATE PRINTED: 4-OCT-89

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
T STREAM SEDIMENT, SILT	41	1 -80	41	DRY, SIEVE -80	41
R ROCK OR BED ROCK	52	2 -150	52	CRUSH, PULVERIZE -150	52

REPORT COPIES TO: KEEWATIN ENGINEERING INC.  
TATGA CONSULTANTS LTD.

INVOICE TO: KEEWATIN ENGINEERING INC.

Bondar-Clegg & Company Ltd.  
130 Pemberton Ave.  
North Vancouver, B.C.  
V7P 2R5  
(604) 985-0681 Telex 04-352667



# Certificate of Analysis

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

REPORT: V89-06873.6 ( COMPLETE )

REFERENCE INFO:

CLIENT: KEFWATIN ENGINEERING INC.  
PROJECT: FLORY

SUBMITTED BY: UNKNOWN  
DATE PRINTED: 13-OCT-89

ORDER	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Ag Silver	1	0.02 OPT	HF-HNO3-HClO4-HCl	Atomic Absorption

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
R ROCK OR BED ROCK	1	2 -150	1	AS RECEIVED, NO SP	1

REPORT COPIES TO: KEFWATIN ENGINEERING INC.  
TAIGA CONSULTANTS LTD.

INVOICE TO: KEFWATIN ENGINEERING INC.

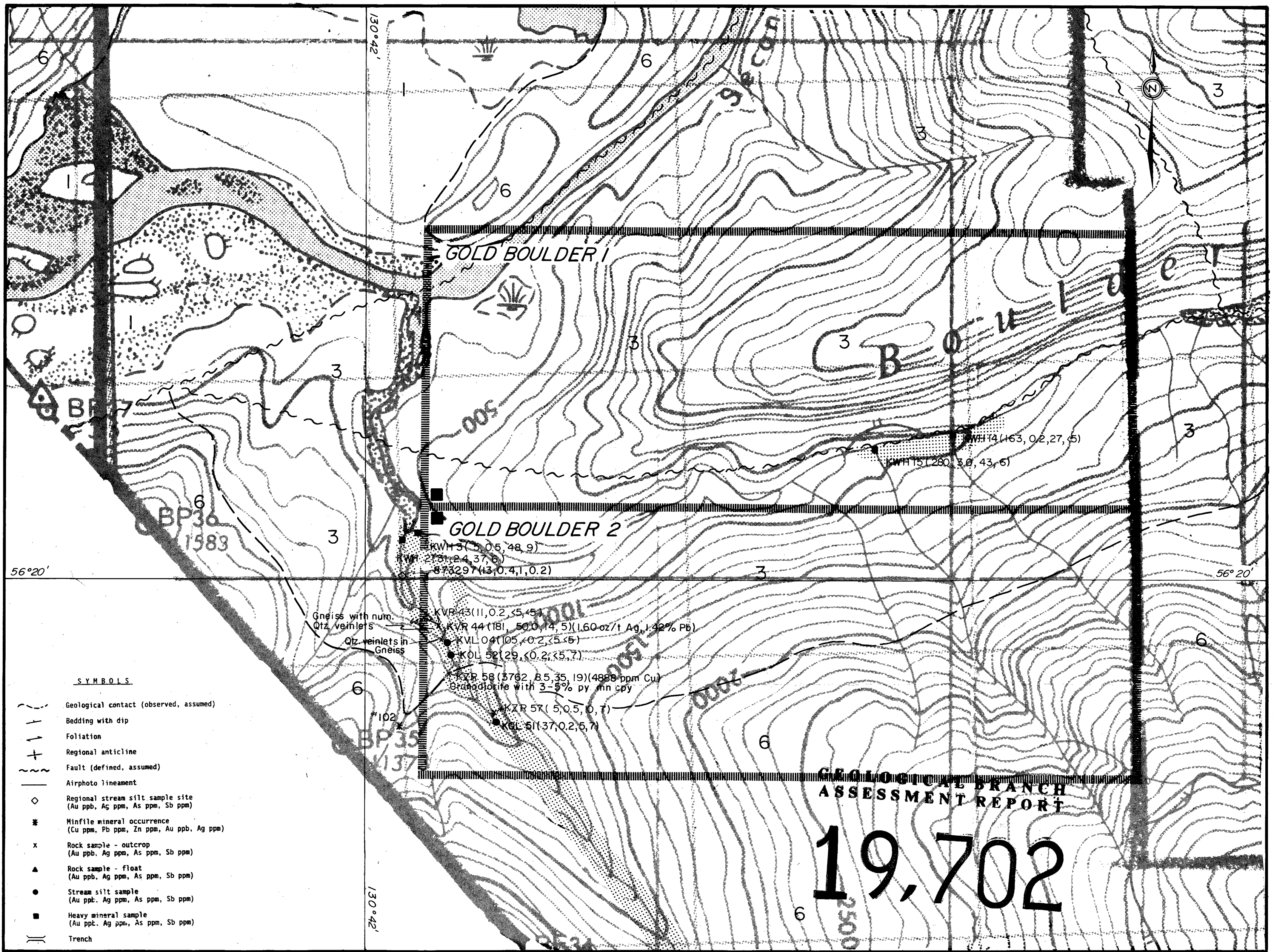
GOLD BOULDER PROPERTY  
HEAVY MINERAL RESULTS

LAB NUMBER	FIELD NUMBER	Au(30g LOCATI(ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Be (ppm)	Bi (ppm)	Cd (ppm)	Ce (ppm)	Co (ppm)	Cr (ppm)	Cu (ppm)	Ga (ppm)	La (ppm)	Li (ppm)	Mo (ppm)	Nb (ppm)	Ni (ppm)	Pb (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)	Sn (ppm)	Sr (ppm)	Ta (ppm)	Te (ppm)	V (ppm)	W (ppm)	Y (ppm)	Zn (ppm)	Zr (ppm)
69690015	89 K WH14	GB0 163	0.2	27	63	-0.5	-2	-1	49	17	78	38	6	25	9	3	6	15	-2	95	-5	5	-20	109	-10	-10	187	-10	11	59	5
69690016	89 K WH15	GB0 280	0.2	43	144	-0.5	8	-1	73	21	93	75	5	37	6	6	7	16	-2	98	6	6	-20	94	-10	-10	245	59	15	63	5



HEL 4 PROPERTY  
HEAVY MINERAL RESULTS

LAB NUMBER	FIELD NUMBER	LOCATI	Au(CDg)	Ag	As	Ba	Ba	Bi	Cd	Ce	Co	Cr	Cu	Ge	La	Li	Mo	Nb	Ni	Pb	Rb	Sb	Sc	Sn	Sr	Ta	Te	V	U	Y	Zn	Zr
			(ppb)	(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)	(ppm)
69690002	89 K MH 2	HEL 31	2.24	37	223	-0.5	9	-1	118	23	93	52	-2	69	10	5	6	12	-2	142	6	6	-20	40	-10	-10	319	-10	18	75	4	
69690003	89 K MH 3	HEL -5	0.5	48	234	-0.5	-2	-1	126	21	91	62	5	72	12	7	7	13	-2	104	9	5	-20	67	-10	-10	382	-10	18	100	4	



**SYMBOLS**

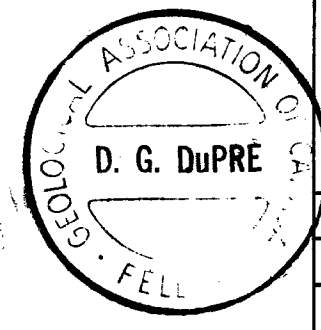
- Geological contact (observed, assumed)
- Bedding with dip
- Foliation
- Regional anticline
- Fault (defined, assumed)
- Airphoto lineament
- Regional stream silt sample site (Au ppb, Ag ppm, As ppm, Sb ppm)
- Minifile mineral occurrence (Cu ppm, Pb ppm, Zn ppm, Au ppb, Ag ppm)
- Rock sample - outcrop (Au ppb, Ag ppm, As ppm, Sb ppm)
- Rock sample - float (Au ppb, Ag ppm, As ppm, Sb ppm)
- Stream silt sample (Au ppt, Ag ppm, As ppm, Sb ppm)
- Heavy mineral sample (Au ppt, Ag ppm, As ppm, Sb ppm)
- Trench

**LEGEND**

- |  |  |
|--|--|
| <p><b>Volcanic Sedimentary Rocks</b></p> <p>Pleistocene to Recent</p> <p>1 Basalt flows and tephra: dark brown to black, minor pillow lavas</p> <p>Lower Jurassic (Pleinsbachian to Toarcian)</p> <p>2 Betty Creek Formation: pyroclastic-epiclastic sequence, heterogeneous, grey-green, massive to bedded, pyroclastics and sedimentary rocks (black, thinly bedded siltstone, shale, and argillite)</p> <p>Upper Triassic to Lower Jurassic (Norian to Sinemurian)</p> <p>3 Unuk River Formation: andesite sequence, green and grey, intermediate to mafic volcanoclastics and flows, with locally thick interbeds of fine-grained immature sediments, minor conglomerate, and limestone</p> <p>Upper Triassic (Carnian to Norian)</p> <p>4 Stuhini Group: brown, black, grey; mixed sedimentary rocks (siltstone, shale, argillite, limestone, chert), with minor mafic to intermediate volcanics and volcanoclastic rocks</p> | <p><b>Intrusive Rocks</b></p> <p>Tertiary</p> <p>5 King Creek Dyke Swarm: feldspar porphyry dacite, andesite, diabase, and hornblende to quartz diorite; limits of the unit shown indicate where the dykes exceed 50% of the exposed bedrock</p> <p>9 Hawilson Monzonite: fine-grained monzonite</p> <p>6 Coast Plutonic Complex: hornblende-biotite-quartz diorite to granodiorite</p> <p>Jurassic</p> <p>7 Unuk River Diorite Suite:<br/>a) Max: biotite-hornblende diorite, quartz diorite, granodiorite<br/>b) Melville: hornblende-biotite diorite, quartz diorite</p> <p><b>Metamorphic Rocks</b></p> <p>8 Metamorphic equivalents of Units 1, 2, or 3<br/>a) hornblende, mylonite gneiss, mylonite<br/>b) Unuk-Harrymel Fault Zone, strongly sheared rock within fault zone</p> |
|--|--|

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**19,702**



<b>CANADIAN CARIBOO RESOURCES INC.</b>	
<b>GOLD BOULDER PROJECT</b>	
<b>GEOLOGY &amp; 1989 EXPLORATION SAMPLE LOCATIONS &amp; RESULTS</b>	
DATE: NOV. 1989	NTS: I04 B/7
PROJECT: GOLD BOULDER	
SCALE: 1:10,000	0 100 200 300 400 500 METRES
<b>KEEWATIN ENGINEERING INC.</b> MAP No. 1	

1989 Prospecting Coverage