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RESEARCH REPORT
ON
DISSEMINATED COPPER
AND
VEIN-HOSTED GOLD DEPOSITS

within the

NICOLA GROUP mineral claims

NTS 92H/15E

Nicola Mining Division

British Columbia

May 20, 1990

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NICOLA GROUP PROPERTY

SUMMARY

The Nicola Group property, comprising 5 reverted crown grants, is located within the Nicola Mining Division of south-central British Columbia approximately 80 km west from Kelowna, in an active region of copper and gold mining and exploration. These claims are located adjacent to the recent Elk Gold discovery of Fairfield Minerals which was reported in the George Cross News Letter of April 18, 1990. They reported:

"two sections of native gold mineralization which averaged 0.315 opt Au over 470 feet and 0.588 opt Au over 380 feet, diluted to 6.6 feet mining width."

"Gold is hosted within quartz veins and clay alteration material along major structures cutting coarse granitic rocks and extending at Siwash North into adjacent volcanic rocks."

The same news release also describes Fairfield's Dill property, located south of the Elk, as containing high-grade gold veins within strongly fractured andesitic volcanic rocks and dioritic intrusives. The best assay was 7.42 oz/ton gold across 5 feet. Copper mineralization was found disseminated sporadically in quartz veins and as fracture coatings.

Available information on the Nicola Group claims indicate bornite, hematite and native copper occur in fractures and as disseminations in Nicola lava. The mineralization appears to have a structural relation to northerly trending faults up Allison Valley and Summers Creeks. These faults if projected to the south would extend into the Copper Mountain area (Similco Mines). Even though intrusive rocks are not evident, the numerous plugs of dioritic intrusives within the surrounding Nicola volcanics (Fig. 2) suggests that they may be present but do not outcrop.

Exploration work on the Nicola Group claims is described within the EMPR annual reports from 1901 to 1928 as they relate to the Aspen Grove Copper Camp. Samples taken on the Tom Cat claim from mineralized lava and an open-cut ran 0.2% to 2.8% Cu, respectively. The Portland claim has " a considerable amount of development work... including a 115 foot shaft and a 106 foot drift off of it to the north. These workings are now filled with water, but low grade mineralization is exposed on the dump."

The first phase of exploration on the property should involve comprehensive detailed mapping together with geochemical and geophysical surveys to delineate disseminated copper and fault-related vein gold targets similar to the Elk showing of Fairfield Minerals to the east. Additional work will involve trenching of targets and diamond drilling.

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INTRODUCTION

The Nicola Group property is the focus of exploration for disseminated copper and vein-hosted lode gold deposits within an active region of mining and exploration in south-central British Columbia. The property consists of 5 reverted crown grants which contain copper mineralization and were explored during the early part of the century. A recent major gold discovery by Fairfield Minerals just to the east, has attracted the interest of Placer Dome Inc, which has acquired a 70% interest in four of their properties. The Nicola Group property has similar host rocks and structural setting with fracture controlled and disseminated copper mineralization.

Geological data has been collected and summarized from published literature to form the basis of this report. No field examinations have been carried out. A list of original references is contained at the back of the report.

Location

The property is located approximately 2 km southeast of the town of Aspen Grove along Highway 5A between Princeton and Merritt. The claims are approximately 1 km east of the main highway.

Latitude : 120° 35'
Longitude: 49° 53'

The property lies within the Intermontane Belt, which is a region of relatively low topography and structural relief, with mainly subgreenschist facies metamorphic grade rocks exposed across its entire width.

Claims

NICOLA GROUP

List of Reverted Crown Granted Claims

<u>Land District</u>	<u>Lot No.</u>	<u>Status</u>	<u>Map</u>	<u>Mining Division</u>	<u>Size</u>	<u>Claim Name</u>
Kamloops Div	1123	Reverted	92H/15e	Nicola	20.87	Covington
"	1124	"	92H 087	"	18.61	Portland
"	1125	"	92H/15e	"	20.73	Vicksburg
"	1126	"	"	"	20.87	Quebec
"	1517	"	92H/15e	"	20.83	Tom Cat

A total of 5 claims comprising 101.91 hectares, all within the Nicola Mining Division.

GEOLOGICAL SETTING

Regional Geology

The most comprehensive overview of the regional geology has recently been published by J. W. H. Monger, 1989, from which excerpts of text and figures follow:

Pre-late Mesozoic rocks of Hope and Ashcroft map area can be subdivided into at least six lithotectonic terranes (Figures 2a,2b). Each terrane has a distinctive geological record provided by its dated lithologies and in some cases by characteristic faunal associations and its mineral deposits.

Intermontane Belt: Quesnelia terrane

The oldest rocks belong to the highly deformed and disrupted Ordovician through Triassic Apex Mountain Complex exposed in the southeastern corner of the Hope map area. These rocks include strata that appear to have been deposited in an oceanic setting and were probably deformed prior to the deposition of the Nicola Group.

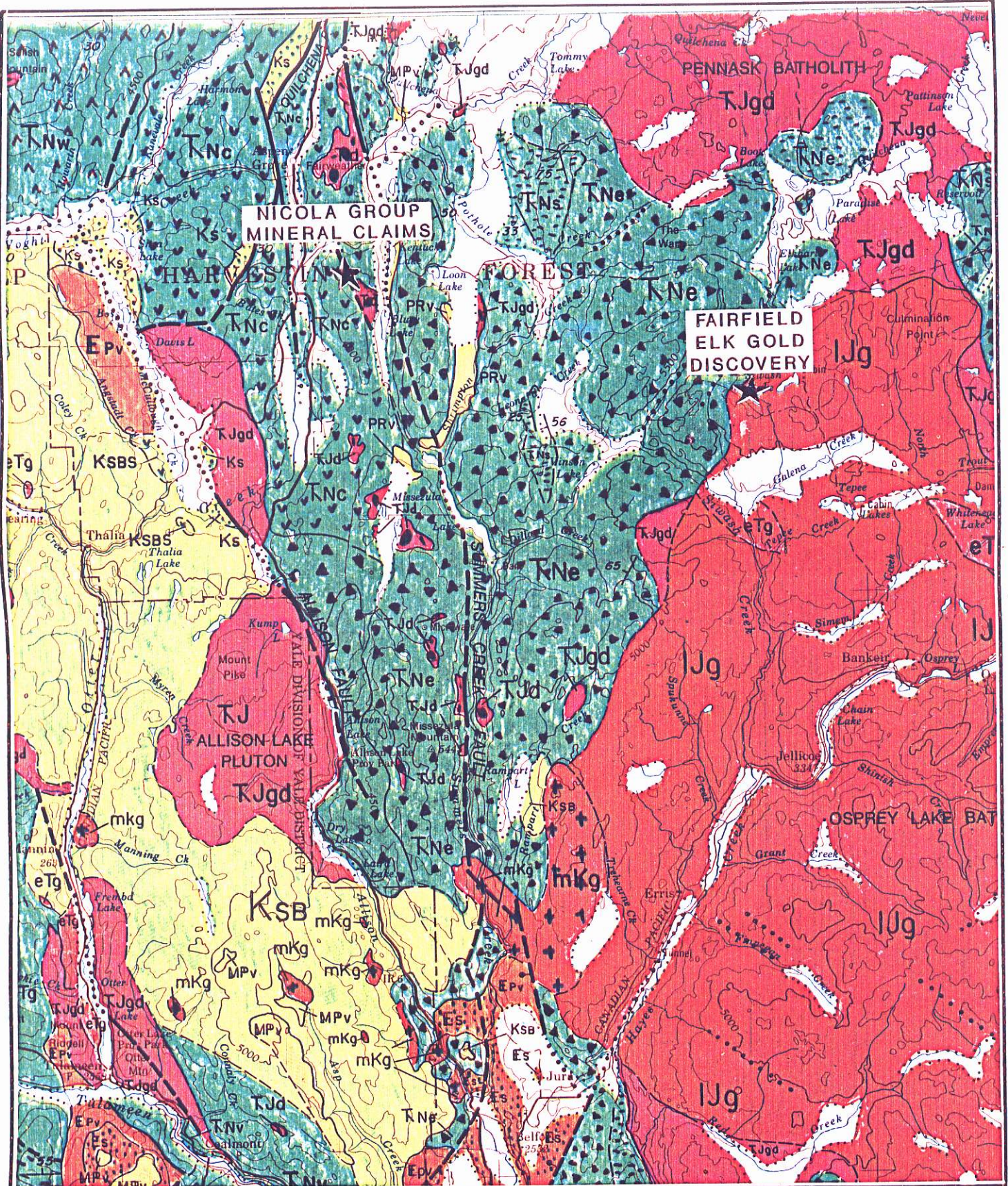
The Devonian through Permian Harper Ranch Group possibly represents basinal facies related to a volcanic arc, and is overlain, 20 km east of Kamloops by volcanic of the Nicola Group.

The Upper Triassic Nicola Group comprises a variety of volcanic and sedimentary facies (Figure 2a) which, with at least partly comagmatic Late Triassic-Early Jurassic intrusions, formed a west-facing magmatic arc. The Mount Lytton Complex comprises Gneiss, amphibolite, mylonite and granitic rock that may represent deeper parts of the Nicola arc.

The non-volcanic clastic Lower and Middle Jurassic Ashcroft Formation unconformably overlies the Nicola Group 5 Km northeast of Ashcroft and has an eastern Proximal facies derived in large part from the Nicola Group and associated intrusions and a western distal facies.

Tertiary Deformation

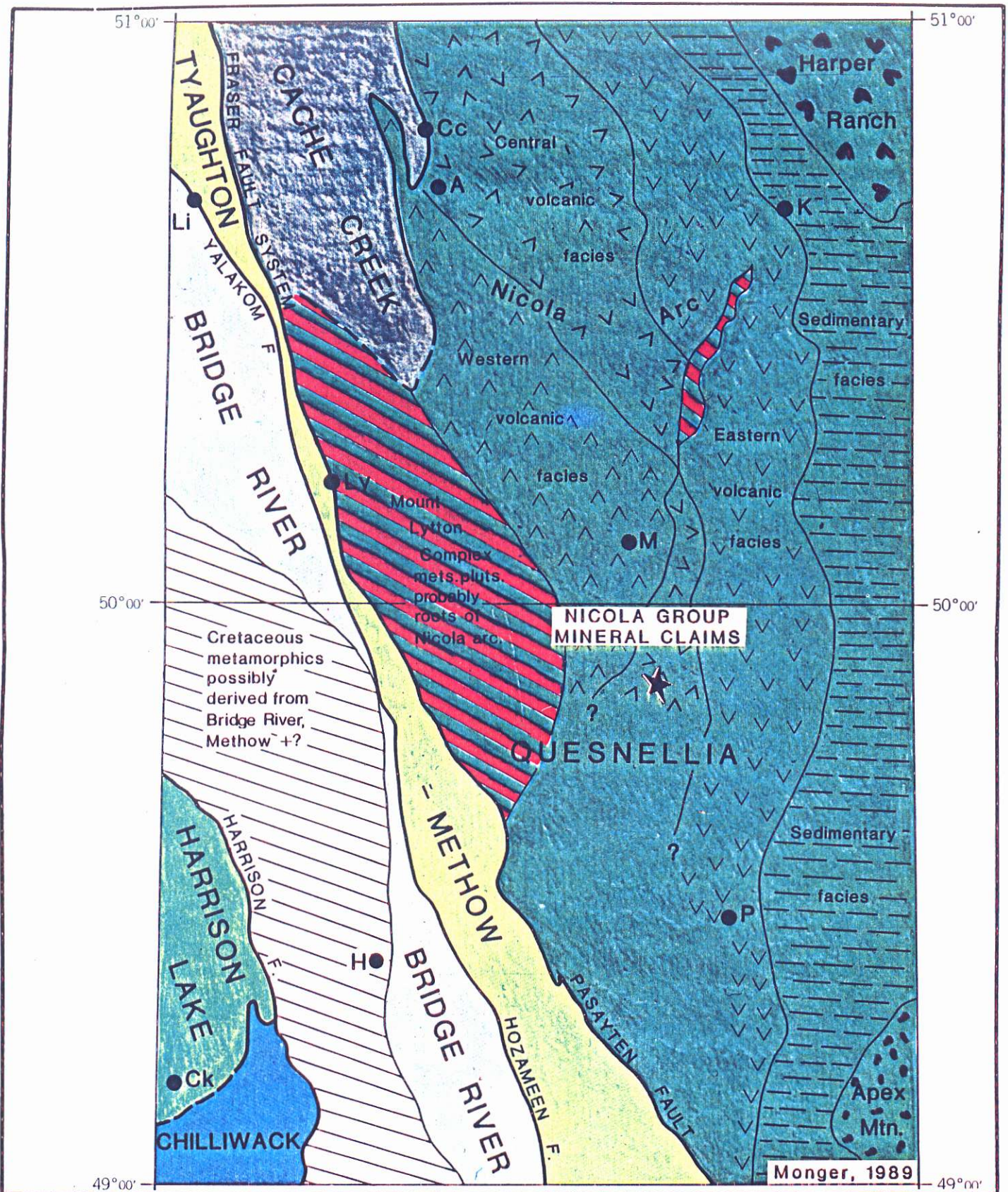
The structural record for much of the Paleogene suggest that crustal thinning predominates, in contrast to the Jurassic-earliest Tertiary structural record. This style is most clearly seen in the "Basin and Range" style extensional Eocene deformation of the Okanagan region and east of it. In Hope and Ashcroft map areas, transtension possibly related to wrench faulting is the dominant mode of Tertiary deformation and may be slightly younger than the 55-50 Ma extensional structures to the east (Fig 2d).



NICOLA GROUP PROJECT REGIONAL GEOLOGY

Monger, 1989

KEN HICKS CONSULTING	DATE :	MAP INDEX N ^o .	SCALE	DRAWING N ^o .
K. H.		92H	1:250,000	FIG. 2

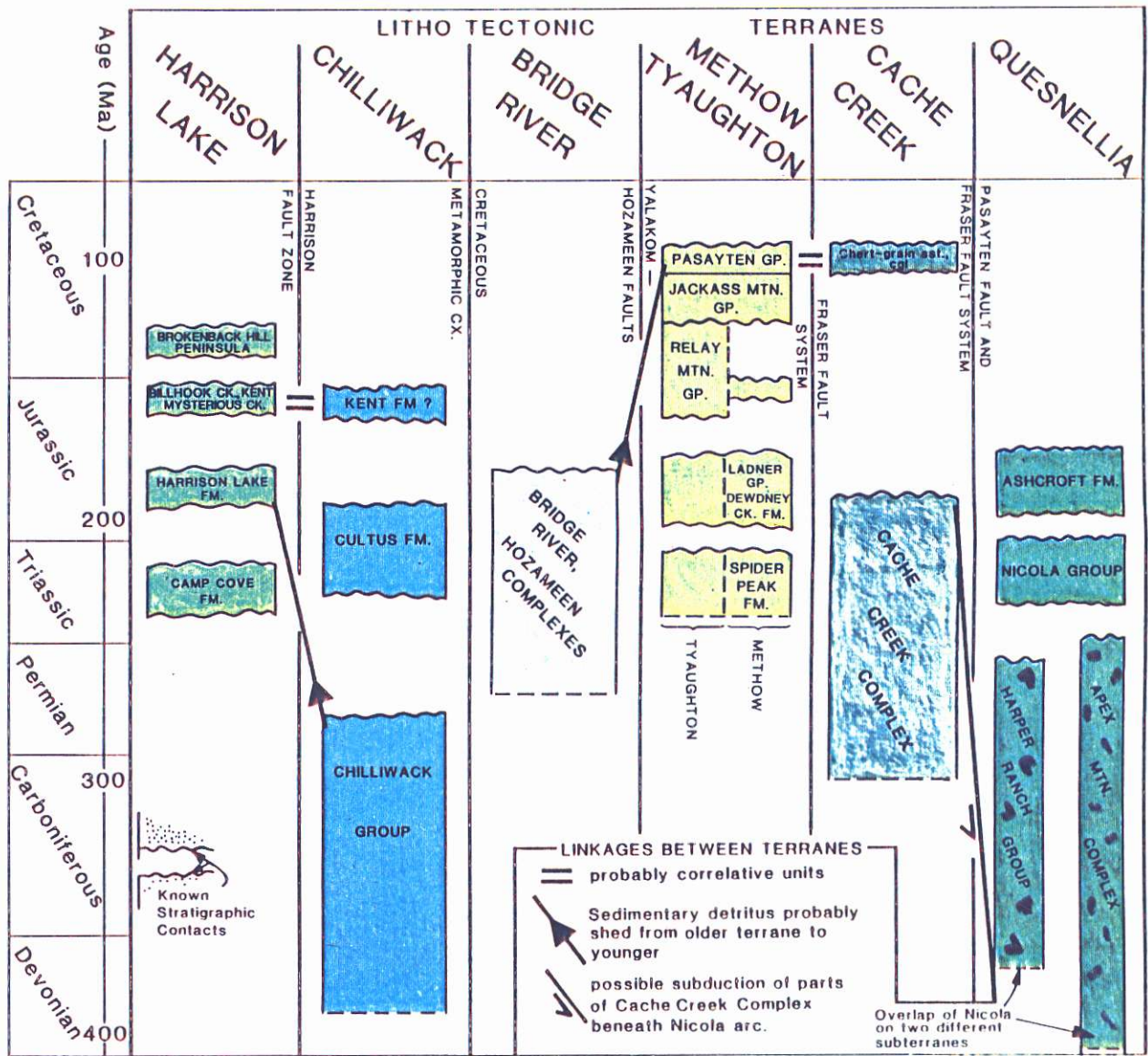


Monger, 1989

Distribution of terranes and major, terrane-bounding faults in Hope and Ashcroft map areas. Facies within the Upper Triassic Nicola Group, which characterizes Quesnellia, are shown. Principal settlements: A, Ashcroft; H, Hope; K, Kamloops; Li, Lillooet; Ly, Lytton; M, Merritt; P, Princeton; Cc, Cache Creek; Ck, Chilliwack

Terrane Map

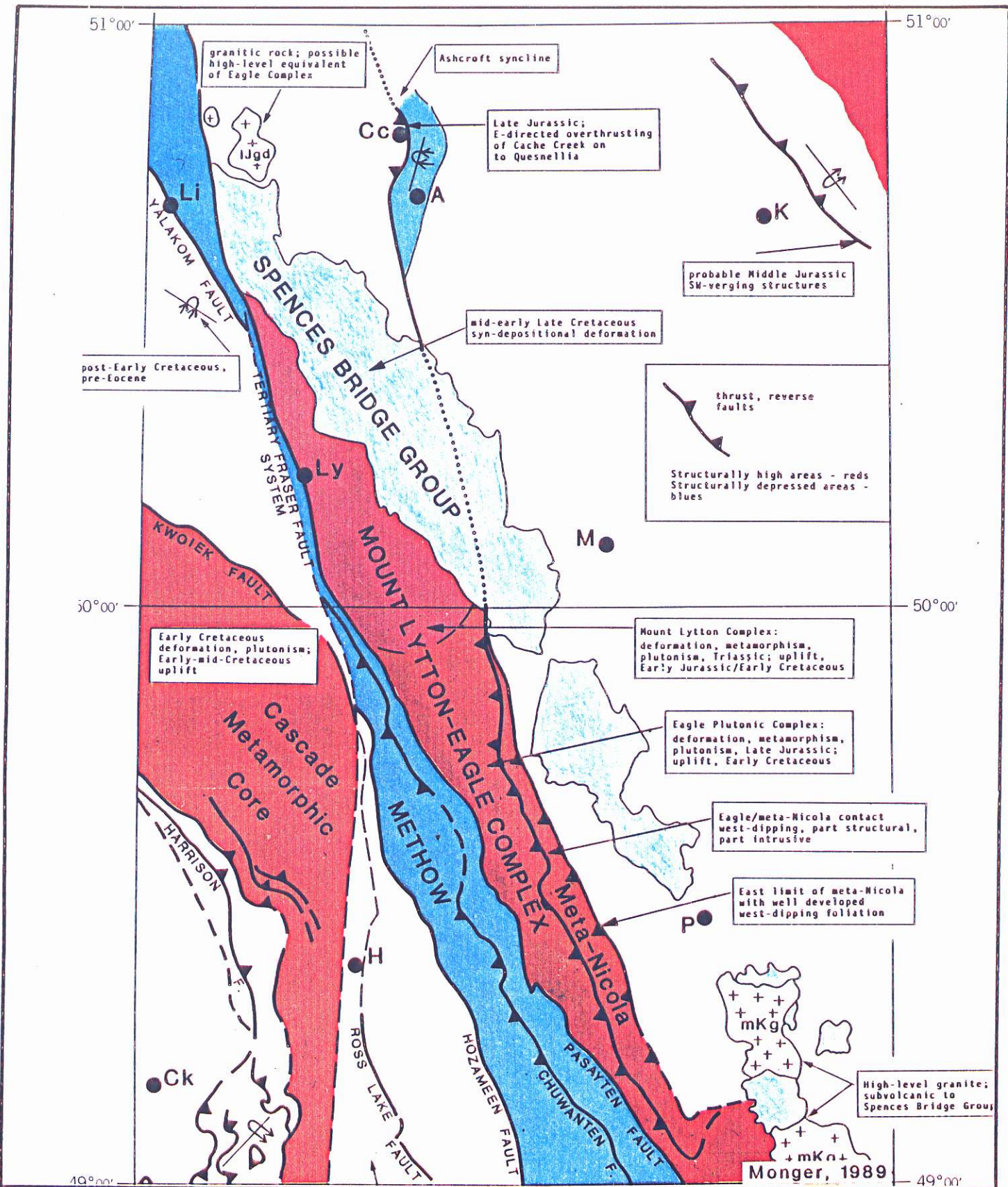
KEN HICKS CONSULTING; K. H.	DATE :	MAP INDEX N ^o .	SCALE 1:1,000,000	DRAWING N ^o . FIG. 2a
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Monger, 1989

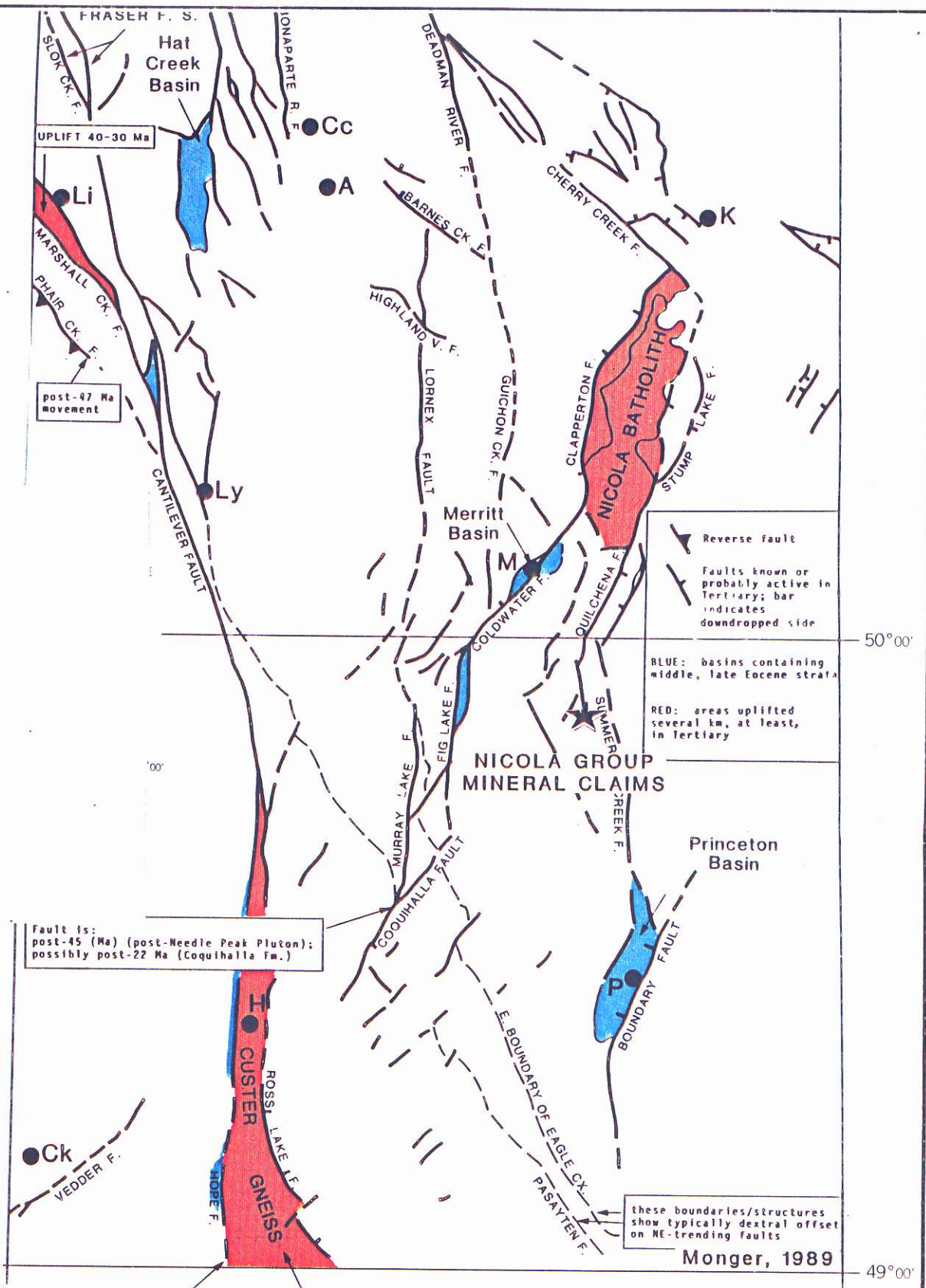
Rock units of terranes in Hope and Ashcroft showing known and possible linkages between terranes

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K. H.			1:1,000,000	FIG. 2b



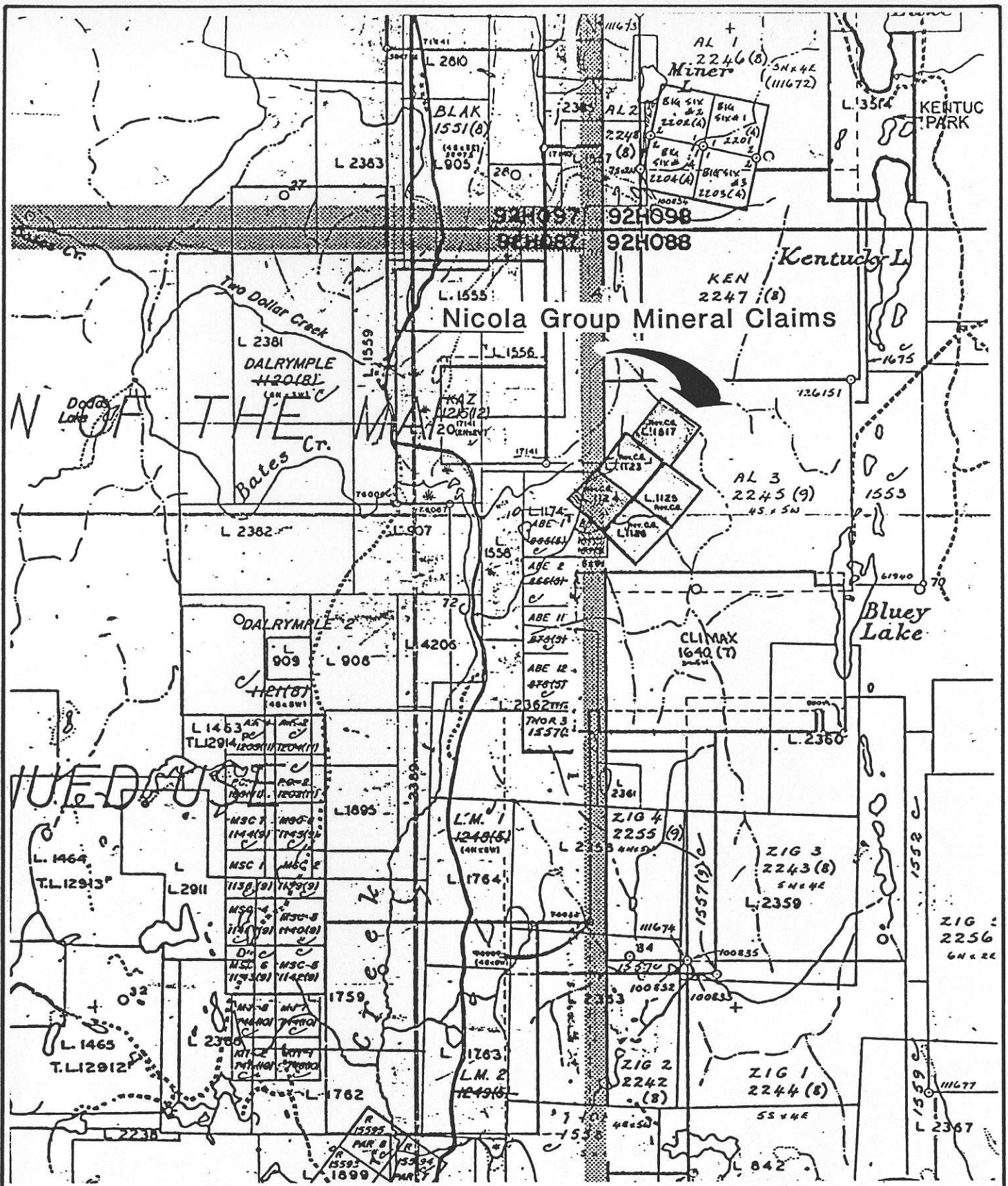
Jurassic and Cretaceous Structural Elements in Hope and Ashcroft map areas

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K. H.			1:1,000,000	FIG. 2c



Tertiary Structural Elements in Hope and Ashcroft map areas

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K.H.			1:1,000,000	FIG. 2d



NICOLA GROUP PROJECT
CLAIM MAP
 Nicola Group

KEN HICKS CONSULTING	DATE :	MAP INDEX N ^o .	SCALE
K.H.			1:50,000
			DRAWING N ^o .
			FIG. 3

Local Geology

The claims are overlain by the central volcanic facies of the Late Triassic Nicola Group; intermediate, feldspar and feldspar augite porphyry pyroclastics and flows. This has been intruded by small dioritic Late Triassic and/or Early Jurassic plutons. A strong pattern of northwest and northeast trending Tertiary-aged faults (such as the Summers Creek and Quilchena, respectfully) appear to converge in the vicinity of the property (Fig 2d).

Available information on the 5 Nicola Group claims indicate bornite, hematite and native copper occur in fractures and as disseminations in Nicola lava. With little intrusive rock exposed, the mineralization appears to have a structural relation to northwesterly trending faults up Allison Valley and Summers Creeks. These faults if projected to the south would extend into the Copper Mountain area. Even though intrusive rocks are not evident, the linear alignment of the numerous pings of dioritic intrusives along the Summers Creek fault as seen from the regional geology (Fig. 2) suggests that they may be present but do not outcrop.

Detailed property information, such as mapping or sampling records, is unavailable.

Mineralization

Brief excerpts on the Nicola Group claims are found within the EMPR annual reports from 1901 to 1928 as they relate to the Aspen Grove Copper Camp. Samples taken on the Tom Cat claim from mineralized lava and an open-cut ran 0.2% and 2.8% Cu, respectively. The Portland claim has " a considerable amount of development work... including a 115 foot shaft and a 106 foot drift off of it to the north. These workings are now filled with water, but low grade mineralization is exposed on the dump."

CONCLUSIONS

The Nicola Group mineral claims are located adjacent to Fairfield Minerals' Elk gold discovery, a major new gold find approximately 35 miles west of Kelowna, B.C. Structurally controlled quartz veins with native gold crosscut intrusive bodies and Nicola volcanics within the Fairfield property which covers 160 square miles. The Nicola claims are located in a similar structural setting within similar host rocks and intrusives. From recent work by Monger, it appears that the regional scale density of major Tertiary fault structures and associated minor transverse faults is much higher in the area of the Nicola claims when compared to the Fairfield property.

The significance of the discovery is emphasized by the fact that Placer Dome has earned a 70% interest in four of Fairfield's contiguous properties by spending \$1,693,000 on exploration and \$435,000 in option payments, with a planned budget of \$1,100,000 for 1990.

REFERENCES

Monger, J.W.H.

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1960: Geology and Mineral Deposits of the Princeton Map-Area,
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1919-289, 1920-168, 1929-245, 1928-222

APPENDIX I

George Cross News Letter

"Reliable Reporting"

NO.75(1990)
APRIL 18, 1990

NO.75(1990)
APRIL 18, 1990

WESTERN CANADIAN INVESTMENTS

FAIRFIELD MINERALS LTD. (FFD-V)

1990 EXPLORATION PROGRAM FOR OKANAGAN - Placer Dome Inc. holds options to earn 70% interest in four of the eight gold projects now owned 100% by Fairfield Minerals, 35 miles west of Kelowna, in the area of the Elk gold discovery by spending \$7,546,000 and making property payments of \$2,300,000 by Feb.28, 1993. To date, Placer has spent \$1,693,000 on exploration plus \$435,000 on options payments. A budget of \$1,100,000 has been committed by Placer Dome for 1990, with Fairfield continuing as operator. Fairfield is carried to a production decision. Fairfield will spend \$200,000 on the four groups not under option to Placer.

The Elk project covers 518 claim units, totalling 50 square miles, on a new high grade gold vein discovery. Access is provided by the new Merritt - Kelowna connector highway. The \$850,000 exploration in 1989 included soil sampling, geophysical surveys, road construction, backhoe trenching, stripping, and preliminary diamond drilling. (SEE PROPERTY LOCATION MAP OVERLEAF PAGE ONE. THIS MAP WAS DRAWN TO EMPHASIZE THAT THE ELK GOLD PROJECT IS WITHIN 60 MILES OF SEVEN MAJOR MINES AND COVERING FAVOURABLE GEOLOGY.)

Stripping and sampling of the Siwash North structure identified two sections containing high-grade native gold separated by a 160-foot covered interval which remains to be cleared and sampled. Based on a large number of panel samples taken at 15 to 30-foot intervals and diluted to a 6.6-foot mining width, the two sections averaged 0.315 oz./ton gold over 470 feet and 0.588 oz./ton gold over 380 feet, respectively. Including the covered interval, this represents a potential 1,000-foot strike length grading better than 0.4 oz./ton gold with indications of continued gold mineralization along strike. Wide-spaced preliminary drilling, totalling 2,500 feet in 12 holes, returned intercepts along a 2,200-foot strike length to a depth of 700 feet. All of the holes intersected the gold-bearing structure. The best result was 0.759 oz./ton gold across 6.6 feet true width. A intercept at the eastern extent of the known structure returned 0.468 oz./ton over 6.6 feet. The zone is open along strike and down dip. (SEE SURFACE ASSAY MAP IN GCNL NO. 43, MARCH 1, 1990.) A second gold vein exposed on surface was confirmed at depth by drill hole 89-1.

Trenching of targets two miles south of Siwash North revealed two gold-bearing structures which yielded values of 0.227 oz./ton across 6.6 feet and 0.321 oz./ton across 6.6 feet.

In all three areas gold is hosted within quartz veins and clay alteration material along major structures cutting coarse granitic rocks and extending at Siwash North into adjacent volcanic rocks. Several percent pyrite with minor chalcopyrite, galena and sulfosalt minerals often accompany the higher-grade gold. Native gold commonly fills fractures in pyrite. On surface the sulphide minerals have been leached away leaving local sections of spectacular native gold in porous, vuggy quartz.

The Dill property of 214 claim units, 20 square miles, south of Elk, covers high-grade gold veins

uncovered by trenching. The trenching revealed gold-bearing quartz veins and alteration zones in strongly fractured andesitic volcanic rocks and dioritic intrusive bodies. The best assay result was 7.42 oz./ton gold across 5.0 feet of clay altered rock cut by a narrow quartz vein. Copper mineralization was found disseminated sporadically in quartz veins and as fracture coatings. Soil sampling identified significant gold anomalies in two other areas on the property.

At the Bank property of 214 claim units, 20 square miles, adjoining the Elk and Dill claims, outcrop is scarce; however, strong gold geochemical anomalies provide excellent exploration targets.

On the MH property, of 121 claim units, 12 square miles immediately southeast, several gold exploration targets were outlined.

The Sunset, Crest, Swan 439 claim units, 42 square miles surrounding the Elk property cover favourable geological settings, geochemical anomalies and gold showings identified during regional prospecting.

The Oka 185 claim units, 18 square miles, is seven miles west of Peachland and contains gold-bearing skarn and vein deposits. Drilling has emphasized the potential for high-grade gold structures with several significant intercepts grading up to 0.41 oz./ton gold over 5 feet.

No work was undertaken on the Yukon properties. The Logan deposit, located 25 miles from the Alaskan Highway in southern Yukon, contains a geological inventory of 13,600,000 tons 6.17% zinc and 0.77 oz./ton silver with a higher-grade core of 5,000,000 tons grading 10.2% zinc and 1.12 oz./ton silver. A large portion of this deposit is amenable to open pit mining. Total Energold has earned a 60% interest through exploration expenditures of \$4,500,000 and cash payments of \$1,200,000. Total Energold and Fairfield are currently seeking a buyer for this property.

The Goz Creek deposit, 110 miles east of Mayo, Yukon, has a near surface reserve of 2,750,000 tons averaging 11% zinc. The potential to expand this inventory is good.

At Jan.31,1990, Fairfield had \$2,000,000 in uncommitted working capital and 5,143,181 shares issued. The annual meeting of Fairfield Minerals has been called for 2:00 p.m., May 14,1990, at the offices of Russell & DiMoulin, Suite 1500 - 1075 West Georgia St., Vancouver, B.C.

PRIME RESOURCES GROUP INC. (PRU-V) STIKINE RESOURCES LTD. (SKZ-V)

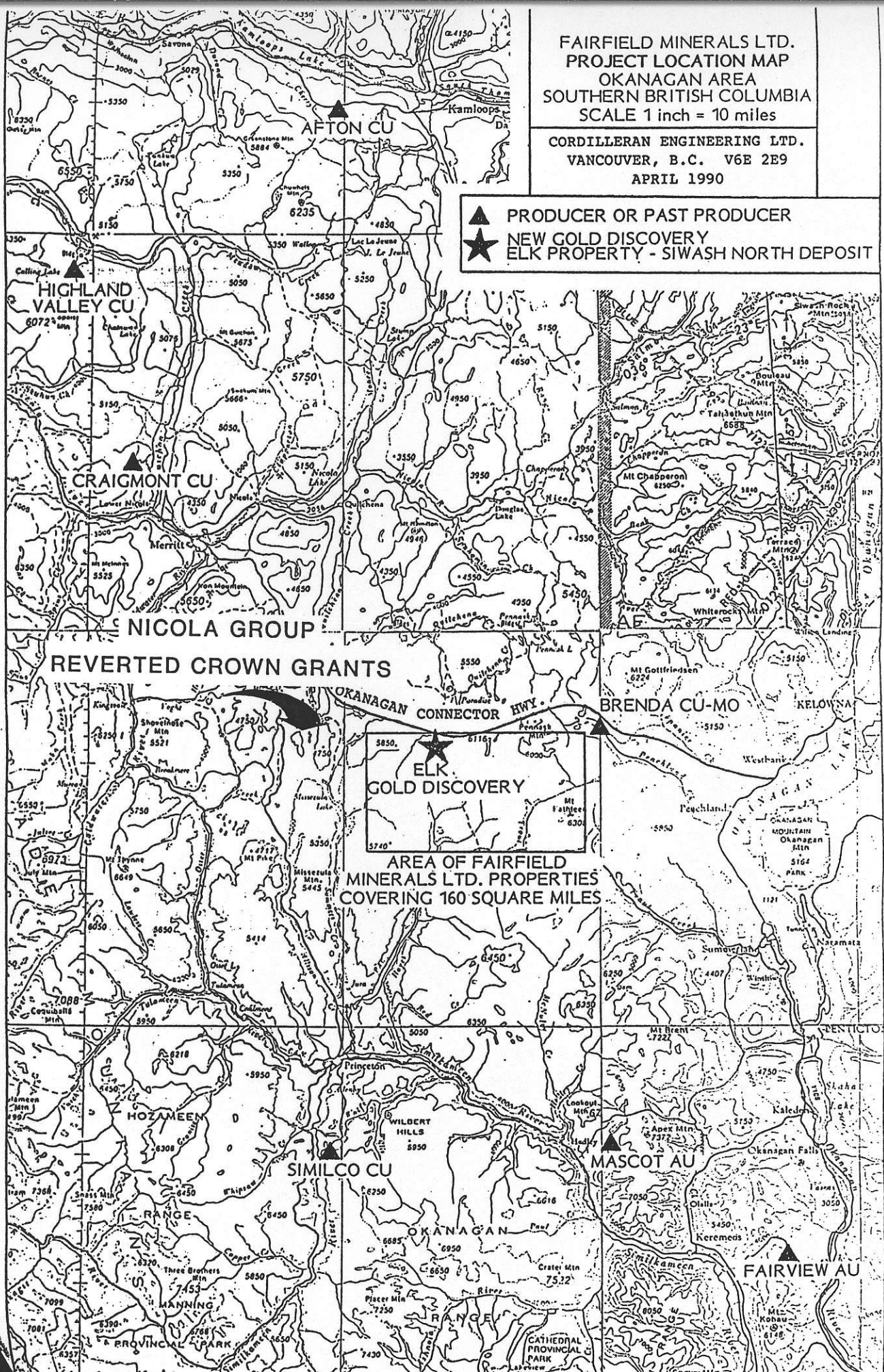
MORE INFILL & STEP-OUT ASSAYS - Murray Pezim, president, reports Prime Resources Group Inc. and 50/50 partner Stikine Resources Ltd. have received gold and silver assays for 12 infill and seven step-out diamond drill holes on the 21B deposit at the Eskay Creek project located 40 km NW of Stewart, B.C. SEE TABLE OF DRILL RESULTS OVERLEAF PAGE 2. The companies have also received base metal results for previously reported drill holes. SEE TABLE OVERLEAF PAGE 3. Drilling is continuing with six machines. (SEE GCNL No.63, 29Mar90, P.1 FOR PREVIOUS DRILL RESULTS)

Prime Resources recently merged with Calpir Resources Inc. (SEE GCNL No.73, 12Apr90, P.1 FOR DETAILS)

FAIRFIELD MINERALS LTD.
PROJECT LOCATION MAP
OKANAGAN AREA
SOUTHERN BRITISH COLUMBIA
SCALE 1 inch = 10 miles

CORDILLERAN ENGINEERING LTD.
VANCOUVER, B.C. V6E 2E9
APRIL 1990

- ▲ PRODUCER OR PAST PRODUCER
- ★ NEW GOLD DISCOVERY
ELK PROPERTY - SIWASH NORTH DEPOSIT



★
ELK
GOLD DISCOVERY

AREA OF FAIRFIELD
MINERALS LTD. PROPERTIES
COVERING 160 SQUARE MILES