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FAIRFIELD MINERALS

PROPERTY FILE  
92H/16 R.M.

92HNE096  
882646

**T H E   E L K   P R O P E R T Y**

Similkameen Mining Division  
British Columbia  
NTS; 92H/16W

a report for

**FAIRFIELD MINERALS LTD.**

by

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Consulting Geologist

February 23, 1987

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## S U M M A R Y

The Elk property of Fairfield Minerals Ltd. covers an area of roughly 38 square kilometres, located in gentle terrain on an uplands plateau, roughly half way between Merritt and Peachland in southern British Columbia. A major highway, currently under construction, between these two towns passes the north end of the claims.

The Elk property is underlain by a Jura-Cretaceous granitic batholith in contact with Triassic greenstones and sediments. Dykes of diabase and quartz-feldspar porphyry are common. Two newly-discovered gold occurrences on the property consist of quartz vein and stockwork zones cutting clay-altered granite and an altered diabase dyke. A quartz vein at the North Showing contains pyrite, chalcopyrite, tetrahedrite, arsenopyrite and galena. Chip samples taken along the vein returned values up to 64.8 g/t (1.89 opt) gold and 377.1 g/t (11.0 opt) silver over 0.85 metres (2.8 ft). A clay altered zone at the South Showing is silicified and pyritized. Chip samples across this zone yielded values ranging from 4.8 g/t (0.142 opt) gold over 1.0 metres (3.3 ft) to 36.3 g/t (1.06 opt) gold over 0.85 metres (2.8 ft). A large irregular gold in soil anomaly near the South Showing covers an area of 600 metres by 400 metres. Several other areas of anomalous gold in soils have been identified.

The style of mineralization and extensive gold geochemical anomalies indicate potential for locating a bulk-mineable, moderate grade gold deposit, with possible high grade vein zones. An exploration program to test this potential is recommended at an estimated cost of \$300,000.

## I N T R O D U C T I O N

### PREAMBLE

Fairfield Minerals Ltd. holds 100% interest in the ELK property located northwest of Peachland, British Columbia. The author, as an independent Consulting Geologist has been retained by the Directors of Fairfield Minerals Ltd. to review results of exploration on the property and to report his findings with recommendations for future action. The author has not been able to conduct a personal field examination of the property due to snow conditions at this time of the year. This report, therefore, is based on a review of data in company files and upon extensive discussions with the staff of Cordilleran Engineering who undertook an exploration program on the property in 1986 on behalf of Fairfield Minerals Ltd.

The author has no reasons to doubt the professional integrity of the staff of Cordilleran Engineering who have been undertaking mineral exploration programs for many years on behalf of major mining company and junior resource company clients.

**LOCATION AND ACCESS**

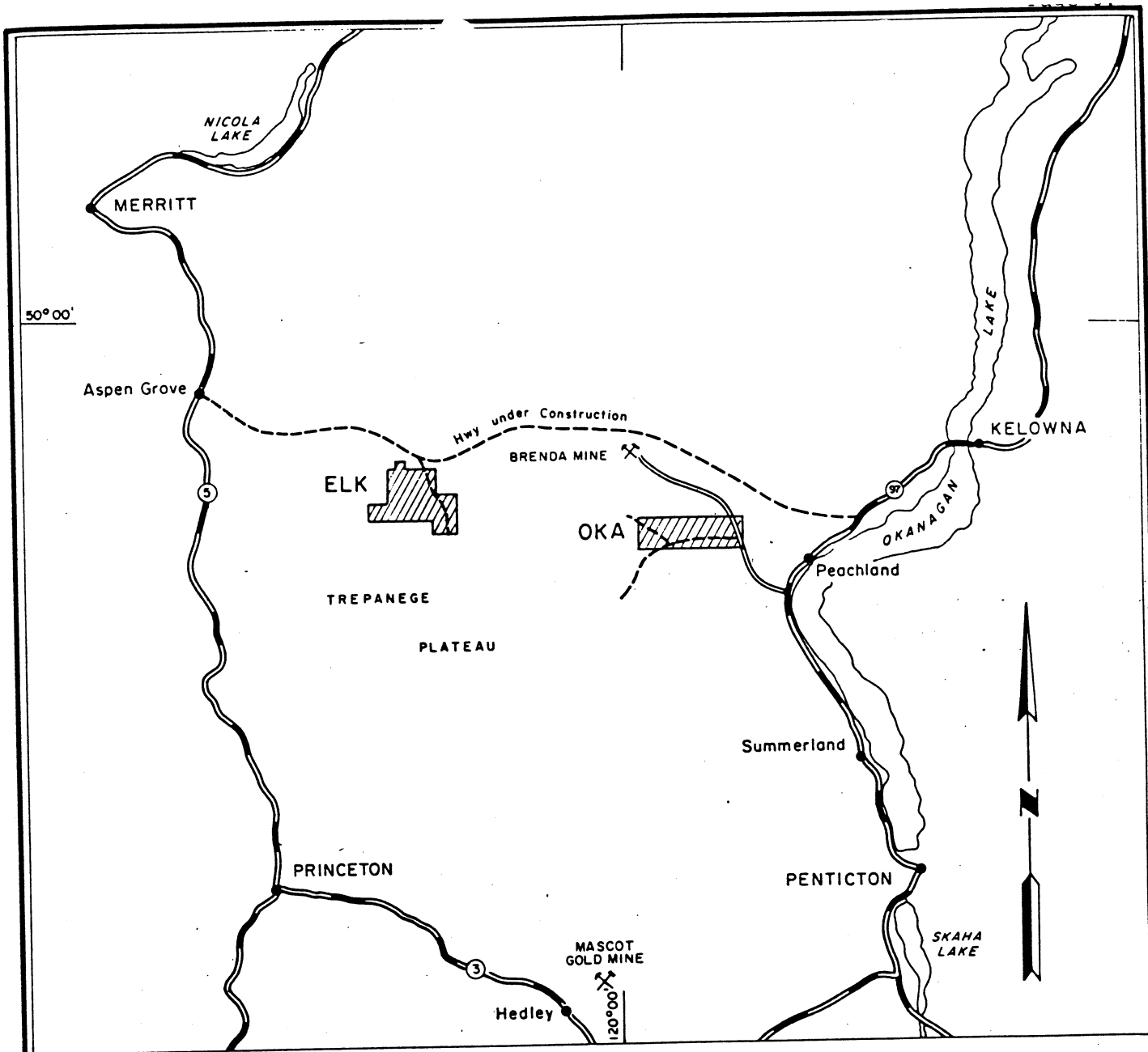
The ELK property is located 42 kilometres west of Peachland and 45 kilometres southeast of Merritt in south-central British Columbia (Figure 1). The property is centred on latitude 49 degrees 50' N and longitude 120 degrees 19' W within NTS map area 92/H-16W. The property is accessible via good gravel roads from Peachland or Merritt and a major new highway under construction passes along the north boundary. The central, southeast and northeast parts of the property are easily accessible by gravel roads.

The claims cover an area of approximately 38 square kilometres in rolling, hilly terrain on a broad uplands plateau. Elevations range from 1400 m to 1750 m above sea level. Several small streams drain southward and northward off of the property. Siwash Lake, 1.2 km long, and Galena Lake, 400 metres long, are located on the property. Outcrop exposures are relatively abundant except to the southeast where glacial gravel deposits are up to 10 metres thick. Mature stands of spruce, balsam and pine have been logged from several scattered plots in the area. Annual temperatures range from -20 degrees C to 30 degrees C and precipitation is low to moderate occurring mainly as snow. The area is basically snow-free from late June through October.

**PROPERTY DEFINITION**

The Elk property consists of a contiguous block of 20 two-post mineral claims and 140 units in 7 M.G.S. mineral claims located in the Similkameen Mining Division of British Columbia (Figure 2). The claims are owned 100% by Fairfield Minerals Ltd.

| <u>CLAIM</u> | <u>Table 1</u> |  | <u>MINERAL CLAIMS</u> |                    |
|--------------|----------------|--|-----------------------|--------------------|
|              | <u>UNITS</u>   |  | <u>RECORD NO.</u>     | <u>EXPIRY DATE</u> |
| ELK 1        | 20             |  | 2737                  | 28 NOV. 1987       |
| ELK 2        | 20             |  | 2738                  | 28 NOV. 1987       |
| ELK 3        | 1              |  | 2744                  | 28 NOV. 1987       |
| ELK 4        | 1              |  | 2745                  | 28 NOV. 1987       |
| ELK 5        | 1              |  | 2746                  | 28 NOV. 1987       |
| ELK 6        | 1              |  | 2747                  | 28 NOV. 1987       |
| ELK 7        | 1              |  | 2748                  | 28 NOV. 1987       |
| ELK 8        | 1              |  | 2749                  | 28 NOV. 1987       |
| ELK 9        | 1              |  | 2750                  | 28 NOV. 1987       |
| ELK 10       | 1              |  | 2751                  | 28 NOV. 1987       |
| ELK 11       | 1              |  | 2752                  | 28 NOV. 1987       |
| ELK 12       | 1              |  | 2753                  | 28 NOV. 1987       |
| ELK 13       | 1              |  | 2754                  | 28 NOV. 1987       |
| ELK 14       | 1              |  | 2755                  | 28 NOV. 1987       |
| ELK 15       | 1              |  | 2756                  | 28 NOV. 1987       |
| ELK 16       | 1              |  | 2757                  | 28 NOV. 1987       |
| ELK 17       | 1              |  | 2758                  | 28 NOV. 1987       |
| ELK 18       | 1              |  | 2759                  | 28 NOV. 1987       |
| ELK 19       | 20             |  | 2739                  | 28 NOV. 1987       |
| ELK 20       | 20             |  | 2740                  | 28 NOV. 1987       |
| ELK 21       | 20             |  | 2741                  | 28 NOV. 1987       |
| ELK 22       | 1              |  | 2760                  | 28 NOV. 1987       |
| ELK 23       | 1              |  | 2761                  | 28 NOV. 1987       |
| ELK 24       | 1              |  | 2762                  | 28 NOV. 1987       |
| ELK 25       | 1              |  | 2763                  | 28 NOV. 1987       |
| ELK 26       | 20             |  | 2742                  | 28 NOV. 1987       |
| ELK 27       | 20             |  | 2743                  | 28 NOV. 1987       |

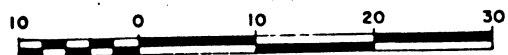


MAP AREA



FAIRFIELD MINERALS LTD.  
**LOCATION MAP**  
 OKA & ELK PROPERTIES  
 SOUTH OKANAGAN AREA

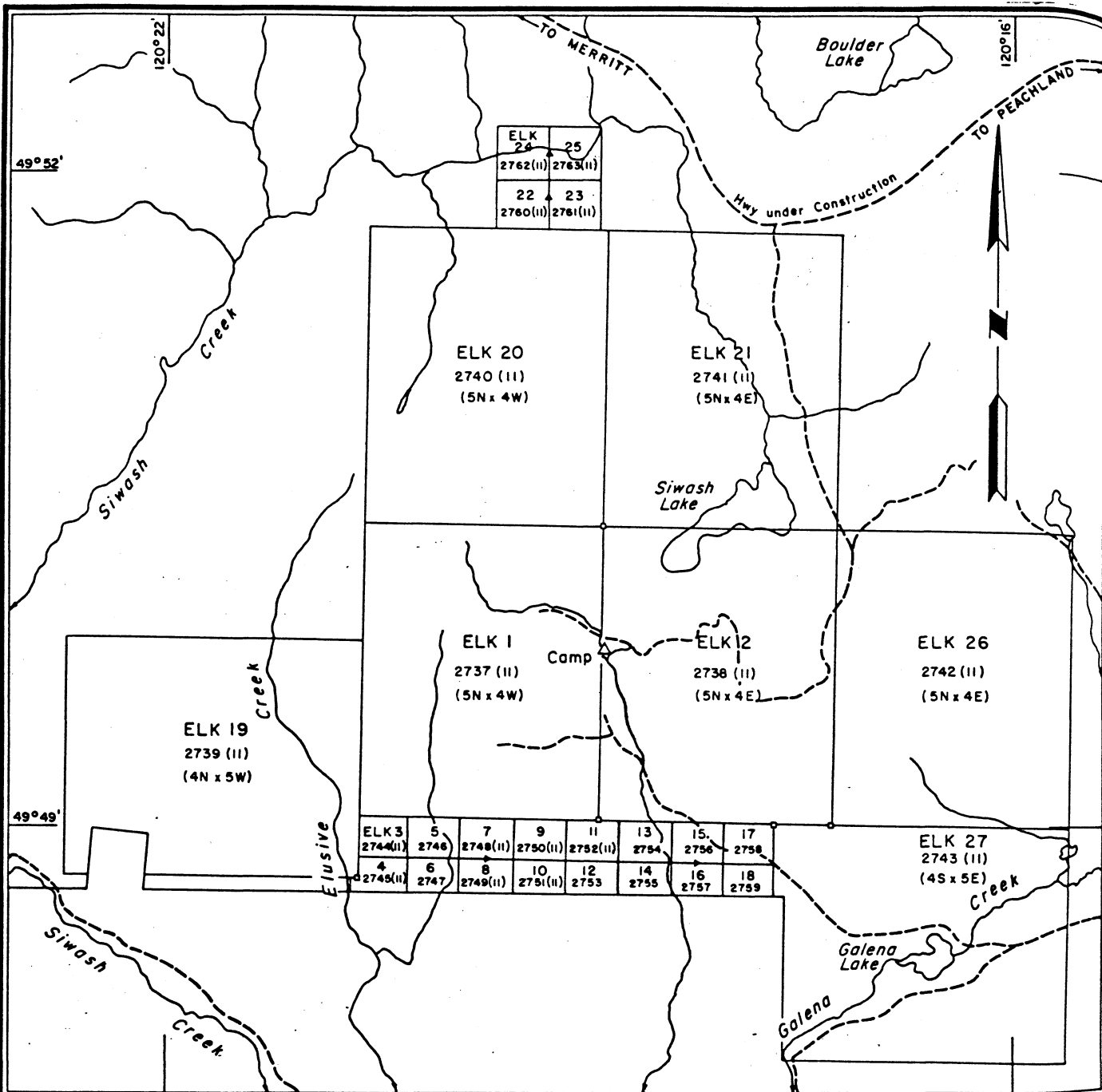
Scale 1 : 633,600



Scale in Kilometres

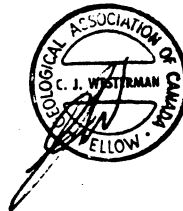
FEBRUARY 1987

FIGURE 1



L E G E N D

- ELK 19 CLAIM NAME
- 2139 RECORD NUMBER
- (ii) MONTH OF RECORD
- (4N x 5W) NUMBER OF UNITS N&W
- LCP LOCATION



FAIRFIELD MINERALS LTD.

**CLAIM MAP**

ELK PROPERTY  
SOUTH OKANAGAN AREA

N.T.S. 92H/16W

SIMILKAMEEN MINING DIVISION, B.C.

Scale 1 : 50,000



Scale in Metres

FEBRUARY 1987

FIGURE 2

## HISTORY

The area covered by the Elk claims has very little record of exploration history. An occurrence of disseminated chalcopyrite and pyrrhotite on the northern extension of the property was explored by geochemical soil, magnetometer and VLF-EM surveys during 1972 by Orequest Exploration Syndicate.

The lower Siwash Creek area south of the Elk property contains several mineral occurrences which have been explored intermittently since the early 1900's. Minor placer gold has also been recovered from this section of Siwash Creek. Mineralization consists of quartz veins with pyrite, sphalerite, galena, and rare chalcopyrite, arsenopyrite, tetrahedrite and hematite. Substantial silver and gold values have been reported. Many of these occurrences have been explored by open cuts, shallow shafts and adits, and some by later diamond drilling, geochemical and geophysical surveys. No sizeable ore shoots have been defined although a few small shipments of high grade ore have been made.

Fairfield Minerals Ltd. acquired the Elk property in late 1986 and conducted a local soil geochemical survey and limited rock chip sampling.

## REFERENCES

- H.M.A.Rice (1947) Geology & Mineral Deposits of the Princeton Map Area, B.C. Geol. Surv.Canada Memoir 143.
- R.Wares & A.L.J.MacDonald (1972) Report on the Duchess Claims - Agur Option for Orequest Exploration Syndicate. BCDM AR 4525.
- B.C.D.M., G.E.M.: 1973 p.160

## G E O L O G Y   A N D   M I N E R A L I Z A T I O N

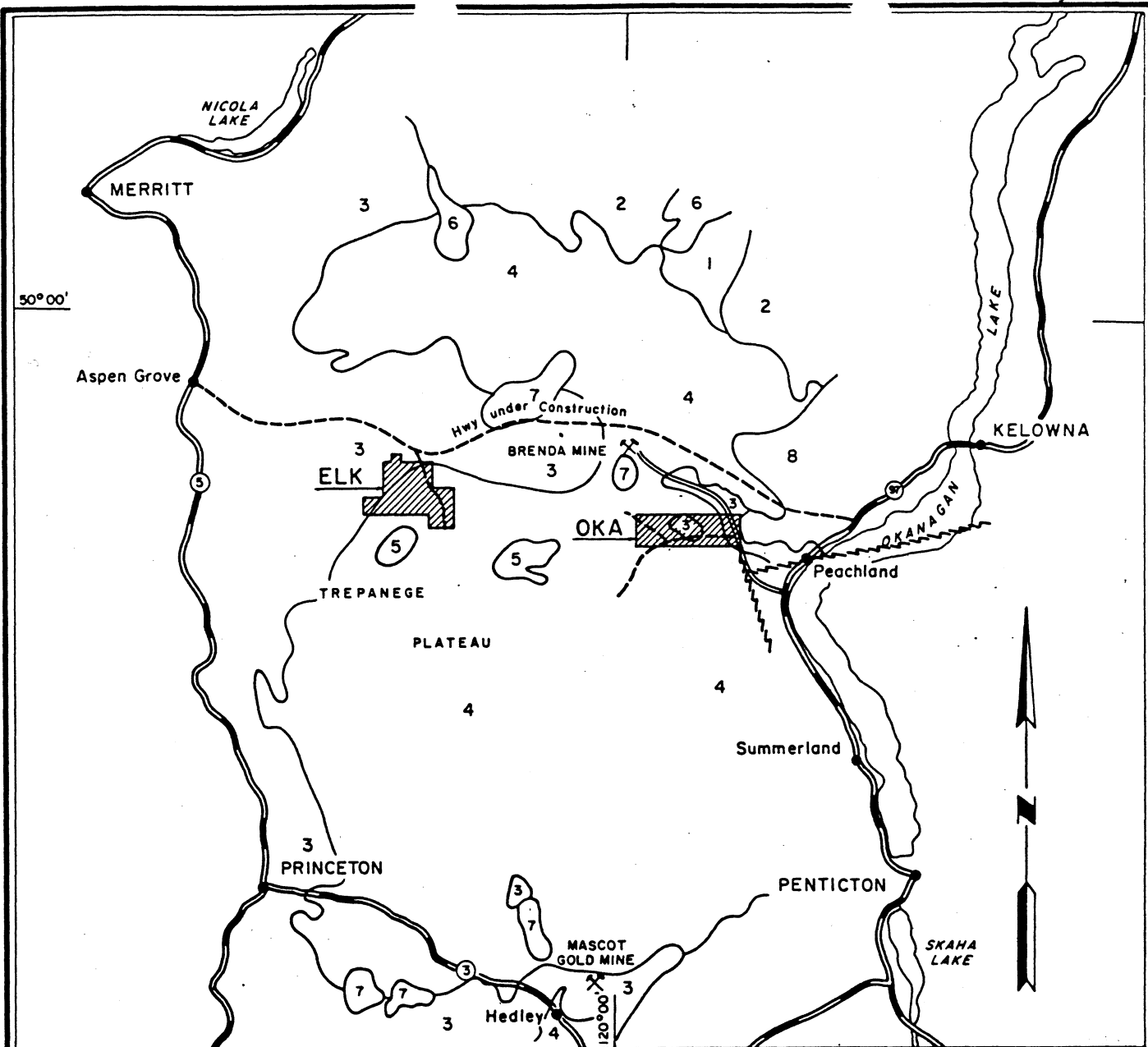
The Elk property is underlain by Jura-Cretaceous Coast Intrusions in contact with Upper Triassic Nicola Group rocks to the west (Figure 3). Coast Intrusions are coarse grained, reddish, siliceous granite and granodiorite. Nicola rocks are andesitic to basaltic flows intercalated with volcanic breccias, argillite, and local limestone. Several dykes and a small stock of porphyritic granite are probably Otter Intrusions of Upper Cretaceous to Tertiary age.

Two mineral occurrences were discovered on the Elk property during 1986. The North Showing (Figures 4 and 5) consists of an east-west trending quartz vein cutting a 3 to 4 metre wide diabase dyke and pinching out to a narrow fracture where it enters granite host rock. The vein is 15 to 20 cm wide and is exposed over a 6 metre length. Diabase and granite are clay altered and cut by limonite veinlets within an irregular selvage up to 80 cm wide around the vein. The vein quartz is glassy white to blue-grey with locally a few percent disseminated pyrite, chalcopyrite and possible tetrahedrite. Some of the sulphides have been leached leaving a rusty boxwork. Continuous chip samples across the vein and altered wallrocks all returned substantial gold and silver values with the widest intercept being 0.95 m (3.1 ft) grading 20.6 g/t (0.60 opt) gold and 195 g/t (5.7 opt) silver. A continuous chip sample of vein material along a 0.85 m (2.8 ft) strike length assayed 64.8 g/t (1.89 opt) gold and 377 g/t (11.0 opt) silver. Overburden covers the vein to the west and the area to the north, where mineralized quartz float indicates potential for additional veins. A small stock of quartz-feldspar porphyry outcrops immediately south of the North Showing.

The South Showing, located approximately 1 kilometre from the North Showing, consists of a small exposure of altered granite which is strongly fractured and jointed and contains a stockwork of fine quartz veins. Alteration areas contain sericite and clay minerals with limonite and manganese oxide stains, and also silicified granite with local disseminated pyrite. Vein quartz is glassy white to blue-grey with 1% to 10% medium grained disseminated pyrite which is commonly leached leaving a vuggy boxwork. Minor arsenopyrite and galena are present. The showing exposure, measuring about 4 metres by 1 1/2 metres, was sampled with continuous chips at various attitudes to include from 1 to 3 narrow quartz veins (1-3 cm wide) and intervening altered granite. The samples, ranging from .3 m to 1.1 m long, all returned substantial gold values, with minor silver. Values ranged from 4.8 g/t (0.142 opt) gold, 3.8 g/t (0.11 opt) silver across 1.0 m (3.3 feet) to 36.3 g/t (1.06 opt) gold, 18.5 g/t (0.54 opt) silver across 0.85 m (2.8 feet). (Figure 5)

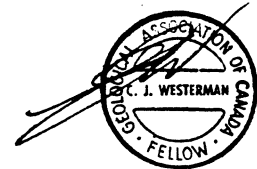
Only minor prospecting and sampling has been conducted in the areas of the two mineral showings. There is good potential for additional discoveries in each of these areas.





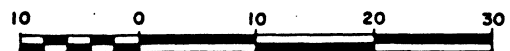
**LEGEND**

|   |                     |  |
|---|---------------------|--|
| 8 | Eocene/Oligocene    | Andesite flows                           |
| 7 | Miocene/earlier     | Princeton Group - shale, sandstone       |
| 6 | Miocene/earlier     | Kamloops Group - rhyolite, andesite      |
| 5 | Upper Cretaceous    | Otter Intrusions - granite               |
| 4 | Jurassic/Cretaceous | Coast Intrusions - granite, granodiorite |
| 3 | Upper Triassic      | Nicola Group - sediments, greenstone     |
| 2 | Carbonaceous        | Cache Creek Group - argillite, quartzite |
| 1 | Pre Permian         | Chaparron Group - schist                 |

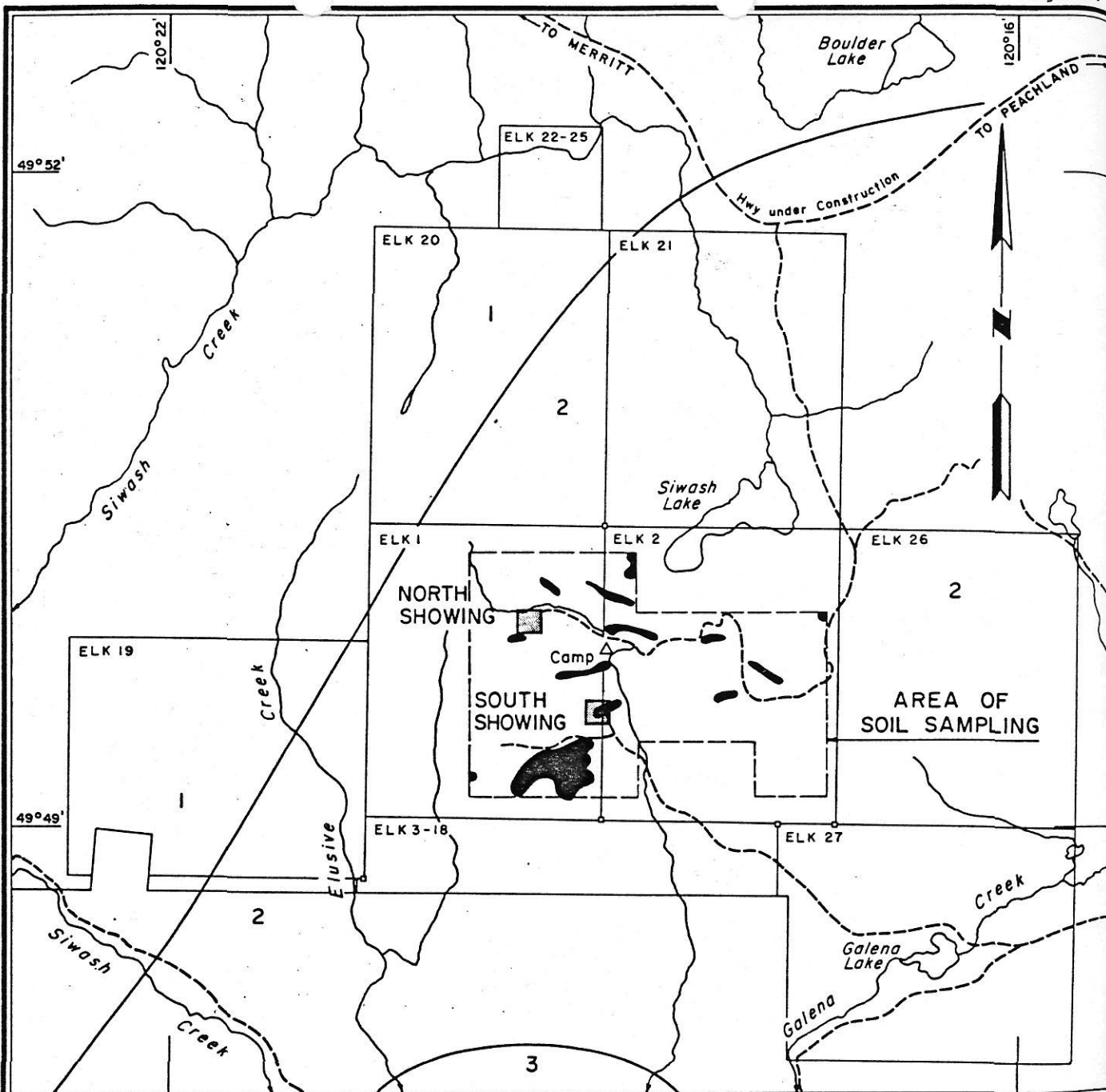


**FAIRFIELD MINERALS LTD.  
REGIONAL GEOLOGY  
OKA & ELK PROPERTIES  
SOUTH OKANAGAN AREA**

Scale 1: 633,600



Scale in Kilometres



**LEGEND**

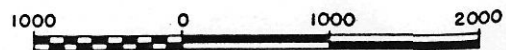
- 3 Upper Cretaceous - Tertiary  
Otter Intrusions - porphyritic granite
- 2 Jurassic - Cretaceous  
Coast Intrusions - granite, granodiorite
- 1 Upper Triassic  
Nicola Group - greenstone, sediments
- Mineral Occurrence Area
- Geological Contact
- Soil Geochemical Anomaly Au ≥ 50 ppb

**FAIRFIELD MINERALS LTD.  
GEOLOGY AND  
GEOCHEMICAL ANOMALIES  
ELK PROPERTY  
SOUTH OKANAGAN AREA**

N.T.S. 92H/16W

SIMILKAMEEN MINING DIVISION, B.C.

Scale 1 : 50,000



Scale in Metres

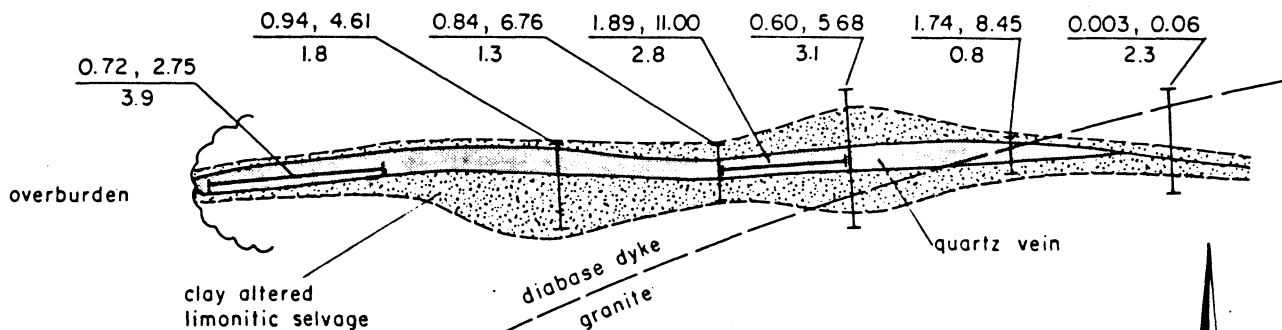


### NORTH SHOWING

1 inch = 4 feet

Au (oz/ton), Ag (oz/ton)  
length (feet)

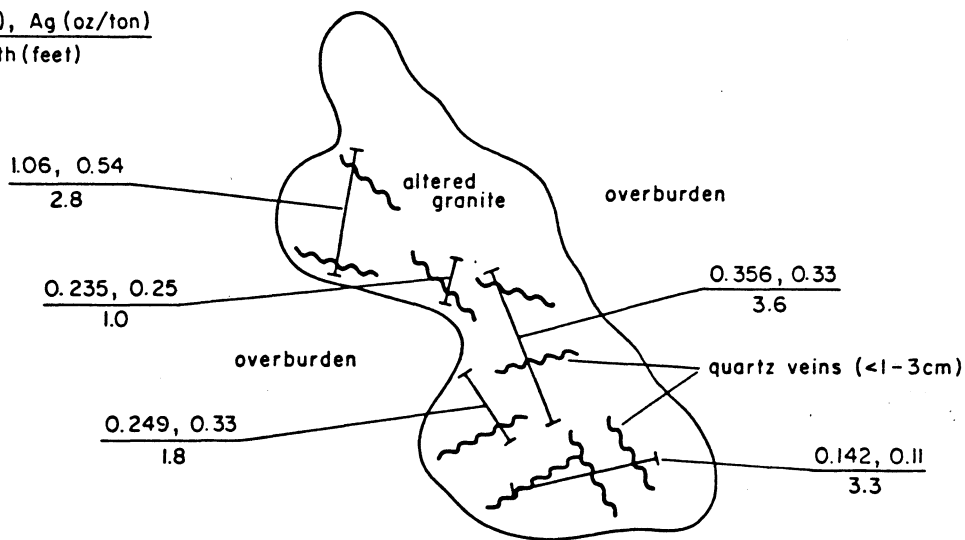
$\frac{1.68, 13.24}{\text{grab}} \times$



### SOUTH SHOWING

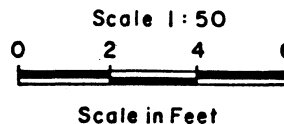
1 inch = 4 feet

Au (oz/ton), Ag (oz/ton)  
length (feet)



FAIRFIELD MINERALS LTD.  
CONTINUOUS CHIP  
SAMPLE RESULTS  
ELK PROPERTY  
SOUTH OKANAGAN AREA

N.T.S. 92H/16W  
SIMILKAMEEN MINING DIVISION, B.C.



NOTE:  
See Figure 4 for location reference.

### GEOCHEMISTRY

A small portion of the Elk property was soil sampled during 1986 on grid lines spaced at 200 metres with station intervals of 50 metres. (Figure 4). A total of 590 samples were collected and analyzed for Au, Ag, Cu, Pb, Zn and Mo. The wide-spaced soil sampling defined many areas of anomalous gold with values greater than 50 ppb, up to a high of 1210 ppb. Anomalous values for the other elements sometimes coincide with high gold values, but in general the correlations are poor. Contouring of gold values greater than 50 ppb has indicated possible northwest- and northeast-trending mineral zones. A large irregular anomaly near the South Showing stockwork zone measures roughly 600 metres by 400 metres. Additional geochemical surveys are warranted, to be followed by geological evaluation, prospecting and trenching of anomalous areas.

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### CONCLUSIONS

Two gold and silver bearing quartz vein and stockwork areas have been newly discovered in the border area of a granitic batholith on the ELK property. The North Showing vein has returned assay values up to 20.6 g/t (0.60 opt) gold and 195 g/t (5.7 opt) silver over 0.95 metres (3.1 ft). The South Showing stockwork has returned assay values up to 36.3 g/t (1.06 opt) gold and 18.5 g/t (0.54 opt) silver over 0.85 metres (2.8 ft). A gold soil geochemical anomaly near the South Showing stockwork has a diameter of about 500 metres. Other gold anomalies in soil are present within the relatively small part of the property which has been sampled to date.

Continued exploration of the property is clearly warranted. There appears to be potential for discovery of a bulk tonnage moderate grade gold deposit in the area of the South Showing stockwork. Additional potential for discovery of a moderate tonnage, high grade gold-silver vein deposit exists in the area of the North Showing vein.

Fe  
Va

## RECOMMENDATIONS

An exploration program is recommended to test the economic potential of the ELK property. It is recommended that the program should complete geochemical soil sampling over the entire property; fill-in detailed geochemical soil sampling around known anomalies; conduct VLF-EM surveys over selected target areas; undertake backhoe trenching of defined targets and complete mapping, prospecting and rock sampling. It is estimated that the recommended program will cost \$300,000.



The image shows a handwritten signature in cursive script, which appears to read "C. J. Westerman". To the right of the signature is a circular professional seal. The seal contains the text "GEOLOGICAL ASSOCIATION OF CANADA" around the top inner edge, "C. J. WESTERMAN" in the center, and "FELLOW" at the bottom.

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Consulting Geologist

February 23, 1987  
Vancouver, British Columbia